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

1.1. Identifikacijska oznaka proizvoda

Identifikacija preparata:

Trgovačko ime: AQUAZIP BARRIER
Trgovački kod: 1320
UFI: 6U99-D9K4-7K03-5HGG

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

Preporučana upotreba: Vodonepropusna tekuća membrana za graditeljstvo; 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 Sens. 1 Može izazvati alergijsku reakciju na koži.

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



Upozorenje

Oznake upozorenja

H317 Može izazvati alergijsku reakciju na koži.

Oznake obavijesti

P261 Izbjegavati udisanje dima/plina/magle/pare/aerosola.
P280 Nositi zaštitne rukavice/zaštitno odijelo.
P333+P313 U slučaju nadražaja ili osipa na koži: zatražiti savjet/pomoć liječnika.
P362+P364 Skinuti zagađenu odjeću i oprati je prije ponovne uporabe.
P501 Odložiti sadržaj/spremnik u skladu s nacionalnim propisima.

Sadrži:

1,2-benzizotiazol-3(2H)-on

reakcijska smjesa 5-klor-2-metil-2H-izotiazol-3-ona i 2-metil-2H-izotiazol-3-ona (3: 1)

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 %.

Sadržava biocid. Za prikladno skladištenje: reakcijska smjesa 5-klor-2-metil-2H-izotiazol-3-ona i 2-metil-2H-izotiazol-3-ona (3: 1)
Sadržava biocid. Za prikladno skladištenje: 1,2-benzizotiazol-3(2H)-on
Nema ostalih rizika

ODJELJAK 3.: Sastav/informacije o sastojcima

3.1. Tvari

Ne primjenjuje se.

3.2. Smjese

Identifikacija preparata: AQUAZIP BARRIER

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

Količina	Naziv	Ident. Broj.	Klasifikacija	Broj registriranih slučajeva:
≥0.3 - <0.5 %	Kristalni silicijev dioksid, kvarc (udisljiv dio)	CAS:14808-60-7 EC:238-878-4	STOT RE 1, H372	Izuzeto
≥0.036 - <0.05 %	1,2-benzizotiazol-3(2H)-on	CAS:2634-33-5 EC:220-120-9 Index:613-088-00-6	Acute Tox. 2, H330 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410, M-Chronic:1, M-Acute:1 Specifične granične vrijednosti koncentracije: C ≥ 0.036%: Skin Sens. 1A H317 Procjena akutne toksičnosti: ATE - Oralno: 450mg/kg t.m. ATE - Udisanje (Prašina/maglica): 0.21mg/l	
≥0.005 - <0.025 %	2-butoksietanol	CAS:111-76-2 EC:203-905-0 Index:603-014-00-0	Acute Tox. 3, H331 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Procjena akutne toksičnosti: ATE - Oralno: 1200mg/kg t.m. ATE - Udisanje (Pare): 3mg/l	01-2119475108-36-xxxx
≥0.005 - <0.025 %	cinkov pirition	CAS:13463-41-7 EC:236-671-3 Index:613-333-00-7	Acute Tox. 2, H330 Acute Tox. 3, H301 Eye Dam. 1, H318 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Repr. 1B, H360D, M-Chronic:10, M-Acute:1000 Procjena akutne toksičnosti: ATE - Oralno: 221mg/kg t.m. ATE - Udisanje (Prašina/maglica): 0.14mg/l	
≥0.00015 - <0.0015 %	reakcijska smjesa 5-klor-2-metil-2H-izotiazol-3-ona i 2-metil-2H-izotiazol-3-ona (3: 1)	CAS:55965-84-9 Index:613-167-00-5	Acute Tox. 2, H310 Acute Tox. 2, H330 Acute Tox. 3, H301 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410, M-Chronic:100, M-Acute:100, EUH071 Specifične granične vrijednosti koncentracije: C ≥ 0.6%: Skin Corr. 1C H314 0.06% ≤ C < 0.6%: Skin Irrit. 2 H315 C ≥ 0.6%: Eye Dam. 1 H318 0.06% ≤ C < 0.6%: Eye Irrit. 2 H319 C ≥ 0.0015%: Skin Sens. 1A H317	

Procjena akutne toksičnosti:
ATE - Oralno: 64mg/kg t.m.
ATE - Dermalno: 92.4mg/kg t.m.
ATE - Udisanje (Prašina/maglica): 0.17mg/l

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 s očima, isprati odmah s puno vode i potražiti liječničku pomoć.

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:

Proizvod nije zapaljiv

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

Nijedno posebno.

5.2. Posebne opasnosti koje proizlaze iz tvari ili smjese

Sagorijevanjem se oslobađaju teški dimovi.

U slučaju požara i/ili eksplozije, ne udisati dimne plinove.

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.

Zaštititi od smrzavanja.

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

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

2-butoksietanol

CAS: 111-76-2	OEL Tip	ACGIH		Dugoročno 20 ppm

				Napomene: A3, BEI - Eye and URT irr
	OEL Tip	UE		Dugoročno 98 mg/m3 - 20 ppm; Kratkoročno 246 mg/m3 - 50 ppm Napomene: Skin
	OEL Tip	MAK	Austrija	Dugoročno 98 mg/m3 - 20 ppm; Kratkoročno 200 mg/m3 - 40 ppm Napomene: Skin
	OEL Tip	MAK	Njemačka	Dugoročno 49 mg/m3 - 10 ppm; Kratkoročno 98 mg/m3 - 20 ppm Napomene: Skin
	OEL Tip	VLEP	Belgija	Dugoročno 98 mg/m3 - 20 ppm; Kratkoročno 246 mg/m3 - 50 ppm
	OEL Tip	VLEP	Francuska	Dugoročno 49 mg/m3 - 10 ppm; Kratkoročno 246 mg/m3 - 50 ppm Napomene: Skin
	OEL Tip	VLEP	Italija	Dugoročno 98 mg/m3 - 20 ppm; Kratkoročno 246 mg/m3 - 50 ppm Napomene: Skin
	OEL Tip	VLEP	Rumunjska	Dugoročno 98 mg/m3 - 20 ppm; Kratkoročno 246 mg/m3 - 50 ppm
	OEL Tip	TLV	Bugarska	Dugoročno 98 mg/m3 - 20 ppm; Kratkoročno 246 mg/m3 - 50 ppm Napomene: Skin
	OEL Tip	TLV	Češka	Dugoročno 100 mg/m3 - 20.4 ppm; Kratkoročno 200 mg/m3 - 40.8 ppm Napomene: Skin
	OEL Tip	VLA	Španjolska	Dugoročno 98 mg/m3 - 20 ppm; Kratkoročno 245 mg/m3 - 50 ppm Napomene: Skin
	OEL Tip	ÁK	Mađarska	Dugoročno 98 mg/m3; Kratkoročno 246 mg/m3 Napomene: Skin
	OEL Tip	MAC	Nizozemska	Dugoročno 100 mg/m3 - 20 ppm; Kratkoročno 246 mg/m3 - 50 ppm Napomene: Skin
	OEL Tip	VLE	Portugal	Dugoročno 98 mg/m3 - 20 ppm; Kratkoročno 246 mg/m3 - 50 ppm Napomene: Skin
	OEL Tip	SUVA	Švicarska	Dugoročno 49 mg/m3 - 10 ppm; Kratkoročno 98 mg/m3 - 20 ppm
	OEL Tip	WEL	U.K.	Dugoročno 123 mg/m3 - 25 ppm; Kratkoročno 246 mg/m3 - 50 ppm
	OEL Tip	GVI	Hrvatska	Dugoročno 98 mg/m3 - 20 ppm; Kratkoročno 246 mg/m3 - 50 ppm Napomene: Skin
	OEL Tip	AGW	Njemačka	Dugoročno 49 mg/m3 - 10 ppm; Kratkoročno 98 mg/m3 - 20 ppm Napomene: Skin
	OEL Tip	NDS	Poljska	Dugoročno 98 mg/m3; Kratkoročno 200 mg/m3 Napomene: Skin
	OEL Tip	MV	Slovenija	Dugoročno 98 mg/m3 - 20 ppm; Kratkoročno 246 mg/m3 - 50 ppm Napomene: Skin
	OEL Tip	IPRV	Litva	Dugoročno 50 mg/m3 - 100 ppm; Kratkoročno 100 mg/m3 - 20 ppm Napomene: Skin

reakcijska smjesa 5-klor-2-metil-2H-izotiazol-3-ona i 2-metil-2H-izotiazol-3-ona (3: 1)

CAS: 55965-84-9	OEL Tip	MAK	Austrija	Dugoročno 0.05 mg/m3
	OEL Tip	MAK	Njemačka	Dugoročno 0.2 mg/m3; Kratkoročno 0.4 mg/m3 Napomene: Inhalable fraction
	OEL Tip	SUVA	Švicarska	Dugoročno 0.2 mg/m3; Kratkoročno 0.4 mg/m3 Napomene: Inhalable fraction

Granične vrijednosti izloženosti PNEC

2-butoksietanol

CAS: 111-76-2

Putevi izloženosti: Svježa voda; PNEC Ograničiti: 8.8 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.88 mg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 463 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 34.6 mg/kg

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 3.46 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 2.33 mg/kg

Putevi izloženosti: Hranidbeni lanac; PNEC Ograničiti: 20 mg/kg

Izvedena razina bez učinka. (DNEL)

2-butoksietanol

CAS: 111-76-2 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 98 mg/m3; Potrošač: 59 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Profesionalni djelatnik: 1091 mg/m3; Potrošač: 426 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, lokalni učinci
Profesionalni djelatnik: 246 mg/m3; Potrošač: 147 mg/m3

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 6.3 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Kratkotrajni, sistemski učinci
Potrošač: 26.7 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); Butil guma (butil 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: bijelo

Miris: karakterističan

Prag mirisa: N.D.

Talište/ledište: N.D.

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

Zapaljivost: nezapaljivo

Donja i gornja granica eksplozivnosti: N.D.

Plamište: > 93°C (Interna evaluacija)

Temperatura samozapaljenja: N.D.

Temperatura raspadanja: Ne primjenjuje se.

pH: >=7.50<=8.50 (Interna metoda)

Kinematička viskoznost: > 20.5 mm²/s (40 °C)

Topljivost u vodi: Netopivo

Topljivost u ulje: Nema dostupnih podataka.

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

Tlak pare: N.D.

Gustoća i/ili relativna gustoća: 1.28 ± 0.02 kg/l (Interna metoda)

Relativna gustoća pare: N.D.

Svojstva čestica:

Veličina čestica: Ne primjenjuje se.

9.2. Ostale informacije

Explozivne osobine: N.A. (Interna evaluacija)
Osobine oksidiranja: N.A. (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

Nijedno.

10.4. Uvjeti koje treba izbjegavati

Čuvati odvojeno od izvorā topline.

10.5. Inkompatibilni materijali

Nema posebnih zabrana.

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	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
b) kožno nagrizanje/nadraživanje	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
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. 1(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:

1,2-benzizotiazol-3(2H)-on		
CAS: 2634-33-5	a) akutna toksičnost	ATE - Oralno: 450 mg/kg t.m.
		ATE - Udisanje (Prašina/maglica): 0.21 mg/l
2-butoksietanol		
CAS: 111-76-2	a) akutna toksičnost	ATE - Oralno: 1200 mg/kg t.m.
		ATE - Udisanje (Pare): 3 mg/l
		LD50 Koža Zamorac > 2000 mg/kg
cinkov pirition		
CAS: 13463-41-7	a) akutna toksičnost	ATE - Oralno: 221 mg/kg t.m.

ATE - Udisanje (Prašina/maglica): 0.14 mg/l

reakcijska smjesa 5-klor-2-metil-2H-izotiazol-3-ona i 2-metil-2H-izotiazol-3-ona (3: 1)

CAS: 55965-84-9 a) akutna toksičnost ATE - Oralno: 64 mg/kg t.m.

ATE - Dermalno: 92.4 mg/kg t.m.

ATE - Udisanje (Prašina/maglica): 0.17 mg/l

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:

Popis eko-toksikoloških svojstava proizvoda

Nije razvrstan kao opasan za okoliš

Nema raspoloživih podataka za proizvod

Popis sastojaka sa eko-toksikološkim svojstvima

1,2-benzizotiazol-3(2H)-on

CAS: 2634-33-5 a) Akutna otrovnost na vodene organizme: LC50 Ribe 2.2 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 3.27 mg/l 48h

a) Akutna otrovnost na vodene organizme: EC50 Algae 0.11 mg/l 72h

b) Hronična otrovnost na vodene organizme: NOEC Ribe 0.21 mg/l - 28d

b) Hronična otrovnost na vodene organizme: NOEC Daphnia 1.2 mg/l - 21d

b) Hronična otrovnost na vodene organizme: NOEC Algae 0.04 mg/l 72h

2-butoksietanol

CAS: 111-76-2 a) Akutna otrovnost na vodene organizme: LC50 Ribe 1474 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 1550 mg/l 48h

a) Akutna otrovnost na vodene organizme: EC50 Algae 1840 mg/l 72h

b) Hronična otrovnost na vodene organizme: NOEC Ribe > 100 mg/l 21d

b) Hronična otrovnost na vodene organizme: NOEC Daphnia 100 mg/l 21d

cinkov pirition

CAS: 13463-41-7 a) Akutna otrovnost na vodene organizme: LC50 Ribe 0.0104 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 0.051 mg/l 48h

a) Akutna otrovnost na vodene organizme: EC50 Algae 0.0013 mg/l 72h

a) Akutna otrovnost na vodene organizme: EC50 Slatkovodne alge 0.051 mg/l 72h

b) Hronična otrovnost na vodene organizme: NOEC Ribe 0.00125 mg/l 28d

b) Hronična otrovnost na vodene organizme: NOEC Daphnia 0.0022 mg/l 21d

b) Hronična otrovnost na vodene organizme: NOEC Algae 0.00046 mg/l 96h

b) Hronična otrovnost na vodene organizme: NOEC Slatkovodne alge 0.0149 mg/l 72h

reakcijska smjesa 5-klor-2-metil-2H-izotiazol-3-ona i 2-metil-2H-izotiazol-3-ona (3: 1)

CAS: 55965-84-9 a) Akutna otrovnost na vodene organizme: LC50 Ribe 0.22 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 0.1 mg/l 48h

a) Akutna otrovnost na vodene organizme: EC50 Algae 0.0052 mg/l 48h

a) Akutna otrovnost na vodene organizme: EC50 Slatkovodne alge 0.048 mg/l 72h

b) Hronična otrovnost na vodene organizme: NOEC Ribe 0.098 mg/l - 28d

b) Hronična otrovnost na vodene organizme: NOEC Daphnia 0.004 mg/l - 21d

b) Hronična otrovnost na vodene organizme: NOEC Slatkovodne alge 0.0012 mg/l 72h

12.2. Postojanost i razgradivost

1,2-benzizotiazol-3(2H)-on

CAS: 2634-33-5 Nije brzo-biološki razgradiv

2-butoksietanol

CAS: 111-76-2 Brzo-biološki razgradiv

cinkov pirition

CAS: 13463-41-7 Brzo-biološki razgradiv

reakcijska smjesa 5-klor-2-metil-2H-izotiazol-3-ona i 2-metil-2H-izotiazol-3-ona (3: 1)

CAS: 55965-84-9 Nije brzo-biološki razgradiv

12.3. Bioakumulacijski potencijal

1,2-benzizotiazol-3(2H)-on

CAS: 2634-33-5 Nije bioakumulativan

2-butoksietanol

CAS: 111-76-2 Nije bioakumulativan

cinkov pirition

CAS: 13463-41-7 Nije bioakumulativan

reakcijska smjesa 5-klor-2-metil-2H-izotiazol-3-ona i 2-metil-2H-izotiazol-3-ona (3: 1)

CAS: 55965-84-9 Nije bioakumulativan

12.4. Pokretljivost u tlu

1,2-benzizotiazol-3(2H)-on

CAS: 2634-33-5 Test: Log Koc; Vrijednost: 1.150

cinkov pirition

CAS: 13463-41-7 Test: Log Koc; Vrijednost: 2.900

reakcijska smjesa 5-klor-2-metil-2H-izotiazol-3-ona i 2-metil-2H-izotiazol-3-ona (3: 1)

CAS: 55965-84-9 Test: Log Koc; Vrijednost: < 2.000

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. Pri tome se pridržavati propisanih lokalnih i državnih propisa.
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

Nije klasificirano kao opasno po propisima za transport.

14.1. UN broj ili identifikacijski broj

N/A

14.2. Ispravno otpremno ime prema UN-u

ADR-Naziv za otpremu: N/A
IATA-Naziv za otpremu: N/A
IMDG-Naziv za otpremu: N/A

14.3. Razred(i) opasnosti pri prijevozu

ADR-Razred: N/A
IATA-Razred: N/A
IMDG-Razred: N/A

14.4. Skupina pakiranja

ADR-Grupa pakiranja: N/A
IATA-Grupa pakiranja: N/A
IMDG-Grupa pakiranja: N/A

14.5. Opasnosti za okoliš

Morski polutant: Ne
Zagađivači okoliša: Ne
IMDG-EMS: N/A

14.6. Posebne mjere opreza za korisnika

Ceste i Željeznica (ADR-RID):

ADR-Označavanje: N/A

ADR - Identifikacijski broj opasnosti: N/A

ADR-Posebne odredbe: N/A

ADR ograničenja prijevoza u tunelu:

Zrak (IATA):

IATA-Putnički zrakoplov: N/A

IATA-Teretni zrakoplov: N/A

IATA-Označavanje: N/A

IATA-Sporedni opasnosti: N/A

IATA-Erg: N/A

IATA-Posebne odredbe: N/A

More (IMDG):

IMDG-Skladištenje i rukovanje: N/A

IMDG-Segregacija: N/A

IMDG-Sporedni opasnosti N/A

IMDG-Posebne odredbe: N/A

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: 30, 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%.

Gornja granica vrijednosti hlapljivih organskih spojeva za EU (Direktiva 2004/42/EZ). Kat. A/i: 140 g/l; HOS < 140 g/l

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
EUH071	Nagrizajuće za dišni sustav.
H301	Otrovno ako se proguta.
H302	Štetno ako se proguta.
H310	Smrtonosno 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.
H330	Smrtonosno ako se udiše.
H331	Otrovno ako se udiše.
H372	Uzrokuje oštećenje organa tijekom produljene ili ponavljane izloženosti ako se udiše.
H400	Vrlo otrovno za vodeni okoliš.
H410	Vrlo otrovno za vodeni okoliš, s dugotrajnim učincima.

Šifra	Razred opasnosti i kategorija opasnosti	Opis
3.1/2/Dermal	Acute Tox. 2	Akutna toksičnost (preko kože), kategorija 2
3.1/2/Inhal	Acute Tox. 2	Akutna toksičnost (udisanje), kategorija 2
3.1/3/Inhal	Acute Tox. 3	Akutna toksičnost (udisanje), kategorija 3
3.1/3/Oral	Acute Tox. 3	Akutna toksičnost (gutanje), kategorija 3
3.1/4/Oral	Acute Tox. 4	Akutna toksičnost (gutanje), kategorija 4
3.2/1C	Skin Corr. 1C	Nagrizajuće za kožu, kategorija 1C
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
3.9/1	STOT RE 1	Specifična toksičnost za ciljane organe – ponavljano izlaganje, Kategorija 1
4.1/A1	Aquatic Acute 1	Akutnu opasnost za organizme koji žive u vodi, kategorija 1
4.1/C1	Aquatic Chronic 1	Kroničnu (dugoročnu) opasnost za organizme koji žive u vodi, kategorija 1

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

Razvrstavanje prema Uredbi (EZ) br. 1272/2008	Postupak razvrstavanja
Skin Sens. 1, H317	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 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

2-Butoxyethanol

Substance identification
Chemical Name: 2-Butoxyethanol
CAS number: 111-76-2

EXPOSURE SCENARIO 5: USE IN COATINGS.

Based on the ECHA CSA&IR template, part D of June 2008 combined with the GES narrative file.

SECTION 1

Title: 2-Butoxyethanol Use in coatings.
Life Cycle Stage (LCS): Use at an industrial site.
Environmental release categories: ERC4; ESVOC SpERC 4.3a.v1
Process categories: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13,PROC15.
Processes, tasks and activities including: Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (materials receipt, storage, preparation and transfer of bulk and semi-bulk products, application by roller or spreader, dipping, flow, fluidised bed on production lines and film formation), cleaning and maintenance of equipment and associated laboratory activities [GES3_I].
Evaluation method: Health: ECETOC TRA model used [EE1]. Environment: ECETOC TRA model used [EE1]. SPERC ESVOC used.

SECTION 2: OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES.

SECTION 2.1: Environmental exposure control:

Product features: The substance has a unique structure [PrC1]. Non-hydrophobic [PrC4b]. Liquid, vapor pressure <0.5 kPa under standard conditions [OC3]. Miscible in water. Virtually non-toxic to aquatic species. Readily biodegradable [PrC5a]. Low bioaccumulation potential.
Amount used per site (tonnes per year): 2600 (8670 kg/g)
Frequency and duration of use: Continuous process [CS54]. 300 days per year of activity.
Environmental factors not influenced by risk management: Local dilution factor in fresh water [EF1]: 10. Local dilution factor in sea water [EF2]: 100.
Other given operational conditions affecting environmental exposure: No specific measures required. Days of issue (days/year) [FD4]: 300. Continuous release [FD2].
Local technical conditions and measures to reduce and limit discharges and air emissions: Treatment of air emissions is not required for REACH compliance but may be required to comply with other environmental legislation. Soil emission controls are not applicable as there is no direct release to soil [TCR4]. To control aerosol emissions into the air use a scrubber or dry filtration system. On-site wastewater treatment required [TCR13]. Treat on-site waste water (prior to receiving water discharge) to provide the required removal efficiency ≥ (%) [TCR8]: 87. Assumed industrial wastewater treatment plant flow (m^3/d): 2000. If discharging to municipal sewage treatment plant, no on-site wastewater treatment required [TCR9]. Prevent discharge of undissolved substance to or recover from waste water [TCR14].
Organizational measures to prevent/limit release from a site: Construct a containment basin around storage facilities to prevent soil and water pollution in the event of spillage [S5]. Prevent environmental discharge consistent with regulatory requirements [OMS4]. The site shall adopt a spillage plan to ensure that adequate safeguards are in place to minimise the impact of episodic releases [W2]. A leak prevention plan is needed to prevent low level continual releases [W3].
Conditions and measures related to sewage treatment plant: Estimated substance removal from waste water via domestic sewage treatment (%) [STP3]: 87. Assumed domestic sewage treatment plant flow (m3/d) [STP5]: 2000.
Conditions and measures for the disposal of articles at end of their service life: Estimated quantity of waste treated - not exceeding: 5%. Type of treatment suitable for waste: incineration. Removal Effectiveness (%): 99,98. Treat as hazardous waste. External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3]. Dispose of waste or used containers in accordance with local regulations [ENVT12].
Conditions and measures for the recovery of articles at the end of their service life: Not applicable.
Other environmental control measures in addition to those described above: none.

SECTION 2.2: Worker exposure control.

Product features:
Physical state of the product: Liquid, vapor pressure <0.5 kPa under standard conditions [OC3].
Concentration of the substance in the product: Covers a percentage substance in the product up to 100% (unless otherwise stated) [G13].
Amounts used: Not applicable.
Frequency and duration of use: Covers a daily exposure up to 8 hours (unless otherwise specified) [G2]. Continuous process [CS54].
Human factors not influenced by risk management: none.
Other given operational conditions affecting workers exposure: Assumes a good basic standard of occupational hygiene has been implemented [G1]. Assumes use of the product at not more than 20°C above ambient temperature, unless otherwise specified [G15].
Technical conditions and process-level (source) measures and technical conditions and measures to control dispersion from the source to the worker: none.

Contributing scenarios:

General measures (skin irritants) [G19]: Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Immediately remove any contamination with skin. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop [E3]. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying. [E4].
General measures (eye irritants) [G44]: Use suitable eye protection [PPE26]. Avoid direct eye contact with product, also via contamination on hands [E73]. Avoid splashing [C&H15].

ES5-CS1: PROC1 General exposures (closed systems) [CS15]. Continuous process [CS54]. without sampling [CS57]: No other specific measures identified [EI20].
ES5-CS2: PROC2 General exposures (closed systems) [CS15]. Continuous process [CS54]. With sampling [CS56]: No other specific measures identified [EI20].
ES5-CS3: PROC2 Film formation - accelerated drying (50-100°C). Drying (>100 °C). UV/EB radiation curing [CS94]: Handle substance within a predominantly closed system provided with extract ventilation [E49].
ES5-CS4: PROC3 Mixing operations (closed systems) [CS29]. General exposures (closed systems) [CS15]. No other specific measures identified [EI20].
ES5-CS5: PROC4 Film formation - air drying [CS95]. No other specific measures identified [EI20].
ES5-CS6: PROC5 Preparation of material for application [CS96]. Mixing operations (open systems) [CS30]. No other specific measures identified [EI20].
ES5-CS7: PROC7 Spray application (automatic/robotic) [CS97]. Carry out in a vented booth or extracted enclosure [E57].
ES5-CS8: PROC7 Spray application [CS10]. Manual [CS34]: Carry out in a vented booth or extracted enclosure [E57]. or, Wear a respirator conforming to EN140 with a type A filter or better [PPE22]. Change the filter cartridge on the respirator daily [PPE25].
ES5-CS9: PROC8a Material transfers [CS3]. (open systems) [CS108]. No other specific measures identified [EI20].
ES5-CS10: PROC8b Material transfers [CS3]. (closed systems) [CS107]. No other specific measures identified [EI20].
ES5-CS11: PROC10 Roller application, spreader, flow [CS98]. Provide a good standard of general ventilation (not less than 3-5 air changes per hour) [E11].
ES5-CS12: PROC13 Dipping and pouring [CS4]. No other specific measures identified [EI20].
ES5-CS13: PROC15 Laboratory activity [CS36]. No other specific measures identified [EI20].
ES5-CS14: PROC9 Drum/batch transfers [CS8]. Material transfers [CS3]. Transfer/pour from containers [CS22]. No other specific measures identified [EI20].

SECTION 3: EXPOSURE ESTIMATION:

Maximum exposure resulting from the contributing scenarios described.

Environment:

ES5-ES1: ERC4
Conditions given in SPERC fact sheet give rise to following releases fractions [OOC29]. (ESVOC SpERC 4.3a.v1).
Fraction released into air from the process (initial release before application of RMM) [OOC4]: 0.98.
Fraction released into waste water from the process (initial release before application of RMM) [OOC5]: 0,02.
Fraction released into soil by the process (initial release before application of RMM) [OOC6]: 0.
PEC of microorganisms in wastewater treatment plant: 8.66E+01mg/l. Risk characterization report: 1.87E-01.
Local PEC in surface water: 1.10E+00mg/l. Risk characterization report: 1.25E-01.
Local PEC in freshwater sediments: 4.69E+00mg/kgdw. Risk characterization report: 1.36E-01.
Local PEC in seawater during the release episode: 1.10E-01mg/l. Risk characterization report: 1.25E-01.
Local PEC in marine sediments: 4.69E-01mg/kgdw. Risk characterization report: 1.36E-01.
Local PEC in soil: 6.14E-01mg/kgdw. Risk characterization report: 2.64E-01. Risk from environmental exposure is driven by soil [TCR1f].

Health:

Exposure resulting from contributing scenario ES5-CS1:
Inhalation (steam). 8 hours on average 0.01ppm. Risk characterization report: <0.001. 15 minutes average 0.04ppm. Risk characterization report: <0.001. Dermal: 0.03 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS2:
Inhalation (steam). 8 hours on average 1ppm. Risk characterization report: 0.05. 15 minutes average 4ppm. Risk characterization report: 0,08. Dermal: 1.4 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS3:
Inhalation (steam). 8 hours on average 0.5ppm. Risk characterization report: 0,025. 15 minutes average 2ppm. Risk characterization report: 0,04. Dermal: 1.4 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS4:
Inhalation (steam). 8 hours on average 3ppm. Risk characterization report: 0.84. !da duplicazione! 15 minutes average 12ppm. Risk characterization report: 0.24. Dermal: 0.69 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS5:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0.4. Dermal: 6.9 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS6:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0.4. Dermal: 14 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS7:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0.4. Dermal: 43 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS8:
Inhalation (steam). 8 hours on average 10ppm. Risk characterization report: 0,5. 15 minutes average 40ppm. Risk characterization report: 0,8. Dermal: 43 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS9:
Inhalation (steam). 8 hours on average 10ppm. Risk characterization report: 0,5. 15 minutes average 40ppm. Risk characterization report: 0,8. Dermal: 14 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS10:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0,4. Dermal: 14 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS11:
Inhalation (steam). 8 hours on average 7ppm. Risk characterization report: 0.35. 15 minutes average 28ppm. Risk characterization report: 0.56. Dermal: 27 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS12:
Inhalation (steam). 8 hours on average 10ppm. Risk characterization report: 0.5. 15 minutes average 40ppm. Risk characterization report: 0.8. Dermal: 14 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS13:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0.4. Dermal: 0.34 mg/kg/d.

Exposure resulting from contributing scenario ES5-CS14:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0.4. Dermal: 6.9 mg/kg/d.

The risk management measures described protect against acute exposure.
Dermal: A DNEL cannot be derived for this endpoint. Risk management measures are based on qualitative risk characterisation [G37].
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects [G32]. Risk management measures are based on qualitative risk characterisation [G37].
Available hazard data do not enable the derivation of a DNEL for eye irritant effects [G45].

SECTION 4: GUIDE FOR VERIFYING COMPLIANCE WITH THE EXPOSURE SCENARIO

Environment:
Msafe: 32900kg/d. 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 [DSU1].

$$\frac{m_{spERC} * (1 - E_{ER,spERC}) * F_{release,spERC}}{DF_{spERC}} \geq \frac{m_{site} * (1 - E_{ER,site}) * F_{release,site}}{DF_{site}}$$

where:
mSPERC: frequency of substance use in the spERC.
EER,SPERC: efficacy of RMM in SPERC.
Frelease,SPERC: initial release fraction in spERC.
DFSPERC: dilution factor in the river of the wastewater treatment plant effluent.
msite: frequency of use of the substance at the site.
EER,site: effectiveness of RMM at the site.
Frelease,,site: Initial release fraction at the site.
DFsite: dilution factor in the river of the wastewater treatment plant effluent.

Health:
Inhalation (steam). No correction required as all exposures are assumed to be 8 hours long (worst case assumption). No correction is required as all exposures are assumed to result from substance concentrations up to 100%.
Dermal: Not applicable.

EXPOSURE SCENARIO 6: USE IN COATINGS.

Based on the ECHA CSA&IR template, part D of June 2008 combined with the GES narrative file.

SECTION 1

Title: 2-butoxyethanol. Use in coatings.
Life Cycle Stage (LCS): Generalized use by professional operators.
Environmental release category: ERC8a, ERC8d.; ESVOC SpERC 8.3b.v1
Process category: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19.
Processes, tasks and activities including: Covers the use in coatings (paints, inks, adhesives, etc.), including exposures during use (materials receipt, storage, preparation and transfer of bulk and semi-bulk application by spray, roller, brush or manual spreader or similar methods and film formation), cleaning and maintenance of equipment and associated laboratory activities [GES3_P].
Evaluation method: Health: ECETOC TRA model used [EE1]. Environment: ECETOC TRA model used [EE1]. SPERC ESVOC used.

SECTION 2: OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES.

SECTION 2.1: Environmental exposure control:

Product features: The substance has a unique structure [PrC1]. Non-hydrophobic [PrC4b]. Liquid, vapor pressure <0.5 kPa under standard conditions [OC3]. Miscible in water. Virtually non-toxic to aquatic species. Readily biodegradable [PrC5a]. Low bioaccumulation potential.
Amount used per site (tonnes per year): Not applicable. Dispersive use [FD3].
Frequency and duration of use: Continuous process [CS54]. 365 days per year of activity.
Other given operational conditions affecting environmental exposure: No specific measures required. Dispersive use [FD3].
Local technical conditions and measures to reduce and limit discharges and air emissions: Treatment of air emissions is not required for REACH compliance but may be required to comply with other environmental legislation. To control aerosol emissions into the air use a scrubber or dry filtration system. All wastewater must be discharged to municipal sewage treatment plants or collected and sent for waste disposal. Assumes no on-site wastewater treatment.
Organizational measures to prevent/limit release from a site: Construct a containment basin around storage facilities to prevent soil and water pollution in the event of spillage [S5]. Prevent environmental discharge consistent with regulatory requirements [OMS4].
Conditions and measures for the disposal of articles at end of their service life: Estimated quantity of waste treated - not exceeding: 10%. Type of treatment suitable for waste: incineration. Removal Effectiveness (%): 99,98. Treat as hazardous waste. External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3]. Dispose of waste or used containers in accordance with local regulations [ENVT12].
Conditions and measures for the recovery of articles at the end of their service life. Not applicable.
Other environmental control measures in addition to those described above: none.

SECTION 2.2: Worker exposure control.

Product features:
Physical state of the product: Liquid, vapor pressure <0.5 kPa under standard conditions [OC3].
Concentration of the substance in the product: Covers a percentage substance in the product up to 100% (unless otherwise stated) [G13].
Amounts used: Not applicable.
Frequency and duration of use: Covers a daily exposure up to 8 hours (unless otherwise specified) [G2]. Continuous process [CS54].
Human factors not influenced by risk management: none.
Other given operational conditions affecting workers exposure: Assumes a good basic standard of occupational hygiene has been implemented [G1]. Assumes use of the product at not more than 20°C above ambient temperature, unless otherwise specified [G15].
Technical conditions and process-level (source) measures and technical conditions and measures to control dispersion from the source to the worker: none.

Contributing scenarios:

General measures (skin irritants) [G19]: Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Immediately remove any contamination with skin. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop [E3]. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying. [E4].
General measures (eye irritants) [G44]: Use suitable eye protection [PPE26]. Avoid direct eye contact with product, also via contamination on hands [E73]. Avoid splashing [C&H15].
ES6-CS1: PROC1 General exposures (closed systems) [CS15]. No other specific measures identified [EI20].
ES6-CS2: PROC2 Filling of equipment from drums or containers, [CS45]. No other specific measures identified [EI20].
ES6-CS3: PROC2 General exposures (closed systems) [CS15]. Use in systems under containment [CS38]. No other specific measures identified [EI20].
ES6-CS4: PROC3 Preparation of material for application [CS96]. Mixing operations (closed systems) [CS29]. Batch process [CS55]. No other specific measures identified [EI20].
ES6-CS5: PROC4 Film formation - air drying [CS95]. Indoor [OC8]. No other specific measures identified [EI20].
ES6-CS6: PROC4 Film formation - air drying [CS95]. Outdoors [OC9]. Make sure the operation is performed outdoors [E69].
ES6-CS7: PROC5 Preparation of material for application [CS96]. Mixing operations (open systems) [CS30]. Indoor [OC8]. No other specific measures identified [EI20].
ES6-CS8: PROC5 Preparation of material for application [CS96]. Mixing operations (open systems) [CS30]. Outdoors [OC9]. Make sure the operation is performed outdoors [E69].
ES6-CS9: PROC8a Material transfers [CS3]. Pouring from small containers [CS9]. (open systems) [CS108]. Provide extract ventilation at points where emissions occur [E54].
ES6-CS10: PROC8b Material transfers [CS3]. Pouring from small containers [CS9]. (closed systems) [CS107]. No other specific measures identified [EI20].

ES6-CS11: PROC10 Roller application, spreader, flow [CS98]. Indoor [OC8]. Provide extract ventilation at points where emissions occur [E54].
ES6-CS12: PROC10 Roller application, spreader, flow [CS98]. Outdoors [OC9]. Make sure the operation is performed outdoors [E69]. Limit the substance content in the product to 25% [OC18].
ES6-CS13: PROC11 Spray application [CS10]. Manual [CS34]. Indoor [OC8]. Carry out in a vented booth or extracted enclosure [E57]. Limit the substance content in the product to 25% [OC18].
ES6-CS14: PROC11 Spray application [CS10]. Manual [CS34]. Outdoors [OC9]. Make sure the operation is performed outdoors [E69]. Wear a respirator conforming to EN140 with a type A filter or better [PPE22]. Change the filter cartridge on the respirator daily [PPE25].
ES6-CS15: PROC13 Dipping and pouring [CS4]. Provide a good standard of general ventilation (not less than 3-5 air changes per hour) [E11]. or, Make sure the operation is performed outdoors [E69].
ES6-CS16: PROC19 Dipping and pouring [CS4]. Outdoors [OC9]. Provide a good standard of general ventilation (not less than 3-5 air changes per hour) [E11]. or, Make sure the operation is performed outdoors [E69]. Limit the substance content in the product to 25% [OC18].
ES6-CS17: PROC15 Laboratory activity [CS36]. No other specific measures identified [EI20].

SECTION 3: EXPOSURE ESTIMATION:

Maximum exposure resulting from the contributing scenarios described.

Environment:

ES6-ES1: ERC8a, ERC8d
Conditions given in SPERC fact sheet give rise to following releases fractions [OOC29]. (ESVOC SpERC 8.3b.v1).
Fraction released to air from highly dispersive use (regional only) [OOC7]: 0.98.
Fraction released to wastewater from highly dispersive use [OOC8]: 0.01.
Fraction released into soil by highly dispersive use (regional only) [OOC9]: 0.01.
PEC of microorganisms in wastewater treatment plant: 2,74E-03mg/l. Risk characterization report: 5.92E-06.
Local PEC in surface water: 5.98E-03mg/l. Risk characterization report: 6.80E-04.
Local PEC in freshwater sediments: 2.54E-02mg/kgdw. Risk characterization report: 7.34E-04.
Local PEC in seawater during the release episode: 6,50E-04mg/l. Risk characterization report: 7.39E-04.
Local PEC in marine sediments: 2.77E-03mg/kgdw. Risk characterization report: 8.01E-04.
Local PEC in soil: 2.13E-02mg/kgdw. Risk characterization report: 9.14E-03. Risk from environmental exposure is driven by soil [TCR1f].

Health:

Exposure resulting from contributing scenario ES6-CS1:
Inhalation (steam). 8 hours on average 0.01ppm. Risk characterization report: <0.001. 15 minutes average 0.04ppm. Risk characterization report: <0.001. Dermal: 0.03 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS2:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0.4. Dermal: 1.4 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS3:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0.4. Dermal: 1.4 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS4:
Inhalation (steam). 8 hours on average 3ppm. Risk characterization report: 0.84. !da duplicazione! 15 minutes average 12ppm. Risk characterization report: 0,24. Dermal: 0.69 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS5:
Inhalation (steam). 8 hours on average 10ppm. Risk characterization report: 0.5. 15 minutes average 40ppm. Risk characterization report: 0.8. Dermal: 6.9 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS6:
Inhalation (steam). 8 hours on average 7ppm. Risk characterization report: 0.35. 15 minutes average 28ppm. Risk characterization report: 0.56. Dermal: 6.9 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS7:
Inhalation (steam). 8 hours on average 10ppm. Risk characterization report: 0,5. 15 minutes average 40ppm. Risk characterization report: 0,8. Dermal: 14 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS8:
Inhalation (steam). 8 hours on average 7ppm. Risk characterization report: 0.35. 15 minutes average 28ppm. Risk characterization report: 0,56. Dermal: 14 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS9:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0.4. Dermal: 14 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS10:
Inhalation (steam). 8 hours on average 10ppm. Risk characterization report: 0,5. 15 minutes average 40ppm. Risk characterization report: 0.8. Dermal: 14 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS11:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0.4. Dermal: 27 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS12:
Inhalation (steam). 8 hours on average 11ppm. Risk characterization report: 0.525. 15 minutes average 42ppm. Risk characterization report: 0.84. Dermal: 16 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS13:
Inhalation (steam). 8 hours on average 12ppm. Risk characterization report: 0.6. 15 minutes average 48ppm. Risk characterization report: 0.96. Dermal: 64 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS14:
Inhalation (steam). 8 hours on average 7ppm. Risk characterization report: 0.35. 15 minutes average 28ppm. Risk characterization report: 0.56. Dermal: 110 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS15:
Inhalation (steam). 8 hours on average 7ppm. Risk characterization report: 0.35. 15 minutes average 28ppm. Risk characterization report: 0,56. Dermal: 14 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS16:
Inhalation (steam). 8 hours on average 11ppm. Risk characterization report: 0.525. 15 minutes average 42ppm. Risk characterization report: 0.84. Dermal: 85 mg/kg/d.

Exposure resulting from contributing scenario ES6-CS17:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0,4. Dermal: 0.34 mg/kg/d.

The risk management measures described protect against acute exposure.
Dermal: A DNEL cannot be derived for this endpoint. Risk management measures are based on qualitative risk characterisation [G37].
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects [G32]. Risk management measures are based on qualitative risk characterisation [G37].
Available hazard data do not enable the derivation of a DNEL for eye irritant effects [G45].

SECTION 4: GUIDE FOR VERIFYING COMPLIANCE WITH THE EXPOSURE SCENARIO

Environment:
Msafe: 59.9kg/g. Not applicable for highly dispersive uses [DSU5].

Health:
Inhalation (steam). No correction required as all exposures are assumed to be 8 hours long (worst case assumption). To go from a concentration of 5-25% to a concentration of 100%, multiply by 1.7.
Dermal: Not applicable.

EXPOSURE SCENARIO 8: USE IN CLEANING PRODUCTS.

Based on the ECHA CSA&IR template, part D of June 2008 combined with the GES narrative file.

SECTION 1

Title: 2-butoxyethanol. Use in cleaning products.
Life Cycle Stage (LCS): Generalized use by professional operators.
Environmental release category: ERC8a, ERC8d.; ESVOC SpERC 8.4c.v1
Process category: PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13.
Processes, tasks and activities including: Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand) [GES4_P].
Evaluation method: Health: ECETOC TRA model used [EE1]. Environment: ECETOC TRA model used [EE1]. SPERC ESVOC used.

SECTION 2: OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES.

SECTION 2.1 Environmental exposure control:

Product features: The substance has a unique structure [PrC1]. Non-hydrophobic [PrC4b]. Liquid, vapor pressure <0.5 kPa under standard conditions [OC3]. Miscible in water. Virtually non-toxic to aquatic species. Readily biodegradable [PrC5a]. Low bioaccumulation potential.
Amount used per site (tonnes per year): Not applicable. Dispersive use [FD3].
Frequency and duration of use: Continuous process [CS54]. 365 days per year of activity.
Other given operational conditions affecting environmental exposure: No specific measures required. Dispersive use [FD3].
Local technical conditions and measures to reduce and limit discharges and air emissions: No air emission control required; required removal efficiency of 0% [TCR5]. No waste water treatment required [TCR6]. Assumes no on-site wastewater treatment.
Organizational measures to prevent/limit release from a site: Construct a containment basin around storage facilities to prevent soil and water pollution in the event of spillage [S5]. Prevent environmental discharge consistent with regulatory requirements [OMS4].
Conditions and measures for the disposal of articles at end of their service life: Estimated quantity of waste treated - not exceeding: 10%. Type of treatment suitable for waste: incineration. Removal Effectiveness (%): 99,98. Treat as hazardous waste. External treatment and disposal of waste should comply with applicable local and/or national regulations [ETW3]. Dispose of waste or used containers in accordance with local regulations [ENVT12].
Conditions and measures for the recovery of articles at the end of their service life. Not applicable.
Other environmental control measures in addition to those described above: none.

SECTION 2.2: Worker exposure control.

Product features:
Physical state of the product: Liquid, vapor pressure <0.5 kPa under standard conditions [OC3].
Concentration of the substance in the product: Covers a percentage substance in the product up to 100% (unless otherwise stated) [G13].
Amounts used: Not applicable.
Frequency and duration of use: Covers a daily exposure up to 8 hours (unless otherwise specified) [G2]. Continuous process [CS54].
Human factors not influenced by risk management: none.
Other given operational conditions affecting workers exposure: Assumes a good basic standard of occupational hygiene has been implemented [G1]. Assumes use of the product at not more than 20°C above ambient temperature, unless otherwise specified [G15].
Technical conditions and process-level (source) measures and technical conditions and measures to control dispersion from the source to the worker: none.

Contributing scenarios:

General measures (skin irritants) [G19]: Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Immediately remove any contamination with skin. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop [E3]. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying. [E4].
General measures (eye irritants) [G44]: Use suitable eye protection [PPE26]. Avoid direct eye contact with product, also via contamination on hands [E73]. Avoid splashing [C&H15].
ES8-CS1: PROC8b Filling of equipment from drums or containers, [CS45]. No other specific measures identified [EI20].
ES8-CS2: PROC2 Automated process with (semi) closed systems [CS93]. Use in systems under containment [CS38]. No other specific measures identified [EI20].
ES8-CS3: PROC3 Automated process with (semi) closed systems [CS93]. Use in systems under containment [CS38]. Batch process [CS55]. No other specific measures identified [EI20].
ES8-CS4: PROC4 Maintenance (of larger plant items) and machine set up [CS77]. Use in systems under containment [CS38]. No other specific measures identified [EI20].
ES8-CS5: PROC4 Cleaning of medical devices [CS74]. Provide a good standard of general ventilation (not less than 3-5 air changes per hour) [E11]. Limit the substance content in the product to 25% [OC18].
ES8-CS6: PROC13 Surfaces [CS48]. Cleaning [CS47]. Dipping and pouring [CS4]. Manual [CS34]. No other specific measures identified [EI20].
ES8-CS7: PROC10 Cleaning with low-pressure washers [CS42]. No spraying [CS60]. Provide a good standard of general ventilation (not less than 3-5 air changes per hour) [E11]. or, Make sure the operation is performed outdoors [E69]. Limit the substance content in the product to 25% [OC18].
ES8-CS8: PROC11 Cleaning with high pressure washers [CS44]. Indoor [OC8]. Spray application [CS10]. Carry out in a vented booth or extracted enclosure [E57]. Limit the substance content in the product to 25% [OC18].
ES8-CS9: PROC11 Cleaning with high pressure washers [CS44]. Outdoors [OC9]. Spray application [CS10]. Make sure the operation is performed outdoors [E69]. Wear a respirator conforming to EN140 with a type A filter or better [PPE22]. Change the filter cartridge on the respirator daily [PPE25]. Limit the substance content in the product to 25% [OC18].
ES8-CS10: PROC11 Surfaces [CS48]. Cleaning [CS47]. Manual [CS34]. Spray application [CS10]. Provide a good standard of controlled ventilation (10-15 air changes per hour) [E40]. Limit the substance content in the product to 5% [OC17]. or, Wear a respirator conforming to EN140 with a type A filter or better [PPE22].

ES8-CS11: PROC10 Ad hoc manual application via trigger sprays, dipping, etc. [CS27]. Rolling, brushing [CS51]. With local ventilation systems [CS109]. Provide extract ventilation at points where emissions occur [E54].
ES8-CS12: PROC10 Ad hoc manual application via trigger sprays, dipping, etc. [CS27]. Rolling, brushing [CS51]. Without local ventilation systems [CS110]. Provide a good standard of general ventilation (not less than 3-5 air changes per hour) [E11]. Limit the substance content in the product to 25% [OC18]. or, Wear a full face respirator conforming to EN140 with type A filter or better [PPE24].
ES8-CS13: PROC4 Application of cleaning products in closed systems [CS101]. Provide a good standard of general ventilation (not less than 3-5 air changes per hour) [E11].
ES8-CS14: PROC8a Filling of equipment from drums or containers, [CS45]. Provide a good standard of general ventilation (not less than 3-5 air changes per hour) [E11]. or, Make sure the operation is performed outdoors [E69]. Limit the substance content in the product to 25% [OC18].

SECTION 3: EXPOSURE ESTIMATION:

Maximum exposure resulting from the contributing scenarios described.

Environment

ES8-ES1: ERC8a, ERC8d.
Conditions given in SPERC fact sheet give rise to following releases fractions [OOC29]. (ESVOC SpERC 8.4c.v1).
Fraction released to air from highly dispersive use (regional only) [OOC7]: 0.95.
Fraction released to wastewater from highly dispersive use [OOC8]: 0,025.
Fraction released into soil by highly dispersive use (regional only) [OOC9]: 0.025.
PEC of microorganisms in wastewater treatment plant: 5.14E-03mg/l. Risk characterization report: 1.11E-05.
Local PEC in surface water: 6.01E-03mg/l. Risk characterization report: 6.83E-04.
Local PEC in freshwater sediments: 2.56E-02mg/kgdw. Risk characterization report: 7.40E-04.
Local PEC in seawater during the release episode: 6.53E-04mg/l. Risk characterization report: 7.42E-04.
Local PEC in marine sediments: 2.78E-03mg/kgdw. Risk characterization report: 8.03E-04.
Local PEC in soil: 2.13E-02mg/kgdw. Risk characterization report: 9.14E-03. Risk from environmental exposure is driven by soil [TCR1f].

Health:

Exposure resulting from contributing scenario ES8-CS1:
Inhalation (steam). 8 hours on average 10ppm. Risk characterization report: <0.5. 15 minutes average 40ppm. Risk characterization report: 0.8. Dermal: 14mg/kg/d.

Exposure resulting from contributing scenario ES8-CS2:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0.4. Dermal: 1.4 mg/kg/d.

Exposure resulting from contributing scenario ES8-CS3:
Inhalation (steam). 8 hours on average 3ppm. Risk characterization report: 0.84. !da duplicazione! 15 minutes average 12ppm. Risk characterization report: 0,24. Dermal: 0.69mg/kg/d.

Exposure resulting from contributing scenario ES8-CS4:
Inhalation (steam). 8 hours on average 10ppm. Risk characterization report: 0.5. 15 minutes average 40ppm. Risk characterization report: 0.8. Dermal: 6.9 mg/kg/d.

Exposure resulting from contributing scenario ES8-CS5:
Inhalation (steam). 8 hours on average 4.2ppm. Risk characterization report: 0.21. 15 minutes average 16.8ppm. Risk characterization report: 0.34. Dermal: 4.1 mg/kg/d.

Exposure resulting from contributing scenario ES8-CS6:
Inhalation (steam). 8 hours on average 10ppm. Risk characterization report: 0.5. 15 minutes average 40ppm. Risk characterization report: 0.8. Dermal: 14 mg/kg/d.

Exposure resulting from contributing scenario ES8-CS7:
Inhalation (steam). 8 hours on average 11ppm. Risk characterization report: 0.525. 15 minutes average 42ppm. Risk characterization report: 0.84. Dermal: 16 mg/kg/d.

Exposure resulting from contributing scenario ES8-CS8:
Inhalation (steam). 8 hours on average 12ppm. Risk characterization report: 0.6. 15 minutes average 48ppm. Risk characterization report: 0.96. Dermal: 64 mg/kg/d.

Exposure resulting from contributing scenario ES8-CS9:
Inhalation (steam). 8 hours on average 4.2ppm. Risk characterization report: 0.21. 15 minutes average 16.8ppm. Risk characterization report: 0,34. Dermal: 64 mg/kg/d.

Exposure resulting from contributing scenario ES8-CS10:
Inhalation (steam). 8 hours on average 6ppm. Risk characterization report: 0.3. 15 minutes average 24ppm. Risk characterization report: 0.48. Dermal: 21 mg/kg/d.

Exposure resulting from contributing scenario ES8-CS11:
Inhalation (steam). 8 hours on average 5ppm. Risk characterization report: 0.25. 15 minutes average 20ppm. Risk characterization report: 0.4. Dermal: 27 mg/kg/d.

Exposure resulting from contributing scenario ES8-CS12:
Inhalation (steam). 8 hours on average 11ppm. Risk characterization report: 0.525. 15 minutes average 42ppm. Risk characterization report: 0.84. Dermal: 16 mg/kg/d.

Exposure resulting from contributing scenario ES8-CS13:
Inhalation (steam). 8 hours on average 7ppm. Risk characterization report: 0.35. 15 minutes average 28ppm. Risk characterization report: 0.56. Dermal: 6.9 mg/kg/d.

Exposure resulting from contributing scenario ES8-CS14:
Inhalation (steam). 8 hours on average 11ppm. Risk characterization report: 0.525. 15 minutes average 42ppm. Risk characterization report: 0.84. Dermal: 8.2 mg/kg/d.

The risk management measures described protect against acute exposure.
Dermal: A DNEL cannot be derived for this endpoint. Risk management measures are based on qualitative risk characterisation [G37].
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects [G32]. Risk management measures are based on qualitative risk characterisation [G37].
Available hazard data do not enable the derivation of a DNEL for eye irritant effects [G45].

SECTION 4: GUIDE FOR VERIFYING COMPLIANCE WITH THE EXPOSURE SCENARIO

Environment:

Msafe: 59.9kg/g. Not applicable for highly dispersive uses [DSU5].

Health:

Inhalation (steam). No correction required as all exposures are assumed to be 8 hours long (worst case assumption). To go from a concentration of 5-25% to a concentration of 100%, multiply by 1.7. To go from a concentration of 1-5% to a concentration of 5-25%, multiply by 3.

Dermal: Not applicable.