ODJELJAK 1.: Identifikacija tvari/smjese i podaci o društvu/poduzeću

1.1. Identifikacijska oznaka proizvoda

Identifikacija preparata:

Trgovačko ime: FASSA EPOXY 400 COMP.A

Trgovački kod: 1224

UFI: 5SYW-1AG4-900W-5Y0A

1.2. Utvrđene relevantne uporabe tvari ili smjese i uporabe koje se ne preporučuju

Preporučana upotreba: Epoksidna smola; Samo za stručno upotrebljavanje

Nepreporučljiva upotreba: Nije namijenjeno potrošačima

1.3. Podaci o dobavljaču koji isporučuje sigurnosno-tehnički list

Tvrtka: FASSA Srl

Via Lazzaris, 3 - 31027 Spresiano (TV) - ITALY

Tel. +39 0422 7222

Fax +39 0422 887509

Odgovorna osoba: laboratorio.spresiano@fassabortolo.it

1.4. Broj telefona za izvanredna stanja

+3851 2348 342

ODJELJAK 2.: Identifikacija opasnosti



2.1. Razvrstavanje tvari ili smjese

Uredba (EC) br. 1272/2008 (CLP)

Skin Irrit. 2	Nadražuje kožu.
Eye Irrit. 2	Uzrokuje jako nadraživanje oka.
Skin Sens. 1A	Može izazvati alergijsku reakciju na koži.
Repr. 1B	Može štetno djelovati na plodnost.
Aquatic Chronic 2	Otrovno za vodeni okoliš s dugotrajnim učincima.

Fizikalno-kemijski učinci štetni po ljudsko zdravlje i okoliš:

Nema ostalih rizika

2.2. Elementi označivanja

Uredba (EC) br. 1272/2008 (CLP):

Piktogrami i oznaka opasnosti



Opasnost

Oznake upozorenja

H315	Nadražuje kožu.
H317	Može izazvati alergijsku reakciju na koži.
H319	Uzrokuje jako nadraživanje oka.
H360F	Može štetno djelovati na plodnost.
H411	Otrovno za vodeni okoliš s dugotrajnim učincima.

Oznake obavijesti

P201	Prije uporabe pribaviti posebne upute.
P261	Izbjegavati udisanje prašine.
P273	Izbjegavati ispuštanje u okoliš.
P280	Nositi zaštitne rukavice/zaštitno odijelo te zaštitu za oči/zaštitu za lice.
P308+P313	U SLUČAJU izloženosti ili sumnje na izloženost: zatražiti savjet/pomoć liječnika.

P391 Sakupiti proliveno/rasuto.

Posebna osiguranja:

EUH205 Sadrži epoksidne sastojke. Može izazvati alergijsku reakciju.

Sadrži:

masne kiseline, talno ulje, spojevi s oleilamin

reakcijska smjesa 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran i 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran i 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran

bis[4-(2,3-epoksipropoksi)fenil]propan

1,6-heksandiol diglicidil eter

Posebne odredbe prema Prilogu XVII REACH-a i naknadnih amandmana:

Niti jedan

2.3. Ostale opasnosti

PBT, vPvB ili drugi endokrini disruptori prisutni u koncentraciji > = 0,1 %:

Sastojak	Ident. Broj.	Količina	Svojstva:
bis(izopropil) naftalen	CAS: 38640-62-9 - EINECS: 254-052-6	>=0.3 - <0.5 %	PBT, vPvB

Nema ostalih rizika

ODJELJAK 3.: Sastav/informacije o sastojcima

3.1. Tvari

Ne primjenjuje se.

3.2. Smjese

Identifikacija preparata: FASSA EPOXY 400 COMP.A

Opasni sastojci u smislu CLP Uredbe koja se odnosi na razvrstavanje:

Količina	Naziv	Ident. Broj.	Klasifikacija	Broj registriranih slučajeva:	Svojstva:
≥30 - <50 %	bis[4-(2,3-epoksipropoksi)fenil]propan	CAS:1675-54-3 EC:216-823-5 Index:603-073-00-2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411 Specifične granične vrijednosti koncentracije: 5% ≤ C < 100%: Skin Irrit. 2 H315 5% ≤ C < 100%: Eye Irrit. 2 H319	01-2119456619-26-xxxx	
≥20 - <30 %	reakcijska smjesa 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran i 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran i 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran	EC:701-263-0	Skin Irrit. 2, H315; Skin Sens. 1A, H317; Aquatic Chronic 2, H411	01-2119454392-40-xxxx	
≥5 - <10 %	1,6-heksandiol diglicidil eter	CAS:933999-84-9 EC:618-939-5	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Repr. 1B, H360F	01-2119463471-41-xxxx	
≥0.5 - <1 %	titanijev dioksid	CAS:13463-67-7 EC:236-675-5 Index:022-006-00-2	Carc. 2, H351	01-2119489379-17-xxxx	
≥0.3 - <0.5 %	bis(izopropil)naftalen	CAS:38640-62-9 EC:254-052-6	Asp. Tox. 1, H304; Aquatic Chronic 1, H410, M-Chronic:1	01-2119565150-48-xxxx	PBT, vPvB
≥0.1 - <0.3 %	2-metoksi-1-metiletil-acetat	CAS:108-65-6 EC:203-603-9 Index:607-195-00-7	Flam. Liq. 3, H226; STOT SE 3, H336	01-2119475791-29-xxxx	
≥0.05 - <0.1 %	Kristalni silicijev dioksid, kvarc (udisljiv dio)	CAS:14808-60-7 EC:238-878-4	STOT RE 1, H372	Izuzeto	

≥0.05 - <0.1 %	masne kiseline, talno ulje, spojevi s oleilamin	CAS:85711-55-3 EC:288-315-1	Eye Dam. 1, H318; Skin Sens. 1A, H317; STOT RE 2, H373	01-2119974148-28-xxxx
≥0.05 - <0.1 %	n-butil-acetat	CAS:123-86-4 EC:204-658-1 Index:607-025-00-1	Flam. Liq. 3, H226; STOT SE 3, H336, EUH066	01-2119485493-29-xxxx
≥0.005 - <0.025 %	ksilen	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Aquatic Chronic 3, H412 Procjena akutne toksičnosti: ATE - Dermalno: 1100mg/kg t.m. ATE - Udisanje (Pare): 11mg/l	01-2119488216-32-xxxx
≥0.005 - <0.025 %	ksilen	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Procjena akutne toksičnosti: ATE - Dermalno: 1100mg/kg t.m. ATE - Udisanje (Pare): 11mg/l	01-2119488216-32-xxxx
≥0.005 - <0.025 %	etilbenzen	CAS:100-41-4 EC:202-849-4 Index:601-023-00-4	Flam. Liq. 2, H225; Acute Tox. 4, H332; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 3, H412	01-2119489370-35-xxxx
≥0.005 - <0.025 %	etilbenzen	CAS:100-41-4 EC:202-849-4 Index:601-023-00-4	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 Asp. Tox. 1, H304 Procjena akutne toksičnosti: ATE - Udisanje (Pare): 11mg/l	01-2119489370-35-xxxx
≥0.005 - <0.025 %	butanon	CAS:78-93-3 EC:201-159-0 Index:606-002-00-3	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	01-2119457290-43-xxxx

ODJELJAK 4.: Mjere prve pomoći

4.1. Opis mjera prve pomoći

U slučaju kontakta sa kožom:

Smjesta skinuti zagađenu odjeću i ukloniti je na bezbjedan način.

Odmah oprati obilnom količinom tekuće vode i eventualno sapunom dijelove tijela koji su došli u dodir s proizvodom, čak i u slučaju da samo sumnjate da je došlo do kontakta.

Oprati čitavo tijelo (istuširati se ili okupati).

U slučaju kontakta sa očima:

U slučaju kontakta sa očima, ispirati oči vodom neko vrijeme, držati otvorene kapke, a potom zatražiti pomoć oftalmologa.

Zaštititi neozlijeđeno oko.

U slučaju gutanja:

Ne poticati povraćanje, obratiti se liječniku i pokazati listić o sigurnosti i oznaku kemijskog rizika.

U slučaju udisanja:

Izloženu osobu treba iznijeti na svježi zrak, držati je na toplom, a ista mora mirovati.

4.2. Najvažniji simptomi i učinci, akutni i odgođeni

Simptomi i ucinci su u skladu s ocekivanjima od opasnosti kako je prikazano u 2. odjeljku.

4.3. Navod o potrebi za hitnom liječničkom pomoći i posebnom obradom

U slučaju nesreće ili slabosti smjesta se obratiti liječniku (ako je moguće, pokazati upute za uporabu ili sigurnosni list).

ODJELJAK 5.: Mjere za suzbijanje požara

5.1. Sredstva za gašenje

Prikladna sredstva za gašenje požara:

CO2, aparati za gašenje požara prahom, pjena, raspršivanje vode.

Sredstva za gašenje požara koja ne treba koristiti iz bezbijednosnih razloga:

Voda u mlazovima.

5.2. Posebne opasnosti koje proizlaze iz tvari ili smjese

Sagorijevanjem se oslobađaju teški dimovi.

Ne udisati plinove nastale eksplozijom i/ili izgaranjem (ugljikov monoksid i ugljikov dioksid, dušikove okside).

5.3. Savjeti za gasitelje požara

Koristiti prikladne dišne aparate.

Posebno pokupiti zaprljanu vodu, koja je korištena za gašenje požara. Ne bacati ovu vodu u kanalizacionu mrežu.

Neoštećene spremnike skloniti iz prostora neposredne opasnosti, ukoliko se to može izvršiti na bezbjedan način.

ODJELJAK 6.: Mjere kod slučajnog ispuštanja

6.1. Osobne mjere opreza, zaštitna oprema i postupci za izvanredna stanja

Za osobe koje se ne ubrajaju u interventno osoblje:

Koristiti sredstva za osobnu zaštitu.

Ukloniti osobe na sigurno mjesto.

Konzultirati mjere zaštite opisane u točkama 7. i 8.

Za interventno osoblje:

Koristiti sredstva za osobnu zaštitu.

6.2. Mjere zaštite okoliša

Spriječiti prodiranje u tlo/dublje slojeve zemlje. Spriječiti ulivanje u površinske vode ili u kanalizacionu mrežu.

U slučaju izlaska plina ili prodiranja u vodene tokove, tlo ili kanalizacionu mrežu, obavijestiti nadležna tijela.

6.3. Metode i materijal za sprečavanje širenja i čišćenje

Materijal je prikladan za skupljanje: inertni upijajući materijal (npr. pijesak, vermikulit)

Nakon što je proizvod sakupljen, isprati onečišćeno područje i predmete s vodom.

Zadržati vodu kojom ste izvršili pranje, pa je eliminirati.

6.4. Uputa na druge odjeljke

Pogledati također i paragrafe 8. i 13.

ODJELJAK 7.: Rukovanje i skladištenje

7.1. Mjere opreza za sigurno rukovanje

Izbjegavati dodir s kožom i očima, udisanje para i maglica.

Ne koristite prazne spremnike prije no što ih očistite.

Prije prijenosa proizvoda, uvjeriti se da u spremnicima nema ostataka nekompatibilnih tvari.

Savjeti o općoj higijeni na radnom mjestu:

Kontaminirana odjeća se smjesta mora zamijeniti prije ulaska u menze.

Ne konzumirati hranu i piće na radnom mjestu.

Pogledati i paragraf 8. u svezi sa preporučanim napravama za zaštitu.

7.2. Uvjeti sigurnog skladištenja, uzimajući u obzir moguće inkompatibilnosti

Čuvati spremnike dobro zatvorene na hladnom i dobro prozračenom mjestu daleko od izvorā topline.

Držati podalje od hrane, pića i krmiva.

Inkompatibilne tvari:

Vidi točku 10.5

Upute za prostorije za skladištenje:

Adekvatno prozračene prostorije.

7.3. Posebna krajnja uporaba ili uporabe

Preporuke

Vidi točku 1.2

Specifične otopine za industrijski sektor

Nema posebne upotrebe

ODJELJAK 8.: Nadzor nad izloženošću/osobna zaštita

8.1. Nadzorni parametri

Granične vrijednosti izloženosti na mjestu rada

titanijev dioksid

CAS: 13463-67-7	OEL Tip	ACGIH		Dugoročno 0.2 mg/m3 Napomene: Nanoscale particles - A3 - (R) URT irr, Pneumoconiosis
				Dugoročno 2.5 mg/m3 Napomene: Finescale particles - A3 - (R) URT irr, Pneumoconiosis
	OEL Tip	MAK	Austrija	Dugoročno 5 mg/m3; Kratkoročno 10 mg/m3 Napomene: Respirable fraction
	OEL Tip	MAK	Njemačka	Dugoročno 0.3 mg/m3; Kratkoročno 2.4 mg/m3

				Napomene: Respirable fraction, except ultrafine particles , Multiplied by the material density
	OEL Tip	VLEP	Belgija	Dugoročno 10 mg/m3
	OEL Tip	VLEP	Francuska	Dugoročno 11 mg/m3 Napomene: Inhalable aerosol
	OEL Tip	VLEP	Rumunjska	Dugoročno 10 mg/m3; Kratkoročno 15 mg/m3
	OEL Tip	TLV	Bugarska	Dugoročno 10 mg/m3
	OEL Tip	VLA	Španjolska	Dugoročno 10 mg/m3 Napomene: Inhalable fraction
	OEL Tip	SUVA	Švicarska	Dugoročno 3 mg/m3 Napomene: Respirable aerosol
	OEL Tip	WEL	U.K.	Dugoročno 10 mg/m3 Napomene: Inhalable fraction Dugoročno 4 mg/m3 Napomene: Respirable fraction
	OEL Tip	GVI	Hrvatska	Dugoročno 10 mg/m3 Napomene: Inhalable fraction Dugoročno 4 mg/m3 Napomene: Respirable fraction
	OEL Tip	NDS	Poljska	Dugoročno 10 mg/m3 Napomene: Inhalable fraction
	OEL Tip	IPRV	Litva	Dugoročno 5 mg/m3
	OEL Tip	RV	Latvija	Dugoročno 10 mg/m3
	OEL Tip	NGV/KGV	Švedska	Dugoročno 5 mg/m3 Napomene: inhalable aerosol
2-metoksi-1-metiletil-acetat				
CAS: 108-65-6	OEL Tip	UE		Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	MAK	Austrija	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	MAK	Njemačka	Dugoročno 270 mg/m3 - 50 ppm; Kratkoročno 270 mg/m3 - 50 ppm
	OEL Tip	VLEP	Belgija	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
	OEL Tip	VLEP	Francuska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLEP	Italija	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLEP	Rumunjska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm
	OEL Tip	TLV	Bugarska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	TLV	Češka	Dugoročno 270 mg/m3 - 49.14 ppm; Kratkoročno 550 mg/m3 - 10.01 ppm Napomene: Skin
	OEL Tip	VLA	Španjolska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	ÁK	Mađarska	Dugoročno 275 mg/m3; Kratkoročno 550 mg/m3
	OEL Tip	MAC	Nizozemska	Dugoročno 550 mg/m3 - 100 ppm
	OEL Tip	VLE	Portugal	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	SUVA	Švicarska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 275 mg/m3 - 50 ppm
	OEL Tip	WEL	U.K.	Dugoročno 274 mg/m3 - 50 ppm; Kratkoročno 548 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	GVI	Hrvatska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin

	OEL Tip	AGW	Njemačka	Dugoročno 270 mg/m3 - 50 ppm; Kratkoročno 270 mg/m3 - 50 ppm
	OEL Tip	NDS	Poljska	Dugoročno 260 mg/m3; Kratkoročno 520 mg/m3 Napomene: Skin
	OEL Tip	MV	Slovenija	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	IPRV	Litva	Dugoročno 250 mg/m3 - 50 ppm; Kratkoročno 400 mg/m3 - 75 ppm Napomene: Skin
	OEL Tip	RV	Latvija	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin

Kristalni silicijev dioksid, kvarc (udisljiv dio)

CAS: 14808-60-7	OEL Tip	ACGIH		Dugoročno 0.025 mg/m3 Napomene: (R), A2 - Pulm fibrosis, lung cancer
	OEL Tip	UE		Dugoročno 0.1 mg/m3 Napomene: Respirable dust particles
	OEL Tip	MAK	Austrija	Dugoročno 0.05 mg/m3 Napomene: Respirable fraction
	OEL Tip	VLEP	Belgija	Dugoročno 0.1 mg/m3 Napomene: Respirable dust; Additional indication "C" means that the agent falls within the scope of Title 2 concerning carcinogenic, mutagenic and reprotoxic agents of Book VI of the Codex on well-being at work.
	OEL Tip	VLEP	Francuska	Dugoročno 0.1 mg/m3 Napomene: Respirable fraction
	OEL Tip	VLEP	Italija	Dugoročno 0.1 mg/m3 Napomene: Respirable dust particles
	OEL Tip	VLA	Španjolska	Dugoročno 0.05 mg/m3 Napomene: Respirable fraction
	OEL Tip	ÁK	Mađarska	Dugoročno 0.1 mg/m3 Napomene: Respirable fraction
	OEL Tip	MAC	Nizozemska	Dugoročno 0.075 mg/m3 Napomene: Respirable fraction
	OEL Tip	SUVA	Švicarska	Dugoročno 0.15 mg/m3 Napomene: Respirable aerosol
	OEL Tip	GVI	Hrvatska	Dugoročno 0.1 mg/m3
	OEL Tip	AGW	Njemačka	Dugoročno 0.05 mg/m3; Kratkoročno 0.4 mg/m3 Napomene: Respirable fraction
	OEL Tip	NDS	Poljska	Dugoročno 0.1 mg/m3 Napomene: Respirable fraction
	OEL Tip	MV	Slovenija	Dugoročno 0.15 mg/m3
	OEL Tip	IPRV	Litva	Dugoročno 0.1 mg/m3
	OEL Tip	NGV/KGV	Švedska	Dugoročno 0.1 mg/m3 Napomene: Respirable fraction

n-butil-acetat

CAS: 123-86-4	OEL Tip	ACGIH		Dugoročno 50 ppm; Kratkoročno 150 ppm Napomene: Eye and URT irr
	OEL Tip	UE		Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	MAK	Austrija	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 480 mg/m3 - 100 ppm
	OEL Tip	MAK	Njemačka	Dugoročno 480 mg/m3 - 100 ppm; Kratkoročno 960 mg/m3 - 200 ppm
	OEL Tip	VLEP	Belgija	Dugoročno 238 mg/m3 - 50 ppm; Kratkoročno 712 mg/m3 - 150 ppm Napomene: Butylacetates, all isomers
	OEL Tip	VLEP	Francuska	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	VLEP	Italija	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	VLEP	Rumunjska	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	TLV	Bugarska	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	TLV	Češka	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm

	OEL Tip	VLA	Španjolska	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	ÁK	Mađarska	Dugoročno 241 mg/m3; Kratkoročno 723 mg/m3
	OEL Tip	MAC	Nizozemska	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	SUVA	Švicarska	Dugoročno 240 mg/m3 - 50 ppm; Kratkoročno 720 mg/m3 - 150 ppm
	OEL Tip	WEL	U.K.	Dugoročno 724 mg/m3 - 150 ppm; Kratkoročno 966 mg/m3 - 200 ppm
	OEL Tip	GVI	Hrvatska	Dugoročno 724 mg/m3 - 150 ppm; Kratkoročno 966 mg/m3 - 200 ppm
	OEL Tip	AGW	Njemačka	Dugoročno 300 mg/m3 - 62 ppm; Kratkoročno 600 mg/m3 - 124 ppm
	OEL Tip	NDS	Poljska	Dugoročno 240 mg/m3; Kratkoročno 720 mg/m3
	OEL Tip	MV	Slovenija	Dugoročno 300 mg/m3 - 62 ppm; Kratkoročno 600 mg/m3 - 124 ppm
ksilen				
CAS: 1330-20-7	OEL Tip	ACGIH		Dugoročno 20 ppm Napomene: A4, BEI - URT and eye irr, CNS impair
	OEL Tip	UE		Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	MAK	Austrija	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm
	OEL Tip	MAK	Njemačka	Dugoročno 220 mg/m3 - 50 ppm; Kratkoročno 440 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLEP	Belgija	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
	OEL Tip	VLEP	Francuska	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLEP	Italija	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLEP	Rumunjska	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm
	OEL Tip	TLV	Bugarska	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	TLV	Češka	Dugoročno 200 mg/m3 - 45.4 ppm; Kratkoročno 400 mg/m3 - 90.8 ppm Napomene: Skin
	OEL Tip	VLA	Španjolska	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm
	OEL Tip	ÁK	Mađarska	Dugoročno 221 mg/m3; Kratkoročno 442 mg/m3 Napomene: Skin
	OEL Tip	MAC	Nizozemska	Dugoročno 210 mg/m3 - 47.5 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLE	Portugal	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	SUVA	Švicarska	Dugoročno 220 mg/m3 - 50 ppm; Kratkoročno 440 mg/m3 - 100 ppm
	OEL Tip	WEL	U.K.	Dugoročno 220 mg/m3 - 50 ppm; Kratkoročno 441 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	GVI	Hrvatska	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	AGW	Njemačka	Dugoročno 220 mg/m3 - 50 ppm; Kratkoročno 440 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	NDS	Poljska	Dugoročno 100 mg/m3; Kratkoročno 200 mg/m3 Napomene: Skin
	OEL Tip	MV	Slovenija	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	IPRV	Litva	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	RV	Latvija	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
ksilen				
CAS: 1330-20-7	OEL Tip	UE		Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm

				Napomene: Skin
	OEL Tip	TLV	Češka	Dugoročno 200 mg/m3 - 45.4 ppm; Kratkoročno 400 mg/m3 - 90.8 ppm Napomene: Skin
	OEL Tip	RV	Latvija	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm
etilbenzen				
CAS: 100-41-4	OEL Tip	ACGIH		Dugoročno 20 ppm Napomene: A3, BEI - URT irr, kidney dam (nephropathy), cochlear impair
	OEL Tip	UE		Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	MAK	Austrija	Dugoročno 440 mg/m3 - 100 ppm; Kratkoročno 880 mg/m3 - 200 ppm
	OEL Tip	MAK	Njemačka	Dugoročno 88 mg/m3 - 20 ppm; Kratkoročno 176 mg/m3 - 40 ppm Napomene: Skin
	OEL Tip	VLEP	Belgija	Dugoročno 87 mg/m3 - 20 ppm; Kratkoročno 551 mg/m3 - 125 ppm Napomene: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
	OEL Tip	VLEP	Francuska	Dugoročno 88.4 mg/m3 - 20 ppm; Kratkoročno 442 mg/m3 - 100 ppm
	OEL Tip	VLEP	Italija	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm
	OEL Tip	VLEP	Rumunjska	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm
	OEL Tip	TLV	Češka	Dugoročno 200 mg/m3 - 45.4 ppm; Kratkoročno 500 mg/m3 - 113.5 ppm Napomene: Skin
	OEL Tip	VLA	Španjolska	Dugoročno 441 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	ÁK	Mađarska	Dugoročno 442 mg/m3; Kratkoročno 884 mg/m3
	OEL Tip	MAC	Nizozemska	Dugoročno 215 mg/m3; Kratkoročno 430 mg/m3
	OEL Tip	VLE	Portugal	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	SUVA	Švicarska	Dugoročno 435 mg/m3 - 100 ppm; Kratkoročno 435 mg/m3 - 100 ppm
	OEL Tip	WEL	U.K.	Dugoročno 441 mg/m3 - 100 ppm; Kratkoročno 552 mg/m3 - 125 ppm
	OEL Tip	GVI	Hrvatska	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	AGW	Njemačka	Dugoročno 88 mg/m3 - 20 ppm; Kratkoročno 176 mg/m3 - 40 ppm Napomene: Skin
	OEL Tip	NDS	Poljska	Dugoročno 200 mg/m3; Kratkoročno 400 mg/m3
	OEL Tip	MV	Slovenija	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
etilbenzen				
CAS: 100-41-4	OEL Tip	ACGIH		Dugoročno 20 ppm Napomene: A3, BEI - URT irr, kidney dam (nephropathy), cochlear impair
	OEL Tip	UE		Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	MAK	Austrija	Dugoročno 440 mg/m3 - 100 ppm; Kratkoročno 880 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	MAK	Njemačka	Dugoročno 88 mg/m3 - 20 ppm; Kratkoročno 176 mg/m3 - 40 ppm Napomene: Skin
	OEL Tip	VLEP	Belgija	Dugoročno 87 mg/m3 - 20 ppm; Kratkoročno 551 mg/m3 - 125 ppm Napomene: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
	OEL Tip	VLEP	Francuska	Dugoročno 88.4 mg/m3 - 20 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLEP	Italija	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	VLEP	Rumunjska	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm

	OEL Tip	TLV	Bugarska	Dugoročno 435 mg/m3; Kratkoročno 535 mg/m3 Napomene: Skin
	OEL Tip	TLV	Češka	Dugoročno 200 mg/m3 - 45.4 ppm; Kratkoročno 500 mg/m3 - 113.5 ppm Napomene: Skin
	OEL Tip	VLA	Španjolska	Dugoročno 441 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm
	OEL Tip	ÁK	Mađarska	Dugoročno 442 mg/m3; Kratkoročno 884 mg/m3 Napomene: Skin
	OEL Tip	MAC	Nizozemska	Dugoročno 215 mg/m3 - 48.6 ppm; Kratkoročno 430 mg/m3 - 97.3 ppm Napomene: Skin
	OEL Tip	VLE	Portugal	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	SUVA	Švicarska	Dugoročno 435 mg/m3 - 100 ppm; Kratkoročno 435 mg/m3 - 100 ppm
	OEL Tip	WEL	U.K.	Dugoročno 441 mg/m3 - 100 ppm; Kratkoročno 552 mg/m3 - 125 ppm Napomene: Skin
	OEL Tip	GVI	Hrvatska	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	AGW	Njemačka	Dugoročno 88 mg/m3 - 20 ppm; Kratkoročno 176 mg/m3 - 40 ppm Napomene: Skin
	OEL Tip	NDS	Poljska	Dugoročno 200 mg/m3; Kratkoročno 400 mg/m3 Napomene: Skin
	OEL Tip	MV	Slovenija	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	IPRV	Litva	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
butanon				
CAS: 78-93-3	OEL Tip	ACGIH		Dugoročno 75 ppm; Kratkoročno 150 ppm Napomene: BEI Skin - URT irr, CNS and PNS impair
	OEL Tip	UE		Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	MAK	Austrija	Dugoročno 295 mg/m3 - 100 ppm; Kratkoročno 590 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	MAK	Njemačka	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 600 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	VLEP	Belgija	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	VLEP	Francuska	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	VLEP	Italija	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	VLEP	Rumunjska	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	TLV	Bugarska	Dugoročno 590 mg/m3; Kratkoročno 885 mg/m3
	OEL Tip	TLV	Češka	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	VLA	Španjolska	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	ÁK	Mađarska	Dugoročno 600 mg/m3; Kratkoročno 900 mg/m3 Napomene: Skin
	OEL Tip	MAC	Nizozemska	Dugoročno 590 mg/m3 - 197 ppm; Kratkoročno 900 mg/m3 - 300 ppm Napomene: Skin
	OEL Tip	VLE	Portugal	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	SUVA	Švicarska	Dugoročno 590 mg/m3 - 200 ppm; Kratkoročno 590 mg/m3 - 200 ppm
	OEL Tip	WEL	U.K.	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 899 mg/m3 - 300 ppm Napomene: Skin
	OEL Tip	GVI	Hrvatska	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	AGW	Njemačka	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 600 mg/m3 - 200 ppm Napomene: Skin 15
	OEL Tip	NDS	Poljska	Dugoročno 450 mg/m3; Kratkoročno 900 mg/m3 Napomene: Skin
	OEL Tip	MV	Slovenija	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm Napomene: Skin

OEL Tip	IPRV	Litva	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3

Granične vrijednosti izloženosti PNEC

bis[4-(2,3-epoksipropoksi)fenil]propan

CAS: 1675-54-3
- Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.006 mg/l
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.001 mg/l
- Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 0.341 mg/kg
- Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.034 mg/kg
- Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.065 mg/kg
- Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 10 mg/l

reakcijska smjesa 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran i 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran i 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran
- Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.003 mg/l
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.0003 mg/l
- Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 10 mg/l
- Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.0294 mg/kg
- Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 0.294 mg/kg
- Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.237 mg/kg

1,6-heksandiol diglicidil eter

CAS: 933999-84-9
- Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.011 mg/l
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.001 mg/l
- Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 1 mg/l
- Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 0.283 mg/kg
- Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.028 mg/kg
- Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.223 mg/kg

bis(izopropil)naftalen

CAS: 38640-62-9
- Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.236 µg/l
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.023 µg/l
- Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 0.853 mg/kg
- Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.085 mg/kg
- Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.171 mg/kg
- Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 0.15 mg/l

2-metoksi-1-metiletil-acetat

CAS: 108-65-6
- Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.635 mg/l
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.064 mg/l
- Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 100 mg/l
- Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 3.29 mg/kg
- Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.329 mg/kg
- Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.29 mg/kg

n-butil-acetat

CAS: 123-86-4
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.018 mg/l
- Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.18 mg/l
- Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.098 mg/kg
- Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 0.981 mg/kg
- Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 35.6 mg/l
- Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.09 mg/kg

ksilen

CAS: 1330-20-7
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.327 mg/l

Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.327 mg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 6.58 mg/l

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 12.46 mg/kg

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 12.46 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 2.31 mg/kg

etilbenzen

CAS: 100-41-4 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.1 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.01 mg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 9.6 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 13.7 mg/kg

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 1.37 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 2.68 mg/kg

etilbenzen

CAS: 100-41-4 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.1 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.01 mg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 9.6 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 13.7 mg/kg

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 1.37 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 2.68 mg/kg

butanon

CAS: 78-93-3 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 55.8 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 55.8 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 284.74 mg/kg

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 709 mg/l

Putevi izloženosti: Hranidbeni lanac; PNEC Ograničiti: 1000 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 22.5 mg/kg

Izvedena razina bez učinka. (DNEL)

bis[4-(2,3-epoksipropoksi)fenil]propan

CAS: 1675-54-3 Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 0.75 mg/kg; Potrošač: 0.089 mg/kg

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 4.93 mg/m3; Potrošač: 0.87 mg/m3

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Potrošač: 0.5 mg/kg

reakcijska smjesa 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran i 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran i 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 104.15 mg/kg; Potrošač: 62.5 mg/kg

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Kratkotrajni, lokalni učinci
Profesionalni djelatnik: 0.0083 mg/cm2

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 29.39 mg/m3; Potrošač: 8.7 mg/m3

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 6.25 mg/kg

1,6-heksandiol diglicidil eter

CAS: 933999-84-9 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
djelatnik: 10.57 mg/m3; Potrošač: 5.29 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
djelatnik: 6 mg/kg; Potrošač: 3 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 1.5 mg/kg

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, sistemski učinci
djelatnik: 10.57 mg/m3; Potrošač: 5.29 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Potrošač: 1.7 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Potrošač: 1.5 mg/kg

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, lokalni učinci
djelatnik: 0.44 mg/m3; Potrošač: 0.27 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, lokalni učinci
djelatnik: 0.022 mg/kg; Potrošač: 0.013 mg/kg

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Kratkotrajni, lokalni učinci
djelatnik: 0.022 mg/kg; Potrošač: 0.013 mg/kg

bis(izopropil)naftalen

CAS: 38640-62-9 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 30 mg/m3; Potrošač: 7.4 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 4.3 mg/kg; Potrošač: 2.1 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 2.1 mg/kg

2-metoksi-1-metiletil-acetat

CAS: 108-65-6 Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
djelatnik: 796 mg/kg; Potrošač: 320 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 36 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Potrošač: 500 mg/kg

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
djelatnik: 275 mg/m3; Potrošač: 33 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, lokalni učinci
djelatnik: 550 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, lokalni učinci
Potrošač: 33 mg/m3

masne kiseline, talno ulje, spojevi s oleilamin

CAS: 85711-55-3 Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 0.024 mg/kg; Potrošač: 0.012 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 0.012 mg/kg

n-butil-acetat

CAS: 123-86-4 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
djelatnik: 300 mg/m3; Potrošač: 35.7 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, sistemski učinci
djelatnik: 600 mg/m3; Potrošač: 300 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, lokalni učinci
djelatnik: 300 mg/m3; Potrošač: 35.7 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, lokalni učinci
djelatnik: 600 mg/m3; Potrošač: 300 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
djelatnik: 11 mg/kg; Potrošač: 6 mg/kg

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Kratkotrajni, sistemski učinci
djelatnik: 11 mg/kg; Potrošač: 6 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Kratkotrajni, sistemski učinci

Potrošač: 2 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 2 mg/kg

ksilen

CAS: 1330-20-7 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 221 mg/m3; Potrošač: 65.3 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Profesionalni djelatnik: 442 mg/m3; Potrošač: 260 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, lokalni učinci
Profesionalni djelatnik: 442 mg/m3; Potrošač: 260 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, lokalni učinci
Profesionalni djelatnik: 221 mg/m3; Potrošač: 65.3 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 212 mg/kg; Potrošač: 125 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 12.5 mg/kg

etilbenzen

CAS: 100-41-4 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 77 mg/m3; Potrošač: 15 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, lokalni učinci
Profesionalni djelatnik: 293 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 180 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 1.6 mg/kg

etilbenzen

CAS: 100-41-4 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 77 mg/m3; Potrošač: 15 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, lokalni učinci
Profesionalni djelatnik: 293 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 180 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 1.6 mg/kg

butanon

CAS: 78-93-3 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 600 mg/m3; Potrošač: 106 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 1161 mg/kg; Potrošač: 412 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 31 mg/kg

8.2. Nadzor nad izloženošću

Osigurati odgovarajuću ventilaciju. Kad je to razumno moguće, to se može postići upotrebom rezervne ventilacije i dobre opće aspiracije.

Zaštita očiju:

Čaše sa bočnom zaštitom (EN 16321).

Zaštita kože:

Upotrebljavati odjeću prikladnu za potpunu zaštitu kože u skladu s aktivnošću i izloženošću (EN 14605/EN 13982), npr. radne kombinezone, pregače, sigurnosnu obuću, prikladnu odjeću.

Zaštita za ruke:

Ne postoji materijal ili kombinacija materijala za rukavice koji bi mogli jamčiti neograničenu otpornost na bilo koji kemijski proizvod ili kombinaciju proizvoda.

Ako je riječ o duljem ili ponavljanom rukovanju, koristite se rukavicama otpornim na kemijske proizvode.

Prikladne rukavice tipa (EN 374/EN 16523); FKM (fluorirana guma): debljina> = 0,4 mm; vrijeme prodiranja> = 480 min. NBR (nitrilna guma): debljina> = 0,4 mm; vrijeme prodiranja> = 480 min

Izbor prikladnih rukavica ne ovisi samo o materijalu, nego i o drugim karakteristikama kvalitete koje se razlikuju od proizvođača do

proizvođača, i o načinima i vremenu upotrebe smjese.

Zaštita pri disanju:

Ako su radnici izloženi koncentracijama višima od granice izloženosti, moraju upotrebljavati odgovarajuće certificirane respiratore.

Kombinirana filtrirajuća naprava (EN 14387): maska s filtrom A-P2.

Kontrola izlaganja u okolišu:

Vidi točku 6.2

Higijenske i tehničke mjere

Vidi odlomak 7.

ODJELJAK 9.: Fizikalna i kemijska svojstva

9.1. Informacije o osnovnim fizikalnim i kemijskim svojstvima

fizičko stanje: tekuće

Izgled: Viskozno

Boja: sivo

Miris: karakterističan

Talište/ledište: N.D.

Vrelište ili početno vrelište i raspon temperatura vrenja: N.D.

Zapaljivost: Ne primjenjuje se.

Donja i gornja granica eksplozivnosti: N.D.

Plamište: > 93°C

Temperatura samozapaljenja: N.D.

Temperatura raspadanja: Ne primjenjuje se.

pH: Ne primjenjuje se.

Kinematička viskoznost: Ne primjenjuje se.

Topljivost u vodi: Netopivo

Topljivost u ulje: Ne primjenjuje se.

Koeficijent raspodjele n-oktanol/voda (logaritamska vrijednost): Ne primjenjuje se.

Tlak pare: N.D.

Gustoća i/ili relativna gustoća: 1.40 kg/l (Interna metoda)

Relativna gustoća pare: N.D. Ne primjenjuje se.

Svojstva čestica:

Veličina čestica: Ne primjenjuje se.

9.2. Ostale informacije

Explozivne osobine: Ne primjenjuje se. (Interna evaluacija)

Osobine oksidiranja: Ne primjenjuje se. (Interna evaluacija)

ODJELJAK 10.: Stabilnost i reaktivnost

10.1. Reaktivnost

Stabilan u normalnim uvjetima

10.2. Kemijska stabilnost

Stabilan u normalnim uvjetima

10.3. Mogućnost opasnih reakcija

Može se zapaliti u kontaktu s jakim oksidansima.

Zbog djelovanja topline ili u slučaju požara može doći do oslobađanja ugljikovih oksida i para koji mogu biti štetni za zdravlje.

10.4. Uvjeti koje treba izbjegavati

Čuvati odvojeno od izvorā topline.

10.5. Inkompatibilni materijali

Snažni oksidansi, snažna redukcijska sredstva, alifatski i aromatski amini.

Vidi točku 10.3

10.6. Opasni proizvodi raspadanja

Pri odgovarajućem skladištenju i rukovanju ne razvijaju se opasni proizvodi raspadanja.

Vidi točku 5.2

ODJELJAK 11.: Toksikološke informacije

11.1. Informacije o razredima opasnosti kako su definirani u Uredbi (EZ) br. 1272/2008

Ova tvar sadrži tekuću epoksi smolu koja uzrokuje manju iritaciju kože. Sve epoksi smole mogu uzrokovati osjetljivost kože. Učinci na kožu variraju od osobe do osobe.

Kod osoba koje dolaze u kontakt s tvari, alergijski dermatitis se može pojaviti nakon nekoliko dana ili tjedana učestalog i dugotrajnog kontakta. Zbog toga, i u slučaju da je iritacija kože slaba kontakt se treba izbjegavati.

Kad se jednom pojavi osjetljivost, izlaganje kože vrlo malim količinama može uzrokovati eritrem i edem.

Podaci o toksičnosti proizvoda:

a) akutna toksičnost	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
b) kožno nagrizanje/nadraživanje	Proizvod je razvrstan kao: Skin Irrit. 2(H315)
c) teške očne ozljede/teško očno nadraživanje	Proizvod je razvrstan kao: Eye Irrit. 2(H319)
d) izazivanje kožne ili dišne preosjetljivosti	Proizvod je razvrstan kao: Skin Sens. 1A(H317)
e) mutagenost zametnih stanica	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
f) kancerogenost	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
g) reproduktivna toksičnost	Proizvod je razvrstan kao: Repr. 1B(H360)
h) Specifična toksičnost za ciljne organe (STOT) jednokratno izlaganje	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
i) Specifična toksičnost za ciljne organe (STOT) opetovano izlaganje	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
j) opasnost u slučaju udisanja	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.

Podaci o toksičnosti glavnih sastojaka u proizvodu:

bis[4-(2,3-epoksipropoksi)fenil]propan

CAS: 1675-54-3	a) akutna toksičnost	LD50 Oralno Štakor > 2000 mg/kg
		LD50 Koža Štakor > 2000 mg/kg

reakcijska smjesa 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran i 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran i 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran

	a) akutna toksičnost	LD50 Koža Štakor > 2000 mg/kg
		LD50 Oralno Štakor > 5000 mg/kg

1,6-heksandiol diglicidil eter

CAS: 933999-84-9	a) akutna toksičnost	LD50 Oralno Štakor 2189 mg/kg
		LD50 Koža Štakor > 2000 mg/kg

titanijev dioksid

CAS: 13463-67-7	a) akutna toksičnost	LD50 Oralno Štakor > 5000 mg/kg
		LC50 Udisanje prašine Štakor > 6.82 mg/l 4h

bis(izopropil)naftalen

CAS: 38640-62-9	a) akutna toksičnost	LD50 Oralno Štakor > 4000 mg/kg
		LC50 Koža Štakor > 4000 mg/kg
		LC50 Inhalacija aerosola Štakor > 5.6 mg/l

2-metoksi-1-metiletil-acetat

CAS: 108-65-6	a) akutna toksičnost	LD50 Oralno Štakor > 5000 mg/kg
		LD50 Koža Kunić > 5000 mg/kg
		LC0 Udisanje pare Štakor > 4345 ppm 6h

masne kiseline, talno ulje, spojevi s oleilamin

CAS: 85711-55-3	a) akutna toksičnost	LD50 Oralno Štakor > 2000 mg/kg

n-butil-acetat

CAS: 123-86-4	a) akutna toksičnost	LD50 Oralno Štakor 10760 mg/kg
		LD50 Koža Kunić 14112 mg/kg
		LC50 Udisanje pare Štakor > 21.1 mg/l 4h

ksilen

CAS: 1330-20-7	a) akutna toksičnost	ATE - Dermalno: 1100 mg/kg t.m.
		ATE - Udisanje (Pare): 11 mg/l

LD50 Oralno Štakor 3523 mg/kg

ksilen

CAS: 1330-20-7 a) akutna toksičnost ATE - Dermalno: 1100 mg/kg t.m.
ATE - Udisanje (Pare): 11 mg/l

etilbenzen

CAS: 100-41-4 a) akutna toksičnost LD50 Oralno Štakor 3500 mg/kg
LD50 Koža Kunić 15400 mg/kg
LC50 Udisanje Štakor 17629 mg/m3 4h

etilbenzen

CAS: 100-41-4 a) akutna toksičnost ATE - Udisanje (Pare): 11 mg/l
LD50 Oralno Štakor 3500 mg/kg
LD50 Koža Kunić 15400 mg/kg

butanon

CAS: 78-93-3 a) akutna toksičnost LD50 Oralno Štakor > 2193 mg/kg
LD50 Koža Kunić > 5000 mg/kg

11.2. Informacije o drugim opasnostima

Svojstva endokrine disrupcije:

Bez drugih endokrinih disruptora prisutnih u koncentraciji > = 0,1 %

ODJELJAK 12.: Ekološke informacije

Primjeniti dobre radne postupke da se produkt ne oslobađa u okoliš.

12.1. Toksičnost

Eko-Toksikološke informacije:

Otrovno za vodeni okoliš s dugotrajnim učincima.

Popis eko-toksikoloških svojstava proizvoda

Proizvod je razvrstan kao: Aquatic Chronic 2(H411)

Popis sastojaka sa eko-toksikološkim svojstvima

bis[4-(2,3-epoksipropoksi)fenil]propan

CAS: 1675-54-3 a) Akutna otrovnost na vodene organizme: EC50 Daphnia 1.8 mg/l 48h
a) Akutna otrovnost na vodene organizme: LC50 Ribe 2 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Algae 11 mg/l 72h
b) Hronična otrovnost na vodene organizme: NOEC Daphnia 0.3 mg/l 21d

reakcijska smjesa 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran i 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran i 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran

a) Akutna otrovnost na vodene organizme: LC50 Ribe 2.54 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Algae 1.8 mg/l 72h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 2.55 mg/l 48h
b) Hronična otrovnost na vodene organizme: NOEC Daphnia 0.3 mg/l - 21d

1,6-heksandiol diglicidil eter

CAS: 933999-84-9 a) Akutna otrovnost na vodene organizme: LC50 Ribe 30 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 47 mg/l 48h

titanijev dioksid

CAS: 13463-67-7 a) Akutna otrovnost na vodene organizme: LC50 Ribe > 1000 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia > 1000 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Algae 61 mg/l 72h

bis(izopropil)naftalen

CAS: 38640-62-9 a) Akutna otrovnost na vodene organizme: LC0 Ribe 0.5 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC0 Daphnia 0.16 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC0 Algae 0.15 mg/l 72h
b) Hronična otrovnost na vodene organizme: NOEC Daphnia 0.013 mg/l 21d

2-metoksi-1-metiletil-acetat

CAS: 108-65-6 a) Akutna otrovnost na vodene organizme: LC50 Ribe 134 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 408 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Algae > 1000 mg/l 96h
b) Hronična otrovnost na vodene organizme: NOEC Ribe 47.5 mg/l - 14 d

masne kiseline, talno ulje, spojevi s oleilamin
CAS: 85711-55-3
a) Akutna otrovnost na vodene organizme: LC50 Ribe 15.2 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia > 100 mg/l 48h

n-butil-acetat
CAS: 123-86-4
a) Akutna otrovnost na vodene organizme: LC50 Ribe 18 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 44 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Algae 675 mg/l 72h
b) Hronična otrovnost na vodene organizme: NOEC Daphnia 23 mg/l - 21d

etilbenzen
CAS: 100-41-4
a) Akutna otrovnost na vodene organizme: LC50 Ribe 4.2 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 1.8 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Algae 3.6 mg/l 96h
b) Hronična otrovnost na vodene organizme: NOEC Daphnia 1 mg/l - 7d

etilbenzen
CAS: 100-41-4
a) Akutna otrovnost na vodene organizme: LC50 Ribe 4.2 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 1.8 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Algae 3.6 mg/l 96h
b) Hronična otrovnost na vodene organizme: NOEC Daphnia 1 mg/l - 7d

butanon
CAS: 78-93-3
a) Akutna otrovnost na vodene organizme: LC50 Ribe 2973 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 308 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Algae 1229 mg/l 96h

12.2. Postojanost i razgradivost

bis[4-(2,3-epoksipropoksi)fenil]propan
CAS: 1675-54-3 Nije brzo-biološki razgradiv

2-metoksi-1-metiletil-acetat
CAS: 108-65-6 Brzo-biološki razgradiv

n-butil-acetat
CAS: 123-86-4 Brzo-biološki razgradiv

ksilen
CAS: 1330-20-7 Brzo-biološki razgradiv

ksilen
CAS: 1330-20-7 Brzo-biološki razgradiv

etilbenzen
CAS: 100-41-4 Brzo-biološki razgradiv

etilbenzen
CAS: 100-41-4 Brzo-biološki razgradiv

butanon
CAS: 78-93-3 Brzo-biološki razgradiv

12.3. Bioakumulacijski potencijal

bis[4-(2,3-epoksipropoksi)fenil]propan
CAS: 1675-54-3 Nije bioakumulativan

titanijev dioksid
CAS: 13463-67-7 Nije bioakumulativan

ksilen
CAS: 1330-20-7 Nije bioakumulativan

ksilen

CAS: 1330-20-7 Nije bioakumulativan

12.4. Pokretljivost u tlu

bis[4-(2,3-epoksipropoksi)fenil]propan

CAS: 1675-54-3 Test: Log Koc; Vrijednost: 2.650

titanijev dioksid

CAS: 13463-67-7 Nije mobilan

n-butil-acetat

CAS: 123-86-4 Test: Log Koc; Vrijednost: 1.300

ksilen

CAS: 1330-20-7 Test: Log Koc; Vrijednost: 2.730

ksilen

CAS: 1330-20-7 Test: Log Koc; Vrijednost: 2.730

12.5. Rezultati procjene svojstava PBT i vPvB

Popis sastojaka sa eko-toksikološkim svojstvima

bis(izopropil)naftalen

CAS: 38640-62-9 >=0.3 - <0.5 % PBT - vPvB

12.6. Svojstva endokrine disrupcije

Bez drugih endokrinih disruptora prisutnih u koncentraciji > = 0,1 %

12.7. Ostali štetni učinci

Ne primjenjuje se.

ODJELJAK 13.: Zbrinjavanje

13.1. Metode obrade otpada

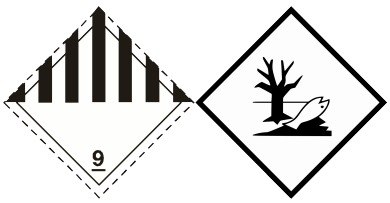
Regenerirati ako je moguće. Poslati ovlaštenim postrojenjima za odlaganje ili na spaljivanje pod kontroliranim uvjetima. Pri tome se pridržavati vrijedećih lokalnih i državnih regulativa.

Ne dopustiti prodor u kanalizaciju ili vodene tokove.

Zbrinite kontejnera onečišćenih proizvoda u skladu s lokalnim ili nacionalnim zakonskim odredbama.

Proizvod se nakon isteka roka trajanja mora odložiti prema propisima na snazi.

ODJELJAK 14.: Informacije o prijevozu



14.1. UN broj ili identifikacijski broj

3082

14.2. Ispravno otpremno ime prema UN-u

ADR-Naziv za otpremu: TVAR OPASNA ZA OKOLINU, TEKUĆA, INAČE NIJE SPECIFICIRANA. (bis[4-(2,3-epoksipropoksi)fenil]propan - reakcijska smjesa 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran i 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran i 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran)

IATA-Naziv za otpremu: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis[4-(2,3-epoksipropoksi)fenil]propan - reakcijska smjesa 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran i 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran i 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran)

IMDG-Naziv za otpremu: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis[4-(2,3-epoksipropoksi)fenil]propan - reakcijska smjesa 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran i 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran i 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran)

14.3. Razred(i) opasnosti pri prijevozu

ADR-Razred: 9

IATA-Razred: 9

IMDG-Razred: 9

14.4. Skupina pakiranja

ADR-Grupa pakiranja: III

IATA-Grupa pakiranja: III

IMDG-Grupa pakiranja: III

14.5. Opasnosti za okoliš

Morski polutant: Da

Zagađivači okoliša: Da

IMDG-EMS: F-A, S-F

14.6. Posebne mjere opreza za korisnika

Ceste i Željeznica (ADR-RID):

ADR-Označavanje: 9

ADR - Identifikacijski broj opasnosti: 90

ADR-Posebne odredbe: 274 335 375 601

ADR ograničenja prijevoza u tunelu:

Zrak (IATA):

IATA-Putnički zrakoplov: 964

IATA-Teretni zrakoplov: 964

IATA-Označavanje: 9

IATA-Sporedni opasnosti: -

IATA-Erg: 9L

IATA-Posebne odredbe: A97 A158 A197 A215

More (IMDG):

IMDG-Skladištenje i rukovanje: Category A

IMDG-Segregacija: -

IMDG-Sporedni opasnosti -

IMDG-Posebne odredbe: 274 335 969

14.7. Prijevoz morem u razlivenom stanju u skladu s instrumentima IMO-a

Ne primjenjuje se.

ODJELJAK 15.: Informacije o propisima

15.1. Propisi u području sigurnosti, zdravlja i okoliša/posebno zakonodavstvo za tvar ili smjesu

Direktiva 98/24/EC (Rizici koji nastaju od kemijskih agenasa na radu)

Direktiva 2000/39/EC (Granična vrijednost profesionalne izloženosti)

Direktiva 2010/75/EU

Uredba (EC) br. 1907/2006 (REACH)

Uredba (EC) br. 1272/2008 (CLP)

Uredba (EC) br. 790/2009 (ATP 1 CLP) i (EZ) br. 758/2013

Uredba (EZ) br. 2020/878

Uredba (EZ) br. 286/2011 (ATP 2 CLP)

Uredba (EZ) br. 618/2012 (ATP 3 CLP)

Uredba (EZ) br. 487/2013 (ATP 4 CLP)

Uredba (EZ) br. 944/2013 (ATP 5 CLP)

Uredba (EZ) br. 605/2014 (ATP 6 CLP)

Uredba (EZ) br. 2015/1221 (ATP 7 CLP)

Uredba (EZ) br. 2016/918 (ATP 8 CLP)

Uredba (EZ) br. 2016/1179 (ATP 9 CLP)

Uredba (EZ) br. 2017/776 (ATP 10 CLP)

Uredba (EZ) br. 2018/669 (ATP 11 CLP)

Uredba (EZ) br. 2018/1480 (ATP 13 CLP)

Uredba (EZ) br. 2019/521 (ATP 12 CLP)

Uredba (EZ) br. 2020/217 (ATP 14 CLP)

Uredba (EZ) br. 2020/1182 (ATP 15 CLP)

Uredba (EZ) br. 2021/643 (ATP 16 CLP)

Uredba (EZ) br. 2021/849 (ATP 17 CLP)

Uredba (EZ) br. 2022/692 (ATP 18 CLP)

Uredba (EU) no. 2023/707

Uredba (EZ) br. 2023/1434 (ATP 19 CLP)

Uredba (EZ) br. 2023/1435 (ATP 20 CLP)

Uredba (EZ) br. 2024/197 (ATP 21 CLP)

Uredba (EZ) br. 2024/2564 (ATP 22 CLP)

Uredba (EZ) br. 2024/2865

Uredba (EZ) br. 2025/1222 (ATP 23 CLP)

Ograničenja u vezi s produktom ili sadržajnim tvarima u skladu s Prilogom XVII Uredbe (EZ-a) 1907/2006 (REACH) i naknadne izmjene:

Ograničenja koja se odnose na proizvod: 3

Ograničenja koja se odnose na sadržane tvari: 40, 75

Odredbe prema direktivi 2012/18/EU (Seveso III)

Kategorija Seveso III prema dijelu 1. Priloga 1.	Donje granične količine opasnih tvari (u tonama) - male količine	Donje granične količine opasnih tvari (u tonama) - velike količine
proizvod pripada kategoriji: E2	200	500

Uredba (EU) br. 649/2012 (Uredba PIC)

Nijedna tvar nije navedena

Njemačka klasifikacija opasnosti za vodu.

Klasa 2: zagađuje vodu.

SVHC tvari:

Prema dostupnim podacima proizvod ne sadrži SVHC u postotku većem ≥ 0.1%.

15.2. Procjena kemijske sigurnosti

Procjena kemijske sigurnosti nije provedena za smjesu. Pogledajte scenarije izloženosti tvari priložene ovom sigurnosnom listu. Kad budete proučavali scenarije, razmotrite i eventualna ograničenja upotrebe navedena u odjeljku 1.2.

ODJELJAK 16.: Ostale informacije

Šifra	Opis
EUH066	Ponavljano izlaganje može prouzročiti sušenje ili pucanje kože.
H225	Lako zapaljiva tekućina i para.
H226	Zapaljiva tekućina i para.
H304	Može biti smrtonosno ako se proguta i uđe u dišni sustav.
H312	Štetno u dodiru s kožom.
H315	Nadražuje kožu.
H317	Može izazvati alergijsku reakciju na koži.
H318	Uzrokuje teške ozljede oka.
H319	Uzrokuje jako nadraživanje oka.
H332	Štetno ako se udiše.
H335	Može nadražiti dišni sustav.
H336	Može izazvati pospanost ili vrtoglavicu.
H351	Sumnja na moguće uzrokovanje raka ako se udiše.
H360F	Može štetno djelovati na plodnost.
H372	Uzrokuje oštećenje organa tijekom produljene ili ponavljane izloženosti ako se udiše.
H373	Može uzrokovati oštećenje organa tijekom produljene ili ponavljane izloženosti.
H373	Može uzrokovati oštećenje organa tijekom produljene ili ponavljane izloženosti ako se proguta.
H373	Može uzrokovati oštećenje organa tijekom produljene ili ponavljane izloženosti ako se udiše i proguta.
H410	Vrlo otrovno za vodeni okoliš, s dugotrajnim učincima.
H411	Otrovno za vodeni okoliš s dugotrajnim učincima.
H412	Štetno za vodeni okoliš s dugotrajnim učincima.

Šifra	Razred opasnosti i kategorija opasnosti	Opis
2.6/2	Flam. Liq. 2	Zapaljiva tekućina, kategorija 2
2.6/3	Flam. Liq. 3	Zapaljiva tekućina, kategorija 3
3.1/4/Dermal	Acute Tox. 4	Akutna toksičnost (preko kože), kategorija 4
3.1/4/Inhal	Acute Tox. 4	Akutna toksičnost (udisanje), kategorija 4
3.10/1	Asp. Tox. 1	Opasnost od aspiracije, Kategorija 1
3.2/2	Skin Irrit. 2	Nadražujuće za kožu, kategorija 2
3.3/1	Eye Dam. 1	Teška ozljeda oka, kategorija 1
3.3/2	Eye Irrit. 2	Nadražujuće za oči, kategorija 2
3.4.2/1	Skin Sens. 1	Izazivanje preosjetljivosti kože, kategorija 1
3.4.2/1A	Skin Sens. 1A	Izazivanje preosjetljivosti kože, kategorija 1A
3.6/2	Carc. 2	Karcinogenost, Kategorija 2
3.7/1B	Repr. 1B	Reproduktivna toksičnost, Kategorija 1B
3.8/3	STOT SE 3	Specifična toksičnost za ciljane organe – jednokratno izlaganje, Kategorija 3
3.9/1	STOT RE 1	Specifična toksičnost za ciljane organe – ponavljano izlaganje,

		Kategorija 1
3.9/2	STOT RE 2	Specifična toksičnost za ciljane organe – ponavljano izlaganje, Kategorija 2
4.1/C1	Aquatic Chronic 1	Kroničnu (dugoročnu) opasnost za organizme koji žive u vodi, kategorija 1
4.1/C2	Aquatic Chronic 2	Kroničnu (dugoročnu) opasnost za organizme koji žive u vodi, kategorija 2
4.1/C3	Aquatic Chronic 3	Kroničnu (dugoročnu) opasnost za organizme koji žive u vodi, kategorija 3

Razvrstavanje i postupak razvrstavanja za smjese sukladno Uredbi (EZ) br. 1272/2008 (CLP):

Razvrstavanje prema Uredbi (EZ) br. 1272/2008	**Postupak razvrstavanja**
Skin Irrit. 2, H315	Računska metoda
Eye Irrit. 2, H319	Računska metoda
Skin Sens. 1A, H317	Računska metoda
Repr. 1B, H360F	Računska metoda
Aquatic Chronic 2, H411	Računska metoda

Ovaj dokument izradila je tehnički kompetentna osoba za SDS, te koja je prikladno za to osposobljena.

Glavni bibliografski izvori:

ECDIN – Informacijska mreža za ekološke podatke za kemikalije – Zajednički istraživački centar, Komisija Europskih zajednica

SAX's OPASNE OSOBINE INDUSTRIJSKIH TVARI- Osmo izdanje - Van Nostrand Reinold

Sigurnosno-tehnički listovi dobavljača sirovina.

Ovdje objavljne informacije se temelje na našem znanju u vrijeme gore navedenog datuma. Odnose se samo na navedene proizvode i ne predstavlja garanciju neke određene kvalitete.

Obaveza je korisnika da utvrdi da je ova informacija cjelovita i da odgovara specifičnoj upotrebi.

Ovaj MSDS poništava i zamjenjuje sva predhodna izdanja.

Legenda kratica i akronima upotrebljenih u sigurnosno-tehničkom listu:

ACGIH: Američka konferencija vladinih specijalista za industrijsku higijenu

ADR: Europski sporazum o međunarodnom cestovnom prijevozu opasnih tvari.

ATE: Procjena akutne toksičnosti

ATEmix: Procijenjena vrijednost akutne toksičnosti (Mješavine)

BEI: Indeks biološke izloženosti

CAS: CAS registarski broj (Američko kemijsko društvo)

CAV: Centar za otrove

CE: Europska zajednica

CLP: Razvrstavanje, označavanje, pakiranje.

CMR: Karcinogeno, Mutageno i Reprotoksično

COV: Hlapivi organski spoj

CSA: Procjena kemijske sigurnosti

CSR: Izvješće o kemijskoj sigurnosti

DNEL: Izvedena razina bez učinka.

EC50: Pulu maksimalna efektivna koncentracija

ECHA: Europska agencija za kemijske proizvode

EINECS: Europski propis postojećih trgovačkih kemijskih tvari.

ES: Scenario izloženosti

GefStoffVO: Propis o opasnim tvarima, Njemačka.

GHS: Globalno harmonizirani sustav razvrstavanja i označavanja kemikalija

IARC: Međunarodna agencija za istraživanja o karcinomu

IATA: Međunarodna udruga za zračni prijevoz.

IC50: Pulu maksimalna koncentracija inhibitora

IMDG: Međunarodni pomorski kodeks opasnog tereta.

LC50: Smrtna koncentracija u 50% slučajeva ispitivane populacije.

LD50: Smrtna doza u 50% slučajeva ispitivane populacije.

LDLo: Niska smrtonosna doza

N.A.: Nije primjenjivo

N/A: Nije primjenjivo

N/D: Nije definirano/Nije dostupno

N.D.: Nije dostupno

NIOSH: Državni institut za zaštitu na radu

NOAEL: Razina bez uočenih štetnih učinaka

OSHA: Upravljanje zaštitom na radu
PBT: Persistentno, bioakumulativno i toksično
PGK: Upute za pakiranje
PNEC: Predviđena koncentracija bez učinka.
PSG: Putnici
RID: Propis o međunarodnom prijevozu opasnih tvari željeznicom
STEL: Granica kratkotrajne izloženosti.
STOT: Toksičnost za ciljani organ.
TLV: Granična vrijednost praga.
TLV-TWA: Granična vrijednost praga za vremenski ponderirani prosjek. (ACGIH standard)
vPvB: Vrlo persistentno, vrlo bioakumulativno
WGK: Njemačka klasifikacija opasnosti za vodu.

Odlomci promijenjeni u odnosu na prethodnu reviziju:

- ODJELJAK 1.: Identifikacija tvari/smjese i podaci o društvu/poduzeću
- ODJELJAK 2.: Identifikacija opasnosti
- ODJELJAK 3.: Sastav/informacije o sastojcima
- ODJELJAK 8.: Nadzor nad izloženošću/osobna zaštita
- ODJELJAK 9.: Fizikalna i kemijska svojstva
- ODJELJAK 11.: Toksikološke informacije
- ODJELJAK 12.: Ekološke informacije
- ODJELJAK 15.: Informacije o propisima
- ODJELJAK 16.: Ostale informacije

n-butyl acetate

Substance identification
Chemical Name: n-butyl acetate
CAS number: 123-86-4
Date - Version: 07/06/2017 10.0

1. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.
SU3; ERC4; PROC7, PROC10, PROC13

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC4.1a.v1

Operating conditions

Yearly amount used in EU: 5,000,000 kgs
Minimum emission days per year: 225
Emission factor to air: 0.8%
Emission factor in water: 2%
Emission factor in soil: 0%
Receiving surface water (flow rate): 18,000 m³/day
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Suitable measures to reduce emissions to air can be: Exhaust gas treatment with thermal oxidation.
Type of treatment plant: Municipal sewage treatment plant.
Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment
Risk Characterization Ratio (RCR): 0.925355
Risk from environmental exposure is driven by soil.
Maximum safe use amount: 1080.7 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Minimize manual tasks.
Daily general cleaning of equipment and work area.
Regular inspection and maintenance of equipment and machinery.
Ensure that the activity is performed outside the operator’s respiratory zone (head-product distance greater than 1m).
Avoid frequent and direct contact with the substance.
Check that risk reduction measures are implemented and that the conditions of use are respected.
Avoid splashes.
Make sure the spray booth is used.
Wear suitable clothing.

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 4.2857 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.38961
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 0.0001 mg/m³
Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Industrial

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Forced local ventilation. Effectiveness: 90%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 2.7429 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.249351
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 24.1996 mg/m³
Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation. Effectiveness: 90%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 1.3714 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.124675
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 24.1996 mg/m³
Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users

For a comparison term, visit http://www.ecetoc.org/tra

2. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.
SU3; ERC4; PROC7, PROC10, PROC13

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC4.1a.v1

Operating conditions

Yearly amount used in EU: 43,000,000 kgs
Minimum emission days per year: 225
Emission factor to air: 0.8%
Emission factor in water: 2%
Emission factor in soil: 0%
Receiving surface water (flow rate): 18,000 m³/day
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Suitable measures to reduce emissions to air can be: Exhaust gas treatment with thermal oxidation.
Type of treatment plant: Municipal sewage treatment plant.
Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment
Risk Characterization Ratio (RCR): 0.925355
Risk from environmental exposure is driven by soil.
Maximum safe use amount: 1080.7 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Minimize manual tasks.
Daily general cleaning of equipment and work area.
Regular inspection and maintenance of equipment and machinery.
Ensure that the activity is performed outside the operator’s respiratory zone (head-product distance greater than 1m).
Avoid frequent and direct contact with the substance.
Check that risk reduction measures are implemented and that the conditions of use are respected.
Avoid splashes.
Make sure the spray booth is used.
Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 4.2857 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.38961

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 0.0001 mg/m³
Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Industrial

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Forced local ventilation. Effectiveness: 90%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 2.7429 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.249351
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 24.1996 mg/m³
Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Industrial

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Forced local ventilation. Effectiveness: 90%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 1.3714 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.124675
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 24.1996 mg/m³
Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

3. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.
SU22; ERC8a, ERC8d; PROC10, PROC11, PROC13, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC 8a.2a.v1

Operating conditions

Yearly amount used in EU: 2,000,000 kgs
Minimum emission days per year: 225
Emission factor to air: 99%
Emission factor in water: 1%
Emission factor in soil: 0%
Receiving surface water (flow rate): 18,000 m³/day
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

The wastewater treatment measures considered suitable are, for example, wastewater or sewage treatment plant.
Type of treatment plant: Municipal sewage treatment plant.
Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment
Risk Characterization Ratio (RCR): 0.012923
Risk from environmental exposure is driven by freshwater sediment.
Maximum safe use amount: 1934.6 kg/giorno

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC 8d.3a.v1

Operating conditions

Yearly amount used in EU: 2,000,000 kgs
Minimum emission days per year: 225
Emission factor to air: 98%
Emission factor in water: 2%
Emission factor in soil: 0%
Receiving surface water (flow rate): 18,000 m³/day
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Type of treatment plant: Municipal sewage treatment plant.
Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment
Risk Characterization Ratio (RCR): 0.092422
Risk from environmental exposure is driven by soil.
Maximum safe use amount: 1082 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 2.7429 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.249351
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 145.1979 mg/m³
Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users

For a comparison term, visit http://www.ecetoc.org/tra

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤45%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Minimize manual tasks.
Daily general cleaning of equipment and work area.
Regular inspection and maintenance of equipment and machinery.
Ensure that the activity is performed outside the operator’s respiratory zone (head-product distance greater than 1m).
Avoid frequent and direct contact with the substance.
Check that risk reduction measures are implemented and that the conditions of use are respected.
Avoid splashes.
Make sure the spray booth is used.
Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 10.7143 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.974026
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 0.0001 mg/m³
Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users

For a comparison term, visit http://www.ecetoc.org/tra Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤45%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Minimize manual tasks.
Avoid frequent and direct contact with the substance.
Check that risk reduction measures are implemented and that the conditions of use are respected.
Daily general cleaning of equipment and work area.
Regular control and maintenance of equipment and machinery.
Make sure doors and windows are open (general ventilation).
Avoid splashes.
Use an adequately effective local ventilation system.
Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. The concentration of the substance has been considered using a linear approach. Worker - dermal, long-term - systemic.
Exposure estimation: 4.8214 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.438312
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. Operator - inhalation, long-term - local.
Exposure estimation: 153 mg/m³
Risk Characterization Ratio (RCR): 0.51

Guidance for downstream users

For a comparison term, visit http://www.ecetoc.org/tra Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Minimize manual tasks.
Avoid frequent and direct contact with the substance.
Check that risk reduction measures are implemented and that the conditions of use are respected.
Daily general cleaning of equipment and work area.
Regular inspection and maintenance of equipment and machinery.
Avoid splashes.
Make sure doors and windows are open (general ventilation).
Wear a half face mask with a P2L filter or better.
Wear suitable clothing.

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. The concentration of the substance has been considered using a linear approach. Worker - dermal, long-term - systemic.
Exposure estimation: 4.8214 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.438312
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. Operator - inhalation, long-term - local.
Exposure estimation: 116 mg/m³
Risk Characterization Ratio (RCR): 0.386667

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Professional

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 1.3714 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.124675
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 145.1979 mg/m³
Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact with the only use of personal protective equipment

Area of use: Professional

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 240 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Forced local ventilation: Effectiveness: 80%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Ensure a good standard of general or controlled ventilation (no less than 3-5 air changes per hour). Effectiveness: 30%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 8.4857 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.771429
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 67.759 mg/m³
Risk Characterization Ratio (RCR): 0.225863

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact with the only use of personal protective equipment
Area of use: Professional

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 60 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 2.8286 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.257143
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 145.1979 mg/m³
Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

Bis(isopropyl)naphthalene

Substance identification
Chemical Name: bis(isopropyl)naphthalene
EC number: 254-052-6
CAS number: 38640-62-9
Date - Version: 01/18/2018 v.1

SECTION 1: TITLE - Use in coatings - Industrial

List of use descriptors
Name of identified use: Use in coatings - Industrial: SU03; PROC01, PROC02 PROC03, PROC05, PROC07, PROC08a, PROC08b, PROC10, PROC13, PROC15; ERC05
Process category:PROC01, PROC02, PROC03, PROC05, PROC07, PROC08a, PROC08b, PROC10, PROC13, PROC15
Substance supplied for such use in the form of: As-it-is
End use sector: SU06a, SU13, SU16, SU17, SU18, SU19
Environmental Release Category ERC05

Environmental contributing scenario:
Use in coatings - ERC05

Worker contributing scenario(s):
Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions [PROC1]
Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions [PROC2]
Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions [PROC3].
Use of materials at industrial sites in open batch processes [PROC5].
Industrial Spray Applications [PROC7].
Transfer of substance or preparation (charging/discharging) at non dedicated facilities [PROC8a].
Transfer of substance or preparation (charging/discharging) at dedicated facilities [PROC8b].
Roller, spray and flow application[PROC10].
Treatment of articles by dipping and pouring [PROC13].
Use as laboratory reagent [PROC15].

SECTION 2: EXPOSURE CONTROLS

CONTRIBUTING SCENARIO THAT CONTROLS ENVIRONMENTAL EXPOSURE

Quantity used
Daily amount per site: ≤ 5.3 tons/day.
Annual amount per site: ≤ 1200 tons/year.
Issue days: 225 days a year.
Percentage of EU tonnage used at regional scale: 100 %.

Other conditions concerning environmental exposure
Receiving surface water flow rate: ≥ 18000 m³/day.
Fattore di rilascio dopo la gestione del rischio in loco:
Emissions to process waste water: 0 % (CEPE SPERC 5.1a.v1)
Process air emissions: 0.1 % (CEPE SPERC 5.1a.v1)
Soil emissions from process: 0 % (CEPE SPERC 5.1a.v1)

On-site conditions and technical measures to reduce or limit discharges, emissions to air and releases to soil
Wet blast chiller or filtration: (Air - minimum efficiency: 95 %).

Conditions and measures related to sewage treatment plants
Wastewater treatment plant: Yes. (Efficiency of at least 85.29 %)
Discharge rate: ≥ 2000 m³/day.
Application of STP sludge on agricultural land: Yes.

CONTRIBUTING SCENARIO THAT CONTROLS WORKERS' EXPOSURE

Other conditions regarding workers' exposure
Do not swallow.
Avoid splashes.
Avoid contact with contaminated tools and objects.

Organisational measures to avoid/limit releases, dispersion and exposure.
Personnel training on good practice.
On-site supervision to check that the Risk Management Measures (RMMs) in place are being used correctly and the Operational Conditions (OCs) are being followed.
Sensitisers - Subject to relevant national legislation, pre-employment screening and appropriate health surveillance.

Conditions and measures for personal protection, hygiene and health assessments
Good level of personal hygiene.
Assumes a good basic standard of occupational hygiene is implemented.

SECTION 3: Exposure estimation and reference to its source

Exposure assessment (environment):
EUSES v2.1.2

Exposure estimation:
Fresh water: 0.000000887 mg/l
RCR: <0.01
Freshwater sediments: 0.00321 mg/Kg dwt
RCR: <0.01
Sea water: 0.000000016 mg/l.
RCR: <0.01
Marine sediment: 0.0000579 mg/kg dwt
RCR: <0.01
Wastewater treatment plant: 0 mg/l
RCR: <0.01
Soil: 0.012 mg/kg dwt
RCR: 0.677
Based on the applied risk management the risk to the environment is sufficiently controlled, RCR<1

Exposure assessment (human):
A qualitative approach was used to conclude that it is safe to use.

SECTION 4: Indications for the downstream user to assess whether he works within the limits established by ES.

Generals
The downstream user is required to assess that the operating conditions and risk management measures described in the exposure scenario are suitable for his/her use.
Where other OCs/RMMs are adopted, the user should ensure that risks are managed to at least equivalent levels.

The risk assessment methods/tools specified in Section 3 can be used for this assessment.

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
If scaling reveals a condition of unsafe use [i.e. risk characterisation ratio (RCR) > 1], additional risk management measures (RMM) or a site-specific chemical safety assessment or a site-specific chemical safety assessment will be required.
Further details on scaling and control technologies are provided in the SPERC

SECTION 1: TITLE - Use in coatings - Inside - Professional

List of use descriptors
Name of identified use: Use in coatings - Inside - Professional: SU22; PROC05, PROC08a PROC10, PROC11, PROC13, PROC19; ERC08c
Process category:PROC05, PROC08a PROC10, PROC11, PROC13, PROC19
Substance supplied for such use in the form of: As-it-is
End use sector: SU06a, SU13, SU16, SU17, SU18, SU19
Subsequent service life relevant to that use: No.
Environmental Release Category ERC08c
Market sector by type of chemical product: PC09a

Environmental contributing scenario:
Use in coatings-ERC08c

Worker contributing scenario(s):
Use of materials at industrial sites in open batch processes [PROC5].
Transfer of substance or preparation (charging/discharging) at non dedicated facilities [PROC8a].
Roller application or brushing [PROC10]
Non-industrial spray application [PROC11].
Treatment of articles by dipping and pouring [PROC13].
Manual activities with direct contact [PROC19].

SECTION 2: EXPOSURE CONTROLS

CONTRIBUTING SCENARIO THAT CONTROLS ENVIRONMENTAL EXPOSURE

Quantity used
Daily amount of local widespread use: ≤ 0,00014 Tons/day

Other conditions concerning environmental exposure
Emissions to process waste water: 0 % (CEPE SPERC 8c.3a.v1)
Process air emissions: 2.2 % (CEPE SPERC 8c.3a.v1)
Soil emissions from process: 0 % (CEPE SPERC 8c.3a.v1)

Process-level conditions and technical measures (source) to prevent release
Indoor use
Professional use.

Conditions and measures related to sewage treatment plants
Wastewater treatment plant: Yes. (Efficiency of at least 85.29 %)

CONTRIBUTING SCENARIO THAT CONTROLS WORKERS' EXPOSURE

Other conditions regarding workers' exposure
Do not swallow.
Avoid splashes.
Avoid contact with contaminated tools and objects.

Organisational measures to avoid/limit releases, dispersion and exposure.
Personnel training on good practice.
On-site supervision to check that the Risk Management Measures (RMMs) in place are being used correctly and the Operational Conditions (OCs) are being followed.

Conditions and measures for personal protection, hygiene and health assessments
Good level of personal hygiene.
Assumes a good basic standard of occupational hygiene is implemented.

SECTION 3: Exposure estimation and reference to its source

Exposure assessment (environment):
EUSES v2.1.2

Exposure estimation:
Fresh water: 0.000000887 mg/l
RCR: <0.01
Freshwater sediments: 0.00321 mg/Kg dwt
RCR: <0.01
Sea water: 0.000000016 mg/l.
RCR: <0.01
Marine sediment: 0.0000579 mg/kg dwt
RCR: <0.01
Wastewater treatment plant: 0 mg/l
RCR: <0.01
Soil: 0.000076 mg/kg peso secco
RCR: <0.01
Based on the applied risk management the risk to the environment is sufficiently controlled, RCR<1

Exposure assessment (human):
A qualitative approach was used to conclude that it is safe to use.

SECTION 4: Indications for the downstream user to assess whether he works within the limits established by ES.

Generals
The downstream user is required to assess that the operating conditions and risk management measures described in the exposure scenario are suitable for his/her use.
Where other OCs/RMMs are adopted, the user should ensure that risks are managed to at least equivalent levels.

The risk assessment methods/tools specified in Section 3 can be used for this assessment.

Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
If scaling reveals a condition of unsafe use [i.e. risk characterisation ratio (RCR) > 1], additional risk management measures (RMM) or a site-specific chemical safety assessment or a site-specific chemical safety assessment will be required.
Further details on scaling and control technologies are provided in the SPERC

SECTION 1: TITLE - Use in coatings - Outdoor - Professional

List of use descriptors

Name of identified use: Use in coatings - Outdoor - Professional: SU22; PROC05, PROC08a PROC10, PROC11, PROC13, PROC19; ERC08f
Process category:PROC05, PROC08a PROC10, PROC11, PROC13, PROC19
Substance supplied for such use in the form of: As-it-is
End use sector: SU06a, SU13, SU16, SU17, SU18, SU19
Subsequent service life relevant to that use: No.
Environmental Release Category ERC08f
Market sector by type of chemical product: PC09a

Environmental contributing scenario:

Use in coatings - ERC08f

Worker contributing scenario(s):

Use of materials at industrial sites in open batch processes [PROC5].
Transfer of substance or preparation (charging/discharging) at non dedicated facilities [PROC8a].
Roller application or brushing [PROC10]
Non-industrial spray application [PROC11].
Treatment of articles by dipping and pouring [PROC13].
Manual activities with direct contact [PROC19].

SECTION 2: EXPOSURE CONTROLS

CONTRIBUTING SCENARIO THAT CONTROLS ENVIRONMENTAL EXPOSURE

Quantity used

Daily amount of local widespread use: ≤ 0,00011 Tons/day
Percentage of EU tonnage used at regional scale: 10%

Other conditions concerning environmental exposure

Emissions to process waste water: 1 % (CEPE SPERC 8f.2a.v1)
Process air emissions: 0 % (CEPE SPERC 8f.2a.v1)
Soil emissions from process: 0.5 % (CEPE SPERC 8f.2a.v1)

Process-level conditions and technical measures (source) to prevent release

Outdoor use
Professional use.

Conditions and measures related to sewage treatment plants

Wastewater treatment plant: Yes. (Efficiency of at least 85.29 %)

CONTRIBUTING SCENARIO THAT CONTROLS WORKERS' EXPOSURE

Other conditions regarding workers' exposure

Do not swallow.
Avoid splashes.
Avoid contact with contaminated tools and objects.

Organisational measures to avoid/limit releases, dispersion and exposure.

Personnel training on good practice.
On-site supervision to check that the Risk Management Measures (RMMs) in place are being used correctly and the Operational Conditions (OCs) are being followed.

Conditions and measures for personal protection, hygiene and health assessments

Good level of personal hygiene.
Assumes a good basic standard of occupational hygiene is implemented.

SECTION 3: Exposure estimation and reference to its source

Exposure assessment (environment):

EUSES v2.1.2

Exposure estimation:

Fresh water: 0.00000848 mg/l
RCR: 0.036
Freshwater sediments: 0.031 mg/Kg dwt
RCR: 0.359
Sea water: 0.000000775 mg/l.
RCR: 0.033
Marine sediment: 0.0028 mg/kg dwt
RCR: 0.329
Wastewater treatment plant: 0.00008 mg/l
RCR: <0.01
Soil: 0.015 mg/kg dwt
RCR: 0.891
Based on the applied risk management the risk to the environment is sufficiently controlled, RCR<1

Exposure assessment (human):

A qualitative approach was used to conclude that it is safe to use.

SECTION 4: Indications for the downstream user to assess whether he works within the limits established by ES.

Generals

The downstream user is required to assess that the operating conditions and risk management measures described in the exposure scenario are suitable for his/her use.
Where other OCs/RMMs are adopted, the user should ensure that risks are managed to at least equivalent levels.

The risk assessment methods/tools specified in Section 3 can be used for this assessment.

Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.
If scaling reveals a condition of unsafe use [i.e. risk characterisation ratio (RCR) > 1], additional risk management measures (RMM) or a site-specific chemical safety assessment or a site-specific chemical safety assessment will be required.
Further details on scaling and control technologies are provided in the SPERC

SECTION 1: TITLE - Use in coatings - Consumer good

List of use descriptors

Name of identified use: Use in coatings - Consumer good: SU21; PC09a, PC09b; ERC08c, ERC08f
Substance supplied for such use in the form of: As-it-is
Subsequent service life relevant to that use: Yes.
Environmental Release Category ERC08c, ERC08f
Market sector by type of chemical product: PC09a, PC09b

Environmental contributing scenario:

Use in coatings - ERC08c
Use in coatings - ERC08f

Worker contributing scenario(s):

coatings and paints, thinners, pickling solutions (PC9a)
additives, fillers, plasters, modeling clay (PC9b)

SECTION 2: EXPOSURE CONTROLS

CONTRIBUTING SCENARIO THAT CONTROLS ENVIRONMENTAL EXPOSURE 1

Quantity used

Daily amount of local widespread use: ≤ 0,0000011 Tons/day

Other conditions concerning environmental exposure

Emissions to process waste water: 1 % (CEPE SPERC 8c.1a.v1)
Process air emissions: 0 % (CEPE SPERC 8c.1a.v1)
Soil emissions from process: 0 % (CEPE SPERC 8c.1a.v1)

Conditions and measures related to sewage treatment plants

Wastewater treatment plant: Yes. (Efficiency of at least 85.29 %)

SECTION 2: EXPOSURE CONTROLS

CONTRIBUTING SCENARIO THAT CONTROLS ENVIRONMENTAL EXPOSURE 2

Quantity used

Daily amount of local widespread use: ≤ 0,0000011 Tons/day

Other conditions concerning environmental exposure

Emissions to process waste water: 1 % (CEPE SPERC 8f.1a.v1)
Process air emissions: 0 % (CEPE SPERC 8f.1a.v1)
Soil emissions from process: 0.5 % (CEPE SPERC 8f.1a.v1)

Conditions and measures related to sewage treatment plants

Wastewater treatment plant: Yes. (Efficiency of at least 85.29 %)
CONTRIBUTING SCENARIO CONTROLLING CONSUMERS EXPOSURE 3

Coatings and paints, thinners, pickling solutions (PC9a)

Use of the substance is considered safe for the consumer if operating within the limits established by the exposure scenario; therefore, if complying with the operating conditions and risk management measures set out above.
CONTRIBUTING SCENARIO CONTROLLING CONSUMERS EXPOSURE 4

Additives, fillers, plasters, modeling clay (PC9b)

Use of the substance is considered safe for the consumer if operating within the limits established by the exposure scenario; therefore, if complying with the operating conditions and risk management measures set out above.

SECTION 3: Exposure estimation and reference to its source

Exposure assessment (environment): 1
EUSES v2.1.2

Exposure estimation:
Fresh water: 0.000000946 mg/l
RCR: <0.01
Freshwater sediments: 0.00348 mg/Kg dwt
RCR: 0.041
Sea water: 0.0000000237 mg/l.
RCR: <0.01
Marine sediment: 0.0000857 mg/kg dwt
RCR: 0.01
Wastewater treatment plant: 0.000000809 mg/l
RCR: <0.01
Soil: 0.000224 mg/kg dwt
RCR: 0.013
Based on the applied risk management the risk to the environment is sufficiently controlled, RCR<1

SECTION 3: Exposure estimation and reference to its source

Exposure assessment (environment): 2
EUSES v2.1.2

Exposure estimation:
Fresh water: 0.000000946 mg/l
RCR: <0.01
Freshwater sediments: 0.00348 mg/Kg dwt
RCR: 0.041
Sea water: 0.0000000237 mg/l.
RCR: <0.01
Marine sediment: 0.0000857 mg/kg dwt
RCR: 0.01
Wastewater treatment plant: 0.000000809 mg/l
RCR: <0.01
Soil: 0.000224 mg/kg dwt
RCR: 0.013
Based on the applied risk management the risk to the environment is sufficiently controlled, RCR<1

Exposure assessment (human):
A qualitative approach was used to conclude that it is safe to use.

SECTION 4: Indications for the downstream user to assess whether he works within the limits established by ES.

Generals
The downstream user is required to assess that the operating conditions and risk management measures described in the exposure scenario are suitable for his/her use.
Where other OCs/RMMs are adopted, the user should ensure that risks are managed to at least equivalent levels.

The risk assessment methods/tools specified in Section 3 can be used for this assessment.

Xylene

Identification of the exposure scenario
Product name: Xylene
Reach registration number: 01-2119488216-32-XXXX
CAS number: 1330-20-7
EC number: 215-535-7
Review date: 14/02/2022 rev. 3.0

USE IN COATINGS - INDUSTRIAL USE

1. Title of the exposure scenario

Process purpose: Includes use in coatings (varnishes, inks, adhesives, etc.), including exposure during application (including material receipt, storage, bulk and semi-bulk preparation and transfer, application by spray, roller, manual spraying, dip, flow, fluid layers in production lines and in film formation) and system cleaning, maintenance and related laboratory activities.
Main sector: SU3 Industrial uses

Environment

Environmental Release Categories [ERC]: ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article).
Specific Environmental Release Category [SPERC]: ESVOC SPERC 4.3a.v1

Worker

Process categories:
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC 3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions.
PROC4 Production of chemicals with the possibility of exposure.
PROC5 Mixing or blending in batch processes
PROC7 Industrial spraying.
PROC8a Transfer of a substance or preparation (charging/discharging) at non-dedicated facilities.
PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.
PROC10 Application with rollers or brushes.
PROC13 Treatment of articles by dipping and pouring.
PROC15 Use as laboratory reagent.
PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles.

2. Other conditions of use affecting exposure (Industrial - Environment 1)

Products features

Form: Liquid, vapor pressure 0.5 - 10 kPa at STP
Easily biodegradable.

Amounts used:

Annual amount per site: 2500 tonnes

Frequency and duration of use

Issue days: 300 days/year

Additional operating conditions relating to environmental exposure

Emission factor - air
Air release rate produced by the process (initial release prior to risk management measures): 0.98
Emission factor - water
Waste water release rate produced by the process (initial release prior to risk management measures): 0.007
Emission factor - soil
Soil release rate produced by the process (initial release prior to risk management measures): 0

Environmental factors that are not influenced by risk management

Dilution

Local fresh water dilution factor: 10
Local seawater dilution factor: 100

Risk management measures

Sewage Treatment Plant Data (STP)

Estimated substance removal from waste water via domestic sewage treatment: 95.8%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Local technical conditions and measures to reduce and limit discharges and air emissions

Air:

Treat air emission to provide a typical removal efficiency of > 90%.

Water:

Avoid releasing the undiluted substance into local waste water or recover it on site. The typical on-site purification technique has a removal efficiency of 95.8%.

Ground:

Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures for external treatment of waste

Sludge treatment:

Do not spread industrial sludge on natural soils. Sewerage sludge should be burned, stored or regenerated.
Waste treatment:
No waste of the substance is formed during production.

2. Other conditions of use affecting exposure (Workers - Health 1)

Products features

Form:

Liquid, vapor pressure 0.5 - 10 kPa at STP
Concentration information: Includes concentrations up to 100%, unless otherwise indicated.

Quantities used

Not applicable.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting worker exposure

Temperature: (unless stated differently) assumes use at not more than 20°C above ambient temperature.
Ventilation Rate: Ensure a sufficient amount of controlled ventilation (10 to 15 air changes per hour). Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and process-level (source) measures to prevent releases

Technical protective measures:

Handle substance within a closed system. Provide supplementary ventilation to points where emissions occur. Ensure material transfers are managed using closed or air exhaust systems. Drain or remove substance from equipment before opening or servicing PROC7 Industrial spraying: spraying (automatic/robotic) should be carried out in a ventilated booth with laminar air flow.

Risk management measures:

PROC7 Industrial spraying.
Manual spraying.
Wear respiratory protection in accordance with EN 140 with filter type A or better.

3. Verification of exposure (Environment 1)

Environmental exposure:

Predicted exposures are not expected to exceed the specific risks (listed in chapter 8 of the safety datasheet), when the risk management measures/operational conditions outlined in section 2 are implemented.
Maximum allowable site tonnage (Msafe), based on release following total waste water treatment removal: 9874 kg/day

3. Exposure Verification (Health 1)

Exposure

Predicted workplace exposures are not expected to exceed the DNEL when risk identification measures are implemented.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Required removal efficiency for waste water can be achieved using on-site/off-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

USE IN COATINGS - PROFESSIONAL USE

1. Title of the exposure scenario

Process purpose: Includes use in coatings (varnishes, inks, adhesives, etc.), including exposure during application (including material receipt, storage, bulk and semi-bulk preparation and transfer, application by spray, roller, brush and manual spraying or similar processes and film formation) and system cleaning, maintenance and related laboratory activities.
Main sector: SU22 Professional uses

Environment

Environmental Release Categories [ERC]:
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor).
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor).
ERC8c Widespread use leading to inclusion into/onto article (indoor).
ERC8f Widespread use leading to inclusion into/onto article (outdoor).
Specific Environmental Release Category [SPERC]: ESVOC SPERC 8.3b.v1

Worker

Process categories:
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC 3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions.
PROC4 Production of chemicals with the possibility of exposure.
PROC5 Mixing or blending in batch processes
PROC8a Transfer of a substance or preparation (charging/discharging) at non-dedicated facilities.
PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.
PROC10 Application with rollers or brushes.
PROC11 Non-industrial spray application.
PROC13 Treatment of articles by dipping and pouring.
PROC15 Use as laboratory reagent.
PROC19 Manual activities with direct contact.
PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles.

2. Other conditions of use affecting exposure (Industrial - Environment 1)

Products features

Form: Liquid, vapor pressure 0.5 - 10 kPa at STP Easily biodegradable.

Quantities used

Annual amount per site: 10 tonnes

Frequency and duration of use

Issue days: 365 days/year

Additional operating conditions relating to environmental exposure

Emission factor - air
Air release rate produced by the process (initial release prior to risk management measures): 0.98
Emission factor - water
Waste water release rate produced by the process (initial release prior to risk management measures): 0.01
Emission factor - soil
Soil release rate produced by the process (initial release prior to risk management measures): 0.01

Environmental factors that are not influenced by risk management

Dilution
Local fresh water dilution factor: 10
Local seawater dilution factor: 100

Risk management measures
Sewage Treatment Plant Data (STP)
Estimated substance removal from waste water via domestic sewage treatment 95.8%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Local technical conditions and measures to reduce and limit discharges and air emissions
Air: Treat air emission to provide a typical removal efficiency of 0%.
Water: The typical on-site purification technique has a removal efficiency of 95.8%.

Conditions and measures for external treatment of waste
Waste treatment: External treatment and disposal of waste should comply with applicable local and/or national regulations.

2. Other conditions of use affecting exposure (Workers - Health 1)

Products features
Form:
Liquid, vapor pressure 0.5 - 10 kPa at STP
Concentration information:
Includes concentrations up to 100%, unless otherwise indicated.

Quantities used
Not applicable.

Frequency and duration of use
Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting worker exposure
Temperature:
(unless stated differently) assumes use at not more than 20°C above ambient temperature.
Ventilation Rate:
Provide a good standard of controlled ventilation (10 to 15 air changes per hour) or ensure operation is undertaken outdoors. Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and process-level (source) measures to prevent releases
Technical protective measures:
Handle substance within a closed system. Provide supplementary ventilation to points where emissions occur. Ensure material transfers are managed using closed or air exhaust systems. Clean/flush equipment prior to opening or maintenance. Transport on closed roads. PROC11 Non-industrial spray application. Indoor use. Perform in a laminar flow ventilated booth. PROC15 Use as laboratory reagents handle under fume hood or extract air.

Organizational measures to prevent/limit releases, dispersion and exposure
Organizational measures
Avoid activities with an exposure of more than 4 hours.
Hand Application - Finger Paints, Chalks, Stickers:
Limit the amount of substance in the mixture to 5%.

Risk management measures
Wear protective gloves according to EN 374, resistant to solvents.
PROC10 Application with rollers or brushes.
PROC11 Non-industrial spray application. Outdoor use.
PROC13 Treatment of articles by dipping and pouring. Outdoor use.
Wear respiratory protection in accordance with EN 140 with filter type A or better.

3. Verification of exposure (Environment 1)

Environmental exposure
Predicted exposures are not expected to exceed the specific risks (listed in chapter 8 of the safety datasheet), when the risk management measures/operational conditions outlined in section 2 are implemented.
Maximum allowable site tonnage (Msafe), based on release following total waste water treatment removal: 5969 kg/day

3. Exposure Verification (Health 1)

Exposure

Predicted workplace exposures are not expected to exceed the DNEL when risk identification measures are implemented.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Required removal efficiency for waste water can be achieved using on-site/off-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

bis-[4-(2,3-epoxipropoxi)phenyl]propane

Identifikacija tvari
Kemijski naziv: bis-[4-(2,3-epoxipropoxi)phenyl]propane
CAS broj: 1675-54-3
Datum - verzija: 29/12/2021 - 1.3

INDUSTRIJSKA UPORABA - PROFESIONALNA UPOTREBA: JAVNI SEKTOR (UPRAVA, OBRAZOVANJE, ZABAVA, USLUGE, OBRTNIŠTVO) (SU22).

1. NASLOVNI ODJELJAK

Naziv scenarija izloženosti: industrijska upotreba.
Strukturirani kratki naslov: profesionalna upotreba: javni sektor (uprava, obrazovanje, zabava, usluge, obrtništvo) (SU22).
Tvar: 2,2'-[(1-metiletiliden)bis(4,1-fenilenossimetilen)]bisossirano
EC broj: 216-823-5
Registracijski broj: 01-2119456619-26

OKOLIŠ

SC 1: upotreba nereaktivnih tehnoloških pomoćnih sredstava za obradu na industrijskoj lokaciji (bez uključivanja u artikl) ERC4

RADNIK

SC 2: upotreba kao laboratorijski reagensi PROC15
SC 3: obrada artikala umakanjem i prelijevanjem PROC13
SC 4: sažimanje u pastile, kompresija, ekstruzija, peletizacija, granulacija PROC14
SC 5: mašćenje / opće podmazivanje u uvjetima visoke kinetičke energije PROC18
SC 6 prijenos tvari ili pripravka (punjenje/pražnjenje) iz posuda / velikih spremnika i u njih, u nenamjenskim objektima PROC8a

2. UVJETI UPOTREBE KOJI UTJEČU NA IZLOŽENOST

2.1. NADZOR NAD OKOLIŠNOM IZLOŽENOŠĆU: upotreba nereaktivnih tehnoloških pomoćnih sredstava za obradu na industrijskoj lokaciji (bez uključivanja u artikl) (ERC4)

Obilježja proizvoda (artikla)
Fizički oblik proizvoda: Tekućina

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Dnevna količina po lokaciji: 0,6 tona/dan
Godišnja količina po lokaciji: 20 tona godišnje

Uvjeti i mjere povezani s uređajem za pročišćavanje otpadnih voda
Vrsta STP-a: uređaj za obradu komunalnog otpada.
Ostale informacije o STP-u: biološka eliminacija.
Pročišćavanje mulja u STP-u: može se odložiti na odlagališta ako je to dopušteno lokalnim zakonodavstvom.
Izlazna voda STP-a: 2.000 m³/giorno

Ostali uvjeti koji utječu na okolišnu izloženost
Protok vode na dolaznoj površini: 18.000 m³/dan
otvoreni/zatvoreni prostor: upotreba u zatvorenom prostoru.

2.2. NADZOR NAD IZLOŽENOŠĆU RADNIKA: upotreba kao laboratorijski reagensi (PROC15)

Obilježja proizvoda (artikla)
Obuhvaća udio tvari u proizvodu do 100 %.
Fizički oblik proizvoda: Tekućina.
Temperatura: < 40°C

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Trajanje: obuhvaća dnevna izlaganja do 8 sati.

Tehnički i organizacijski uvjeti i mjere
Pretpostavlja se da se primjenjuju dobri osnovni standardi higijene na radnom mjestu.
Osigurajte dobru razinu opće ventilacije (ne manje od 3 do 5 varijacija zraka na sat).
Kožno: minimalna učinkovitost od 0 %.
Udisanje: minimalni prinos od 30 %.

Uvjeti i mjere koje se odnose na osobnu zaštitu, procjenu higijene i zdravlja
Nosite rukavice otporne na kemikalije (testirane u skladu s normom EN374); trebate biti i odgovarajuće osposobljeni.
Upotrebljavajte odgovarajuću zaštitu za oči.
Kožno: minimalna učinkovitost od 95 %.
Udisanje: minimalni prinos od 0 %.

Ostali uvjeti koji utječu na izloženost radnikā
otvoreni/zatvoreni prostor: na prekrivenom prostoru.
Temperatura: < 40°C

2.3. NADZOR NAD IZLOŽENOŠĆU RADNIKA: obrada artikala umakanjem i prelijevanjem (PROC13)

Obilježja proizvoda (artikla)
Obuhvaća udio tvari u proizvodu do 25 %.
Fizički oblik proizvoda: Tekućina.
Tlak pare: 0,00741 Pa
Temperatura: < 70°C

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Trajanje: obuhvaća dnevna izlaganja do 8 sati.

Tehnički i organizacijski uvjeti i mjere
Pretpostavlja se da se primjenjuju dobri osnovni standardi higijene na radnom mjestu.
Osigurajte dobru razinu opće ventilacije (ne manje od 1 do 3 varijacija zraka na sat).
Kožno: minimalna učinkovitost od 0 %.
Udisanje: minimalni prinos od 0 %.

Uvjeti i mjere koje se odnose na osobnu zaštitu, procjenu higijene i zdravlja
Nosite rukavice otporne na kemikalije (testirane u skladu s normom EN374); trebate biti i odgovarajuće osposobljeni.
Upotrebljavajte odgovarajuću zaštitu za oči.
Kožno: minimalna učinkovitost od 95 %.
Udisanje: minimalni prinos od 0 %.
Nosite odgovarajući respirator.
Udisanje: minimalni prinos od 90 %.

Ostali uvjeti koji utječu na izloženost radnikā
otvoreni/zatvoreni prostor: na prekrivenom prostoru.
Temperatura: < 40°C

2.4. NADZOR NAD IZLOŽENOŠĆU RADNIKA: sažimanje u pastile, kompresija, ekstruzija, peletizacija, granulacija (PROC14)

Obilježja proizvoda (artikla)
Obuhvaća udio tvari u proizvodu do 100 %.
Fizički oblik proizvoda: Tekućina.
Temperatura: < 40°C

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Trajanje: obuhvaća dnevna izlaganja do 8 sati.

Tehnički i organizacijski uvjeti i mjere
Pretpostavlja se da se primjenjuju dobri osnovni standardi higijene na radnom mjestu.
Osigurajte dobru razinu opće ventilacije (ne manje od 3 do 5 varijacija zraka na sat).
Kožno: minimalna učinkovitost od 0 %.
Udisanje: minimalni prinos od 30 %.

Uvjeti i mjere koje se odnose na osobnu zaštitu, procjenu higijene i zdravlja
Nosite rukavice otporne na kemikalije (testirane u skladu s normom EN374); trebate biti i odgovarajuće osposobljeni.
Upotrebljavajte odgovarajuću zaštitu za oči.
Kožno: minimalna učinkovitost od 95 %.
Udisanje: minimalni prinos od 0 %.

Ostali uvjeti koji utječu na izloženost radnikā
otvoreni/zatvoreni prostor: na prekrivenom prostoru.
Temperatura: < 40°C

2.5. NADZOR NAD IZLOŽENOŠĆU RADNIKA: mašćenje / opće podmazivanje u uvjetima visoke kinetičke energije (PROC18)

Obilježja proizvoda (artikla)
Obuhvaća koncentracije do 20 %.
Fizički oblik proizvoda: Tekućina.
Temperatura: ≤ 800°C

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Trajanje: obuhvaća dnevna izlaganja do 8 sati.

Uvjeti i mjere koje se odnose na osobnu zaštitu, procjenu higijene i zdravlja
Nosite rukavice otporne na kemikalije (testirane u skladu s normom EN374); trebate biti i odgovarajuće osposobljeni.
Upotrebljavajte odgovarajuću zaštitu za oči.
Kožno: minimalna učinkovitost od 95 %.
Udisanje: minimalni prinos od 0 %.
Nosite odgovarajući respirator.
Udisanje: minimalni prinos od 90 %.

Ostali uvjeti koji utječu na izloženost radnikā
otvoreni/zatvoreni prostor: na otvorenom.
Industrijska ili profesionalna okruženja: profesionalna upotreba.
Temperatura: ≤ 800°C

2.6. NADZOR NAD IZLOŽENOŠĆU RADNIKA: prijenos tvari ili pripravka (punjenje/pražnjenje) iz posuda / velikih spremnika i u njih, u nenamjenskim objektima (PROC8a)

Obilježja proizvoda (artikla)
Obuhvaća udio tvari u proizvodu do 25 %.
Fizički oblik proizvoda: Tekućina.

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Trajanje: obuhvaća dnevna izlaganja do 8 sati.

Uvjeti i mjere koje se odnose na osobnu zaštitu, procjenu higijene i zdravlja
Nosite rukavice otporne na kemikalije (testirane u skladu s normom EN374); trebate biti i odgovarajuće osposobljeni.
Upotrebljavajte odgovarajuću zaštitu za oči.
Kožno: minimalna učinkovitost od 95 %.
Udisanje: minimalni prinos od 0 %.

Ostali uvjeti koji utječu na izloženost radnikā
otvoreni/zatvoreni prostor: na otvorenom.
Industrijska ili profesionalna okruženja: profesionalna upotreba.
Temperatura: Pretpostavlja se temperatura obrade do < 40 °C.

3. PROCJENA IZLOŽENOSTI I REFERENCA NA NJEZIN IZVOR

3.1. Ispuštanje u okoliš i izloženost: upotreba nereaktivnih tehnoloških pomoćnih sredstava za obradu na industrijskoj lokaciji (bez uključivanja u artikl) (ERC4)

Put ispuštanja	Brzina ispuštanja	Metoda procjene za ispuštanje
slap	1.2E-10kg/giorno	FEICA SPERC 5.1 a.v1
zrak	3E-4kg/dan	FEICA SPERC 5.1 a.v1
Tlo	0%	FEICA SPERC 5.1 a.v1

Cilj zaštite	Procijenjena izloženost (EUSES v2.1)	RCR
Svježa voda	3.76E-4mg/l	0.063
Sedimenti u slatkoj vodi	0.018mg/l	0.053
Morska voda	2.95E-5mg/kg suha težina	0.049
Morski sediment	1.42E-3mg/kg suha težina	0.042
Postrojenje za pročišćavanje otpadnih voda	5.68E-11 mg/l	< 0.01
Poljoprivredno zemljište	2.88E-6mg/kg suha težina	< 0.01
Plijen za grabežljivce (slatka voda)	mg/kg mokre mase (EUSES v2.1)	< 0.01
Plijen za grabežljivce (morska voda)	9.13E-4mg/kg mokro težo	< 0.01
Glavni plijen grabežljivaca (morska voda)	9.13E-4mg/kg mokro težo	< 0.01
Plijen za grabežljivce (na kopnu)	1.68E-4mg/kg mokro težo	< 0.01
Čovjek kroz okoliš – udisanje	7.65E-9mg/m³	< 0.01
Čovjek kroz okoliš – oralni put	3E-5mg/kg tt/dan	< 0.01
Stanovništvo izloženo putem okoliša	-	< 0.01

3.2. Izloženost radnika: upotreba kao laboratorijski reagensi (PROC15)

Putovi izlaganja	Utjecaj na zdravlje	Pokazatelj izloženosti	Procijenjena izloženost (ECETOC TRA radnik v3)	RCR
udisanjem	sustavan	dugoročan	0.993mg/m³	0.201
udisanjem	lokalan	dugoročan	0.993mg/m³	-
udisanjem	lokalan	kratkoročan	0.993mg/m³	-
dermalno	sustavan	dugoročan	0.172mg/kg tt/dan	0.045
dermalno	lokalan	kratkoročan	9.92E-3 mg/cm²	-
kombinirani putovi	-	-	-	0.247

3.3. Izloženost radnika: obrada artikala umakanjem i prelijevanjem (PROC13)

Putovi izlaganja	Utjecaj na zdravlje	Pokazatelj izloženosti	Procijenjena izloženost (ECETOC TRA radnik v3)	RCR
udisanjem	sustavan	dugoročan	0.085mg/m³	0.017
udisanjem	lokalan	dugoročan	0.085mg/m³	-
udisanjem	lokalan	kratkoročan	0.085mg/m³	-
dermalno	sustavan	dugoročan	0.411mg/kg tt/dan	0.548
dermalno	lokalan	kratkoročan	0.06 mg/cm²	-
kombinirani putovi	-	-	-	0.566

3.4. Izloženost radnika: sažimanje u pastile, kompresija, ekstruzija, peletizacija, granulacija (PROC14)

Putovi izlaganja	Utjecaj na zdravlje	Pokazatelj izloženosti	Procijenjena izloženost (ECETOC TRA radnik v3)	RCR
udisanjem	sustavan	dugoročan	0.993mg/m³	0.201
udisanjem	lokalan	dugoročan	0.993mg/m³	-
udisanjem	lokalan	kratkoročan	0.993mg/m³	-
dermalno	sustavan	dugoročan	0.172mg/kg tt/dan	0.229
dermalno	lokalan	kratkoročan	0.0025mg/cm²	-
kombinirani putovi	-	-	-	0.43

3.5. Izloženost radnika: mašćenje / opće podmazivanje u uvjetima visoke kinetičke energije (PROC18)

Putovi izlaganja	Utjecaj na zdravlje	Pokazatelj izloženosti	Procijenjena izloženost (ECETOC TRA radnik v3)	RCR
udisanjem	sustavan	dugoročan	0.596mg/m³	0.121
udisanjem	lokalan	dugoročan	0.596mg/m³	-
udisanjem	lokalan	kratkoročan	0.596mg/m³	-
dermalno	sustavan	dugoročan	0.411mg/kg tt/dan	0.548
dermalno	lokalan	kratkoročan	0.03mg/cm²	-
kombinirani putovi	-	-	-	0.669

3.6. Izloženost radnika: prijenos tvari ili pripravka (punjenje/pražnjenje) u nenamjenskim objektima (PROC8a)

Putovi izlaganja	Utjecaj na zdravlje	Pokazatelj izloženosti	Procijenjena izloženost (ECETOC TRA radnik v3)	RCR
udisanjem	sustavan	dugoročan	0.596mg/m³	0.121
udisanjem	lokalan	dugoročan	0.596mg/m³	-
udisanjem	lokalan	kratkoročan	0.596mg/m³	-
dermalno	sustavan	dugoročan	0.411mg/kg tt/dan	0.548
dermalno	lokalan	kratkoročan	0.03mg/cm²	-
kombinirani putovi	-	-	-	0.669

4. VODIČ ZA DALJNJE KORISNIKE ZA PROCJENU RADE LI U GRANICAMA NAMETNUTIM SCENARIJEM IZLOŽENOSTI

Predviđena izlaganja ne bi smjela prelaziti primjenjive granice izlaganja (navedene u odjeljku 8. sigurnosnog lista) kad su provedeni mjere upravljanja rizikom / radni uvjeti navedeni u odjeljku 2.
Ako se primjenjuju druge mjere upravljanja rizicima / drugi radni uvjeti, korisnici su dužni osigurati da se rizicima upravlja barem na jednakim razinama.
Vodič se temelji na pretpostavljenim radnim uvjetima koji možda nisu primjenjivi na sve lokacije, stoga bi skaliranje moglo biti potrebno za definiranje mjera upravljanja za točan rizik specifičan za lokaciju.

PROFESIONALNA UPOTREBA - PROFESIONALNA UPOTREBA: JAVNI SEKTOR (UPRAVA, OBRAZOVANJE, ZABAVA, USLUGE, OBRTNIŠTVO) (SU22).

1. NASLOVNI ODJELJAK

Naziv scenarija izloženosti: profesionalni.
Strukturirani kratki naslov: profesionalna upotreba: javni sektor (uprava, obrazovanje, zabava, usluge, obrtništvo) (SU22).
Tvar: 2,2'-[(1-metiletiliden)bis(4,1-fenilenossimetilen)]bisossirano
EC broj: 216-823-5
Registracijski broj: 01-2119456619-26

OKOLIŠ

SC 1: upotreba na industrijskoj lokaciji zbog čega dolazi do uključivanja u artikl ERC5

RADNIK

SC 2: industrijsko prskanje PROC7
SC 3 prijenos tvari ili pripravka (punjenje/pražnjenje) iz posuda / velikih spremnika i u njih, u nenamjenskim objektima PROC8a
SC 4: prijenos tvari ili smjese (punjenje/pražnjenje) iz posuda / velikih spremnika i u njih, u namjenskim objektima PROC8b
SC 5: prijenos tvari ili smjese u male spremnike (namjensko punjenje, uključujući vaganje) PROC9
SC 6: nanošenje valjcima ili kistovima PROC10
SC 7: neindustrijsko prskanje PROC11

2. UVJETI UPOTREBE KOJI UTJEČU NA IZLOŽENOST

2.1. NADZOR NAD OKOLIŠNOM IZLOŽENOŠĆU: upotreba na industrijskoj lokaciji zbog čega dolazi do uključivanja u artikl (ERC5)

Obilježja proizvoda (artikla)
Obuhvaća udio tvari u proizvodu do 100 %.
Fizički oblik proizvoda: Tekućina

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Godišnja količina po lokaciji: 30.000 tona godišnje
Dnevna količina po lokaciji: 100 tona/dan

Uvjeti i mjere povezani s uređajem za pročišćavanje otpadnih voda
Vrsta STP-a: uređaj za obradu komunalnog otpada.
Ostale informacije o STP-u: biološka eliminacija.
Pročišćavanje mulja u STP-u: može se odložiti na odlagališta ako je to dopušteno lokalnim zakonodavstvom.
Izlazna voda STP-a: 2.000 m^3/giorno

Ostali uvjeti koji utječu na okolišnu izloženost
Protok vode na dolaznoj površini: 18.000 m^3/dan

2.2. NADZOR NAD IZLOŽENOŠĆU RADNIKA: industrijsko prskanje (PROC7)

Obilježja proizvoda (artikla)
Obuhvaća udio tvari u proizvodu do 25 %.
Fizički oblik proizvoda: Tekućina.
Tlak pare: 0,00741 Pa

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Trajanje: obuhvaća dnevna izlaganja do 8 sati.

Tehnički i organizacijski uvjeti i mjere
Osigurajte dobru razinu opće ventilacije (ne manje od 3 do 5 varijacija zraka na sat).

Uvjeti i mjere koje se odnose na osobnu zaštitu, procjenu higijene i zdravlja
Nosite rukavice otporne na kemikalije (testirane u skladu s normom EN374); trebate biti i odgovarajuće osposobljeni.
Upotrebljavajte odgovarajuću zaštitu za oči.
Ako se očekuje da će se kontaminacija kože proširiti i na druge dijelove tijela, i ti bi dijelovi trebali biti zaštićeni vodootpornom odjećom na način jednak onome opisan za ruke.
Nosite odgovarajući respirator.
Kožno: minimalna učinkovitost od 99 %.
Udisanje: minimalni prinos od 90 %.

Ostali uvjeti koji utječu na izloženost radnikā
otvoreni/zatvoreni prostor: na prekrivenom prostoru.
Industrijska ili profesionalna okruženja profesionalna upotreba.
Temperatura: pretpostavlja se temperatura obrade do 70 °C.

2.3. NADZOR NAD IZLOŽENOŠĆU RADNIKA: prijenos tvari ili pripravka (punjenje/pražnjenje) iz posuda / velikih spremnika i u njih, u nenamjenskim objektima (PROC8a)

Obilježja proizvoda (artikla)
Obuhvaća udio tvari u proizvodu do 25 %.
Fizički oblik proizvoda: Tekućina.
Tlak pare: 0,00741 Pa
Temperatura: 70°C

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Trajanje: obuhvaća dnevna izlaganja do 8 sati.

Tehnički i organizacijski uvjeti i mjere
Osigurajte dobru razinu opće ventilacije (ne manje od 1 do 3 varijacija zraka na sat).
Kožno: minimalna učinkovitost od 0 %.
Udisanje: minimalni prinos od 0 %.

Uvjeti i mjere koje se odnose na osobnu zaštitu, procjenu higijene i zdravlja
Nosite rukavice otporne na kemikalije (testirane u skladu s normom EN374); trebate biti i odgovarajuće osposobljeni.
Upotrebljavajte odgovarajuću zaštitu za oči.
Kožno: minimalna učinkovitost od 95 %.
Udisanje: minimalni prinos od 0 %.

Ostali uvjeti koji utječu na izloženost radnikā
otvoreni/zatvoreni prostor: na prekrivenom prostoru.
Industrijska ili profesionalna okruženja profesionalna upotreba.
Temperatura: 70°C

2.4. NADZOR NAD IZLOŽENOŠĆU RADNIKA: prijenos tvari ili smjese (punjenje/pražnjenje) iz posuda / velikih spremnika i u njih, u namjenskim objektima (PROC8b)

Obilježja proizvoda (artikla)
Obuhvaća udio tvari u proizvodu do 100 %.
Fizički oblik proizvoda: Tekućina.
Tlak pare: 0,00741 Pa
Temperatura: 70°C

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Trajanje: obuhvaća dnevna izlaganja do 8 sati.

Tehnički i organizacijski uvjeti i mjere
Pretpostavlja se da se primjenjuju dobri osnovni standardi higijene na radnom mjestu.
Osigurajte dobru razinu opće ventilacije (ne manje od 1 do 3 varijacija zraka na sat).

Uvjeti i mjere koje se odnose na osobnu zaštitu, procjenu higijene i zdravlja
Nosite rukavice otporne na kemikalije (testirane u skladu s normom EN374); trebate biti i odgovarajuće osposobljeni.
Upotrebljavajte odgovarajuću zaštitu za oči.
Kožno: minimalna učinkovitost od 95 %.
Udisanje: minimalni prinos od 0 %.
Nosite odgovarajući respirator.
Udisanje: minimalni prinos od 90 %.

Ostali uvjeti koji utječu na izloženost radnikā
otvoreni/zatvoreni prostor: na prekrivenom prostoru.
Temperatura: 70°C

2.5. NADZOR NAD IZLOŽENOŠĆU RADNIKA: prijenos tvari ili smjese u male spremnike (namjensko punjenje, uključujući vaganje) (PROC9)

Obilježja proizvoda (artikla)
Obuhvaća koncentracije do 100 %.
Fizički oblik proizvoda: Tekućina.
Tlak pare: 0,00741 Pa
Temperatura: < 50°C

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Trajanje: obuhvaća dnevna izlaganja do 8 sati.

Tehnički i organizacijski uvjeti i mjere
Pretpostavlja se da se primjenjuju dobri osnovni standardi higijene na radnom mjestu.
Osigurajte dobru razinu opće ventilacije (ne manje od 3 do 5 varijacija zraka na sat).
Kožno: minimalna učinkovitost od 0 %.
Udisanje: minimalni prinos od 30 %.

Uvjeti i mjere koje se odnose na osobnu zaštitu, procjenu higijene i zdravlja
Nosite rukavice otporne na kemikalije (testirane u skladu s normom EN374); trebate biti i odgovarajuće osposobljeni.
Upotrebljavajte odgovarajuću zaštitu za oči.
Kožno: minimalna učinkovitost od 95 %.
Udisanje: minimalni prinos od 0 %.
Nosite odgovarajući respirator.
Udisanje: minimalni prinos od 90 %.

Ostali uvjeti koji utječu na izloženost radnikā
otvoreni/zatvoreni prostor: na prekrivenom prostoru.
Temperatura: < 50°C

2.6. NADZOR NAD IZLOŽENOŠĆU RADNIKA: nanošenje valjcima ili kistovima (PROC10)

Obilježja proizvoda (artikla)
Obuhvaća udio tvari u proizvodu do 25 %.
Fizički oblik proizvoda: Tekućina.
Tlak pare: 0,00741 Pa
Temperatura: < 70°C

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Trajanje: obuhvaća dnevna izlaganja do 8 sati.

Tehnički i organizacijski uvjeti i mjere
Pretpostavlja se da se primjenjuju dobri osnovni standardi higijene na radnom mjestu.
Osigurajte dobru razinu opće ventilacije (ne manje od 1 do 3 varijacija zraka na sat).
Lokalna ispušna ventilacija.
Kožno: minimalna učinkovitost od 0 %.
Udisanje: minimalni prinos od 90 %.

Uvjeti i mjere koje se odnose na osobnu zaštitu, procjenu higijene i zdravlja
Nosite rukavice otporne na kemikalije (testirane u skladu s normom EN374); trebate biti i odgovarajuće osposobljeni.
Upotrebljavajte odgovarajuću zaštitu za oči.
Kožno: minimalna učinkovitost od 99 %.
Udisanje: minimalni prinos od 0 %.

Ostali uvjeti koji utječu na izloženost radnikā
otvoreni/zatvoreni prostor: na prekrivenom prostoru.
Temperatura: < 70°C.

2.7. NADZOR NAD IZLOŽENOŠĆU RADNIKA: neindustrijsko prskanje (PROC11)

Obilježja proizvoda (artikla)
Obuhvaća udio tvari u proizvodu do 25 %.
Fizički oblik proizvoda: Tekućina.
Temperatura: < 40°C

Upotrijebljene količine (ili sadržane u artiklu), učestalost i trajanje upotrebe/izlaganja
Trajanje: obuhvaća dnevna izlaganja do 8 sati.

Tehnički i organizacijski uvjeti i mjere
Osigurajte dobru razinu opće ventilacije (ne manje od 3 do 5 varijacija zraka na sat).

Uvjeti i mjere koje se odnose na osobnu zaštitu, procjenu higijene i zdravlja
Nosite rukavice otporne na kemikalije (testirane u skladu s normom EN374); trebate biti i odgovarajuće osposobljeni.
Upotrebljavajte odgovarajuću zaštitu za oči.
Ako se očekuje da će se kontaminacija kože proširiti i na druge dijelove tijela, i ti bi dijelovi trebali biti zaštićeni vodootpornom odjećom na način jednak onome opisan za ruke.
Nosite odgovarajući respirator.
Kožno: minimalna učinkovitost od 99 %.
Udisanje: minimalni prinos od 90 %.

Ostali uvjeti koji utječu na izloženost radnikā
otvoreni/zatvoreni prostor: na prekrivenom prostoru.
Temperatura: < 40°C.

3. PROCJENA IZLOŽENOSTI I REFERENCA NA NJEZIN IZVOR

3.1. Ispuštanje u okoliš i izloženost: upotreba na industrijskoj lokaciji zbog čega dolazi do uključivanja u artikl (ERC5)

Put ispuštanja	Brzina ispuštanja	Metoda procjene za ispuštanje
slap	0,06 kg/dan	FEICA SPERC 8c.1 b.v1
zrak	0 kg/dan	FEICA SPERC 8c.1 b.v1
Tlo	0%	FEICA SPERC 8c.1 b.v1

Cilj zaštite	Procijenjena izloženost (EUSES v2.1)	RCR
Svježa voda	3.22E-3mg/l	0,536
Sedimenti u slatkoj vodi	0.155mg/l	0,454
Morska voda	3.14E-4mg/l	0,523
Morski sediment	0.015mg/kg suha težina	0,442
Postrojenje za pročišćavanje otpadnih voda	0.028mg/l	< 0,01
Poljoprivredno zemljište	0.05mg/kg suha težina	0,779
Plijen za grabežljivce (slatka voda)	0.048mg/kg mokro težo	< 0,01
Plijen za grabežljivce (morska voda)	4.53E-3mg/kg mokro težo	< 0,01
Glavni plijen grabežljivaca (morska voda)	1.64E-3mg/kg mokro težo	< 0,01
Plijen za grabežljivce (na kopnu)	0.056mg/kg mokro težo	< 0,01
Čovjek kroz okoliš – udisanje	Koncentracija u zraku: 3.45E-11 mg/m³	< 0,01
Čovjek kroz okoliš – oralni put	1.47E-3mg/kg tt/dan	< 0,01
Stanovništvo izloženo putem okoliša	-	< 0,01

3.2. Izloženost radnika: industrijsko prskanje (PROC7)

Putovi izlaganja	Utjecaj na zdravlje	Pokazatelj izloženosti	Procijenjena izloženost	RCR
udisanjem	sustavan	dugoročan	0.34mg/m³ (ART v1.5)	0.069
udisanjem	lokalan	dugoročan	0.34mg/m³ (ART v1.5)	-
udisanjem	lokalan	kratkoročan	0.78mg/m³ (ART v1.5)	-
dermalno	sustavan	dugoročan	0.257mg/kg tt/dan (ECETOC TRA radnika v3)	0.343
dermalno	lokalan	kratkoročan	0.012mg/cm² (ECETOC TRA worker v3)	-
kombinirani putovi	-	-	-	0.412

3.3. Izloženost radnika: prijenos tvari ili pripravka (punjenje/pražnjenje) u nenamjenskim objektima (PROC8a)

Putovi izlaganja	Utjecaj na zdravlje	Pokazatelj izloženosti	Procijenjena izloženost (ECETOC TRA radnik v3)	RCR
udisanjem	sustavan	dugoročan	0.851mg/m³	0.173
udisanjem	lokalan	dugoročan	0.851mg/m³	-
udisanjem	lokalan	kratkoročan	0.851mg/m³	-
dermalno	sustavan	dugoročan	0.411mg/kg tt/dan	0.548
dermalno	lokalan	kratkoročan	0.03mg/cm²	-
kombinirani putovi	-	-	-	0.721

3.4. Izloženost radnika: prijenos tvari ili smjese (punjenje/pražnjenje) u namjenskim objektima (PROC8b)

Putovi izlaganja	Utjecaj na zdravlje	Pokazatelj izloženosti	Procijenjena izloženost (ECETOC TRA radnik v3)	RCR
udisanjem	sustavan	dugoročan	0.085mg/m³	0.017
udisanjem	lokalan	dugoročan	0.085mg/m³	-
udisanjem	lokalan	kratkoročan	0.0851mg/m³	-
dermalno	sustavan	dugoročan	0.411mg/kg tt/dan	0.548
dermalno	lokalan	kratkoročan	0.03mg/cm²	-
kombinirani putovi	-	-	-	0.566

3.5. Izloženost radnika: prijenos tvari ili smjese u male spremnike (namjensko punjenje, uključujući vaganje) (PROC9)

Putovi izlaganja	Utjecaj na zdravlje	Pokazatelj izloženosti	Procijenjena izloženost (ECETOC TRA radnik v3)	RCR
udisanjem	sustavan	dugoročan	0.099mg/m³	0.02
udisanjem	lokalan	dugoročan	0.099mg/m³	-
udisanjem	lokalan	kratkoročan	0.993mg/m³	-
dermalno	sustavan	dugoročan	0.343mg/kg tt/dan	0.457
dermalno	lokalan	kratkoročan	0.05mg/cm²	-
kombinirani putovi	-	-	-	0.659

3.6. Izloženost radnika: nanošenje valjcima ili kistovima (PROC10)

Putovi izlaganja	Utjecaj na zdravlje	Pokazatelj izloženosti	Procijenjena izloženost (ECETOC TRA radnik v3)	RCR
udisanjem	sustavan	dugoročan	0.085mg/m³	0.017
udisanjem	lokalan	dugoročan	0.085mg/m³	-
udisanjem	lokalan	kratkoročan	0.085mg/m³	-
dermalno	sustavan	dugoročan	0.165mg/kg tt/dan	0.219
dermalno	lokalan	kratkoročan	0.012mg/cm²	-
kombinirani putovi	-	-	-	0.237

3.7. Izloženost radnika: neindustrijsko prskanje (PROC11)

Putovi izlaganja	Utjecaj na zdravlje	Pokazatelj izloženosti	Procijenjena izloženost	RCR
udisanjem	sustavan	dugoročan	0.34mg/m³ (ART v1 .5)	0.069
udisanjem	lokalan	dugoročan	0.34mg/m³ (ART v1 .5)	-
udisanjem	lokalan	kratkoročan	0.78mg/m³ (ART v1 .5)	-
dermalno	sustavan	dugoročan	0.643mg/kg tt/dan (ECETOC TRA radnika v3)	0.857
dermalno	lokalan	kratkoročan	0.03mg/cm² (ECETOC TRA worker v3)	-
kombinirani putovi	-	-	-	0.926

4. VODIČ ZA DALJNJE KORISNIKE ZA PROCJENU RADE LI U GRANICAMA NAMETNUTIM SCENARIJEM IZLOŽENOSTI

Predviđena izlaganja ne bi smjela prelaziti primjenjive granice izlaganja (navedene u odjeljku 8. sigurnosnog lista) kad su provedeni mjere upravljanja rizikom / radni uvjeti navedeni u odjeljku 2.
Ako se primjenjuju druge mjere upravljanja rizicima / drugi radni uvjeti, korisnici su dužni osigurati da se rizicima upravlja barem na jednakim razinama.
Vodič se temelji na pretpostavljenim radnim uvjetima koji možda nisu primjenjivi na sve lokacije, stoga bi skaliranje moglo biti potrebno za definiranje mjera upravljanja za točan rizik specifičan za lokaciju.

bis-[4-(2,3-epoxipropoxi)phenyl]propane

2-methoxy-1-methylethyl acetate

Substance identification
Chemical Name: 2-methoxy-1-methylethyl acetate
CAS number: 108-65-6
Date - Version: 02/08/2021 18.0

4. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in industrial plants
SU3; ERC4; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC4: Industrial use of processing aids not becoming part of articles.

Operating conditions

Yearly amount used in EU: 63,050,000 kg
Daily amount per site: 105.087 kg
Minimum continuous emission days per year: 300
Emission factor to air: 27%
Emission factor in water: 2%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Treat air emissions to provide a typical removal efficiency of 70%.
Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.1338
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 79,180 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 0.04 mg/m³
Risk Characterization Ratio (RCR): 0.0001
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Continuous process (closed system) with sample collection.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Film formation - Fast drying.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.5
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Mixing operations. General exposure (closed system).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 93.85 mg/m³
Risk Characterization Ratio (RCR): 0.25
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application. Mixing operations (open systems).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (automatic/robotic).

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Carry out in a vented booth or extracted enclosure. Effectiveness: 95%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 46.93 mg/m³
Risk Characterization Ratio (RCR): 0.13
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 2.14 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.04

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (manual).

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Effectiveness: 70%.
Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 281.56 mg/m³
Risk Characterization Ratio (RCR): 0.76
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 8.57 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.17

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Non-dedicated system.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Material transfers. Drum/batch transfers. Transfer from containers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 5.49 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.11

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC14: Production of preparations or articles by tableting, compression, extrusion or pelletising. Production or preparation of articles by tableting, compression, extrusion.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 3.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.07

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

5. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in industrial plants
SU3; ERC4; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC4: Industrial use of processing aids not becoming part of articles.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs
Daily amount per site: 430kg
Minimum continuous emission days per year: 300
Emission factor to air: 80%
Emission factor in water: 10%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 140.104 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure (closed system). General exposure.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Continuous process (closed system) with sample collection.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 7.51 mg/m³
Risk Characterization Ratio (RCR): 0.02
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Film formation - Fast drying.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Mixing operations. General exposure (closed system).

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 18.77 mg/m³
Risk Characterization Ratio (RCR): 0.05
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 15.02 mg/m³
Risk Characterization Ratio (RCR): 0.04
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application. Mixing operations (open systems).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (automatic/robotic). Spraying (manual)

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 8.57 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.17

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (manual).

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Non-dedicated system.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Dedicated plant.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Material transfers. Drum/batch transfers. Transfer from containers. Dedicated plant.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 27.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.54

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC14: Production of preparations or articles by tableting, compression, extrusion or pelletising. Production or preparation of articles by tableting, compression, extrusion.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 3.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.07

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 7.51 mg/m³
Risk Characterization Ratio (RCR): 0.02
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

7 USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in professional installations
SU22; ERC8a, ERC8d; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8a: Wide dispersive indoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs
Daily amount per site: 433 kg
Minimum continuous emission days per year: 300
Emission factor to air: 80%
Emission factor in water: 10%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8d: Wide dispersive outdoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs
Daily amount per site: 433 kg
Minimum continuous emission days per year: 300
Emission factor to air: 80%
Emission factor in water: 10%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste
Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source
Risk Characterization Ratio (RCR): 0.029
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 0.04 mg/m³
Risk Characterization Ratio (RCR): 0.0001
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.
The use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Use in confined systems (closed system). Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Preparation of material for application

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 93.85 mg/m³
Risk Characterization Ratio (RCR): 0.25
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.
The use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.
Alternatively: Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 269.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Ensure that operations are carried out externally.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers. Non-dedicated system.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Drum/batch transfers Dedicated plant.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.
Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%
If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 5.49 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.11

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.
Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Carry out in a vented booth or extracted enclosure. Effectiveness: 80%.
Wear a respirator conforming to EN140 with type A filter or better. Effectiveness: 90%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 2.14 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.04

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Ensure that operations are carried out externally. Effectiveness: 30%.
Wear a respirator conforming to EN140 with type A filter or better. Effectiveness: 90%.
Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 131.4 mg/m³
Risk Characterization Ratio (RCR): 0.36
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 21.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.42

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.
Alternatively: Ensure that operations are carried out externally.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%.
If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 14.14 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.28

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Ensure that operations are carried out externally.
Wear chemically resistant gloves in combination with “basic” employee training.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

8. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in professional installations
SU22; ERC8a, ERC8d; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8a: Wide dispersive indoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs
Daily amount per site: 433 kg
Minimum continuous emission days per year: 300
Emission factor to air: 80%
Emission factor in water: 10%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8d: Wide dispersive outdoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs
Daily amount per site: 433 kg
Minimum continuous emission days per year: 300
Emission factor to air: 80%
Emission factor in water: 10%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste
Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source
Risk Characterization Ratio (RCR): 0.029
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure. General exposure (closed system).

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Use in confined systems (closed system). Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 15.02 mg/m³
Risk Characterization Ratio (RCR): 0.4
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Preparation of material for application

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 18.77 mg/m³
Risk Characterization Ratio (RCR): 0.05
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Indoor use.
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers. Non-dedicated system.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Drum/batch transfers Dedicated plant.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 27.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.54

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Indoor/Outdoor: Outdoor use.
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%.
If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 10.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.21

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.
Wear chemically resistant gloves in combination with “basic” employee training.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Indoor use.
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 7.51 mg/m³
Risk Characterization Ratio (RCR): 0.02
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 28.29 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.56

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Outdoor use.
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

Xylene

Identification of the exposure scenario
Product name: Xylene
Reach registration number: 01-2119488216-32-XXXX
CAS number: 1330-20-7
EC number: 215-535-7
Review date: 14/02/2022 rev. 3.0

USE IN COATINGS - INDUSTRIAL USE

1. Title of the exposure scenario

Process purpose: Includes use in coatings (varnishes, inks, adhesives, etc.), including exposure during application (including material receipt, storage, bulk and semi-bulk preparation and transfer, application by spray, roller, manual spraying, dip, flow, fluid layers in production lines and in film formation) and system cleaning, maintenance and related laboratory activities.
Main sector: SU3 Industrial uses

Environment

Environmental Release Categories [ERC]: ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article).
Specific Environmental Release Category [SPERC]: ESVOC SPERC 4.3a.v1

Worker

Process categories:
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC 3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions.
PROC4 Production of chemicals with the possibility of exposure.
PROC5 Mixing or blending in batch processes
PROC7 Industrial spraying.
PROC8a Transfer of a substance or preparation (charging/discharging) at non-dedicated facilities.
PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.
PROC10 Application with rollers or brushes.
PROC13 Treatment of articles by dipping and pouring.
PROC15 Use as laboratory reagent.
PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles.

2. Other conditions of use affecting exposure (Industrial - Environment 1)

Products features

Form: Liquid, vapor pressure 0.5 - 10 kPa at STP
Easily biodegradable.

Amounts used:

Annual amount per site: 2500 tonnes

Frequency and duration of use

Issue days: 300 days/year

Additional operating conditions relating to environmental exposure

Emission factor - air
Air release rate produced by the process (initial release prior to risk management measures): 0.98
Emission factor - water
Waste water release rate produced by the process (initial release prior to risk management measures): 0.007
Emission factor - soil
Soil release rate produced by the process (initial release prior to risk management measures): 0

Environmental factors that are not influenced by risk management

Dilution

Local fresh water dilution factor: 10
Local seawater dilution factor: 100

Risk management measures

Sewage Treatment Plant Data (STP)

Estimated substance removal from waste water via domestic sewage treatment: 95.8%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Local technical conditions and measures to reduce and limit discharges and air emissions

Air:

Treat air emission to provide a typical removal efficiency of > 90%.

Water:

Avoid releasing the undiluted substance into local waste water or recover it on site. The typical on-site purification technique has a removal efficiency of 95.8%.

Ground:

Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures for external treatment of waste

Sludge treatment:

Do not spread industrial sludge on natural soils. Sewerage sludge should be burned, stored or regenerated.
Waste treatment:
No waste of the substance is formed during production.

2. Other conditions of use affecting exposure (Workers - Health 1)

Products features

Form:

Liquid, vapor pressure 0.5 - 10 kPa at STP
Concentration information: Includes concentrations up to 100%, unless otherwise indicated.

Quantities used

Not applicable.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting worker exposure

Temperature: (unless stated differently) assumes use at not more than 20°C above ambient temperature.
Ventilation Rate: Ensure a sufficient amount of controlled ventilation (10 to 15 air changes per hour). Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and process-level (source) measures to prevent releases

Technical protective measures:

Handle substance within a closed system. Provide supplementary ventilation to points where emissions occur. Ensure material transfers are managed using closed or air exhaust systems. Drain or remove substance from equipment before opening or servicing PROC7 Industrial spraying: spraying (automatic/robotic) should be carried out in a ventilated booth with laminar air flow.

Risk management measures:

PROC7 Industrial spraying.
Manual spraying.
Wear respiratory protection in accordance with EN 140 with filter type A or better.

3. Verification of exposure (Environment 1)

Environmental exposure:

Predicted exposures are not expected to exceed the specific risks (listed in chapter 8 of the safety datasheet), when the risk management measures/operational conditions outlined in section 2 are implemented.
Maximum allowable site tonnage (Msafe), based on release following total waste water treatment removal: 9874 kg/day

3. Exposure Verification (Health 1)

Exposure

Predicted workplace exposures are not expected to exceed the DNEL when risk identification measures are implemented.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Required removal efficiency for waste water can be achieved using on-site/off-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

USE IN COATINGS - PROFESSIONAL USE

1. Title of the exposure scenario

Process purpose: Includes use in coatings (varnishes, inks, adhesives, etc.), including exposure during application (including material receipt, storage, bulk and semi-bulk preparation and transfer, application by spray, roller, brush and manual spraying or similar processes and film formation) and system cleaning, maintenance and related laboratory activities.
Main sector: SU22 Professional uses

Environment

Environmental Release Categories [ERC]:
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor).
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor).
ERC8c Widespread use leading to inclusion into/onto article (indoor).
ERC8f Widespread use leading to inclusion into/onto article (outdoor).
Specific Environmental Release Category [SPERC]: ESVOC SPERC 8.3b.v1

Worker

Process categories:
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC 3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions.
PROC4 Production of chemicals with the possibility of exposure.
PROC5 Mixing or blending in batch processes
PROC8a Transfer of a substance or preparation (charging/discharging) at non-dedicated facilities.
PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.
PROC10 Application with rollers or brushes.
PROC11 Non-industrial spray application.
PROC13 Treatment of articles by dipping and pouring.
PROC15 Use as laboratory reagent.
PROC19 Manual activities with direct contact.
PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles.

2. Other conditions of use affecting exposure (Industrial - Environment 1)

Products features

Form: Liquid, vapor pressure 0.5 - 10 kPa at STP Easily biodegradable.

Quantities used

Annual amount per site: 10 tonnes

Frequency and duration of use

Issue days: 365 days/year

Additional operating conditions relating to environmental exposure

Emission factor - air
Air release rate produced by the process (initial release prior to risk management measures): 0.98
Emission factor - water
Waste water release rate produced by the process (initial release prior to risk management measures): 0.01
Emission factor - soil
Soil release rate produced by the process (initial release prior to risk management measures): 0.01

Environmental factors that are not influenced by risk management

Dilution
Local fresh water dilution factor: 10
Local seawater dilution factor: 100

Risk management measures
Sewage Treatment Plant Data (STP)
Estimated substance removal from waste water via domestic sewage treatment 95.8%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Local technical conditions and measures to reduce and limit discharges and air emissions
Air: Treat air emission to provide a typical removal efficiency of 0%.
Water: The typical on-site purification technique has a removal efficiency of 95.8%.

Conditions and measures for external treatment of waste
Waste treatment: External treatment and disposal of waste should comply with applicable local and/or national regulations.

2. Other conditions of use affecting exposure (Workers - Health 1)

Products features
Form:
Liquid, vapor pressure 0.5 - 10 kPa at STP
Concentration information:
Includes concentrations up to 100%, unless otherwise indicated.

Quantities used
Not applicable.

Frequency and duration of use
Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting worker exposure
Temperature:
(unless stated differently) assumes use at not more than 20°C above ambient temperature.
Ventilation Rate:
Provide a good standard of controlled ventilation (10 to 15 air changes per hour) or ensure operation is undertaken outdoors. Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and process-level (source) measures to prevent releases
Technical protective measures:
Handle substance within a closed system. Provide supplementary ventilation to points where emissions occur. Ensure material transfers are managed using closed or air exhaust systems. Clean/flush equipment prior to opening or maintenance. Transport on closed roads. PROC11 Non-industrial spray application. Indoor use. Perform in a laminar flow ventilated booth. PROC15 Use as laboratory reagents handle under fume hood or extract air.

Organizational measures to prevent/limit releases, dispersion and exposure
Organizational measures
Avoid activities with an exposure of more than 4 hours.
Hand Application - Finger Paints, Chalks, Stickers:
Limit the amount of substance in the mixture to 5%.

Risk management measures
Wear protective gloves according to EN 374, resistant to solvents.
PROC10 Application with rollers or brushes.
PROC11 Non-industrial spray application. Outdoor use.
PROC13 Treatment of articles by dipping and pouring. Outdoor use.
Wear respiratory protection in accordance with EN 140 with filter type A or better.

3. Verification of exposure (Environment 1)

Environmental exposure
Predicted exposures are not expected to exceed the specific risks (listed in chapter 8 of the safety datasheet), when the risk management measures/operational conditions outlined in section 2 are implemented.
Maximum allowable site tonnage (Msafe), based on release following total waste water treatment removal: 5969 kg/day

3. Exposure Verification (Health 1)

Exposure

Predicted workplace exposures are not expected to exceed the DNEL when risk identification measures are implemented.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Required removal efficiency for waste water can be achieved using on-site/off-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

ODJELJAK 1.: Identifikacija tvari/smjese i podaci o društvu/poduzeću

1.1. Identifikacijska oznaka proizvoda

Identifikacija preparata:

Trgovačko ime: FASSA EPOXY 400 COMP.B

Trgovački kod: 1224.B

UFI: JXUA-8HQK-830Q-YWR7

1.2. Utvrđene relevantne uporabe tvari ili smjese i uporabe koje se ne preporučuju

Preporučana upotreba: Epoksidna smola; Samo za stručno upotrebljavanje

Nepreporučljiva upotreba: Nije namijenjeno potrošačima

1.3. Podaci o dobavljaču koji isporučuje sigurnosno-tehnički list

Tvrtka: FASSA Srl

Via Lazzaris, 3 - 31027 Spresiano (TV) - ITALY

Tel. +39 0422 7222

Fax +39 0422 887509

Odgovorna osoba: laboratorio.spresiano@fassabortolo.it

1.4. Broj telefona za izvanredna stanja

+3851 2348 342

ODJELJAK 2.: Identifikacija opasnosti



2.1. Razvrstavanje tvari ili smjese

Uredba (EC) br. 1272/2008 (CLP)

Acute Tox. 4	Štetno ako se proguta.
Skin Corr. 1B	Uzrokuje teške opekline kože i ozljede oka.
Skin Sens. 1A	Može izazvati alergijsku reakciju na koži.
Aquatic Chronic 3	Štetno za vodeni okoliš s dugotrajnim učincima.

Fizikalno-kemijski učinci štetni po ljudsko zdravlje i okoliš:

Nema ostalih rizika

2.2. Elementi označivanja

Uredba (EC) br. 1272/2008 (CLP):

Piktogrami i oznaka opasnosti



Opasnost

Oznake upozorenja

H302	Štetno ako se proguta.
H314	Uzrokuje teške opekline kože i ozljede oka.
H317	Može izazvati alergijsku reakciju na koži.
H412	Štetno za vodeni okoliš s dugotrajnim učincima.

Oznake obavijesti

P260	Nemojte udisati dimove/plinove/maglicu/pare/aerosole.
P264	Temeljito oprati vodom nakon rukovanja.
P280	Nositi zaštitne rukavice te zaštitu za oči/zaštitu za lice.
P303+P361+P353	U SLUČAJU DODIRA S KOŽOM (ili kosom): odmah skinuti svu zagađenu odjeću. Isprati kožu vodom ili tuširanjem.
P305+P351+P338	U SLUČAJU DODIRA S OČIMA: oprezno ispirati vodom nekoliko minuta. Ukloniti kontaktne leće ako ih nosite i ako se one lako uklanjaju. Nastaviti ispirati.

P310 Odmah nazvati CENTAR ZA KONTROLU OTROVANJA/liječnika.

Posebna osiguranja:

EUH071 Nagrizajuće za dišni sustav.

Sadrži:

benzil-alkohol

2,2,4(ili 2,4,4)- trimetilheksan-1,6-diamin

m-fenilenbis(metilamin)

3-aminopropiltrietoksisilan

formaldehid, produkti polimerne reakcije s 4-tert-butilfenol, m-fenilenbis(metilamin) i trimetilheksan-1,6-diamin

Posebne odredbe prema Prilogu XVII REACH-a i naknadnih amandmana:

Niti jedan

2.3. Ostale opasnosti

Bez PBT-a, vPvB-a ili endokrinih disruptora prisutnih u koncentraciji > = 0,1 %.

Nema ostalih rizika

ODJELJAK 3.: Sastav/informacije o sastojcima

3.1. Tvari

Ne primjenjuje se.

3.2. Smjese

Identifikacija preparata: FASSA EPOXY 400 COMP.B

Opasni sastojci u smislu CLP Uredbe koja se odnosi na razvrstavanje:

Količina	Naziv	Ident. Broj.	Klasifikacija	Broj registriranih slučajeva:
≥30 - <50 %	m-fenilenbis(metilamin)	CAS:1477-55-0 EC:216-032-5	Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412, EUH071 Procjena akutne toksičnosti: ATE - Oralno: 500mg/kg t.m. ATE - Udisanje (Prašina/maglica): 1.5mg/l	01-2119480150-50-xxxx
≥10 - <20 %	benzil-alkohol	CAS:100-51-6 EC:202-859-9 Index:603-057-00-5	Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Procjena akutne toksičnosti: ATE - Oralno: 1200mg/kg t.m.	01-2119492630-38-xxxx
≥1 - <3 %	formaldehid, produkti polimerne reakcije s 4-tert-butilfenol, m-fenilenbis(metilamin) i trimetilheksan-1,6-diamin		Skin Corr. 1B, H314; Eye Dam. 1, H318; Skin Sens. 1A, H317; Aquatic Chronic 3, H412	Izuzeto
≥1 - <3 %	fenol, stirenirani	CAS:61788-44-1 EC:262-975-0	Aquatic Acute 1, H400; Aquatic Chronic 2, H411	01-2119979575-18-xxxx
≥0.5 - <1 %	2,2,4(ili 2,4,4)- trimetilheksan-1, 6-diamin	CAS:25513-64-8 EC:247-063-2	Acute Tox. 4, H302 Skin Corr. 1A, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Procjena akutne toksičnosti: ATE - Oralno: 910mg/kg t.m.	01-2119560598-25-xxxx
≥0.5 - <1 %	Kristalni silicijev dioksid, kvarc (udisljiv dio)	CAS:14808-60-7 EC:238-878-4	STOT RE 1, H372	Izuzeto
≥0.5 - <1 %	titanijev dioksid	CAS:13463-67-7 EC:236-675-5 Index:022-006-00-2	Carc. 2, H351	01-2119489379-17-xxxx

≥0.1 - <0.3 %	3-aminopropiltrietoksisilan	CAS:919-30-2 EC:213-048-4 Index:612-108-00-0	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Procjena akutne toksičnosti: ATE - Oralno: 500mg/kg t.m.	01-2119480479-24-xxxx
≥0.1 - <0.3 %	2-metoksi-1-metiletil-acetat	CAS:108-65-6 EC:203-603-9 Index:607-195-00-7	Flam. Liq. 3, H226; STOT SE 3, H336	01-2119475791-29-xxxx
≥0.1 - <0.3 %	n-butil-acetat	CAS:123-86-4 EC:204-658-1 Index:607-025-00-1	Flam. Liq. 3, H226; STOT SE 3, H336, EUH066	01-2119485493-29-xxxx
≥0.1 - <0.3 %	ksilen	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Aquatic Chronic 3, H412 Procjena akutne toksičnosti: ATE - Dermalno: 1100mg/kg t.m. ATE - Udisanje (Pare): 11mg/l	01-2119488216-32-xxxx
≥0.1 - <0.3 %	butanon	CAS:78-93-3 EC:201-159-0 Index:606-002-00-3	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	01-2119457290-43-xxxx
≥0.1 - <0.3 %	etilbenzen	CAS:100-41-4 EC:202-849-4 Index:601-023-00-4	Flam. Liq. 2, H225; Acute Tox. 4, H332; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 3, H412	01-2119489370-35-xxxx

ODJELJAK 4.: Mjere prve pomoći

4.1. Opis mjera prve pomoći

U slučaju kontakta sa kožom:

Smjesta skinuti zagađenu odjeću i ukloniti je na bezbjedan način.

ODMAH NAZVATI MEDICINSKU EKIPU ZA HITNU POMOĆ

U slučaju kontakta sa očima:

U slučaju kontakta sa očima, ispirati oči vodom neko vrijeme, držati otvorene kapke, a potom zatražiti pomoć oftalmologa.

Zaštititi neozlijeđeno oko.

U slučaju gutanja:

Ne davati hranu niti piće.

Ne poticati povraćanje, obratiti se liječniku i pokazati listić o sigurnosti i oznaku kemijskog rizika.

U slučaju udisanja:

Izloženu osobu treba iznijeti na svježi zrak, držati je na toplom, a ista mora mirovati.

4.2. Najvažniji simptomi i učinci, akutni i odgođeni

Simptomi i ucinci su u skladu s ocekivanjima od opasnosti kako je prikazano u 2. odjeljku.

4.3. Navod o potrebi za hitnom liječničkom pomoći i posebnom obradom

U slučaju nesreće ili slabosti smjesta se obratiti liječniku (ako je moguće, pokazati upute za uporabu ili sigurnosni list).

ODJELJAK 5.: Mjere za suzbijanje požara

5.1. Sredstva za gašenje

Prikladna sredstva za gašenje požara:

CO2, aparati za gašenje požara prahom, pjena, raspršivanje vode.

Sredstva za gašenje požara koja ne treba koristiti iz bezbijednosnih razloga:

Voda u mlazovima.

5.2. Posebne opasnosti koje proizlaze iz tvari ili smjese

Sagorijevanjem se oslobađaju teški dimovi.

Ne udisati plinove nastale eksplozijom i/ili izgaranjem (ugljikov monoksid i ugljikov dioksid, dušikove okside).

5.3. Savjeti za gasitelje požara

Koristiti prikladne dišne aparate.

Posebno pokupiti zaprljanu vodu, koja je korištena za gašenje požara. Ne bacati ovu vodu u kanalizacionu mrežu.

Neoštećene spremnike skloniti iz prostora neposredne opasnosti, ukoliko se to može izvršiti na bezbjedan način.

ODJELJAK 6.: Mjere kod slučajnog ispuštanja

6.1. Osobne mjere opreza, zaštitna oprema i postupci za izvanredna stanja

Za osobe koje se ne ubrajaju u interventno osoblje:

Koristiti sredstva za osobnu zaštitu.

Ukloniti osobe na sigurno mjesto.

Konzultirati mjere zaštite opisane u točkama 7. i 8.

Za interventno osoblje:

Koristiti sredstva za osobnu zaštitu.

6.2. Mjere zaštite okoliša

Spriječiti prodiranje u tlo/dublje slojeve zemlje. Spriječiti ulivanje u površinske vode ili u kanalizacionu mrežu.

U slučaju izlaska plina ili prodiranja u vodene tokove, tlo ili kanalizacionu mrežu, obavijestiti nadležna tijela.

6.3. Metode i materijal za sprečavanje širenja i čišćenje

Materijal je prikladan za skupljanje: inertni upijajući materijal (npr. pijesak, vermikulit)

Nakon što je proizvod sakupljen, isprati onečišćeno područje i predmete s vodom.

Zadržati vodu kojom ste izvršili pranje, pa je eliminirati.

6.4. Uputa na druge odjeljke

Pogledati također i paragrafe 8. i 13.

ODJELJAK 7.: Rukovanje i skladištenje

7.1. Mjere opreza za sigurno rukovanje

Izbjegavati dodir s kožom i očima, udisanje para i maglica.

Ne koristite prazne spremnike prije no što ih očistite.

Prije prijenosa proizvoda, uvjeriti se da u spremnicima nema ostataka nekompatibilnih tvari.

Savjeti o općoj higijeni na radnom mjestu:

Kontaminirana odjeća se smjesta mora zamijeniti prije ulaska u menze.

Ne konzumirati hranu i piće na radnom mjestu.

Pogledati i paragraf 8. u svezi sa preporučanim napravama za zaštitu.

7.2. Uvjeti sigurnog skladištenja, uzimajući u obzir moguće inkompatibilnosti

Čuvati spremnike dobro zatvorene na hladnom i dobro prozračenom mjestu daleko od izvorā topline.

Držati podalje od hrane, pića i krmiva.

Inkompatibilne tvari:

Vidi točku 10.5

Upute za prostorije za skladištenje:

Adekvatno prozračene prostorije.

7.3. Posebna krajnja uporaba ili uporabe

Preporuke

Vidi točku 1.2

Specifične otopine za industrijski sektor

Nema posebne upotrebe

ODJELJAK 8.: Nadzor nad izloženošću/osobna zaštita

8.1. Nadzorni parametri

Granične vrijednosti izloženosti na mjestu rada

m-fenilenbis(metilamin)

CAS: 1477-55-0	OEL Tip	ACGIH		Kratkoročno Ceiling - 0.018 ppm Napomene: Skin - Eye, skin, and GI irr
	OEL Tip	MAK	Austrija	Dugoročno 0.1 mg/m3
	OEL Tip	VLEP	Belgija	Kratkoročno 0.1 mg/m3
	OEL Tip	VLEP	Francuska	Kratkoročno 0.1 mg/m3
	OEL Tip	SUVA	Švicarska	Dugoročno 0.1 mg/m3

benzil-alkohol

CAS: 100-51-6	OEL Tip	MAK	Njemačka	Dugoročno 22 mg/m3 - 5 ppm; Kratkoročno 44 mg/m3 - 10 ppm Napomene: Inhalable fraction and vapour, Skin
	OEL Tip	TLV	Bugarska	Dugoročno 5 mg/m3
	OEL Tip	TLV	Češka	Dugoročno 40 mg/m3 - 8.88 ppm; Kratkoročno 80 mg/m3 - 17.76 ppm
	OEL Tip	SUVA	Švicarska	Dugoročno 22 mg/m3 - 5 ppm
	OEL Tip	AGW	Njemačka	Dugoročno 22 mg/m3 - 5 ppm; Kratkoročno 44 mg/m3 - 10 ppm Napomene: Inhalable fraction and vapour

	OEL Tip	NDS	Poljska	Dugoročno 240 mg/m3
	OEL Tip	MV	Slovenija	Dugoročno 22 mg/m3 - 5 ppm; Kratkoročno 44 mg/m3 - 10 ppm Napomene: Skin
	OEL Tip	IPRV	Litva	Dugoročno 5 mg/m3 Napomene: Skin

Kristalni silicijev dioksid, kvarc (udisljiv dio)

CAS: 14808-60-7	OEL Tip	ACGIH		Dugoročno 0.025 mg/m3 Napomene: (R), A2 - Pulm fibrosis, lung cancer
	OEL Tip	UE		Dugoročno 0.1 mg/m3 Napomene: Respirable dust particles
	OEL Tip	MAK	Austrija	Dugoročno 0.05 mg/m3 Napomene: Respirable fraction
	OEL Tip	VLEP	Belgija	Dugoročno 0.1 mg/m3 Napomene: Respirable dust; Additional indication "C" means that the agent falls within the scope of Title 2 concerning carcinogenic, mutagenic and reprotoxic agents of Book VI of the Codex on well-being at work.
	OEL Tip	VLEP	Francuska	Dugoročno 0.1 mg/m3 Napomene: Respirable fraction
	OEL Tip	VLEP	Italija	Dugoročno 0.1 mg/m3 Napomene: Respirable dust particles
	OEL Tip	VLA	Španjolska	Dugoročno 0.05 mg/m3 Napomene: Respirable fraction
	OEL Tip	ÁK	Mađarska	Dugoročno 0.1 mg/m3 Napomene: Respirable fraction
	OEL Tip	MAC	Nizozemska	Dugoročno 0.075 mg/m3 Napomene: Respirable fraction
	OEL Tip	SUVA	Švicarska	Dugoročno 0.15 mg/m3 Napomene: Respirable aerosol
	OEL Tip	GVI	Hrvatska	Dugoročno 0.1 mg/m3
	OEL Tip	AGW	Njemačka	Dugoročno 0.05 mg/m3; Kratkoročno 0.4 mg/m3 Napomene: Respirable fraction
	OEL Tip	NDS	Poljska	Dugoročno 0.1 mg/m3 Napomene: Respirable fraction
	OEL Tip	MV	Slovenija	Dugoročno 0.15 mg/m3
	OEL Tip	IPRV	Litva	Dugoročno 0.1 mg/m3
	OEL Tip	NGV/KGV	Švedska	Dugoročno 0.1 mg/m3 Napomene: Respirable fraction

titanijev dioksid

CAS: 13463-67-7	OEL Tip	ACGIH		Dugoročno 0.2 mg/m3 Napomene: Nanoscale particles - A3 - (R) URT irr, Pneumoconiosis Dugoročno 2.5 mg/m3 Napomene: Finescale particles - A3 - (R) URT irr, Pneumoconiosis
	OEL Tip	MAK	Austrija	Dugoročno 5 mg/m3; Kratkoročno 10 mg/m3 Napomene: Respirable fraction
	OEL Tip	MAK	Njemačka	Dugoročno 0.3 mg/m3; Kratkoročno 2.4 mg/m3 Napomene: Respirable fraction, except ultrafine particles , Multiplied by the material density
	OEL Tip	VLEP	Belgija	Dugoročno 10 mg/m3
	OEL Tip	VLEP	Francuska	Dugoročno 11 mg/m3 Napomene: Inhalable aerosol
	OEL Tip	VLEP	Rumunjska	Dugoročno 10 mg/m3; Kratkoročno 15 mg/m3
	OEL Tip	TLV	Bugarska	Dugoročno 10 mg/m3
	OEL Tip	VLA	Španjolska	Dugoročno 10 mg/m3 Napomene: Inhalable fraction

	OEL Tip	SUVA	Švicarska	Dugoročno 3 mg/m3 Napomene: Respirable aerosol
	OEL Tip	WEL	U.K.	Dugoročno 10 mg/m3 Napomene: Inhalable fraction
				Dugoročno 4 mg/m3 Napomene: Respirable fraction
	OEL Tip	GVI	Hrvatska	Dugoročno 10 mg/m3 Napomene: Inhalable fraction
				Dugoročno 4 mg/m3 Napomene: Respirable fraction
	OEL Tip	NDS	Poljska	Dugoročno 10 mg/m3 Napomene: Inhalable fraction
	OEL Tip	IPRV	Litva	Dugoročno 5 mg/m3
	OEL Tip	RV	Latvija	Dugoročno 10 mg/m3
	OEL Tip	NGV/KGV	Švedska	Dugoročno 5 mg/m3 Napomene: inhalable aerosol

2-metoksi-1-metiletil-acetat

CAS: 108-65-6	OEL Tip	UE		Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	MAK	Austrija	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	MAK	Njemačka	Dugoročno 270 mg/m3 - 50 ppm; Kratkoročno 270 mg/m3 - 50 ppm
	OEL Tip	VLEP	Belgija	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
	OEL Tip	VLEP	Francuska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLEP	Italija	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLEP	Rumunjska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm
	OEL Tip	TLV	Bugarska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	TLV	Češka	Dugoročno 270 mg/m3 - 49.14 ppm; Kratkoročno 550 mg/m3 - 10.01 ppm Napomene: Skin
	OEL Tip	VLA	Španjolska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	ÁK	Mađarska	Dugoročno 275 mg/m3; Kratkoročno 550 mg/m3
	OEL Tip	MAC	Nizozemska	Dugoročno 550 mg/m3 - 100 ppm
	OEL Tip	VLE	Portugal	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	SUVA	Švicarska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 275 mg/m3 - 50 ppm
	OEL Tip	WEL	U.K.	Dugoročno 274 mg/m3 - 50 ppm; Kratkoročno 548 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	GVI	Hrvatska	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	AGW	Njemačka	Dugoročno 270 mg/m3 - 50 ppm; Kratkoročno 270 mg/m3 - 50 ppm
	OEL Tip	NDS	Poljska	Dugoročno 260 mg/m3; Kratkoročno 520 mg/m3 Napomene: Skin
	OEL Tip	MV	Slovenija	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	IPRV	Litva	Dugoročno 250 mg/m3 - 50 ppm; Kratkoročno 400 mg/m3 - 75 ppm Napomene: Skin
	OEL Tip	RV	Latvija	Dugoročno 275 mg/m3 - 50 ppm; Kratkoročno 550 mg/m3 - 100 ppm Napomene: Skin

n-butil-acetat

CAS: 123-86-4	OEL Tip	ACGIH		Dugoročno 50 ppm; Kratkoročno 150 ppm Napomene: Eye and URT irr
	OEL Tip	UE		Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	MAK	Austrija	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 480 mg/m3 - 100 ppm
	OEL Tip	MAK	Njemačka	Dugoročno 480 mg/m3 - 100 ppm; Kratkoročno 960 mg/m3 - 200 ppm
	OEL Tip	VLEP	Belgija	Dugoročno 238 mg/m3 - 50 ppm; Kratkoročno 712 mg/m3 - 150 ppm Napomene: Butylacetates, all isomers
	OEL Tip	VLEP	Francuska	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	VLEP	Italija	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	VLEP	Rumunjska	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	TLV	Bugarska	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	TLV	Češka	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	VLA	Španjolska	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	ÁK	Mađarska	Dugoročno 241 mg/m3; Kratkoročno 723 mg/m3
	OEL Tip	MAC	Nizozemska	Dugoročno 241 mg/m3 - 50 ppm; Kratkoročno 723 mg/m3 - 150 ppm
	OEL Tip	SUVA	Švicarska	Dugoročno 240 mg/m3 - 50 ppm; Kratkoročno 720 mg/m3 - 150 ppm
	OEL Tip	WEL	U.K.	Dugoročno 724 mg/m3 - 150 ppm; Kratkoročno 966 mg/m3 - 200 ppm
	OEL Tip	GVI	Hrvatska	Dugoročno 724 mg/m3 - 150 ppm; Kratkoročno 966 mg/m3 - 200 ppm
	OEL Tip	AGW	Njemačka	Dugoročno 300 mg/m3 - 62 ppm; Kratkoročno 600 mg/m3 - 124 ppm
	OEL Tip	NDS	Poljska	Dugoročno 240 mg/m3; Kratkoročno 720 mg/m3
	OEL Tip	MV	Slovenija	Dugoročno 300 mg/m3 - 62 ppm; Kratkoročno 600 mg/m3 - 124 ppm

ksilen

CAS: 1330-20-7	OEL Tip	ACGIH		Dugoročno 20 ppm Napomene: A4, BEI - URT and eye irr, CNS impair
	OEL Tip	UE		Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	MAK	Austrija	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm
	OEL Tip	MAK	Njemačka	Dugoročno 220 mg/m3 - 50 ppm; Kratkoročno 440 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLEP	Belgija	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
	OEL Tip	VLEP	Francuska	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLEP	Italija	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLEP	Rumunjska	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm
	OEL Tip	TLV	Bugarska	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	TLV	Češka	Dugoročno 200 mg/m3 - 45.4 ppm; Kratkoročno 400 mg/m3 - 90.8 ppm Napomene: Skin
	OEL Tip	VLA	Španjolska	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm
	OEL Tip	ÁK	Mađarska	Dugoročno 221 mg/m3; Kratkoročno 442 mg/m3 Napomene: Skin
	OEL Tip	MAC	Nizozemska	Dugoročno 210 mg/m3 - 47.5 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	VLE	Portugal	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	SUVA	Švicarska	Dugoročno 220 mg/m3 - 50 ppm; Kratkoročno 440 mg/m3 - 100 ppm
	OEL Tip	WEL	U.K.	Dugoročno 220 mg/m3 - 50 ppm; Kratkoročno 441 mg/m3 - 100 ppm Napomene: Skin

	OEL Tip	GVI	Hrvatska	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	AGW	Njemačka	Dugoročno 220 mg/m3 - 50 ppm; Kratkoročno 440 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	NDS	Poljska	Dugoročno 100 mg/m3; Kratkoročno 200 mg/m3 Napomene: Skin
	OEL Tip	MV	Slovenija	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	IPRV	Litva	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
	OEL Tip	RV	Latvija	Dugoročno 221 mg/m3 - 50 ppm; Kratkoročno 442 mg/m3 - 100 ppm Napomene: Skin
butanon				
CAS: 78-93-3	OEL Tip	ACGIH		Dugoročno 75 ppm; Kratkoročno 150 ppm Napomene: BEI Skin - URT irr, CNS and PNS impair
	OEL Tip	UE		Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	MAK	Austrija	Dugoročno 295 mg/m3 - 100 ppm; Kratkoročno 590 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	MAK	Njemačka	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 600 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	VLEP	Belgija	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	VLEP	Francuska	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	VLEP	Italija	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	VLEP	Rumunjska	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	TLV	Bugarska	Dugoročno 590 mg/m3; Kratkoročno 885 mg/m3
	OEL Tip	TLV	Češka	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	VLA	Španjolska	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	ÁK	Mađarska	Dugoročno 600 mg/m3; Kratkoročno 900 mg/m3 Napomene: Skin
	OEL Tip	MAC	Nizozemska	Dugoročno 590 mg/m3 - 197 ppm; Kratkoročno 900 mg/m3 - 300 ppm Napomene: Skin
	OEL Tip	VLE	Portugal	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	SUVA	Švicarska	Dugoročno 590 mg/m3 - 200 ppm; Kratkoročno 590 mg/m3 - 200 ppm
	OEL Tip	WEL	U.K.	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 899 mg/m3 - 300 ppm Napomene: Skin
	OEL Tip	GVI	Hrvatska	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm
	OEL Tip	AGW	Njemačka	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 600 mg/m3 - 200 ppm Napomene: Skin 15
	OEL Tip	NDS	Poljska	Dugoročno 450 mg/m3; Kratkoročno 900 mg/m3 Napomene: Skin
	OEL Tip	MV	Slovenija	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3 - 300 ppm Napomene: Skin
	OEL Tip	IPRV	Litva	Dugoročno 600 mg/m3 - 200 ppm; Kratkoročno 900 mg/m3
etilbenzen				
CAS: 100-41-4	OEL Tip	ACGIH		Dugoročno 20 ppm Napomene: A3, BEI - URT irr, kidney dam (nephropathy), cochlear impair
	OEL Tip	UE		Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
	OEL Tip	MAK	Austrija	Dugoročno 440 mg/m3 - 100 ppm; Kratkoročno 880 mg/m3 - 200 ppm
	OEL Tip	MAK	Njemačka	Dugoročno 88 mg/m3 - 20 ppm; Kratkoročno 176 mg/m3 - 40 ppm Napomene: Skin
	OEL Tip	VLEP	Belgija	Dugoročno 87 mg/m3 - 20 ppm; Kratkoročno 551 mg/m3 - 125 ppm Napomene: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can

be the result of both direct contact and its presence in the air.

OEL Tip	VLEP	Francuska	Dugoročno 88.4 mg/m3 - 20 ppm; Kratkoročno 442 mg/m3 - 100 ppm
OEL Tip	VLEP	Italija	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm
OEL Tip	VLEP	Rumunjska	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm
OEL Tip	TLV	Češka	Dugoročno 200 mg/m3 - 45.4 ppm; Kratkoročno 500 mg/m3 - 113.5 ppm Napomene: Skin
OEL Tip	VLA	Španjolska	Dugoročno 441 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
OEL Tip	ÁK	Mađarska	Dugoročno 442 mg/m3; Kratkoročno 884 mg/m3
OEL Tip	MAC	Nizozemska	Dugoročno 215 mg/m3; Kratkoročno 430 mg/m3
OEL Tip	VLE	Portugal	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
OEL Tip	SUVA	Švicarska	Dugoročno 435 mg/m3 - 100 ppm; Kratkoročno 435 mg/m3 - 100 ppm
OEL Tip	WEL	U.K.	Dugoročno 441 mg/m3 - 100 ppm; Kratkoročno 552 mg/m3 - 125 ppm
OEL Tip	GVI	Hrvatska	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin
OEL Tip	AGW	Njemačka	Dugoročno 88 mg/m3 - 20 ppm; Kratkoročno 176 mg/m3 - 40 ppm Napomene: Skin
OEL Tip	NDS	Poljska	Dugoročno 200 mg/m3; Kratkoročno 400 mg/m3
OEL Tip	MV	Slovenija	Dugoročno 442 mg/m3 - 100 ppm; Kratkoročno 884 mg/m3 - 200 ppm Napomene: Skin

Granične vrijednosti izloženosti PNEC

m-fenilenbis(metilamin)

CAS: 1477-55-0
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.009 mg/l
- Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.094 mg/l
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.043 mg/kg
- Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.43 mg/kg
- Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.045 mg/kg
- Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 10 mg/l

benzil-alkohol

CAS: 100-51-6
- Putevi izloženosti: Svježa voda; PNEC Ograničiti: 1 mg/l
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.1 mg/l
- Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 39 mg/l
- Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 5.27 mg/kg
- Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.527 mg/kg
- Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.456 mg/kg

fenol, stirenirani

CAS: 61788-44-1
- Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.004 mg/l
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.4 µg/l
- Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 36.2 mg/l
- Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 0.248 mg/kg
- Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 24.8 µg/kg
- Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 47.3 µg/kg

2,2,4(ili 2,4,4)- trimetilheksan-1,6-diamin

CAS: 25513-64-8
- Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.01 mg/l
- Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.102 mg/l
- Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 72 mg/l
- Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 0.622 mg/kg

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.062 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 10 mg/kg

3-aminopropiltrietoksisilan

CAS: 919-30-2 Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 1.3 mg/l

2-metoksi-1-metiletil-acetat

CAS: 108-65-6 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.635 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.064 mg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 100 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 3.29 mg/kg

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.329 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.29 mg/kg

n-butil-acetat

CAS: 123-86-4 Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.018 mg/l

Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.18 mg/l

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.098 mg/kg

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 0.981 mg/kg

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 35.6 mg/l

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.09 mg/kg

ksilen

CAS: 1330-20-7 Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.327 mg/l

Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.327 mg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 6.58 mg/l

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 12.46 mg/kg

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 12.46 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 2.31 mg/kg

butanon

CAS: 78-93-3 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 55.8 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 55.8 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 284.74 mg/kg

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 709 mg/l

Putevi izloženosti: Hranidbeni lanac; PNEC Ograničiti: 1000 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 22.5 mg/kg

etilbenzen

CAS: 100-41-4 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.1 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.01 mg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 9.6 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 13.7 mg/kg

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 1.37 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 2.68 mg/kg

Izvedena razina bez učinka. (DNEL)

m-fenilenbis(metilamin)

CAS: 1477-55-0 Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 0.33 mg/kg

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, lokalni učinci
Profesionalni djelatnik: 0.2 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci

Profesionalni djelatnik: 1.2 mg/m3

benzil-alkohol

CAS: 100-51-6 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Profesionalni djelatnik: 110 mg/m3; Potrošač: 27 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 22 mg/m3; Potrošač: 5.4 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Profesionalni djelatnik: 40 mg/kg; Potrošač: 20 mg/kg

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 8 mg/kg; Potrošač: 4 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Potrošač: 20 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 4 mg/kg

fenol, stirenirani

CAS: 61788-44-1 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 7.4 mg/m3; Potrošač: 1.31 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 2.1 mg/kg; Potrošač: 0.75 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 0.75 mg/kg

2,2,4(ili 2,4,4)- trimetilheksan-1,6-diamin

CAS: 25513-64-8 Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 0.05 mg/kg

3-aminopropiltrietoksisilan

CAS: 919-30-2 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 14 mg/m3; Potrošač: 3.5 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 2 mg/kg; Potrošač: 1 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 1 mg/kg

2-metoksi-1-metiletil-acetat

CAS: 108-65-6 Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
djelatnik: 796 mg/kg; Potrošač: 320 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 36 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Potrošač: 500 mg/kg

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
djelatnik: 275 mg/m3; Potrošač: 33 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, lokalni učinci
djelatnik: 550 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, lokalni učinci
Potrošač: 33 mg/m3

n-butil-acetat

CAS: 123-86-4 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
djelatnik: 300 mg/m3; Potrošač: 35.7 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, sistemski učinci
djelatnik: 600 mg/m3; Potrošač: 300 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, lokalni učinci
djelatnik: 300 mg/m3; Potrošač: 35.7 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, lokalni učinci

djelatnik: 600 mg/m3; Potrošač: 300 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
djelatnik: 11 mg/kg; Potrošač: 6 mg/kg

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Kratkotrajni, sistemski učinci
djelatnik: 11 mg/kg; Potrošač: 6 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Potrošač: 2 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 2 mg/kg

ksilen

CAS: 1330-20-7 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 221 mg/m3; Potrošač: 65.3 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Profesionalni djelatnik: 442 mg/m3; Potrošač: 260 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, lokalni učinci
Profesionalni djelatnik: 442 mg/m3; Potrošač: 260 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, lokalni učinci
Profesionalni djelatnik: 221 mg/m3; Potrošač: 65.3 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 212 mg/kg; Potrošač: 125 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 12.5 mg/kg

butanon

CAS: 78-93-3 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 600 mg/m3; Potrošač: 106 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 1161 mg/kg; Potrošač: 412 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 31 mg/kg

etilbenzen

CAS: 100-41-4 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 77 mg/m3; Potrošač: 15 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, lokalni učinci
Profesionalni djelatnik: 293 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 180 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 1.6 mg/kg

8.2. Nadzor nad izloženošću

Osigurati odgovarajuću ventilaciju. Kad je to razumno moguće, to se može postići upotrebom rezervne ventilacije i dobre opće aspiracije.

Zaštita očiju:

Čaše sa bočnom zaštitom (EN 16321).

Zaštita kože:

Upotrebljavati odjeću prikladnu za potpunu zaštitu kože u skladu s aktivnošću i izloženošću (EN 14605/EN 13982), npr. radne kombinezone, pregače, sigurnosnu obuću, prikladnu odjeću.

Zaštita za ruke:

Ne postoji materijal ili kombinacija materijala za rukavice koji bi mogli jamčiti neograničenu otpornost na bilo koji kemijski proizvod ili kombinaciju proizvoda.

Ako je riječ o duljem ili ponavljanom rukovanju, koristite se rukavicama otpornim na kemijske proizvode.

Prikladne rukavice tipa (EN 374/EN 16523); FKM (fluorirana guma): debljina> = 0,4 mm; vrijeme prodiranja> = 480 min. NBR (nitrilna guma): debljina> = 0,4 mm; vrijeme prodiranja> = 480 min

Izbor prikladnih rukavica ne ovisi samo o materijalu, nego i o drugim karakteristikama kvalitete koje se razlikuju od proizvođača do proizvođača, i o načinima i vremenu upotrebe smjese.

Zaštita pri disanju:

Ako su radnici izloženi koncentracijama višima od granice izloženosti, moraju upotrebljavati odgovarajuće certificirane respiratore.

Kombinirana filtrirajuća naprava (EN 14387): maska s filtrom A-P2.

Kontrola izlaganja u okolišu:

Vidi točku 6.2

Higijenske i tehničke mjere

Vidi odlomak 7.

ODJELJAK 9.: Fizikalna i kemijska svojstva

9.1. Informacije o osnovnim fizikalnim i kemijskim svojstvima

fizičko stanje: tekuće

Izgled: tekuće

Boja: bijelo

Miris: karakterističan

Talište/ledište: N.D.

Vrelište ili početno vrelište i raspon temperatura vrenja: N.D.

Zapaljivost: Ne primjenjuje se.

Donja i gornja granica eksplozivnosti: N.D.

Plamište: > 93°C

Temperatura samozapaljenja: N.D.

Temperatura raspadanja: Ne primjenjuje se.

pH: >=10.50<=11.50 (Interna metoda)

Kinematička viskoznost: Ne primjenjuje se.

Topljivost u vodi: Slabo topivo

Topljivost u ulje: Ne primjenjuje se.

Koeficijent raspodjele n-oktanol/voda (logaritamska vrijednost): Ne primjenjuje se.

Tlak pare: N.D.

Gustoća i/ili relativna gustoća: 1.51 kg/l (Interna metoda)

Relativna gustoća pare: N.D. Ne primjenjuje se.

Svojstva čestica:

Veličina čestica: Ne primjenjuje se.

9.2. Ostale informacije

Explozivne osobine: Ne primjenjuje se. (Interna evaluacija)

Osobine oksidiranja: Ne primjenjuje se. (Interna evaluacija)

ODJELJAK 10.: Stabilnost i reaktivnost

10.1. Reaktivnost

Stabilan u normalnim uvjetima

10.2. Kemijska stabilnost

Stabilan u normalnim uvjetima

10.3. Mogućnost opasnih reakcija

Može se zapaliti u kontaktu s jakim oksidansima.

Zbog djelovanja topline ili u slučaju požara može doći do oslobađanja ugljikovih oksida i para koji mogu biti štetni za zdravlje.

10.4. Uvjeti koje treba izbjegavati

Čuvati odvojeno od izvorā topline.

10.5. Inkompatibilni materijali

Snažni oksidansi, snažna redukcijska sredstva, alifatski i aromatski amini.

Vidi točku 10.3

10.6. Opasni proizvodi raspadanja

Pri odgovarajućem skladištenju i rukovanju ne razvijaju se opasni proizvodi raspadanja.

Vidi točku 5.2

ODJELJAK 11.: Toksikološke informacije

11.1. Informacije o razredima opasnosti kako su definirani u Uredbi (EZ) br. 1272/2008

Podaci o toksičnosti proizvoda:

a) akutna toksičnost	Proizvod je razvrstan kao: Acute Tox. 4(H302)
b) kožno nagrizanje/nadraživanje	Proizvod je razvrstan kao: Skin Corr. 1B(H314)
c) teške očne ozljede/teško očno nadraživanje	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
d) izazivanje kožne ili dišne preosjetljivosti	Proizvod je razvrstan kao: Skin Sens. 1A(H317)
e) mutagenost zametnih stanica	Nije kategorizirano

	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
f) kancerogenost	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
g) reproduktivna toksičnost	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
h) Specifična toksičnost za ciljne organe (STOT) jednokratno izlaganje	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
i) Specifična toksičnost za ciljne organe (STOT) opetovano izlaganje	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
j) opasnost u slučaju udisanja	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.

Podaci o toksičnosti glavnih sastojaka u proizvodu:

m-fenilenbis(metilamin)

CAS: 1477-55-0	a) akutna toksičnost	ATE - Oralno: 500 mg/kg t.m.
		ATE - Udisanje (Prašina/maglica): 1.5 mg/l
		LD50 Koža Štakor > 3100 mg/kg
		LD50 Oralno Štakor 930 mg/kg
		LC50 Inhalacija aerosola Štakor 1.34 mg/l 4h

benzil-alkohol

CAS: 100-51-6	a) akutna toksičnost	ATE - Oralno: 1200 mg/kg t.m.
		LD50 Oralno Štakor 1620 mg/kg

fenol, stirenirani

CAS: 61788-44-1	a) akutna toksičnost	LD50 Oralno Štakor > 2000 mg/kg
		LD50 Koža Štakor > 2000 mg/kg

2,2,4(ili 2,4,4)- trimetilheksan-1,6-diamin

CAS: 25513-64-8	a) akutna toksičnost	ATE - Oralno: 910 mg/kg t.m.

titanijev dioksid

CAS: 13463-67-7	a) akutna toksičnost	LD50 Oralno Štakor > 5000 mg/kg
		LC50 Udisanje prašine Štakor > 6.82 mg/l 4h

3-aminopropiltrietoksisilan

CAS: 919-30-2	a) akutna toksičnost	ATE - Oralno: 500 mg/kg t.m.
		LD50 Oralno Štakor 1490 mg/kg
		LD50 Koža Kunić 4075 mg/kg

2-metoksi-1-metiletil-acetat

CAS: 108-65-6	a) akutna toksičnost	LD50 Oralno Štakor > 5000 mg/kg
		LD50 Koža Kunić > 5000 mg/kg
		LC0 Udisanje pare Štakor > 4345 ppm 6h

n-butil-acetat

CAS: 123-86-4	a) akutna toksičnost	LD50 Oralno Štakor 10760 mg/kg
		LD50 Koža Kunić 14112 mg/kg
		LC50 Udisanje pare Štakor > 21.1 mg/l 4h

ksilen

CAS: 1330-20-7	a) akutna toksičnost	ATE - Dermalno: 1100 mg/kg t.m.
		ATE - Udisanje (Pare): 11 mg/l
		LD50 Oralno Štakor 3523 mg/kg

butanon

CAS: 78-93-3	a) akutna toksičnost	LD50 Oralno Štakor > 2193 mg/kg
		LD50 Koža Kunić > 5000 mg/kg

etilbenzen

CAS: 100-41-4 a) akutna toksičnost LD50 Oralno Štakor 3500 mg/kg
LD50 Koža Kunić 15400 mg/kg
LC50 Udisanje Štakor 17629 mg/m3 4h

11.2. Informacije o drugim opasnostima

Svojstva endokrine disrupcije:

Bez drugih endokrinih disruptora prisutnih u koncentraciji > = 0,1 %

ODJELJAK 12.: Ekološke informacije

Primjeniti dobre radne postupke da se produkt ne oslobađa u okoliš.

12.1. Toksičnost

Eko-Toksikološke informacije:

Štetno za vodeni okoliš s dugotrajnim učincima.

Popis eko-toksikoloških svojstava proizvoda

Proizvod je razvrstan kao: Aquatic Chronic 3(H412)

Popis sastojaka sa eko-toksikološkim svojstvima

m-fenilenbis(metilamin)

CAS: 1477-55-0 a) Akutna otrovnost na vodene organizme: LC50 Ribe 87.6 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Algae 20.3 mg/l 72h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 15.2 mg/l 48h
b) Hronična otrovnost na vodene organizme: NOEC Daphnia 4.7 mg/l 21d
b) Hronična otrovnost na vodene organizme: NOEC Algae 10.5 mg/l 72h

benzil-alkohol

CAS: 100-51-6 a) Akutna otrovnost na vodene organizme: LC50 Ribe 460 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 230 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Algae 770 mg/l 72h
b) Hronična otrovnost na vodene organizme: NOEC Daphnia 51 mg/l 21d
b) Hronična otrovnost na vodene organizme: NOEC Algae 310 mg/l 72h

fenol, stirenirani

CAS: 61788-44-1 a) Akutna otrovnost na vodene organizme: LC50 Ribe 5.6 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 4.6 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Algae 1.35 mg/l 72h
b) Hronična otrovnost na vodene organizme: NOEC Ribe 61.8 µg/l
b) Hronična otrovnost na vodene organizme: NOEC Daphnia 0.2 mg/l
b) Hronična otrovnost na vodene organizme: NOEC Algae 0.42 mg/l

2,2,4(ili 2,4,4)- trimetilheksan-1,6-diamin

CAS: 25513-64-8 a) Akutna otrovnost na vodene organizme: LC50 Ribe 174 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 31.5 mg/l 24h
a) Akutna otrovnost na vodene organizme: EC50 Algae 43.5 mg/l 72h

titanijev dioksid

CAS: 13463-67-7 a) Akutna otrovnost na vodene organizme: LC50 Ribe > 1000 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia > 1000 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Algae 61 mg/l 72h

3-aminopropiltrietoksisilan

CAS: 919-30-2 a) Akutna otrovnost na vodene organizme: LC50 Ribe > 934 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 331 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Algae 603 mg/l 72h

2-metoksi-1-metiletil-acetat

CAS: 108-65-6 a) Akutna otrovnost na vodene organizme: LC50 Ribe 134 mg/l 96h
a) Akutna otrovnost na vodene organizme: EC50 Daphnia 408 mg/l 48h
a) Akutna otrovnost na vodene organizme: EC50 Algae > 1000 mg/l 96h
b) Hronična otrovnost na vodene organizme: NOEC Ribe 47.5 mg/l - 14 d

n-butil-acetat

CAS: 123-86-4 a) Akutna otrovnost na vodene organizme: LC50 Ribe 18 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 44 mg/l 48h

a) Akutna otrovnost na vodene organizme: EC50 Algae 675 mg/l 72h

b) Hronična otrovnost na vodene organizme: NOEC Daphnia 23 mg/l - 21d

butanon

CAS: 78-93-3 a) Akutna otrovnost na vodene organizme: LC50 Ribe 2973 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 308 mg/l 48h

a) Akutna otrovnost na vodene organizme: EC50 Algae 1229 mg/l 96h

etilbenzen

CAS: 100-41-4 a) Akutna otrovnost na vodene organizme: LC50 Ribe 4.2 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 1.8 mg/l 48h

a) Akutna otrovnost na vodene organizme: EC50 Algae 3.6 mg/l 96h

b) Hronična otrovnost na vodene organizme: NOEC Daphnia 1 mg/l - 7d

12.2. Postojanost i razgradivost

m-fenilenbis(metilamin)

CAS: 1477-55-0 Nije brzo-biološki razgradiv

benzil-alkohol

CAS: 100-51-6 Brzo-biološki razgradiv

fenol, stirenirani

CAS: 61788-44-1 Nije brzo-biološki razgradiv

2,2,4(ili 2,4,4)- trimetilheksan-1,6-diamin

CAS: 25513-64-8 Nije brzo-biološki razgradiv

3-aminopropiltrietoksisilan

CAS: 919-30-2 Nije brzo-biološki razgradiv

2-metoksi-1-metiletil-acetat

CAS: 108-65-6 Brzo-biološki razgradiv

n-butil-acetat

CAS: 123-86-4 Brzo-biološki razgradiv

ksilen

CAS: 1330-20-7 Brzo-biološki razgradiv

butanon

CAS: 78-93-3 Brzo-biološki razgradiv

etilbenzen

CAS: 100-41-4 Brzo-biološki razgradiv

12.3. Bioakumulacijski potencijal

2,2,4(ili 2,4,4)- trimetilheksan-1,6-diamin

CAS: 25513-64-8 Nije bioakumulativan

titanijev dioksid

CAS: 13463-67-7 Nije bioakumulativan

3-aminopropiltrietoksisilan

CAS: 919-30-2 Nije bioakumulativan

ksilen

CAS: 1330-20-7 Nije bioakumulativan

12.4. Pokretljivost u tlu

2,2,4(ili 2,4,4)- trimetilheksan-1,6-diamin

CAS: 25513-64-8 Test: Log Koc; Vrijednost: 1.400

titanijev dioksid

CAS: 13463-67-7 Nije mobilan

3-aminopropiltrietoksisilan

CAS: 919-30-2 Test: Log Koc; Vrijednost: -0.600

n-butil-acetat

CAS: 123-86-4 Test: Log Koc; Vrijednost: 1.300

ksilen

CAS: 1330-20-7 Test: Log Koc; Vrijednost: 2.730

12.5. Rezultati procjene svojstava PBT i vPvB

Prema dostupnim podacima proizvod ne sadrži PBT/vPvB u postotku većem ≥ 0.1%.

12.6. Svojstva endokrine disrupcije

Bez drugih endokrinih disruptora prisutnih u koncentraciji > = 0,1 %

12.7. Ostali štetni učinci

Ne primjenjuje se.

ODJELJAK 13.: Zbrinjavanje

13.1. Metode obrade otpada

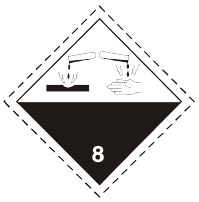
Regenerirati ako je moguće. Poslati ovlaštenim postrojenjima za odlaganje ili na spaljivanje pod kontroliranim uvjetima. Pri tome se pridržavati vrijedećih lokalnih i državnih regulativa.

Ne dopustiti prodor u kanalizaciju ili vodene tokove.

Zbrinite kontejnera onečišćenih proizvoda u skladu s lokalnim ili nacionalnim zakonskim odredbama.

Proizvod se nakon isteka roka trajanja mora odložiti prema propisima na snazi.

ODJELJAK 14.: Informacije o prijevozu



14.1. UN broj ili identifikacijski broj

2735

14.2. Ispravno otpremno ime prema UN-u

ADR-Naziv za otpremu: AMINI, TEKUĆI, KOROZIVNI, N.D.N. (formaldehid, produkti polimerne reakcije s 4-tert-butilfenol, m-fenilenbis(metilamin) i trimetilheksan-1,6-diamin)

IATA-Naziv za otpremu: AMINES, LIQUID, CORROSIVE, N.O.S. POLYAMINES, LIQUID, CORROSIVE, N.O.S. (formaldehid, produkti polimerne reakcije s 4-tert-butilfenol, m-fenilenbis(metilamin) i trimetilheksan-1,6-diamin)

IMDG-Naziv za otpremu: AMINES, LIQUID, CORROSIVE, N.O.S. POLYAMINES, LIQUID, CORROSIVE, N.O.S. (formaldehid, produkti polimerne reakcije s 4-tert-butilfenol, m-fenilenbis(metilamin) i trimetilheksan-1,6-diamin)

14.3. Razred(i) opasnosti pri prijevozu

ADR-Razred: 8

IATA-Razred: 8

IMDG-Razred: 8

14.4. Skupina pakiranja

ADR-Grupa pakiranja: II

IATA-Grupa pakiranja: II

IMDG-Grupa pakiranja: II

14.5. Opasnosti za okoliš

Morski polutant: Ne

Zagađivači okoliša: Ne

IMDG-EMS: F-A, S-B

14.6. Posebne mjere opreza za korisnika

Ceste i Željeznica (ADR-RID):

ADR-Označavanje: 8

ADR - Identifikacijski broj opasnosti: 80

ADR-Posebne odredbe: 274

ADR ograničenja prijevoza u tunelu:

Zrak (IATA):

IATA-Putnički zrakoplov: 851

IATA-Teretni zrakoplov: 855

IATA-Označavanje: 8

IATA-Sporedni opasnosti: -

IATA-Erg: 8L

IATA-Posebne odredbe: A3 A803

More (IMDG):

IMDG-Skladištenje i rukovanje: Category A

IMDG-Segregacija: SG35 SGG18

IMDG-Sporedni opasnosti -

IMDG-Posebne odredbe: 274

14.7. Prijevoz morem u razlivenom stanju u skladu s instrumentima IMO-a

Ne primjenjuje se.

ODJELJAK 15.: Informacije o propisima

15.1. Propisi u području sigurnosti, zdravlja i okoliša/posebno zakonodavstvo za tvar ili smjesu

Direktiva 98/24/EC (Rizici koji nastaju od kemijskih agenasa na radu)
Direktiva 2000/39/EC (Granična vrijednost profesionalne izloženosti)
Direktiva 2010/75/EU
Uredba (EC) br. 1907/2006 (REACH)
Uredba (EC) br. 1272/2008 (CLP)
Uredba (EC) br. 790/2009 (ATP 1 CLP) i (EZ) br. 758/2013
Uredba (EZ) br. 2020/878
Uredba (EZ) br. 286/2011 (ATP 2 CLP)
Uredba (EZ) br. 618/2012 (ATP 3 CLP)
Uredba (EZ) br. 487/2013 (ATP 4 CLP)
Uredba (EZ) br. 944/2013 (ATP 5 CLP)
Uredba (EZ) br. 605/2014 (ATP 6 CLP)
Uredba (EZ) br. 2015/1221 (ATP 7 CLP)
Uredba (EZ) br. 2016/918 (ATP 8 CLP)
Uredba (EZ) br. 2016/1179 (ATP 9 CLP)
Uredba (EZ) br. 2017/776 (ATP 10 CLP)
Uredba (EZ) br. 2018/669 (ATP 11 CLP)
Uredba (EZ) br. 2018/1480 (ATP 13 CLP)
Uredba (EZ) br. 2019/521 (ATP 12 CLP)
Uredba (EZ) br. 2020/217 (ATP 14 CLP)
Uredba (EZ) br. 2020/1182 (ATP 15 CLP)
Uredba (EZ) br. 2021/643 (ATP 16 CLP)
Uredba (EZ) br. 2021/849 (ATP 17 CLP)
Uredba (EZ) br. 2022/692 (ATP 18 CLP)
Uredba (EU) no. 2023/707
Uredba (EZ) br. 2023/1434 (ATP 19 CLP)
Uredba (EZ) br. 2023/1435 (ATP 20 CLP)
Uredba (EZ) br. 2024/197 (ATP 21 CLP)
Uredba (EZ) br. 2024/2564 (ATP 22 CLP)
Uredba (EZ) br. 2024/2865
Uredba (EZ) br. 2025/1222 (ATP 23 CLP)

Ograničenja u vezi s produktom ili sadržajnim tvarima u skladu s Prilogom XVII Uredbe (EZ-a) 1907/2006 (REACH) i naknadne izmjene:

Ograničenja koja se odnose na proizvod: 3

Ograničenja koja se odnose na sadržane tvari: 40, 75

Odredbe prema direktivi 2012/18/EU (Seveso III)

Niti jedan

Uredba (EU) br. 649/2012 (Uredba PIC)

Nijedna tvar nije navedena

Njemačka klasifikacija opasnosti za vodu.

Klasa 3: iznimno opasni.

SVHC tvari:

Prema dostupnim podacima proizvod ne sadrži SVHC u postotku većem ≥ 0.1%.

15.2. Procjena kemijske sigurnosti

Procjena kemijske sigurnosti nije provedena za smjesu. Pogledajte scenarije izloženosti tvari priložene ovom sigurnosnom listu. Kad budete proučavali scenarije, razmotrite i eventualna ograničenja upotrebe navedena u odjeljku 1.2.

ODJELJAK 16.: Ostale informacije

Šifra	Opis
EUH066	Ponavljano izlaganje može prouzročiti sušenje ili pucanje kože.
EUH071	Nagrizajuće za dišni sustav.
H225	Lako zapaljiva tekućina i para.
H226	Zapaljiva tekućina i para.
H302	Štetno ako se proguta.
H304	Može biti smrtonosno ako se proguta i uđe u dišni sustav.
H312	Štetno u dodiru s kožom.
H314	Uzrokuje teške opekline kože i ozljede oka.
H315	Nadražuje kožu.
H317	Može izazvati alergijsku reakciju na koži.
H318	Uzrokuje teške ozljede oka.
H319	Uzrokuje jako nadraživanje oka.
H332	Štetno ako se udiše.
H335	Može nadražiti dišni sustav.
H336	Može izazvati pospanost ili vrtoglavicu.
H351	Sumnja na moguće uzrokovanje raka ako se udiše.
H372	Uzrokuje oštećenje organa tijekom produljene ili ponavljane izloženosti ako se udiše.
H373	Može uzrokovati oštećenje organa tijekom produljene ili ponavljane izloženosti.
H373	Može uzrokovati oštećenje organa tijekom produljene ili ponavljane izloženosti ako se udiše i proguta.
H400	Vrlo otrovno za vodeni okoliš.
H411	Otrovno za vodeni okoliš s dugotrajnim učincima.
H412	Štetno za vodeni okoliš s dugotrajnim učincima.

Šifra	Razred opasnosti i kategorija opasnosti	Opis
2.6/2	Flam. Liq. 2	Zapaljiva tekućina, kategorija 2
2.6/3	Flam. Liq. 3	Zapaljiva tekućina, kategorija 3
3.1/4/Dermal	Acute Tox. 4	Akutna toksičnost (preko kože), kategorija 4
3.1/4/Inhal	Acute Tox. 4	Akutna toksičnost (udisanje), kategorija 4
3.1/4/Oral	Acute Tox. 4	Akutna toksičnost (gutanje), kategorija 4
3.10/1	Asp. Tox. 1	Opasnost od aspiracije, Kategorija 1
3.2/1A	Skin Corr. 1A	Nagrizajuće za kožu, kategorija 1A
3.2/1B	Skin Corr. 1B	Nagrizajuće za kožu, kategorija 1B
3.2/2	Skin Irrit. 2	Nadražujuće za kožu, kategorija 2
3.3/1	Eye Dam. 1	Teška ozljeda oka, kategorija 1
3.3/2	Eye Irrit. 2	Nadražujuće za oči, kategorija 2
3.4.2/1A	Skin Sens. 1A	Izazivanje preosjetljivosti kože, kategorija 1A
3.4.2/1B	Skin Sens. 1B	Izazivanje preosjetljivosti kože, kategorija 1B
3.6/2	Carc. 2	Karcinogenost, Kategorija 2
3.8/3	STOT SE 3	Specifična toksičnost za ciljane organe – jednokratno izlaganje, Kategorija 3
3.9/1	STOT RE 1	Specifična toksičnost za ciljane organe – ponavljano izlaganje, Kategorija 1
3.9/2	STOT RE 2	Specifična toksičnost za ciljane organe – ponavljano izlaganje, Kategorija 2
4.1/A1	Aquatic Acute 1	Akutnu opasnost za organizme koji žive u vodi, kategorija 1
4.1/C2	Aquatic Chronic 2	Kroničnu (dugoročnu) opasnost za organizme koji žive u vodi, kategorija 2
4.1/C3	Aquatic Chronic 3	Kroničnu (dugoročnu) opasnost za organizme koji žive u vodi, kategorija 3

Razvrstavanje i postupak razvrstavanja za smjese sukladno Uredbi (EZ) br. 1272/2008 (CLP):

Razvrstavanje prema Uredbi (EZ) br. 1272/2008	Postupak razvrstavanja

Acute Tox. 4, H302	Računska metoda
Skin Corr. 1B, H314	Računska metoda
Skin Sens. 1A, H317	Računska metoda
Aquatic Chronic 3, H412	Računska metoda

Ovaj dokument izradila je tehnički kompetentna osoba za SDS, te koja je prikladno za to osposobljena.

Glavni bibliografski izvori:

ECDIN – Informacijska mreža za ekološke podatke za kemikalije – Zajednički istraživački centar, Komisija Europskih zajednica

SAX's OPASNE OSOBINE INDUSTRIJSKIH TVARI- Osmo izdanje - Van Nostrand Reinold

Sigurnosno-tehnički listovi dobavljača sirovina.

Ovdje objavljne informacije se temelje na našem znanju u vrijeme gore navedenog datuma. Odnose se samo na navedene proizvode i ne predstavlja garanciju neke određene kvalitete.

Obaveza je korisnika da utvrdi da je ova informacija cjelovita i da odgovara specifičnoj upotrebi.

Ovaj MSDS poništava i zamjenjuje sva predhodna izdanja.

Legenda kratica i akronima upotrebljenih u sigurnosno-tehničkom listu:

ACGIH: Američka konferencija vladinih specijalista za industrijsku higijenu

ADR: Europski sporazum o međunarodnom cestovnom prijevozu opasnih tvari.

ATE: Procjena akutne toksičnosti

ATEmix: Procijenjena vrijednost akutne toksičnosti (Mješavine)

BEI: Indeks biološke izloženosti

CAS: CAS registarski broj (Američko kemijsko društvo)

CAV: Centar za otrove

CE: Europska zajednica

CLP: Razvrstavanje, označavanje, pakiranje.

CMR: Karcinogeno, Mutageno i Reprotoksično

COV: Hlapivi organski spoj

CSA: Procjena kemijske sigurnosti

CSR: Izvješće o kemijskoj sigurnosti

DNEL: Izvedena razina bez učinka.

EC50: Pulu maksimalna efektivna koncentracija

ECHA: Europska agencija za kemijske proizvode

EINECS: Europski propis postojećih trgovačkih kemijskih tvari.

ES: Scenario izloženosti

GefStoffVO: Propis o opasnim tvarima, Njemačka.

GHS: Globalno harmonizirani sustav razvrstavanja i označavanja kemikalija

IARC: Međunarodna agencija za istraživanja o karcinomu

IATA: Međunarodna udruga za zračni prijevoz.

IC50: Pulu maksimalna koncentracija inhibitora

IMDG: Međunarodni pomorski kodeks opasnog tereta.

LC50: Smrtna koncentracija u 50% slučajeva ispitivane populacije.

LD50: Smrtna doza u 50% slučajeva ispitivane populacije.

LDLo: Niska smrtonosna doza

N.A.: Nije primjenjivo

N/A: Nije primjenjivo

N/D: Nije definirano/Nije dostupno

N.D.: Nije dostupno

NIOSH: Državni institut za zaštitu na radu

NOAEL: Razina bez uočenih štetnih učinaka

OSHA: Upravljanje zaštitom na radu

PBT: Persistentno, bioakumulativno i toksično

PGK: Upute za pakiranje

PNEC: Predviđena koncentracija bez učinka.

PSG: Putnici

RID: Propis o međunarodnom prijevozu opasnih tvari željeznicom

STEL: Granica kratkotrajne izloženosti.

STOT: Toksičnost za ciljani organ.

TLV: Granična vrijednost praga.

TLV-TWA: Granična vrijednost praga za vremenski ponderirani prosjek. (ACGIH standard)

vPvB: Vrlo persistentno, vrlo bioakumulativno

WGK: Njemačka klasifikacija opasnosti za vodu.

Odlomci promijenjeni u odnosu na prethodnu reviziju:

- ODJELJAK 1.: Identifikacija tvari/smjese i podaci o društvu/poduzeću

- ODJELJAK 2.: Identifikacija opasnosti
- ODJELJAK 3.: Sastav/informacije o sastojcima
- ODJELJAK 8.: Nadzor nad izloženošću/osobna zaštita
- ODJELJAK 9.: Fizikalna i kemijska svojstva
- ODJELJAK 11.: Toksikološke informacije
- ODJELJAK 12.: Ekološke informacije
- ODJELJAK 15.: Informacije o propisima
- ODJELJAK 16.: Ostale informacije

n-butyl acetate

Substance identification
Chemical Name: n-butyl acetate
CAS number: 123-86-4
Date - Version: 07/06/2017 10.0

1. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.
SU3; ERC4; PROC7, PROC10, PROC13

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC4.1a.v1

Operating conditions

Yearly amount used in EU: 5,000,000 kgs
Minimum emission days per year: 225
Emission factor to air: 0.8%
Emission factor in water: 2%
Emission factor in soil: 0%
Receiving surface water (flow rate): 18,000 m³/day
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Suitable measures to reduce emissions to air can be: Exhaust gas treatment with thermal oxidation.
Type of treatment plant: Municipal sewage treatment plant.
Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment
Risk Characterization Ratio (RCR): 0.925355
Risk from environmental exposure is driven by soil.
Maximum safe use amount: 1080.7 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Minimize manual tasks.
Daily general cleaning of equipment and work area.
Regular inspection and maintenance of equipment and machinery.
Ensure that the activity is performed outside the operator’s respiratory zone (head-product distance greater than 1m).
Avoid frequent and direct contact with the substance.
Check that risk reduction measures are implemented and that the conditions of use are respected.
Avoid splashes.
Make sure the spray booth is used.
Wear suitable clothing.

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 4.2857 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.38961
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 0.0001 mg/m³
Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Industrial

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Forced local ventilation. Effectiveness: 90%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 2.7429 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.249351
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 24.1996 mg/m³
Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Forced local ventilation. Effectiveness: 90%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 1.3714 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.124675
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 24.1996 mg/m³
Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users

For a comparison term, visit http://www.ecetoc.org/tra

2. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.
SU3; ERC4; PROC7, PROC10, PROC13

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC4.1a.v1

Operating conditions

Yearly amount used in EU: 43,000,000 kgs
Minimum emission days per year: 225
Emission factor to air: 0.8%
Emission factor in water: 2%
Emission factor in soil: 0%
Receiving surface water (flow rate): 18,000 m³/day
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Suitable measures to reduce emissions to air can be: Exhaust gas treatment with thermal oxidation.
Type of treatment plant: Municipal sewage treatment plant.
Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment
Risk Characterization Ratio (RCR): 0.925355
Risk from environmental exposure is driven by soil.
Maximum safe use amount: 1080.7 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application

Area of use: Industrial

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Minimize manual tasks.
Daily general cleaning of equipment and work area.
Regular inspection and maintenance of equipment and machinery.
Ensure that the activity is performed outside the operator’s respiratory zone (head-product distance greater than 1m).
Avoid frequent and direct contact with the substance.
Check that risk reduction measures are implemented and that the conditions of use are respected.
Avoid splashes.
Make sure the spray booth is used.
Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 4.2857 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.38961

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 0.0001 mg/m³
Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Industrial

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Forced local ventilation. Effectiveness: 90%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 2.7429 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.249351
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 24.1996 mg/m³
Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Industrial

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Forced local ventilation. Effectiveness: 90%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 1.3714 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.124675
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 24.1996 mg/m³
Risk Characterization Ratio (RCR): 0.080665

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

3. USE IN COATINGS. USE IN PAINTS. USE IN PRINTING INKS. USE IN ADHESIVES.

Short title of the exposure scenario: Use in coatings. Use in paints. Use in printing inks. Use in adhesives.
SU22; ERC8a, ERC8d; PROC10, PROC11, PROC13, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC 8a.2a.v1

Operating conditions

Yearly amount used in EU: 2,000,000 kgs
Minimum emission days per year: 225
Emission factor to air: 99%
Emission factor in water: 1%
Emission factor in soil: 0%
Receiving surface water (flow rate): 18,000 m³/day
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

The wastewater treatment measures considered suitable are, for example, wastewater or sewage treatment plant.
Type of treatment plant: Municipal sewage treatment plant.
Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment
Risk Characterization Ratio (RCR): 0.012923
Risk from environmental exposure is driven by freshwater sediment.
Maximum safe use amount: 1934.6 kg/giorno

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: CEPE SPERC 8d.3a.v1

Operating conditions

Yearly amount used in EU: 2,000,000 kgs
Minimum emission days per year: 225
Emission factor to air: 98%
Emission factor in water: 2%
Emission factor in soil: 0%
Receiving surface water (flow rate): 18,000 m³/day
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Type of treatment plant: Municipal sewage treatment plant.
Assumed sewage treatment plant flow: 2,000 m³/day

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Environment
Risk Characterization Ratio (RCR): 0.092422
Risk from environmental exposure is driven by soil.
Maximum safe use amount: 1082 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 2.7429 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.249351
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 145.1979 mg/m³
Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users

For a comparison term, visit http://www.ecetoc.org/tra

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤45%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Minimize manual tasks.
Daily general cleaning of equipment and work area.
Regular inspection and maintenance of equipment and machinery.
Ensure that the activity is performed outside the operator’s respiratory zone (head-product distance greater than 1m).
Avoid frequent and direct contact with the substance.
Check that risk reduction measures are implemented and that the conditions of use are respected.
Avoid splashes.
Make sure the spray booth is used.
Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 10.7143 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.974026
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 0.0001 mg/m³
Risk Characterization Ratio (RCR): 0.000001

Guidance for downstream users

For a comparison term, visit http://www.ecetoc.org/tra Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤45%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Minimize manual tasks.
Avoid frequent and direct contact with the substance.
Check that risk reduction measures are implemented and that the conditions of use are respected.
Daily general cleaning of equipment and work area.
Regular control and maintenance of equipment and machinery.
Make sure doors and windows are open (general ventilation).
Avoid splashes.
Use an adequately effective local ventilation system.
Wear suitable clothing.

Exposure estimation and reference to its source

Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. The concentration of the substance has been considered using a linear approach. Worker - dermal, long-term - systemic.
Exposure estimation: 4.8214 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.438312
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. Operator - inhalation, long-term - local.
Exposure estimation: 153 mg/m³
Risk Characterization Ratio (RCR): 0.51

Guidance for downstream users

For a comparison term, visit http://www.ecetoc.org/tra Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application

Area of use: Professional

Operating conditions

Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures

Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Minimize manual tasks.
Avoid frequent and direct contact with the substance.
Check that risk reduction measures are implemented and that the conditions of use are respected.
Daily general cleaning of equipment and work area.
Regular inspection and maintenance of equipment and machinery.
Avoid splashes.
Make sure doors and windows are open (general ventilation).
Wear a half face mask with a P2L filter or better.
Wear suitable clothing.

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. The concentration of the substance has been considered using a linear approach. Worker - dermal, long-term - systemic.
Exposure estimation: 4.8214 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.438312
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker, modified version. Operator - inhalation, long-term - local.
Exposure estimation: 116 mg/m³
Risk Characterization Ratio (RCR): 0.386667

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra Please note that a revised version was used (see exposure estimates).

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping and pouring

Area of use: Professional

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 1.3714 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.124675
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 145.1979 mg/m³
Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact with the only use of personal protective equipment

Area of use: Professional

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 240 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Forced local ventilation: Effectiveness: 80%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%
Ensure a good standard of general or controlled ventilation (no less than 3-5 air changes per hour). Effectiveness: 30%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 8.4857 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.771429
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 67.759 mg/m³
Risk Characterization Ratio (RCR): 0.225863

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact with the only use of personal protective equipment
Area of use: Professional

Operating conditions
Substance concentration: n-butyl acetate content: ≥0 - ≤100%
Physical state: liquid
Vapor pressure of the substance during use: 1120Pa
Process temperature: 20°C
Duration and frequency of application: 60 mins. 5 days a week
Indoor/Outdoor: Internal use

Risk management measures
Provide a good standard of general or controlled ventilation (5 to 10 air changes per hour). Effectiveness: 70%
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%

Exposure estimation and reference to its source
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Worker - dermal, long-term - systemic.
Exposure estimation: 2.8286 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.257143
Evaluation method: EASY TRA v4.1, ECETOC TRA v3.0, Worker. Operator - inhalation, long-term - local.
Exposure estimation: 145.1979 mg/m³
Risk Characterization Ratio (RCR): 0.483993

Guidance for downstream users
For a comparison term, visit http://www.ecetoc.org/tra

Xylene

Identification of the exposure scenario
Product name: Xylene
Reach registration number: 01-2119488216-32-XXXX
CAS number: 1330-20-7
EC number: 215-535-7
Review date: 14/02/2022 rev. 3.0

USE IN COATINGS - INDUSTRIAL USE

1. Title of the exposure scenario

Process purpose: Includes use in coatings (varnishes, inks, adhesives, etc.), including exposure during application (including material receipt, storage, bulk and semi-bulk preparation and transfer, application by spray, roller, manual spraying, dip, flow, fluid layers in production lines and in film formation) and system cleaning, maintenance and related laboratory activities.
Main sector: SU3 Industrial uses

Environment

Environmental Release Categories [ERC]: ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article).
Specific Environmental Release Category [SPERC]: ESVOC SPERC 4.3a.v1

Worker

Process categories:
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC 3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions.
PROC4 Production of chemicals with the possibility of exposure.
PROC5 Mixing or blending in batch processes
PROC7 Industrial spraying.
PROC8a Transfer of a substance or preparation (charging/discharging) at non-dedicated facilities.
PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.
PROC10 Application with rollers or brushes.
PROC13 Treatment of articles by dipping and pouring.
PROC15 Use as laboratory reagent.
PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles.

2. Other conditions of use affecting exposure (Industrial - Environment 1)

Products features

Form: Liquid, vapor pressure 0.5 - 10 kPa at STP
Easily biodegradable.

Amounts used:

Annual amount per site: 2500 tonnes

Frequency and duration of use

Issue days: 300 days/year

Additional operating conditions relating to environmental exposure

Emission factor - air
Air release rate produced by the process (initial release prior to risk management measures): 0.98
Emission factor - water
Waste water release rate produced by the process (initial release prior to risk management measures): 0.007
Emission factor - soil
Soil release rate produced by the process (initial release prior to risk management measures): 0

Environmental factors that are not influenced by risk management

Dilution

Local fresh water dilution factor: 10
Local seawater dilution factor: 100

Risk management measures

Sewage Treatment Plant Data (STP)

Estimated substance removal from waste water via domestic sewage treatment: 95.8%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Local technical conditions and measures to reduce and limit discharges and air emissions

Air:

Treat air emission to provide a typical removal efficiency of > 90%.

Water:

Avoid releasing the undiluted substance into local waste water or recover it on site. The typical on-site purification technique has a removal efficiency of 95.8%.

Ground:

Soil emission controls are not applicable as there is no direct release to soil.

Conditions and measures for external treatment of waste

Sludge treatment:

Do not spread industrial sludge on natural soils. Sewerage sludge should be burned, stored or regenerated.
Waste treatment:
No waste of the substance is formed during production.

2. Other conditions of use affecting exposure (Workers - Health 1)

Products features

Form:

Liquid, vapor pressure 0.5 - 10 kPa at STP
Concentration information: Includes concentrations up to 100%, unless otherwise indicated.

Quantities used

Not applicable.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting worker exposure

Temperature: (unless stated differently) assumes use at not more than 20°C above ambient temperature.
Ventilation Rate: Ensure a sufficient amount of controlled ventilation (10 to 15 air changes per hour). Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and process-level (source) measures to prevent releases

Technical protective measures:

Handle substance within a closed system. Provide supplementary ventilation to points where emissions occur. Ensure material transfers are managed using closed or air exhaust systems. Drain or remove substance from equipment before opening or servicing PROC7 Industrial spraying: spraying (automatic/robotic) should be carried out in a ventilated booth with laminar air flow.

Risk management measures:

PROC7 Industrial spraying.
Manual spraying.
Wear respiratory protection in accordance with EN 140 with filter type A or better.

3. Verification of exposure (Environment 1)

Environmental exposure:

Predicted exposures are not expected to exceed the specific risks (listed in chapter 8 of the safety datasheet), when the risk management measures/operational conditions outlined in section 2 are implemented.
Maximum allowable site tonnage (Msafe), based on release following total waste water treatment removal: 9874 kg/day

3. Exposure Verification (Health 1)

Exposure

Predicted workplace exposures are not expected to exceed the DNEL when risk identification measures are implemented.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Required removal efficiency for waste water can be achieved using on-site/off-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

USE IN COATINGS - PROFESSIONAL USE

1. Title of the exposure scenario

Process purpose: Includes use in coatings (varnishes, inks, adhesives, etc.), including exposure during application (including material receipt, storage, bulk and semi-bulk preparation and transfer, application by spray, roller, brush and manual spraying or similar processes and film formation) and system cleaning, maintenance and related laboratory activities.
Main sector: SU22 Professional uses

Environment

Environmental Release Categories [ERC]:
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor).
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor).
ERC8c Widespread use leading to inclusion into/onto article (indoor).
ERC8f Widespread use leading to inclusion into/onto article (outdoor).
Specific Environmental Release Category [SPERC]: ESVOC SPERC 8.3b.v1

Worker

Process categories:
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.
PROC 3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions.
PROC4 Production of chemicals with the possibility of exposure.
PROC5 Mixing or blending in batch processes
PROC8a Transfer of a substance or preparation (charging/discharging) at non-dedicated facilities.
PROC8a Transfer of substance or mixture (charging/discharging) at non-dedicated facilities.
PROC10 Application with rollers or brushes.
PROC11 Non-industrial spray application.
PROC13 Treatment of articles by dipping and pouring.
PROC15 Use as laboratory reagent.
PROC19 Manual activities with direct contact.
PROC24 High (mechanical) energy work-up of substances bound in/on materials and/or articles.

2. Other conditions of use affecting exposure (Industrial - Environment 1)

Products features

Form: Liquid, vapor pressure 0.5 - 10 kPa at STP Easily biodegradable.

Quantities used

Annual amount per site: 10 tonnes

Frequency and duration of use

Issue days: 365 days/year

Additional operating conditions relating to environmental exposure

Emission factor - air
Air release rate produced by the process (initial release prior to risk management measures): 0.98
Emission factor - water
Waste water release rate produced by the process (initial release prior to risk management measures): 0.01
Emission factor - soil
Soil release rate produced by the process (initial release prior to risk management measures): 0.01

Environmental factors that are not influenced by risk management

Dilution
Local fresh water dilution factor: 10
Local seawater dilution factor: 100

Risk management measures
Sewage Treatment Plant Data (STP)
Estimated substance removal from waste water via domestic sewage treatment 95.8%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Local technical conditions and measures to reduce and limit discharges and air emissions
Air: Treat air emission to provide a typical removal efficiency of 0%.
Water: The typical on-site purification technique has a removal efficiency of 95.8%.

Conditions and measures for external treatment of waste
Waste treatment: External treatment and disposal of waste should comply with applicable local and/or national regulations.

2. Other conditions of use affecting exposure (Workers - Health 1)

Products features
Form:
Liquid, vapor pressure 0.5 - 10 kPa at STP
Concentration information:
Includes concentrations up to 100%, unless otherwise indicated.

Quantities used
Not applicable.

Frequency and duration of use
Covers daily exposures up to 8 hours (unless stated differently).

Other operational conditions affecting worker exposure
Temperature:
(unless stated differently) assumes use at not more than 20°C above ambient temperature.
Ventilation Rate:
Provide a good standard of controlled ventilation (10 to 15 air changes per hour) or ensure operation is undertaken outdoors. Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and process-level (source) measures to prevent releases
Technical protective measures:
Handle substance within a closed system. Provide supplementary ventilation to points where emissions occur. Ensure material transfers are managed using closed or air exhaust systems. Clean/flush equipment prior to opening or maintenance. Transport on closed roads. PROC11 Non-industrial spray application. Indoor use. Perform in a laminar flow ventilated booth. PROC15 Use as laboratory reagents handle under fume hood or extract air.

Organizational measures to prevent/limit releases, dispersion and exposure
Organizational measures
Avoid activities with an exposure of more than 4 hours.
Hand Application - Finger Paints, Chalks, Stickers:
Limit the amount of substance in the mixture to 5%.

Risk management measures
Wear protective gloves according to EN 374, resistant to solvents.
PROC10 Application with rollers or brushes.
PROC11 Non-industrial spray application. Outdoor use.
PROC13 Treatment of articles by dipping and pouring. Outdoor use.
Wear respiratory protection in accordance with EN 140 with filter type A or better.

3. Verification of exposure (Environment 1)

Environmental exposure
Predicted exposures are not expected to exceed the specific risks (listed in chapter 8 of the safety datasheet), when the risk management measures/operational conditions outlined in section 2 are implemented.
Maximum allowable site tonnage (Msafe), based on release following total waste water treatment removal: 5969 kg/day

3. Exposure Verification (Health 1)

Exposure

Predicted workplace exposures are not expected to exceed the DNEL when risk identification measures are implemented.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Guidance is based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Required removal efficiency for waste water can be achieved using on-site/off-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html).

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Benzyl alcohol

Substance identification
Chemical Name: Benzyl alcohol
CAS number: 100-51-6
Date: 07/12/2012

INDUSTRIAL USE

Exposure scenario for industrial use in adhesives, sealants, coatings and paints, fillers, finger paints, metallic and non-metallic surface treatment products, inks and toners (PC1, PC9a, PC9b, PC9c, PC14, PC15 , PC18)

1. TITLE

Systematic title based on the use descriptor: SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Processes, activities covered:

Mixing or dilution in batch processes
Processing by compression/pelletisation, calendering or use during foam production
Transfer operations from/to large or small containers
Treatment of objects by brush/roller application, spraying or immersion/pouring
Lubrication at high energy conditions
Use as a laboratory agent
Handling of substances bound in materials/articles

Evaluation method:

ECETOC TRA (April 2010), EUSES (v.2.1)

2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Process categories for human health and environmental release categories for exposure assessment:
PC1: PROC5, 7, 8a, 8b, 9, 10, 12, 13, 14 spERC ESVOC 5 (related to ERC4)
PC9a/b/c: PROC5, 7, 8a, 8b, 9, 10, 13 spERC ESVOC 5 (related to ERC4)
PC14: PROC5, 8a, 8b, 9, 15, 23, 24, 25 spERC ESVOC 5 (related to ERC4)
PC15: PROC5, 8a, 8b, 9, 15 spERC ESVOC 5 (related to ERC4)
PC18: PROC7, 8a, 8b, 9, 10, 13 spERC ESVOC 5 (related to ERC4)

2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC14, PROC15

Product features

Concentration ≤ 40%
Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day: 8h (full shift, indoors)
Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Internal use
Use at room temperature

Technical conditions and measures to control dispersion from source to the worker
Local vapor ventilation (efficiency > 90 %) or other adequate ventilation required

Organizational measures to prevent/limit releases, dispersion and exposure
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation
PROC7:
Respiratory protection recommended (95% efficiency) as described in section 8.
Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

2.2 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC23, PROC24, PROC25

Product features
Concentration ≤ 40%
Physical state: liquid

Quantity used
Not applicable

Frequency and duration of use/exposure
Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

Human factors not influenced by risk management
Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

Other operational conditions affecting worker exposure
Indoor use.
Use at room temperature

Technical conditions and measures to control dispersion from source to the worker
Local vapor ventilation (efficiency > 90 %) or other adequate ventilation required.

Organizational measures to prevent/limit releases, dispersion and exposure
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

2.3 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR SPERC ESVOC 5 - RELATED TO ERC4

Product features
Not relevant

Quantity used
Number of sites: > 1
Yearly amount used in the region: PC 1, 9a, 9b, 9c, 14, 15, 18: 412 to: 570 to (10 % rule applies)

Frequency and duration of use
spERC ESVOC 5 (related to ERC4): 300 days/year

Environmental factors not influenced by risk management
Local fresh water dilution factor: 10
Receiving surface water flow: 18,000 m³/d
Local seawater dilution factor 100

Other operational conditions affecting environmental exposure
Indoor and outdoor use

Technical conditions and measures at process level (source) to prevent release
spERC ESVOC 5 (related to ERC4):
Fraction of tonnage released to air: 9,8 %
Fraction of tonnage released to wastewater: 2 %
Fraction of tonnage released into industrial ground: 0 %

Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release
Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques. Floors should be waterproof and resistant to liquids.

Organizational measures to prevent/limit release from site
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures for the domestic sewage treatment plant
Dimensions of wastewater treatment plant: 2000 m^3/d (removal rate: 87.4 %)

Conditions and measures for external treatment of waste for disposal
No specific measures. For general conditions and measures, see section 13.

Conditions and measures for external recovery of waste
No specific measures. For general conditions and measures, see section 13.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

Workers

Exposure assessment (human):
ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been corrected for concentration.

Exposure estimation:
Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

Environment

Exposure assessment (environment):
EUSES 2.1: ERC4 modified with ESVOC 5 (ESVOC SPERC 4.3a.v1)

Exposure estimation:
The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Environment:
Under the conditions listed above the process is considered safe. Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Health:
Under the conditions listed above the process is considered safe. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Further good practice advice beyond the REACH CSA
Environment: Not applicable
Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

PROFESSIONAL USE

Exposure scenario for professional uses of benzyl alcohol consisting of mixing/ loading and charging/discharging, roller, brush, spray or dip application (PC0, PC1, PC09a, 9b, 9c, PC14, PC15, PC18, PC21, PC26, PC31, PC32).

1. TITLE

Systematic title based on the use descriptor: SU22 - Professional uses: Generalized use

Processes, activities covered:

Mixing or dilution in batch processes BY HAND
Transfer operations from/to large or small containers
Treatment of objects by brush/roller application, spraying or immersion/pouring
Hand mixing with intimate contact and only PSD available
Handling of substances bound in materials/articles

Evaluation method:

ECETOC TRA (April 2010), EUSES (v.2.1)

2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Process categories for human health and environmental release categories for exposure assessment:
PC0: PROC5, 8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d
PC1: PROC5, 8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d
PC9a, 9b, 9c: PROC5, 8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d
PC14: PROC8a, 8b, 9, 10, 11, 13, 19, 23, 24, 25 - ERC8a, 8d
PC15: PROC8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d
PC18: PROC5, 8a, 8b, 10, 11, 13, 19 - ERC8a, 8d
PC21: PROC8a, 8b, 15 - ERC8a, 8d
PC26: PROC5, 6, 8a, 8b, 11, 13, 14, 19, 21 - ERC8a, 8d
PC30: PROC8a, 8b - ERC8a, 8d
PC31: PROC8b, 10, 11 - ERC8a, 8d
PC32: PROC8a, 8b, 9, 10, 11 - ERC8a, 8d

Number of sites: > 1

2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC14, PROC15

Product features

Concentration ≤ 40%
Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m^3/8h-day (light activity)
Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Internal use
Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation
Personal protection:
PROC8b, PROC9, PROC14, PROC15: concentration ≤ 40 %: no RMM required.
PROC5, PROC8a, PROC13: > 25 % - ≤ 40 %: gloves (90 % efficiency) are required as described in section 8.
PROC6: > 5 % - ≤ 40 %: gloves (90 % efficiency) are required as described in section 8.
PROC10: < 5 % (indoor and outdoor environment): No RMMs required.
> 5 - ≤ 40 % (indoor and outdoor environment): gloves (90 % efficiency) are required as described in point 8.

Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

2.2 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC11

Product features
Concentration ≤ 40%
Physical state: liquid

Quantity used
Not applicable

Frequency and duration of use/exposure
Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

Human factors not influenced by risk management
Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

Other operational conditions affecting worker exposure
Indoor and outdoor use
Use at room temperature

Technical conditions and measures to control dispersion from source to the worker
No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation
Personal protection:
≤ 5 % (indoor and outdoor environment): Respiratory protection (95 % efficiency) required as described in section 8.
> 5 % ≤ 40 % (indoor and outdoor environment): Respiratory protection (95 % efficiency) and gloves (90 % efficiency) required as described in section 8.
Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

2.3 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC19

Product features
Concentration ≤ 40%
Physical state: liquid

Quantity used
Not applicable

Frequency and duration of use/exposure
Duration of exposure per day (concentration ≤ 25 %): 8 hours (indoors and outdoors)
Duration of exposure per day (concentration >25% ≤40%): 4 hours (indoors and outdoors)
Duration of exposure per year: 230 days

Human factors not influenced by risk management
Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

Other operational conditions affecting worker exposure
Indoor and outdoor use
Use at room temperature

Technical conditions and measures to control dispersion from source to the worker
No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation
Personal protection:
> 1 % (indoor): gloves (90 % efficiency) are required as described in section 8.
> 5% - 40% (outdoors): gloves (90 % efficiency) are required as described in section 8.
Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

2.4 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR ERC8a, ERC8d

Product features
Not relevant

Quantity used
Yearly amount used in the region: the 10% rule applies
ERC8a PC0, 1, 9a, 9b, 9c, 14, 15, 18, 21, 26, 30, 31, 32, 34, 35: 1,785t
ERC8d PC0, 1, 9a, 9b, 9c, 14, 15, 18, 21, 26, 31, 32, 34, 35: 1,775t
Fraction of main local source: 0.002 (default)
Issue days per site: 365 days/year (default)

Frequency and duration of use
Continuous release: 365 days/year

Environmental factors not influenced by risk management
Local fresh water dilution factor: 10
Receiving surface water flow: 18,000 m³/d
Local seawater dilution factor local: 100

Other operational conditions affecting environmental exposure
Indoor / outdoor environment

Technical conditions and measures at process level (source) to prevent release
No special measures are required.

Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release
Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques.

Organizational measures to prevent release from site
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures for the domestic sewage treatment plant
Dimensions of wastewater treatment plant: 2000 m³/d (removal rate: 87.4 %)

Conditions and measures for external treatment of waste for disposal
No specific measures. For general conditions and measures, see section 13.

Conditions and measures for external recovery of waste
No specific measures. For general conditions and measures, see section 13.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

Workers

PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC14, PROC15, PROC19

Exposure assessment (human):

PROC5, PROC6, PROC8b, PROC9, PROC11, PROC13, PROC14, PROC15

ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration.

PROC8a, PROC10

ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration. Local and systemic exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration.

PROC19

ECETOC TRA model (April 2010 version). The dermal exposure estimates of ECETOC TRA have been linearly corrected for the concentration and according to the EMFs of CEFIC for the duration of exposure. Local exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration and in accordance with the CEFIC EMFs for the duration of exposure. Systemic exposure via inhalation has been linearly scaled for the duration of exposure.

Exposure estimation:

Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

Environment

ERC8a, ERC8d

Exposure assessment (environment):

EUSES 2.1.

Exposure estimation:

The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Environment:

Under the conditions listed above the process is considered safe. Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Health:

Under the conditions listed above the process is considered safe. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Further good practice advice beyond the REACH CSA

Environment: Not applicable

Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

PROFESSIONAL USE

Exposure scenario for professional use in photochemicals (PC30)

1. TITLE

Systematic title based on the use descriptor: SU22 - Professional uses: Generalized use

Processes, activities covered:

Transfer operations from/to large or small containers

Evaluation method:

ECETOC TRA (April 2010), EUSES (v.2.1)

2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Human Health Exposure/Environmental Exposure:
PC30: PROC8a, 8b - ERC8a, 8d

Number of sites: > 1

2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC8a E PROC8b

Product features

Concentration ≤ 40%
Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m^3/8h-day (light activity)
Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Internal use
Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection:
PROC8b: concentration ≤ 40 %: no RMM required.
PROC8a: > 25 % - ≤ 40 %: gloves (90 % efficiency) are required as described in section 8.

Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

2.2 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR ERC8a, ERC8b

Product features
Not relevant

Quantity used
Yearly amount used in the region: the 10% rule applies
ERC8a PC30: 1.785 t
ERC8d PC30: 190 t
Fraction of main local source: 0.002 (default)
Issue days per site: 365 days/year (default)

Frequency and duration of use
Continuous release: 365 days/year

Environmental factors not influenced by risk management
Local fresh water dilution factor: 10
Receiving surface water flow: 18,000 m³/d
Local seawater dilution factor local: 100

Other operational conditions affecting environmental exposure
No special measures are required.

Technical conditions and measures at process level (source) to prevent release
No special measures are required.

Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release
Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques.

Organizational measures to prevent release from site
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures for the domestic sewage treatment plant
Dimensions of wastewater treatment plant: 2000 m³/d (removal rate: 87.4 %)

Conditions and measures for external treatment of waste for disposal
No specific measures. For general conditions and measures, see section 13.

Conditions and measures for external recovery of waste
No specific measures. For general conditions and measures, see section 13.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

Workers
PROC8a, PROC8b

Exposure assessment (human):
PROC8a
ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration. Local and systemic exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration.

PROC8b
ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration.

Exposure estimation:
Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

Environment
ERC8a, ERC8b

Exposure assessment (environment):
EUSES 2.1.

Exposure estimation:
The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Environment:
Under the conditions listed above the process is considered safe. Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Health:
Under the conditions listed above the process is considered safe. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Further good practice advice beyond the REACH CSA
Environment: Not applicable
Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

PROFESSIONAL USE

Exposure scenario for professional use in washing and cleaning products, cosmetics and personal care products (PC35, PC39)

1. TITLE

Systematic title based on the use descriptor: SU22 - Professional uses: Generalized use

Processes, activities covered:

Transfer operations from/to large or small containers
Treatment of objects by roller/brush, spray or dip/pour application
Mixing or dilution in batch processes or by hand

Evaluation method:

ECETOC TRA (April 2010), EUSES (v.2.1)

2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Human Health Exposure/Environmental Exposure:
PC35: PROC8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8b, 8d, 8e
PC39: PROC13 - ERC8a, 8b, 8d, 8e

Number of sites: > 1

2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC8a, PROC8b, PROC9, PROC10, PROC13

Product features

Concentration ≤ 40%
Physical state: liquid

Quantity used

Not applicable

Frequency and duration of use/exposure

Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

Human factors not influenced by risk management

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

Other operational conditions affecting worker exposure

Internal use
Use at room temperature

Technical conditions and measures to control dispersion from source to the worker

No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection:
PROC8b, PROC9: concentration ≤ 40 %: no RMM required.
PROC8a, PROC13: > 25 % - ≤ 40 %: gloves (90 % efficiency) are required as described in section 8.
PROC10: < 5 % (indoor and outdoor environment): No RMMs required
> 5 - ≤ 40 % (indoor and outdoor environment): gloves (90 % efficiency) are required as described in section 8.

Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

2.2 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC11

Product features
Concentration ≤ 40%
Physical state: liquid

Quantity used
Not applicable

Frequency and duration of use/exposure
Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

Human factors not influenced by risk management
Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

Other operational conditions affecting worker exposure
Internal use
Use at room temperature

Technical conditions and measures to control dispersion from source to the worker
No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation
Personal protection:
≤ 5 % (indoor and outdoor environment): Respiratory protection (95 % efficiency) required as described in section 8.
> 5 % - ≤ 40 % (indoor and outdoor environment): Respiratory protection (95 % efficiency) and gloves (90 % efficiency) required as described in section 8.

Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

2.3 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC19

Product features
Concentration ≤ 40%
Physical state: liquid

Quantity used
Not applicable

Frequency and duration of use/exposure
Duration of exposure per day (concentration ≤ 25 %): 8 h (indoor and outdoor)
Duration of exposure per day (concentration >25% - ≤40%): 4 hours (indoors and outdoors)
Duration of exposure per year: 230 days

Human factors not influenced by risk management
Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

Other operational conditions affecting worker exposure
Internal use
Use at room temperature

Technical conditions and measures to control dispersion from source to the worker
No special measures are required.

Organizational measures to prevent/limit releases, dispersion and exposure
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection:
> 1 % (indoor): gloves (90 % efficiency) are required as described in section 8.
> 5% - 40% (outdoors): gloves (90 % efficiency) are required as described in section 8..

Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

2.4 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR ERC8a, ERC8b, ERC8d, ERC8e

Product features

Not relevant

Quantity used

Yearly amount used in the region: the 10% rule applies
ERC8a PC35/PC39: 1,785 t
ERC8b PC35/PC39: 190 t
ERC8d PC35/PC39: 1,775 t
ERC8e PC35/PC39: 190 t
Fraction of main local source: 0.002 (default)
Issue days per site: 365 days/year (default)

Frequency and duration of use

Continuous release: 365 days/year

Environmental factors not influenced by risk management

Local fresh water dilution factor: 10
Receiving surface water flow: 18,000 m³/d
Local seawater dilution factor local: 100

Other operational conditions affecting environmental exposure

No special measures are required.

Technical conditions and measures at process level (source) to prevent release

No special measures are required.

Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release

Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques.

Organizational measures to prevent release from site

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

Conditions and measures for the domestic sewage treatment plant

Dimensions of wastewater treatment plant: 2000 m³/d (removal rate: 87.4 %)

Conditions and measures for external treatment of waste for disposal

No specific measures. For general conditions and measures, see section 13.

Conditions and measures for external recovery of waste

No specific measures. For general conditions and measures, see section 13.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

Workers

Exposure assessment (human):

PROC8b, PROC9, PROC11, PROC13

ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been corrected for concentration.

PROC8a, PROC10

ECETOC TRA model (April 2010 version). Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration. Local and systemic exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration.

PROC19

ECETOC TRA model (April 2010 version). The dermal exposure estimates of ECETOC TRA have been linearly corrected for the concentration and according to the EMFs of CEFIC for the duration of exposure. Local exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration and in accordance with the CEFIC EMFs for the duration of exposure. Systemic exposure via inhalation has been linearly scaled for the duration of exposure.

Exposure estimation:

Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

Environment

ERC8a, ERC8b, ERC8d, ERC8e

Exposure assessment (environment):

EUSES 2.1.

Exposure estimation:

The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Environment:

Under the conditions listed above the process is considered safe. Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Health:

Under the conditions listed above the process is considered safe. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

Further good practice advice beyond the REACH CSA

Environment: Not applicable

Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine

Substance identification
Chemical Name: 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine
CAS number: 25513-64-8

1. STRUCTURED SHORT TITLE: ES8: WIDE DISPERSIVE INDOOR USE RESULTING IN INCLUSION IN OR APPLIED TO A MATRIX

Main user groups: **SU 22 -** Professional uses: public sector (administration, education, entertainment, services, crafts)
Environmental release category: **ERC8c -** Wide dispersive internal use resulting in being included in or applied to a matrix
Process category:
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (contact at different stages and/or important contact)
PROC8a - Transfer of a substance or a preparation (filling/ emptying) from/ to vessels/ large containers, in non-dedicated facilities
PROC8b - Transfer of a substance or a preparation (filling/ emptying) from/ to vessels/ large containers, in dedicated facilities.
PROC9 - Transfer of a substance or preparation into small containers (dedicated filling line, including weighing)
PROC10 - Application with rollers or brushes
PROC11 - Non-industrial spray application
PROC13 - Treatment of articles by dipping and pouring
PROC14 - Production of preparations or articles by tabletting, compression, extrusion, pelettisation
PROC19 - Hand-mixing with direct contact and only PPE available

2.1. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF ENVIRONMENTAL EXPOSURE FOR ERC8c: WIDE DISPERSIVE INDOOR USE RESULTING IN INCLUSION INTO OR ONTO A MATRIX

Quantity used
Daily quantity per site: 16.5 g/day
Fraction of amount used by region: 10%

Frequency and duration of use
Continuous exposure: 365 days/year

Environmental factors not influenced by risk management
Mobile phase efflux rate: 18000 m3/d
Dilution factor (river): 10
Dilution factor (coastal areas): 100

Other given operational conditions affecting environmental exposure
Number of days of issue per year: 365
Emission or Release Factor: Air: 0%
Emission or Release Factor: Water: 1.5 %
Emission or Release Factor: Soil: 0%

Preconditions and technical measures/Organisational measures

Preconditions and measures related to municipal sewage treatment plant
Type of wastewater treatment plant: Municipal STP
Flow rate of sewage plant emission: 2000 m3/d
Sewage sludge treatment: Controlled application of waste water sludge on agricultural land

2.2. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC5: MIXING OR BLENDING IN BATCH PROCESSES FOR FORMULATION OF PREPARATIONS AND ARTICLES (CONTACT AT DIFFERENT STAGES AND/OR IMPORTANT CONTACT)

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: internal

Pre-conditions and technical measures
Provide a good standard of general ventilation (not less than 1 air change per hour) with local aspiration.
Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.3. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC8a: TRANSFER OF A SUBSTANCE OR A PREPARATION (FILLING/ EMPTYING) FROM/ TO VESSELS/ LARGE CONTAINERS, IN NON-DEDICATED FACILITIES

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 960 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: internal

Pre-conditions and technical measures
Provide a good standard of general ventilation (not less than 1 air change per hour With local suction.
Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.4. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC8b: TRANSFER OF A SUBSTANCE OR A PREPARATION (FILLING/ EMPTYING) FROM/ TO VESSELS/ LARGE CONTAINERS, IN DEDICATED FACILITIES

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 960 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: internal

Pre-conditions and technical measures
Provide a good standard of general ventilation (not less than 1 air change per hour, use in semi-closed loading procedure with occasional controlled exposure With local suction.
Effectiveness: 90 %

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.5. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC9: TRANSFER OF SUBSTANCE OR PREPARATION INTO SMALL CONTAINERS (DEDICATED FILLING LINE, INCLUDING WEIGHING)

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: internal

Pre-conditions and technical measures
Provide a good standard of general ventilation (not less than 1 air change per hour, use in semi-closed loading procedure with occasional controlled exposure With local suction.
Effectiveness: 90 %

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.6. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC10: APPLICATION WITH ROLLERS OR BRUSHES

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 960 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: internal

Pre-conditions and technical measures
Provide a good standard of general ventilation (not less than 1 air change per hour With local suction.
Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.7. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC11: NON-INDUSTRIAL SPRAY APPLICATION

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 1500 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: internal

Pre-conditions and technical measures
Provide a good standard of general ventilation (not less than 1 air change per hour With local suction.
Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.8. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC13: TREATMENT OF ARTICLES BY DIPPING AND POURING

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: internal

Pre-conditions and technical measures
Provide a good standard of general ventilation (not less than 1 air change per hour With local suction.
Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.9. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC14: PRODUCTION OF PREPARATIONS OR ARTICLES BY TABLETTING, COMPRESSION, EXTRUSION, PELLETISATION

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: internal

Pre-conditions and technical measures
Provide a good standard of general ventilation (not less than 1 air change per hour With local suction.
Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.10. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC19: HAND-MIXING WITH DIRECT CONTACT AND ONLY PPE AVAILABLE

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 1980 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: internal

Pre-conditions and technical measures
Provide a good standard of general ventilation (not less than 1 air change per hour With local suction.
Effectiveness: 80 %

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator in accordance with EN136 with filter type A/P2 or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

3. EXPOSURE ESTIMATION AND REFERENCE TO RELATED SOURCE

Environment

Contributing scenario	Procedure for exposure assessment	Specific conditions	Sub-fund	Exposure level	RCR	Remarks
ERC8c	CHESAR model used	/	Fresh water	0.000033 mg/l	< 0.01	/
ERC8c	CHESAR model used	/	Fresh water sediment	0.000205 mg/kg dry weight	< 0.01	/
ERC8c	CHESAR model used	/	Sea water	0.0000034 mg/l	< 0.01	/
ERC8c	CHESAR model used	/	Marine sediment	0.0000211 mg/kg dry weight	< 0.01	/
ERC8c	CHESAR model used	/	STP	0.000122 mg/l	< 0.01	/
ERC8c	CHESAR model used	/	Soil	0.0000032 mg/kg dry weight	< 0.01	/
ERC8c	CHESAR model used	/	Man	0.0000011 mg/kg dry weight	< 0.01	/

Workers

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC5	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.396 mg/m³	/
PROC5	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	2.638 mg/m³	/
PROC5	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC5	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC8a	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.989 mg/m³	/
PROC8a	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	6.595 mg/m³	/
PROC8a	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC8a	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC8b	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.198 mg/m³	/
PROC8b	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	1.319 mg/m³	/
PROC8b	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC8b	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC9	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.396 mg/m³	/
PROC9	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	2.638 mg/m³	/
PROC9	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	0.686 mg/kg bw/day	/
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC9	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC10	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.989 mg/m³	/
PROC10	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	6.595 mg/m³	/
PROC10	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	2.743 mg/kg bw/day	/
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC10	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC11	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	3.957 mg/m³	/
PROC11	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	26.38 mg/m³	/
PROC11	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	10.71 mg/kg bw/day	/
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC11	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.5 mg/kg bw/day	/
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC13	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.396 mg/m³	/
PROC13	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	2.638 mg/m³	/
PROC13	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC13	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC14	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.396 mg/m³	/
PROC14	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	2.638 mg/m³	/
PROC14	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	0.343 mg/kg bw/day	/
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC14	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.05 mg/kg bw/day	/
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC19	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	0.989 mg/m³	/
PROC19	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	6.595 mg/m³	/
PROC19	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	14.14 mg/kg bw/day	/
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC19	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.05 mg/kg bw/day	/
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.

Guidance to downstream users to evaluate whether they work inside the boundaries set by the exposure scenario

ECETOC TRA, o, EUSES v2.1: Methods are based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use (i.e. RCR > 1), additional risk management measures or a site-specific chemical safety assessment are required.

1. STRUCTURED SHORT TITLE: ES9: WIDE DISPERSIVE OUTDOOR USE RESULTING IN INCLUSION INTO OR ONTO A MATRIX

Main user groups: **SU 22 -** Professional uses: public sector (administration, education, entertainment, services, crafts)
Environmental release category: **ERC8f** Wide dispersive external use resulting in being included in or applied to a matrix
Process category:
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (contact at different stages and/or important contact)
PROC8a - Transfer of a substance or a preparation (filling/ emptying) from/ to vessels/ large containers, in non-dedicated facilities
PROC8b - Transfer of a substance or a preparation (filling/ emptying) from/ to vessels/ large containers, in dedicated facilities.
PROC9 - Transfer of a substance or preparation into small containers (dedicated filling line, including weighing)
PROC10 - Application with rollers or brushes
PROC11 - Non-industrial spray application
PROC13 - Treatment of articles by dipping and pouring
PROC14 - Production of preparations or articles by tabletting, compression, extrusion, pelettisation
PROC19 - Hand-mixing with direct contact and only PPE available

2.1. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF ENVIRONMENTAL EXPOSURE FOR FEICA SPERC 8f.1.v1: WIDE DISPERSIVE USE OF NON-SOLVENT SUBSTANCES IN CONSTRUCTION ADHESIVES FOR OUTDOOR APPLICATIONS (FEICA 14)

Quantity used
Daily quantity per site: 4 g/day
Fraction of amount used by region: 10%

Frequency and duration of use
Continuous exposure: 365 days/year

Environmental factors not influenced by risk management
Mobile phase efflux rate: 18000 m3/d
Dilution factor (river): 10
Dilution factor (coastal areas): 100

Other given operational conditions affecting environmental exposure
Number of days of issue per year: 365
Emission or Release Factor: Air: 0%
Emission or Release Factor: Water: 1.5 %
Emission or Release Factor: Soil: 0%

Preconditions and technical measures/Organisational measures

Preconditions and measures related to municipal sewage treatment plant
Type of wastewater treatment plant: Municipal STP
Flow rate of sewage plant emission: 2000 m3/d
Sewage sludge treatment: Controlled application of waste water sludge on agricultural land

2.2. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC5: MIXING OR BLENDING IN BATCH PROCESSES FOR FORMULATION OF PREPARATIONS AND ARTICLES (CONTACT AT DIFFERENT STAGES AND/OR IMPORTANT CONTACT)

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.3. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC8a: TRANSFER OF A SUBSTANCE OR A PREPARATION (FILLING/ EMPTYING) FROM/ TO VESSELS/ LARGE CONTAINERS, IN NON-DEDICATED FACILITIES

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 960 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.4. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC8b: TRANSFER OF A SUBSTANCE OR A PREPARATION (FILLING/ EMPTYING) FROM/ TO VESSELS/ LARGE CONTAINERS, IN DEDICATED FACILITIES

Product features
Remarks: Covers percentage substance in the product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 960 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: outdoor

Pre-conditions and technical measures
Use in semi-closed loading procedure with occasional controlled exposure.

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.5. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC9: TRANSFER OF SUBSTANCE OR PREPARATION INTO SMALL CONTAINERS (DEDICATED FILLING LINE, INCLUDING WEIGHING)

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: outdoor

Pre-conditions and technical measures
Use in semi-closed loading procedure with occasional controlled exposure.

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.6. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC10: APPLICATION WITH ROLLERS OR BRUSHES

Product features
Remarks: Covers percentage substance in the product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 960 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.7. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC11: NON-INDUSTRIAL SPRAY APPLICATION

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 1500 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.8. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC13: TREATMENT OF ARTICLES BY DIPPING AND POURING

Product features
Remarks: Covers percentage substance in the product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.9. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC14: PRODUCTION OF PREPARATIONS OR ARTICLES BY TABLETTING, COMPRESSION, EXTRUSION, PELLETISATION

Product features
Remarks: Covers percentage substance in product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 480 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

2.10. CONTRIBUTIVE SCENARIO FOR THE CONTROL OF OCCUPATIONAL EXPOSURE OF WORKERS FOR PROC19: HAND-MIXING WITH DIRECT CONTACT AND ONLY PPE AVAILABLE

Product features
Remarks: Covers percentage substance in the product up to 100 % (unless otherwise stated).
Physical Form (at time of use): liquid
Conditions: e ≤40°C

Frequency and duration of use
Duration of the activity: < 4 h

Human factors not influenced by risk management
Dermal exposure: ≤ 1980 cm²

Other operational conditions affecting worker exposure
Outdoors/in closed environments: outdoor

Organizational measures to prevent/limit releases, dispersion and exposure
Assumes a good basic standard of occupational hygiene is implemented.

Pre-conditions and measures related to body protection, hygiene and assessment of health aspects
Wear a full face respirator conforming to EN136 with type A filter or better.
Effectiveness: 95 %
During the basic training wear chemical resistant gloves (tested according to EN 374).
Effectiveness: 90 %

3. EXPOSURE ESTIMATION AND REFERENCE TO RELATED SOURCE

Environment

Contributing scenario	Procedure for exposure assessment	Specific conditions	Sub-fund	Exposure level	RCR	Remarks
ERC8f	CHESAR model used	/	Fresh water	0.000024 mg/l	< 0.01	/
ERC8f	CHESAR model used	/	Fresh water sediment	0.00014 mg/kg dry weight	< 0.01	/
ERC8f	CHESAR model used	/	Sea water	0.0000025 mg/l	< 0.01	/
ERC8f	CHESAR model used	/	Marine sediment	0.000015 mg/kg dry weight	< 0.01	/
ERC8f	CHESAR model used	/	STP	0.00003 mg/l	< 0.01	/
ERC8f	CHESAR model used	/	Soil	0.0000018 mg/kg dry weight	< 0.01	/
ERC8f	CHESAR model used	/	Man	0.0000007 mg/kg dry weight	< 0.01	/

Workers

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC5	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	1.385 mg/m³	/
PROC5	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	9.234 mg/m³	/
PROC5	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC5	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC5	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC8a	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	3.463 mg/m³	/
PROC8a	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	23.08 mg/m³	/
PROC8a	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC8a	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC8a	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC8b	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	1.385 mg/m³	/
PROC8b	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	9.234 mg/m³	/
PROC8b	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC8b	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC8b	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC9	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	1.385 mg/m³	/
PROC9	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	9.234 mg/m³	/
PROC9	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	0.686 mg/kg bw/day	/
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC9	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.1 mg/kg bw/day	/
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC9	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC10	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	3.463 mg/m³	/
PROC10	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	23.08 mg/m³	/
PROC10	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	2.743 mg/kg bw/day	/
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC10	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC10	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC11	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	13.85 mg/m³	/
PROC11	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	92.34 mg/m³	/
PROC11	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	10.71 mg/kg bw/day	/
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC11	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.5 mg/kg bw/day	/
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC11	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC13	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	1.385 mg/m³	/
PROC13	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	9.234 mg/m³	/
PROC13	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	1.371 mg/kg pc/day	/
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC13	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.2 mg/kg pc/day	/
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC13	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC14	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	1.385 mg/m³	/
PROC14	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	9.234 mg/m³	/
PROC14	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	0.343 mg/kg bw/day	/
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC14	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.05 mg/kg bw/day	/
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC14	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.
PROC19	ECETOCTRA v3 (2012)	Worker - inhalation exposure, long-term - local	3.463 mg/m³	/

Contributing scenario	Procedure for exposure assessment	Value type	Exposure level	Remarks
PROC19	ECETOCTRA v3 (2012)	Worker - inhalative, short-term - systemic	23.08 mg/m³	/
PROC19	ECETOCTRA v3 (2012)	Worker - dermal, longterm - systemic	14.14 mg/kg bw/day	/
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - systemic	/	See section 8.
PROC19	ECETOCTRA v3 (2012)	Worker - dermal, longterm - local	0.05 mg/kg bw/day	/
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - dermal, short term - local	/	See section 8.
PROC19	Qualitative approach adopted to draw conclusions on safe use	worker - contact with eyes	/	See section 8.

Guidance to downstream users to evaluate whether they work inside the boundaries set by the exposure scenario

ECETOC TRA, o, EUSES v2.1: Methods are based on assumed operating conditions which may not be applicable to all sites, thus, scaling may be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use (i.e. RCR > 1), additional risk management measures or a site-specific chemical safety assessment are required.

m-phenylenebis(methylamine)

Substance identification
Chemical Name: m-phenylenebis(methylamine)
CAS number: CAS-1477-55-0
Date - Version: 10/03/2020 - 1.0

PROFESSIONAL USES - GENERALIZED USE BY PROFESSIONAL OPERATORS: VARIOUS PRODUCTS (PC9a, PC9b, PC1); CONSTRUCTION (SU19)

1. TITLE SECTION

Exposure scenario name: Professional use of coatings and paints - Use in composite and foundry materials
Life cycle stage: Professional uses
Sectors of use: Construction (SU19) - Professional uses (SU22)
Product categories: Coatings and paints, thinners, pickling solutions (PC9a) - Additives, fillers, plasters, modeling clay (PC9b) - Adhesives, Sealants (PC1)

CONTRIBUTION SCENARIO - ENVIRONMENT

CS1: Wet cure - Wet formulation ERC8c - ERC8f

CONTRIBUTION SCENARIO - WORKER

CS2: Application with rollers or brushes PROC10
CS3: Non-industrial spray application PROC11
CS4: Treatment of articles by dipping and pouring PROC13
CS5: Manual activities with direct contact PROC19
CS6: Low energy handling of substances included in or on materials and/or articles PROC21

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. CS1: CONTRIBUTION SCENARIO - ENVIRONMENT: Wet cure - Wet formulation (ERC8c, ERC8f)

Environmental release categories

Widespread use resulting in inclusion in or on the surface of an article (indoor use) - Wide use leading to inclusion in/on article (outdoor use) (ERC8c, ERC8f)

Product features (article)

Physical form of the product: Liquid

Amount used, frequency and duration of use/(or duration of use)

Amounts used:
PROC10 ≤ 0,4 l/min
PROC11 ≤ 0,3 l/min
PROC13 ≤ 2 l/min
PROC19 ≤ 1 l/min
PROC21 ≤ 0,3 l/min

Measures and technical-organizational conditions

Control measures to prevent releases: No entry of substance into waste water.

Conditions and measures for waste treatment (including the product waste)

Waste treatment: This material and its container must be disposed of as hazardous.
Dispose of waste product or used containers according to local regulations.
Incineration of hazardous waste.

2.2. CS2: CONTRIBUTION SCENARIO - WORKER: Application with rollers or brushes (PROC10)

Product features (article)
Physical form of the product: Liquid.
Concentration of the substance in the product: Includes substance shares in the product up to 5%.

Amount used, frequency and duration of use/(or duration of use)
Amounts used: Quantity per use 0.4 l/min
Duration: ≤ 5 h/day
Frequency: 365 days/year

Technical organizational measures
Ensure that direct skin contact is avoided.
Avoid direct contact with the product, even with contaminated hands.
Ensure operating personnel are trained to minimize exposure.
See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Conditions and measures related to personal protection, hygiene and health verification
Personal protective equipment:
Wear suitable face protection.
Use adequate eye protection.
Wear a suitable apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Use a respiratory protective device according to EN140.
Dermal: minimum efficiency of 80%.
Inhalation: minimum efficiency of 95%.

2.3. CS3: CONTRIBUTION SCENARIO - WORKER: Non-industrial spray application (PROC11)

Product features (article)
Physical form of the product: Liquid.
Concentration of the substance in the product: Includes substance shares in the product up to 5%.

Amount used, frequency and duration of use/(or duration of use)
Amounts used: Quantity per use 0.3 l/min
Duration: ≤ 6 h/day
Frequency: 365 days/year

Technical organizational measures
Ensure that direct skin contact is avoided.
Avoid direct contact with the product, even with contaminated hands.
Ensure operating personnel are trained to minimize exposure.
See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Conditions and measures related to personal protection, hygiene and health verification
Personal protective equipment:
Wear suitable face protection.
Use adequate eye protection.
Wear a suitable apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Use a respiratory protective device according to EN140.
Dermal: minimum efficiency of 80%.
Inhalation: minimum efficiency of 95%.

2.4. CS4: CONTRIBUTION SCENARIO - WORKER: Treatment of articles by dipping and pouring (PROC13)

Product features (article)
Physical form of the product: Liquid.
Concentration of the substance in the product: Includes substance shares in the product up to 5%.

Amount used, frequency and duration of use/(or duration of use)
Amounts used: Quantity per use 2 l/min
Duration: ≤ 1 h/day
Frequency: 365 days/year

Technical organizational measures
Ensure that direct skin contact is avoided.
Avoid direct contact with the product, even with contaminated hands.
Ensure operating personnel are trained to minimize exposure.
See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Conditions and measures related to personal protection, hygiene and health verification
Personal protective equipment:
Wear suitable face protection.
Use adequate eye protection.
Wear a suitable apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Use a respiratory protective device according to EN140.
Dermal: minimum efficiency of 80%.
Inhalation: minimum efficiency of 95%.

2.5. CS5: CONTRIBUTION SCENARIO - WORKER: Manual activities with direct contact (PROC19)

Product features (article)
Physical form of the product: Liquid.
Concentration of the substance in the product: Includes substance shares in the product up to 40%.

Amount used, frequency and duration of use/(or duration of use)
Amounts used: Quantity per use 1 l/min
Duration: ≤ 2 h/day
Frequency: 365 days/year

Technical organizational measures
Ensure that direct skin contact is avoided.
Avoid direct contact with the product, even with contaminated hands.
Ensure operating personnel are trained to minimize exposure.
See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Conditions and measures related to personal protection, hygiene and health verification
Personal protective equipment:
Wear suitable face protection.
Use adequate eye protection.
Wear a suitable apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Use a respiratory protective device according to EN140.
Dermal: minimum efficiency of 80%.
Inhalation: minimum efficiency of 95%.

2.6. CS6: CONTRIBUTION SCENARIO - WORKER: Low energy handling of substances included in or on materials and/or articles (PROC21)

Product features (article)

Physical form of the product: Liquid.
Concentration of the substance in the product: Includes substance shares in the product up to 5%.

Amount used, frequency and duration of use/(or duration of use)

Amounts used: Quantity per use 0.3 l/min
Duration: ≤ 6 h/day
Frequency: 365 days/year

Technical organizational measures

Ensure that direct skin contact is avoided.
Avoid direct contact with the product, even with contaminated hands.
Ensure operating personnel are trained to minimize exposure.
See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment:
Wear suitable face protection.
Use adequate eye protection.
Wear a suitable apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Use a respiratory protective device according to EN140.
Dermal: minimum efficiency of 80%.
Inhalation: minimum efficiency of 95%.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. CS1: CONTRIBUTION SCENARIO - ENVIRONMENT: Wet cure - Wet formulation (ERC8c, ERC8f)

Protection goal	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
fresh water	N.d.	ECETOC TRA environment v2.0	0.169
fresh water sediment	N.d.	ECETOC TRA environment v2.0	0.411
sea water	N.d.	ECETOC TRA environment v2.0	0.089
Marine sediment	N.d.	ECETOC TRA environment v2.0	0.412
Agricultural land	N.d.	ECETOC TRA environment v2.0	0.004

3.2. CS2: CONTRIBUTION SCENARIO - ENVIRONMENT: Application with rollers or brushes (PROC10)

Route of exposure, Impact on health, Exposure indicator	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
skin contact, systemic, long-term	N.d.	RISKOFDERM v2.1	0.83
by inhalation, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.2

1 - m-phenylenebis(methylamine) - 1

3.3. CS3 CONTRIBUTION SCENARIO - ENVIRONMENT: Non-industrial spray application (PROC11)

Route of exposure, Impact on health, Exposure indicator	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
skin contact, systemic, long-term	N.d.	RISKOFDERM v2.1	0.83
by inhalation, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.2

3.4. CS4 CONTRIBUTION SCENARIO - ENVIRONMENT: Treatment of articles by dipping and pouring (PROC13)

Route of exposure, Impact on health, Exposure indicator	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
skin contact, systemic, long-term	N.d.	RISKOFDERM v2.1	0.83
by inhalation, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.2

3.5. CS5 CONTRIBUTION SCENARIO - ENVIRONMENT: Manual activities with direct contact (PROC19)

Route of exposure, Impact on health, Exposure indicator	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
skin contact, systemic, long-term	N.d.	RISKOFDERM v2.1	0.83
by inhalation, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.2

3.6. CS6 CONTRIBUTION SCENARIO - ENVIRONMENT: Low energy handling of substances included in or on materials and/or articles (PROC21)

Route of exposure, Impact on health, Exposure indicator	Degree of exposure	Calculation method	Risk Characterization Ratio (RCR)
skin contact, systemic, long-term	N.d.	RISKOFDERM v2.1	0.83
by inhalation, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.2

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

phenol, styrenated

Substance identification
Chemical Name: phenol, styrenated
CAS number: 61788-44-1

COATINGS AND PAINTS - PROFESSIONAL USE

1. TITLE SECTION

Exposure scenario name: Professional use of coatings and paints
Date - Version: 10/03/2020 - 1.0
Life cycle stage: Generalized use by professional operators
Main user group: Professional uses
Sectors of use Professional uses (SU22)

Contributing scenario - Environment

CS1 Wet polymerization - wet formulation: ERC8c

Contributing scenario - Worker

CS2 Blend Operations: PROC5
CS3 Material Transfers: PROC8a
CS4 Material Transfers PROC8b
2. CONTRIBUTIVE SCENARIOS

2.1. Contributing Scenario CS1 - Environment: Wet polymerization - wet formulation (ERC8c)

Environmental release categories: Widespread use resulting in inclusion in or on the surface of an article (indoor use) (ERC8c)

Amount used, frequency and duration of use

Quantities used: Daily quantity per site 8.25E-06 ton/day

Conditions and measures relating to municipal sewage treatment plants

Type of sewage treatment plant (STP): Municipal STP Water - 92.56% minimum efficiency
STP effluent (m^3/day): 2000

Waste treatment conditions and measures (including product waste)

Waste treatment: No specific measures identified.

Other operational conditions affecting environmental exposure

Flow rate of receiving surface water: 18000 m^3/day

2.2. CS2 Contributing Scenario - Worker: Mixing Operations (PROC5)

Environmental release categories: Mixing or blending in batch processes (PROC5)

Product features (article)

Physical form of the product: Liquid
Concentration of the substance in the product: Substance as it is.

Amount used, frequency and duration of use

Duration: Covers exposure up to 8 hours.

Measures and technical-organizational conditions

Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).
Ensure operating personnel are trained to minimize exposure.
Dermal - minimum 80% efficiency.
Inhalation - minimum 80% efficiency.

Conditions and measures for personal protection, hygiene and health verification

Personal protective equipment: Wear suitable respiratory protection. Inhalation - minimum 90% efficiency.

Other operational conditions affecting worker exposure
Indoor use
Temperature: A process temperature of up to 40°C is assumed.
Body parts exposed: Possible skin contact is believed to be limited to the hands.

2.3. CS3 Contributing Scenario - Worker: Material transfers (PROC8a)
Process categories: Transfer of a substance or a preparation (filling/emptying) at non-dedicated facilities (PROC8a)

Product features (article)
Physical form of the product: Liquid
Concentration of the substance in the product: Substance as it is.

Amount used, frequency and duration of use/exposure
Duration: Covers a daily exposure of up to 1 hour.

Measures and technical-organizational conditions
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).
Ensure operating personnel are trained to minimize exposure.
Dermal - minimum 80% efficiency.
Inhalation - minimum 80% efficiency.

Conditions and measures for personal protection, hygiene and health verification
Personal protective equipment: Wear suitable respiratory protection. Inhalation - minimum 90% efficiency.

Other operational conditions affecting worker exposure
Indoor use
Temperature: A process temperature of up to 40°C is assumed.
Body parts exposed: Possible skin contact is believed to be limited to the hands.

2.4. CS4 Contributing Scenario - Worker: Material transfers (PROC8b)
Process categories: Transfer of a substance or a preparation (filling/emptying) at dedicated facilities (PROC8b)

Product features (article)
Physical form of the product: Liquid
Concentration of the substance in the product: Substance as it is.

Amount used, frequency and duration of use/exposure
Duration: Covers a daily exposure of up to 1 hour.

Measures and technical-organizational conditions
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).
Ensure operating personnel are trained to minimize exposure.
Dermal - minimum 80% efficiency.
Inhalation - minimum 80% efficiency.

Conditions and measures for personal protection, hygiene and health verification
Personal protective equipment: Wear suitable respiratory protection. Inhalation - minimum 90% efficiency.

Other operational conditions affecting worker exposure
Indoor use
Temperature: A process temperature of up to 40°C is assumed.
Body parts exposed: Possible skin contact is believed to be limited to the hands.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. Contributing Scenario CS1 - Environment: Wet polymerization - Wet Formulation (ERC8c)

Release route	Release rate	Release evaluation method
Water	8.25E-05 kg/day	N.d.
Air	15%	N.d.

Protection target	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
fresh water	1.821E-06 mg/l	N.d.	<0.01
fresh water sediment	0.383 mg/kg dry weight	N.d.	<0.01
sewage treatement plant	3.578E-07 mg/l	N.d.	<0.01
Marine sediment	0.075 mg/kg dry weight	N.d.	<0.01
sewage treatement plant	3.071E-06 mg/l	N.d.	<0.01
agricultural land	0.004 mg/kg dry weight	N.d.	<0.01
environmentally exposed people - Inhalation	0.000288 mg/m³	N.d.	<0.01
environmentally exposed people - Oral	2.25E-06 mg/kg bw/day	N.d.	<0.01
all ways	N.d.	N.d.	<0.01

3.2. CS2 Contributing Scenario - Worker: Mixing Operations (PROC5)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, systemic, long-term	1.65 mg/m³	ECETOC TRA Worker v3	0.15
skin contact, systemic, long-term	2.742 mg/kg bw/day	ECETOC TRA Worker v3	0.439
combined routes, systemic, long-term	N.d.	ECETOC TRA Worker v3	0.588

3.3. CS3 Contributing Scenario - Worker: Material transfers (PROC8a)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, systemic, long-term	0.825 mg/m³	ECETOC TRA Worker v3	0.075
skin contact, systemic, long-term	2.742 mg/kg bw/day	ECETOC TRA Worker v3	0.439
combined routes, systemic, long-term	N.d.	ECETOC TRA Worker v3	0.514

2.3. CS4 Contributing Scenario - Worker: Material transfers (PROC8b)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, systemic, long-term	1.65 mg/m³	ECETOC TRA Worker v3	0.15
skin contact, systemic, long-term	2.742 mg/kg bw/day	ECETOC TRA Worker v3	0.439
combined routes, systemic, long-term	N.d.	ECETOC TRA Worker v3	0.588

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

Guidance to check compliance with the exposure scenario: Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

2-methoxy-1-methylethyl acetate

Substance identification
Chemical Name: 2-methoxy-1-methylethyl acetate
CAS number: 108-65-6
Date - Version: 02/08/2021 18.0

4. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in industrial plants
SU3; ERC4; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC4: Industrial use of processing aids not becoming part of articles.

Operating conditions

Yearly amount used in EU: 63,050,000 kg
Daily amount per site: 105.087 kg
Minimum continuous emission days per year: 300
Emission factor to air: 27%
Emission factor in water: 2%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Treat air emissions to provide a typical removal efficiency of 70%.
Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.1338
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 79,180 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 0.04 mg/m³
Risk Characterization Ratio (RCR): 0.0001
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Continuous process (closed system) with sample collection.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Film formation - Fast drying.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.5
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Mixing operations. General exposure (closed system).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 93.85 mg/m³
Risk Characterization Ratio (RCR): 0.25
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application. Mixing operations (open systems).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (automatic/robotic).

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Carry out in a vented booth or extracted enclosure. Effectiveness: 95%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 46.93 mg/m³
Risk Characterization Ratio (RCR): 0.13
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 2.14 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.04

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (manual).

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Effectiveness: 70%.
Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 281.56 mg/m³
Risk Characterization Ratio (RCR): 0.76
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 8.57 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.17

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Non-dedicated system.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Material transfers. Drum/batch transfers. Transfer from containers. Dedicated plant.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 5.49 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.11

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC14: Production of preparations or articles by tableting, compression, extrusion or pelletising. Production or preparation of articles by tableting, compression, extrusion.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 3.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.07

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

5. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in industrial plants
SU3; ERC4; PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC4: Industrial use of processing aids not becoming part of articles.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs
Daily amount per site: 430kg
Minimum continuous emission days per year: 300
Emission factor to air: 80%
Emission factor in water: 10%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 140.104 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure (closed system). General exposure.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Continuous process (closed system) with sample collection.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 7.51 mg/m³
Risk Characterization Ratio (RCR): 0.02
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Film formation - Fast drying.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Mixing operations. General exposure (closed system).

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 18.77 mg/m³
Risk Characterization Ratio (RCR): 0.05
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 15.02 mg/m³
Risk Characterization Ratio (RCR): 0.04
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application. Mixing operations (open systems).

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (automatic/robotic). Spraying (manual)

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 8.57 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.17

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC7: Industrial spray application. Spraying (manual).

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Non-dedicated system.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Dedicated plant.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Material transfers. Drum/batch transfers. Transfer from containers. Dedicated plant.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Industrial

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 27.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.54

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC14: Production of preparations or articles by tableting, compression, extrusion or pelletising. Production or preparation of articles by tableting, compression, extrusion.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 3.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.07

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Industrial

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 7.51 mg/m³
Risk Characterization Ratio (RCR): 0.02
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

7 USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in professional installations
SU22; ERC8a, ERC8d; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8a: Wide dispersive indoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs
Daily amount per site: 433 kg
Minimum continuous emission days per year: 300
Emission factor to air: 80%
Emission factor in water: 10%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8d: Wide dispersive outdoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs
Daily amount per site: 433 kg
Minimum continuous emission days per year: 300
Emission factor to air: 80%
Emission factor in water: 10%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste
Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source
Risk Characterization Ratio (RCR): 0.029
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 0.04 mg/m³
Risk Characterization Ratio (RCR): 0.0001
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.
The use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Use in confined systems (closed system). Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Preparation of material for application

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 93.85 mg/m³
Risk Characterization Ratio (RCR): 0.25
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch process (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure.
The use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.
Alternatively: Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 269.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Ensure that operations are carried out externally.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers. Non-dedicated system.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Drum/batch transfers Dedicated plant.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0.51
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.
Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%
If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 5.49 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.11

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.
Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Carry out in a vented booth or extracted enclosure. Effectiveness: 80%.
Wear a respirator conforming to EN140 with type A filter or better. Effectiveness: 90%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 2.14 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.04

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Ensure that operations are carried out externally. Effectiveness: 30%.
Wear a respirator conforming to EN140 with type A filter or better. Effectiveness: 90%.
Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 131.4 mg/m³
Risk Characterization Ratio (RCR): 0.36
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 21.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.42

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.
Alternatively: Ensure that operations are carried out externally.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%.
If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 14.14 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.28

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤100%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Ensure that operations are carried out externally.
Wear chemically resistant gloves in combination with “basic” employee training.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

8. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

Short title of the exposure scenario: Use in coatings. - Use in professional installations
SU22; ERC8a, ERC8d; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8a: Wide dispersive indoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs
Daily amount per site: 433 kg
Minimum continuous emission days per year: 300
Emission factor to air: 80%
Emission factor in water: 10%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: ERC8d: Wide dispersive outdoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs
Daily amount per site: 433 kg
Minimum continuous emission days per year: 300
Emission factor to air: 80%
Emission factor in water: 10%
Emission factor in soil: 0.1%
Releases based on A&B tables from TGD 2003
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the wastewater after Risk Management Measures and treatment in the treatment plant (5): 87.3%
Assumed treatment plant flow: 2,000 m³/day

Measures relative to the waste
Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source
Risk Characterization Ratio (RCR): 0.029
Risk from environmental exposure is driven by freshwater and marine water.
Maximum safe use amount: 15,141 kg/day

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC1: Use in closed process, no likelihood of exposure. General exposure (closed system).

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Use in confined systems (closed system). Filling/Preparation of equipment required for drums and containers.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Operation is carried out at elevated temperature (> 20°C above ambient temperature).

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 15.02 mg/m³
Risk Characterization Ratio (RCR): 0.4
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC3: Use in batch process (synthesis or formulation). Preparation of material for application

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 18.77 mg/m³
Risk Characterization Ratio (RCR): 0.05
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation - Air drying.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Indoor use.
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers. Non-dedicated system.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Material transfers. Drum/batch transfers Dedicated plant.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 27.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.54

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Indoor/Outdoor: Outdoor use.
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions
Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%.
Wear chemically resistant gloves in combination with “basic” employee training. Effectiveness: 90%.
If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 10.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.21

Guidance for downstream users
http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC11: Non-industrial spray application. Spraying (manual).

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.
Wear chemically resistant gloves in combination with “basic” employee training.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC13: Treatment of articles by dipping, pouring, enamelling.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Indoor use.
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC15: Use as laboratory reagent. Laboratory activities.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 7.51 mg/m³
Risk Characterization Ratio (RCR): 0.02
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1. Effectiveness: 80%.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 28.29 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.56

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3

EXPOSURE SCENARIO CONSIDERED

Covered use descriptors: PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.

Area of use: Professional

Operating conditions

Substance concentration: 1-methoxy-2-propanol content: ≥0 - ≤5%
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days a week
Indoor/Outdoor: Outdoor use.
Assumes use at not more than 20°C above ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN ISO 374-1.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, Operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

Guidance for downstream users

http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3