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

1.1. Identifikacijska oznaka proizvoda

Identifikacija preparata:

Trgovačko ime: FASSAFILL EPOXY COMP.A
Trgovački kod: 1281
UFI: PKPY-Q5VS-1PDA-34JX

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

Preporučana upotreba: Epoksidno brtvilo za fuge; 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. 1	Može izazvati alergijsku reakciju na koži.
Repr. 1B	Može štetno djelovati na plodnost.
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

H315	Nadražuje kožu.
H317	Može izazvati alergijsku reakciju na koži.
H319	Uzrokuje jako nadraživanje oka.
H360F	Može štetno djelovati na plodnost.
H412	Štetno za vodeni okoliš s dugotrajnim učincima.

Oznake obavijesti

P201	Prije uporabe pribaviti posebne upute.
P261	Izbjegavati udisanje prašine/dima/plina/magle/pare/aerosola.
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.

P501 Odložiti sadržaj/spremnik u skladu s nacionalnim propisima.

Posebna osiguranja:

EUH205 Sadrži epoksidne sastojke. Može izazvati alergijsku reakciju.

Sadrži:

Formaldehid, oligomerni produkti reakcije s 1-kloro-2,3-epoksipropanom i fenolom

oksiran, mono[(C12-14-alkiloksi)metil]-derivati

Reakcijska smjesa bis(1,2,2,6,6-pentametil-4-piperedil) sebakata i metil 1,2,2,6,6-pentametil-4-piperidil sebakata

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

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: FASSAFILL EPOXY COMP.A

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

Količina	Naziv	Ident. Broj.	Klasifikacija	Broj registriranih slučajeva:
≥15 - <20 %	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
≥3 - <5 %	Formaldehid, oligomerni produkti reakcije s 1-kloro-2,3-epoksipropanom i fenolom	EC:701-263-0	Skin Irrit. 2, H315; Skin Sens. 1, H317; Aquatic Chronic 2, H411	01-2119454392-40-xxxx
≥1 - <2.5 %	oksiran, mono[(C12-14-alkiloksi)metil]-derivati	CAS:68609-97-2 EC:271-846-8 Index:603-103-00-4	Skin Irrit. 2, H315; Skin Sens. 1, H317; Repr. 1B, H360F	01-2119485289-22-xxxx
≥0.1 - <0.3 %	Reakcijska smjesa bis(1,2,2,6,6-pentametil-4-piperedil) sebakata i metil 1,2,2,6,6-pentametil-4-piperidil sebakata	CAS:1065336-91-5 EC:915-687-0	Skin Sens. 1A, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Repr. 2, H361f, M-Chronic:1, M-Acute:1	01-2119491304-40-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:

CO_2, 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

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 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

Formaldehid, oligomerni produkti reakcije s 1-kloro-2,3-epoksipropanom i fenolom

Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.003 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.3 µg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 10 mg/l

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.029 mg/kg

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 0.294 mg/kg

Putevi izloženosti: Zemlja; PNEC Ograničiti: 0.237 mg/kg

oksiran, mono[(C12-14-alkiloksi)metil]-derivati

CAS: 68609-97-2 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.106 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.011 mg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 10 mg/l

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 30.72 mg/kg

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 307.16 mg/kg

Putevi izloženosti: Zemlja; PNEC Ograničiti: 1.234 mg/kg

Reakcijska smjesa bis(1,2,2,6,6-pentametil-4-piperedil) sebakata i metil 1,2,2,6,6-pentametil-4-piperidil sebakata

CAS: 1065336-91-5 Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.22 µg/l

Putevi izloženosti: Svježa voda; PNEC Ograničiti: 2.2 µg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 1 mg/l

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.11 mg/kg

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 1.05 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.21 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

Formaldehid, oligomerni produkti reakcije s 1-kloro-2,3-epoksipropanom i fenolom

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: 0.008 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

oksiran, mono[(C12-14-alkiloksi)metil]-derivati

CAS: 68609-97-2 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 3.6 mg/m3; Potrošač: 0.87 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 1 mg/kg; Potrošač: 0.5 mg/kg

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

Reakcijska smjesa bis(1,2,2,6,6-pentametil-4-piperedil) sebakata i metil 1,2,2,6,6-pentametil-4-piperidil sebakata

CAS: 1065336-91-5 Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 1.8 mg/kg; Potrošač: 0.9 mg/kg

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci
Profesionalni djelatnik: 1.27 mg/m3; Potrošač: 0.31 mg/m3

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci
Potrošač: 0.18 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); NBR (nitrilna guma): debljina> = 0,4 mm; vrijeme prodiranja> = 480 min. FKM (fluorirana 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: Kruto

Izgled: Kašasta krutina

Boja: različit

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: Ne primjenjuje se.

Plamište: Ne primjenjuje se.

Temperatura samozapaljenja: Ne primjenjuje se.

Temperatura raspadanja: Ne primjenjuje se.

pH: Ne primjenjuje se. (Ne odnosi se zbog prirode proizvoda)

Kinematička viskoznost: Ne primjenjuje se.

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: 1.66 ± 0.02 kg/l (Interna metoda)

Relativna gustoća pare: Ne primjenjuje se.

Svojstva čestica:

Ovaj proizvod sadrži nanomaterijale u sferoidalnom i amorfnom obliku koje imaju površinsku obradu / površinski premaz.

9.2. Ostale informacije

Explozivne osobine: N.D.

Osobine oksidiranja: N.D.

ODJELJAK 10.: Stabilnost i reaktivnost

10.1. Reaktivnost

Stabilan u normalnim uvjetima

10.2. Kemijska stabilnost

Proizvod može tijekom vremena stvarati tekuće faze.

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. 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	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

Formaldehid, oligomerni produkti reakcije s 1-kloro-2,3-epoksipropanom i fenolom

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

oksiran, mono[(C12-14-alkiloksi)metil]-derivati

CAS: 68609-97-2 a) akutna toksičnost LC0 Udisanje pare Štakor > 0.15 mg/l 7h
LD50 Oralno Štakor > 2000 mg/kg
LD50 Koža Kunić > 4000 mg/kg

Reakcijska smjesa bis(1,2,2,6,6-pentametil-4-piperedil) sebakata i metil 1,2,2,6,6-pentametil-4-piperidil sebakata

CAS: 1065336-91-5 a) akutna toksičnost LD50 Oralno Štakor > 3230 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:

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

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

Formaldehid, oligomerni produkti reakcije s 1-kloro-2,3-epoksipropanom i fenolom

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

oksiran, mono[(C12-14-alkiloksi)metil]-derivati

CAS: 68609-97-2 a) Akutna otrovnost na vodene organizme: LL50 Ribe > 100 mg/l 96h
a) Akutna otrovnost na vodene organizme: EL50 Daphnia 7.2 mg/l 48h
a) Akutna otrovnost na vodene organizme: IC50 Algae 843.75 mg/l 72h

Reakcijska smjesa bis(1,2,2,6,6-pentametil-4-piperedil) sebakata i metil 1,2,2,6,6-pentametil-4-piperidil sebakata

CAS: 1065336-91-5 a) Akutna otrovnost na vodene organizme: LC50 Ribe 0.9 mg/l 96h
a) Akutna otrovnost na vodene organizme: NOEC Algae 0.22 mg/l 72h
b) Hronična otrovnost na vodene organizme: NOEC Daphnia 6.3 mg/l 21d

12.2. Postojanost i razgradivost

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

CAS: 1675-54-3 Nije brzo-biološki razgradiv

Formaldehid, oligomerni produkti reakcije s 1-kloro-2,3-epoksipropanom i fenolom

Nije brzo-biološki razgradiv

oksiran, mono[(C12-14-alkiloksi)metil]-derivati

CAS: 68609-97-2 Brzo-biološki razgradiv

12.3. Bioakumulacijski potencijal

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

CAS: 1675-54-3 Nije bioakumulativan

12.4. Pokretljivost u tlu

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

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

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

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 oslobađa:

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)

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: Niti jedan
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 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
H315	Nadražuje kožu.
H317	Može izazvati alergijsku reakciju na koži.
H319	Uzrokuje jako nadraživanje oka.
H360F	Može štetno djelovati na plodnost.
H361f	Sumnja na moguće štetno djelovanje na plodnost.
H400	Vrlo otrovno za vodeni okoliš.
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

3.2/2	Skin Irrit. 2	Nadražujuće za kožu, kategorija 2
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
3.7/1B	Repr. 1B	Reproduktivna toksičnost, Kategorija 1B
3.7/2	Repr. 2	Reproduktivna toksičnost, Kategorija 2
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
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. 1, H317	Računska metoda
Repr. 1B, H360F	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 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

Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

Substance identification
Chemical Name: Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate
CAS number: 1065336-91-5
EC number: 915-687-0
Registration Number: 01-2119491304-40-XXXX
Date - Version: 04/04/2022

INDUSTRIAL USE PRODUCT CATEGORIES (PC1, PC9a, PC32) SECTORS OF USE (SU15, SU17)

1. TITLE SECTION

EXPOSURE SCENARIO NAME
Industrial use of HALS in articles

USE DESCRIPTORS
Product Categories:
Adhesives, Sealants (PC1) Coatings and Paints, Thinners, paint removers (PC9a) Polymer Preparations and Compounds (PC32)
Sectors of use:
Manufacture of fabricated metal products, except machinery and equipment (SU 15). General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment (SU 17).

Environment
1. Industrial use of HALS in articles - ERC5

Worker
2. Mixing or blending in batch processes for formulation of preparations and articles - PROC5
3: Calendering operations - PROC6
4: Industrial spraying - PROC7
5: Transfer of chemicals from/to vessels/large containers at non dedicated facilities. - PROC8a
6: Transfer of chemicals from/to vessels/large containers at dedicated facilities - PROC8b
7: Roller or brush application - PROC10
8: Treatment of articles by dipping and pouring - PROC13
9: Low energy manipulation of substances bound in materials and/or articles - PROC21
10: High (mechanical) energy work-up of substances bound in materials and/or articles - PROC24

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1 ENVIRONMENTAL EXPOSURE CONTROL - Industrial use of HALS in articles - (ERC5)

Amount used, frequency and duration of use (or from service life)
Daily amount per site: ≤ 0,1 ton/day
Daily amount per site: ≤ 22,5 ton/year

Conditions and measures for the biological waste water treatment plant
Municipal sewage treatment plant is assumed.
Assumed domestic sewage treatment plant flow: ≥ 2E3 m³/day

Conditions and measures related to external treatment of waste (including article waste)
Dispose of waste product or used containers according to local regulations.

Other conditions affecting environmental exposure
Receiving surface water flow: ≥1.8E4 m³/day

2.2 WORKERS EXPOSURE CONTROL - Mixing or blending in batch processes for formulation of preparations and articles - (PROC5)

Product features (article)
Liquid.
Covers concentrations up to 5%

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Technical and organizational conditions and measures
Provide specifically designed and maintained LEV (fixed capturing hood type, on-tool extraction or enclosing hood type). Ensure effectiveness is at least 90%.
Assumes that activities are undertaken with appropriate and well maintained equipment by trained personal operating under supervision. Ensure regular inspection, cleaning and maintenance of equipment and machines. Clear spills immediately. Ensure daily cleaning of the equipment.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.3 WORKERS EXPOSURE CONTROL - Calendering operations - (PROC6)

Product features (article)
Liquid.
Covers concentrations up to 5%

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Technical and organizational conditions and measures
Provide specifically designed and maintained LEV (fixed capturing hood type, on-tool extraction or enclosing hood type). Ensure effectiveness is at least 90%.
Assumes that activities are undertaken with appropriate and well maintained equipment by trained personal operating under supervision. Ensure regular inspection, cleaning and maintenance of equipment and machines. Clear spills immediately. Ensure daily cleaning of the equipment.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.4 WORKERS EXPOSURE CONTROL - Industrial spraying - (PROC7)

Product features (article)
Liquid.
Covers concentrations up to 1%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 1 h/day.

Technical and organizational conditions and measures
Provide enclosing hood with very high effectiveness (such as fume cupboard) or effective ventilation by spray booth according to EN 16985. Ensure effectiveness is at least 95%.
Assumes that activities are undertaken with appropriate and well maintained equipment by trained personal operating under supervision. Ensure regular inspection, cleaning and maintenance of equipment and machines. Clear spills immediately. Ensure daily cleaning of the equipment.
Provide a good standard of controlled ventilation (5 to 10 air changes per hour).

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.5 WORKERS EXPOSURE CONTROL - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities. - (PROC8b)

Product features (article)
Liquid.
Covers concentrations up to 5%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Technical and organizational conditions and measures
Provide specifically designed and maintained LEV (fixed capturing hood type, on-tool extraction or enclosing hood type). Ensure effectiveness is at least 90%.
Assumes that activities are undertaken with appropriate and well maintained equipment by trained personal operating under supervision. Ensure regular inspection, cleaning and maintenance of equipment and machines. Clear spills immediately. Ensure daily cleaning of the equipment.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.6 WORKERS EXPOSURE CONTROL - Transfer of chemicals from/to vessels/ large containers at dedicated facilities - (PROC8b)

Product features (article)
Liquid.
Covers concentrations up to 5%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Technical and organizational conditions and measures
Provide enclosing hood with very high effectiveness (such as fume cupboard) or effective ventilation by spray booth according to EN 16985. Ensure effectiveness is at least 95%.
Assumes that activities are undertaken with appropriate and well maintained equipment by trained personal operating under supervision. Ensure regular inspection, cleaning and maintenance of equipment and machines. Clear spills immediately. Ensure daily cleaning of the equipment.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.7 WORKERS EXPOSURE CONTROL - Roller or brush application - (PROC10)

Product features (article)
Liquid.
Covers concentrations up to 5%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Technical and organizational conditions and measures
Provide specifically designed and maintained LEV (fixed capturing hood type, on-tool extraction or enclosing hood type). Ensure effectiveness is at least 90%.
Assumes that activities are undertaken with appropriate and well maintained equipment by trained personal operating under supervision. Ensure regular inspection, cleaning and maintenance of equipment and machines. Clear spills immediately. Ensure daily cleaning of the equipment.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.8 WORKERS EXPOSURE CONTROL - Treatment of articles by dipping and pouring - (PROC13)

Product features (article)
Liquid.
Covers concentrations up to 5%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Technical and organizational conditions and measures
Provide specifically designed and maintained LEV (fixed capturing hood type, on-tool extraction or enclosing hood type). Ensure effectiveness is at least 90%.
Assumes that activities are undertaken with appropriate and well maintained equipment by trained personal operating under supervision. Ensure regular inspection, cleaning and maintenance of equipment and machines. Clear spills immediately. Ensure daily cleaning of the equipment.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.9 WORKERS EXPOSURE CONTROL - Low energy manipulation of substances bound in materials and/or articles - (PROC21)

Product features (article)
Liquid.
Covers concentrations up to 5%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.10 WORKERS EXPOSURE CONTROL - High (mechanical) energy work-up of substances bound in materials and/or articles - (PROC24)

Product features (article)
Liquid.
Covers concentrations up to 5%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1 ENVIRONMENTAL RELEASE AND EXPOSURE - Industrial use of HALS in articles - (ERC5)

Release route	Release rate	Release estimation method
Water	0.01 kg/day	Estimated release factor
Air	0 kg/day	Estimated release factor
Soil	0.01 kg/day	Estimated release factor

Protection goal	Exposure estimate	RCR
Fresh water	3.72E-4 mg/L (EUSES 2.1.2)	0.169
Sediment (freshwater)	0.177 mg/kg dw (EUSES 2.1.2)	0.169
Sea water	3.7E-5 mg/L (EUSES 2.1.2)	0.168
Sediment (marine water)	0.018 mg/kg dw (EUSES 2.1.2)	0.16
Wastewater treatment plant	3.2E-3 mg/L (EUSES 2.1.2)	< 0.01
Farmland	0.013 mg/kg dw (EUSES 2.1.2)	0.063
Man via environment - Inhalation (systemic effects)	2.77E-8 mg/m³ (EUSES 2.1.2)	< 0.01
Man via environment - Oral	3.24E-5 mg/kg bw/day (EUSES 2.1.2)	< 0.01
Man via environment - combined routes	-	< 0.01

3.2 WORKERS EXPOSURE - Mixing or blending in batch processes for formulation of preparations and articles - (PROC5)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.037 mg/m³ (TRA Workers 3.0)	0.029
Dermal, systemic, long term	0.548 mg/kg bw/day (TRA Workers 3.0)	0.305
Combined, systemic, long term		0.334

3.3 WORKERS EXPOSURE - Calendering operations - (PROC6)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.037 mg/m³ (TRA Workers 3.0)	0.029
Dermal, systemic, long term	1.097 mg/kg bw/day (TRA Workers 3.0)	0.61
Combined, systemic, long term		0.638

3.4 WORKERS EXPOSURE - Industrial spraying - (PROC7)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.55 mg/m³ (TRA Workers 3.0)	0.433
Dermal, systemic, long term	0.857 mg/kg bw/day (TRA Workers 3.0)	0.476
Combined, systemic, long term		0.909

3.5 WORKERS EXPOSURE - Transfer of chemicals from/to vessels/large containers at non dedicated facilities. - (PROC8a)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.037 mg/m³ (TRA Workers 3.0)	0.029
Dermal, systemic, long term	0.548 mg/kg bw/day (TRA Workers 3.0)	0.305
Combined, systemic, long term		0.334

3.6 WORKERS EXPOSURE - Transfer of chemicals from/to vessels/large containers at dedicated facilities - (PROC8b)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.018 mg/m³ (TRA Workers 3.0)	0.014
Dermal, systemic, long term	0.548 mg/kg bw/day (TRA Workers 3.0)	0.305
Combined, systemic, long term		0.319

3.7 WORKERS EXPOSURE - Roller or brush application - (PROC10)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.037 mg/m³ (TRA Workers 3.0)	0.029
Dermal, systemic, long term	1.097 mg/kg bw/day (TRA Workers 3.0)	0.61
Combined, systemic, long term		0.638

3.8 WORKERS EXPOSURE - Treatment of articles by dipping and pouring - (PROC13)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.5 mg/m³ (TRA Workers 3.0)	0.394
Dermal, systemic, long term	1.071 mg/kg bw/day (TRA Workers 3.0)	0.595
Combined, systemic, long term		0.989

3.9 WORKERS EXPOSURE - Low energy manipulation of substances bound in materials and/or articles - (PROC21)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.2 mg/m³ (ECETOC TRA Workers)	0.157
Dermal, systemic, long term	0.1 mg/kg bw/day (ECETOC TRA Workers)	0.056
Combined, systemic, long term		0.213

3.10 WORKERS EXPOSURE - High (mechanical) energy work-up of substances bound in materials and/or articles - (PROC24)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.2 mg/m³ (ECETOC TRA Workers)	0.157
Dermal, systemic, long term	0.1 mg/kg bw/day (ECETOC TRA Workers)	0.056
Combined, systemic, long term		0.213

USO DIFFUSO DA PARTE DI OPERATORI PROFESSIONALI PRODUCT CATEGORIES (PC1, PC9a, PC32) SECTORS USE (SU15, SU17, SU19)

1. TITLE SECTION

EXPOSURE SCENARIO NAME

Wide dispersive outdoor use of HALS resulting in inclusion into a matrix

USE DESCRIPTORS

Product Categories:
Adhesives, Sealants (PC1) Coatings and Paints, Thinners, paint removers (PC 9a), Polymer Preparations and Compounds (PC32)
Sectors of use:
Manufacture of fabricated metal products, except machinery and equipment (SU 15). General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment (SU 17). Building and construction work (SU 19)

Environment

1. Wide dispersive outdoor use of HALS resulting in inclusion into a matrix - ERC8f
2. Wide dispersive indoor use of HALS resulting in inclusion into a matrix - ERC8c

Worker

3. Mixing or blending in batch processes for formulation of preparations and articles - PROC5
4: Transfer of chemicals from/to vessels/large containers at non dedicated facilities - PROC8a
5: Transfer of chemicals from/to vessels/large containers at dedicated facilities - PROC8b
6: Roller or brush application - PROC10
7: Non-industrial spraying - PROC13
8: Low energy manipulation of substances bound in materials and/or articles - PROC21
9: High (mechanical) energy work-up of substances bound in materials and/or articles - PROC24

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1 ENVIRONMENTAL EXPOSURE CONTROL - Wide dispersive outdoor use of HALS resulting in inclusion into a matrix - (ERC8f)

Conditions and measures for the biological waste water treatment plant

Municipal sewage treatment plant is assumed.

Conditions and measures related to external treatment of waste (including article waste)

Dispose of waste product or used containers according to local regulations.

2.2 ENVIRONMENTAL EXPOSURE CONTROL - Wide dispersive indoor use of HALS resulting in inclusion into a matrix - (ERC8c)

Conditions and measures for the biological waste water treatment plant

Municipal sewage treatment plant is assumed.

Conditions and measures related to external treatment of waste (including article waste)

Dispose of waste product or used containers according to local regulations.

2.3 WORKERS EXPOSURE CONTROL - Mixing or blending in batch processes for formulation of preparations and articles - (PROC5)

Product features (article)
Liquid.
Covers concentrations up to 5%

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.4 WORKERS EXPOSURE CONTROL - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities - (PROC8a)

Product features (article)
Liquid.
Covers concentrations up to 5%

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.5 WORKERS EXPOSURE CONTROL - Transfer of chemicals from/to vessels/ large containers at dedicated facilities - (PROC8b)

Product features (article)
Liquid.
Covers concentrations up to 5%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.6 WORKERS EXPOSURE CONTROL - Roller or brush application - (PROC10)

Product features (article)
Liquid.
Covers concentrations up to 1%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Technical and organizational conditions and measures
Provide specifically designed and maintained LEV (receiving hood type). Ensure effectiveness is at least 80%.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with basic employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.7 WORKERS EXPOSURE CONTROL - Non-industrial spraying - (PROC11)

Product features (article)
Liquid.
Covers concentrations up to 1%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Technical and organizational conditions and measures
Provide specifically designed and maintained LEV (receiving hood type). Ensure effectiveness is at least 80%.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemically resistant gloves (tested to EN374) in combination with basic employee training.; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.8 WORKERS EXPOSURE CONTROL - Low energy manipulation of substances bound in materials and/or articles - (PROC21)

Product features (article)
Liquid.
Covers concentrations up to 5%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

2.9 WORKERS EXPOSURE CONTROL - High (mechanical) energy work-up of substances bound in materials and/or articles - (PROC24)

Product features (article)
Liquid.
Covers concentrations up to 5%.

Amount used (or contained in articles), frequency and duration of use/exposure
Covers use up to 8 h/day

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374. If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands. For further specifications, refer to section 8 of the SDS.

Other conditions affecting worker exposure
Indoor use.
Assumes process temperature up to 40 °C

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1 ENVIRONMENTAL RELEASE AND EXPOSURE - Wide dispersive outdoor use of HALS resulting in inclusion into a matrix - (ERC8f)

Release route	Release rate	Release estimation method
Water	0.05 kg/day	ERC
Air	0.15 kg/day	ERC
Soil	5E-3 kg/day	ERC

Protection goal	Exposure estimate	RCR
Fresh water	1.64E-3 mg/L (EUSES 2.1.2)	0.746
Sediment (freshwater)	0.782 mg/kg dw (EUSES 2.1.2)	0.745
Sea water	1.64E-4 mg/L (EUSES 2.1.2)	0.745
Sediment (marine water)	0.078 mg/kg dw (EUSES 2.1.2)	0.71
Wastewater treatment plant	0.016 mg/L (EUSES 2.1.2)	0.016
Farmland	0.064 mg/kg dw (EUSES 2.1.2)	0.307
Man via environment - Inhalation (systemic effects)	2.79E-8 mg/m³ (EUSES 2.1.2)	< 0.01
Man via environment - Oral	1.82E-4 mg/kg bw/day (EUSES 2.1.2)	< 0.01
Man via environment - combined routes	-	< 0.01

3.2 ENVIRONMENTAL RELEASE AND EXPOSURE - Wide dispersive indoor use of HALS resulting in inclusion into a matrix - (ERC8c)

Release route	Release rate	Release estimation method
Water	0.014 kg/day	ERC
Air	6.75E-3 kg/day	ERC
Soil	0 kg/day	ERC

Protection goal	Exposure estimate	RCR
Fresh water	4.83E-4 mg/L (EUSES 2.1.2)	0.22
Sediment (freshwater)	0.23 mg/kg dw (EUSES 2.1.2)	0.219
Sea water	4.81E-5 mg/L (EUSES 2.1.2)	0.219
Sediment (marine water)	0.023 mg/kg dw (EUSES 2.1.2)	0.208
Wastewater treatment plant	4.32E-3 mg/L (EUSES 2.1.2)	< 0.01
Farmland	0.018 mg/kg dw (EUSES 2.1.2)	0.084
Man via environment - Inhalation (systemic effects)	2.77E-8 mg/m³ (EUSES 2.1.2)	< 0.01
Man via environment - Oral	5.24E-5 mg/kg bw/day (EUSES 2.1.2)	< 0.01
Man via environment - combined routes	-	< 0.01

3.3 WORKERS EXPOSURE - Mixing or blending in batch processes for formulation of preparations and articles - (PROC5)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.367 mg/m³ (TRA Workers 3.0)	0.289
Dermal, systemic, long term	0.548 mg/kg bw/day (TRA Workers 3.0)	0.305
Combined, systemic, long term		0.593

3.4 WORKERS EXPOSURE - Transfer of chemicals from/to vessels/large containers at non dedicated facilities - (PROC8a)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.367 mg/m³ (TRA Workers 3.0)	0.289
Dermal, systemic, long term	0.548 mg/kg bw/day (TRA Workers 3.0)	0.305
Combined, systemic, long term		0.593

3.5 WORKERS EXPOSURE - Transfer of chemicals from/to vessels/large containers at dedicated facilities - (PROC8b)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.367 mg/m³ (TRA Workers 3.0)	0.289
Dermal, systemic, long term	0.548 mg/kg bw/day (TRA Workers 3.0)	0.305
Combined, systemic, long term		0.593

3.6 WORKERS EXPOSURE - Roller or brush application - (PROC10)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.97 mg/m³ (TRA)	0.764
Dermal, systemic, long term	0.274 mg/kg bw/day (TRA Workers 3.0)	0.152
Combined, systemic, long term		0.916

3.7 WORKERS EXPOSURE - Non-industrial spraying - (PROC11)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.5 mg/m³ (TRA)	0.394
Dermal, systemic, long term	1.071 mg/kg bw/day (TRA Workers 3.0)	0.595
Combined, systemic, long term		0.989

3.8 WORKERS EXPOSURE - Low energy manipulation of substances bound in materials and/or articles - (PROC21)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.2 mg/m³ (ECETOC TRA Workers)	0.157
Dermal, systemic, long term	0.1 mg/kg bw/day (ECETOC TRA Workers)	0.056
Combined, systemic, long term		0.213

3.9 WORKERS EXPOSURE - High (mechanical) energy work-up of substances bound in materials and/or articles - (PROC24)

Route of exposure and type of effects	Estimated exposure	RCR
Inhalation, systemic, long term	0.6 mg/m³ (ECETOC TRA Workers)	0.472
Dermal, systemic, long term	0.1 mg/kg bw/day (ECETOC TRA Workers)	0.056
Combined, systemic, long term		0.528

4. GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

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

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

1.1. Identifikacijska oznaka proizvoda

Identifikacija preparata:

Trgovačko ime: FASSAFILL EPOXY COMP.B

Trgovački kod: 1281.B

UFI: HRWQ-7RWA-4140-AGT0

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

Preporučana upotreba: Sredstvo za stvrdnjavanje epoksidnih masa; 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 Corr. 1B	Uzrokuje teške opekline kože i ozljede oka.
Eye Dam. 1	Uzrokuje teške ozljede oka.
Skin Sens. 1	Može izazvati alergijsku reakciju na koži.
Aquatic Acute 1	Vrlo otrovno za vodeni okoliš.
Aquatic Chronic 1	Vrlo 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

H314	Uzrokuje teške opekline kože i ozljede oka.
H317	Može izazvati alergijsku reakciju na koži.
H410	Vrlo otrovno za vodeni okoliš, s dugotrajnim učincima.

Oznake obavijesti

P260	Ne udisati prašinu/dim/plin/maglu/pare/aerosol.
P273	Izbjegavati ispuštanje u okoliš.
P280	Nositi zaštitne rukavice/zaštitno odijelo 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.

P391 Sakupiti proliveno/rasuto.

Sadrži:

3-aminometil-3,5,5-trimetilcikloheksilamin

Amini, polietilenpoli-, trietilentetramin frakcija

Masne kiseline, C18-nezasićene, dimeri, oligomerni proizvodi reakcije s masnim kiselinama iz visokog ulja i trietilenetetramin

Propilidentrimetanol, propoksilirani, reakcijski produkt s amonijakom

N,N-dimetil-1,3-diaminopropan

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: FASSAFILL EPOXY COMP.B

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

Količina	Naziv	Ident. Broj.	Klasifikacija	Broj registriranih slučajeva:
≥50 - <60 %	Masne kiseline, C18-nezasićene, dimeri, oligomerni proizvodi reakcije s masnim kiselinama iz visokog ulja i trietilenetetramin	CAS:68082-29-1 EC:500-191-5	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	01-2119972320-44-xxxx
≥15 - <20 %	Propilidentrimetanol, propoksilirani, reakcijski produkt s amonijakom	CAS:39423-51-3 EC:500-105-6	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411 Procjena akutne toksičnosti: ATE - Oralno: 550mg/kg t.m. ATE - Dermalno: 1000mg/kg t.m.	01-2119556886-20-xxxx
≥12.5 - <15 %	3-aminometil-3,5,5-trimetilcikloheksilamin	CAS:2855-13-2 EC:220-666-8 Index:612-067-00-9	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Specifične granične vrijednosti koncentracije: C ≥ 0.001%: Skin Sens. 1A H317 Procjena akutne toksičnosti: ATE - Oralno: 1030mg/kg t.m.	01-2119514687-32-xxxx
≥1 - <2.5 %	N,N-dimetil-1,3-diaminopropan	CAS:109-55-7 EC:203-680-9 Index:612-061-00-6	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Repr. 2, H361d STOT SE 3, H335 Procjena akutne toksičnosti: ATE - Oralno: 410mg/kg t.m. ATE - Dermalno: 1000mg/kg t.m.	01-2119486842-27-xxxx
≥0.3 - <0.5 %	Amini, polietilenpoli-, trietilentetramin frakcija	CAS:90640-67-8 EC:292-588-2	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye	01-2119487919-13-xxxx

Dam. 1, H318 Skin Sens. 1, H317
Aquatic Chronic 3, H412, EUH071

Procjena akutne toksičnosti:
ATE - Oralno: 1716mg/kg t.m.
ATE - Dermalno: 1465mg/kg t.m.

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 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

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 PNEC

Masne kiseline, C18-nezasićene, dimeri, oligomerni proizvodi reakcije s masnim kiselinama iz visokog ulja i trietilenetetramin

CAS: 68082-29-1 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 2.2 µg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.22 µg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 3.84 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 2200000 mg/kg

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 220000 mg/kg

Putevi izloženosti: Zemlja; PNEC Ograničiti: 440000 mg/kg

Propilidentrimetanol, propoksilirani, reakcijski produkt s amonijakom

CAS: 39423-51-3 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.004 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 0.022 mg/kg

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.002 mg/kg

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 10 mg/l

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 0.002 mg/kg

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.06 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.006 mg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 3.18 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 5.784 mg/kg

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.578 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 1.121 mg/kg

N,N-dimetil-1,3-diaminopropan

CAS: 109-55-7 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.073 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.007 mg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 10 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 0.735 mg/kg

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.073 mg/kg

Putevi izloženosti: Zemlja; PNEC Ograničiti: 0.104 mg/kg

Amini, polietilenpoli-, trietilentetramin frakcija

CAS: 90640-67-8 Putevi izloženosti: Svježa voda; PNEC Ograničiti: 0.027 mg/l

Putevi izloženosti: Morska voda; PNEC Ograničiti: 0.003 mg/l

Putevi izloženosti: Mikroorganizmi u postrojenjima za obradu otpadnih voda (STP); PNEC Ograničiti: 0.13 mg/l

Putevi izloženosti: Sedimenti svježe vode; PNEC Ograničiti: 8.572 mg/kg

Putevi izloženosti: Sedimenti morske vode; PNEC Ograničiti: 0.857 mg/kg

Putevi izloženosti: Tlo (poljoprivredno); PNEC Ograničiti: 1.25 mg/kg

Izvedena razina bez učinka. (DNEL)

Masne kiseline, C18-nezasićene, dimeri, oligomerni proizvodi reakcije s masnim kiselinama iz visokog ulja i trietilenetetramin

CAS: 68082-29-1 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci djelatnik: 49.3 mg/m3; Potrošač: 8.7 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci djelatnik: 14 mg/kg; Potrošač: 5 mg/kg

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci Potrošač: 5 mg/kg

Propilidentrimetanol, propoksilirani, reakcijski produkt s amonijakom

CAS: 39423-51-3 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci djelatnik: 4.9 mg/m3

Putevi izloženosti: Ljudi dermalno; Učestalost izloženosti: Dugotrajni, sistemski učinci djelatnik: 4 mg/kg

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

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, lokalni učinci Profesionalni djelatnik: 0.073 mg/m3

Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Kratkotrajni, lokalni učinci Profesionalni djelatnik: 0.073 mg/m3

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci Potrošač: 0.3 mg/kg/day

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Kratkotrajni, sistemski učinci Potrošač: 0.3 mg/kg/day

N,N-dimetil-1,3-diaminopropan

CAS: 109-55-7 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci djelatnik: 1.2 mg/m3

Amini, polietilenpoli-, trietilentetramin frakcija

CAS: 90640-67-8 Putevi izloženosti: Ljudi inhalacijski; Učestalost izloženosti: Dugotrajni, sistemski učinci djelatnik: 0.54 mg/m3; Potrošač: 0.096 mg/m3

Putevi izloženosti: Ljudi oralno; Učestalost izloženosti: Dugotrajni, sistemski učinci Potrošač: 0.14 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); NBR (nitrilna guma): debljina> = 0,4 mm; vrijeme prodiranja> = 480 min. FKM (fluorirana 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: Kruto

Izgled: Kašasta krutina

Boja: prozračno

Miris: uz mali udio amonijaka

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: Ne primjenjuje se.

Plamište: Ne primjenjuje se.

Temperatura samozapaljenja: Ne primjenjuje se.

Temperatura raspadanja: Ne primjenjuje se.

pH: >=11.30<=11.50 (Interna metoda - 20% u vodenoj disperziji)

Kinematička viskoznost: Ne primjenjuje se.

Topljivost u vodi: može se miješati u svim izvješćima

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: 1.10 ± 0.02 kg/l (Interna metoda)

Relativna gustoća pare: Ne primjenjuje se.

Svojstva čestica:

Ovaj proizvod sadrži nanomaterijale u sferoidalnom i amorfnom obliku koje imaju površinsku obradu / površinski premaz.

9.2. Ostale informacije

Explozivne osobine: N.D.

Osobine oksidiranja: N.D.

ODJELJAK 10.: Stabilnost i reaktivnost

10.1. Reaktivnost

Stabilan u normalnim uvjetima

10.2. Kemijska stabilnost

Proizvod može tijekom vremena stvarati tekuće faze.

10.3. Mogućnost opasnih reakcija

Može se zapaliti u kontaktu s jakim oksidansima.

Mogu nastati zapaljivi i/ili otrovni plinovi u kontaktu s elementarnim metalima (alkalije i zemnoalkalijske zemlje), oksidirajućim mineralnim kiselinama, halogeniranim organskim tvarima, organskim peroksidima i hidroperoksidima, snažnim oksidansima, snažnim redukcijskim sredstvima.

10.4. Uvjeti koje treba izbjegavati

Čuvati odvojeno od izvorā topline.

10.5. Inkompatibilni materijali

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	Nije kategorizirano
	Na temelju dostupnih podataka kriteriji za razvrstavanje nisu ispunjeni.
b) kožno nagrizanje/nadraživanje	Proizvod je razvrstan kao: Skin Corr. 1B(H314)
c) teške očne ozljede/teško očno nadraživanje	Proizvod je razvrstan kao: Eye Dam. 1(H318)

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:

Masne kiseline, C18-nezasićene, dimeri, oligomerni proizvodi reakcije s masnim kiselinama iz visokog ulja i trietilenetetramin

CAS: 68082-29-1	a) akutna toksičnost	LD50 Oralno Štakor > 2000 mg/kg
		LD50 Koža Štakor > 2000 mg/kg

Propilidentrimetanol, propoksilirani, reakcijski produkt s amonijakom

CAS: 39423-51-3	a) akutna toksičnost	ATE - Oralno: 550 mg/kg t.m.
		ATE - Dermalno: 1000 mg/kg t.m.

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2	a) akutna toksičnost	ATE - Oralno: 1030 mg/kg t.m.
		LC50 Inhalacija aerosola Štakor > 5.01 mg/l 4h
		LD50 Koža Štakor > 2000 mg/kg t.m.

N,N-dimetil-1,3-diaminopropan

CAS: 109-55-7	a) akutna toksičnost	ATE - Oralno: 410 mg/kg t.m.
		ATE - Dermalno: 1000 mg/kg t.m.

Amini, polietilenpoli-, trietilentetramin frakcija

CAS: 90640-67-8	a) akutna toksičnost	ATE - Oralno: 1716 mg/kg t.m.
		ATE - Dermalno: 1465 mg/kg t.m.

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:

Vrlo otrovno za vodeni okoliš, s dugotrajnim učincima.

Popis eko-toksikoloških svojstava proizvoda

Proizvod je razvrstan kao: Aquatic Acute 1(H400), Aquatic Chronic 1(H410)

Popis sastojaka sa eko-toksikološkim svojstvima

Masne kiseline, C18-nezasićene, dimeri, oligomerni proizvodi reakcije s masnim kiselinama iz visokog ulja i trietilenetetramin

CAS: 68082-29-1	a) Akutna otrovnost na vodene organizme: LC50 Ribe > 0.15 mg/l 96h
	a) Akutna otrovnost na vodene organizme: EC50 Daphnia 1.2 mg/l 48h
	a) Akutna otrovnost na vodene organizme: EC50 Algae 0.15 mg/l 72h
	b) Hronična otrovnost na vodene organizme: NOEC Ribe 0.1 mg/l 34d

b) Hronična otrovnost na vodene organizme: NOEC Daphnia 0.16 mg/l 21d

Propilidentrimetanol, propoksilirani, reakcijski produkt s amonijakom

CAS: 39423-51-3 a) Akutna otrovnost na vodene organizme: LC50 Ribe > 100 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 13 mg/l 48h

a) Akutna otrovnost na vodene organizme: ErC50 Algae 4.4 mg/l 72h

b) Hronična otrovnost na vodene organizme: NOEC Algae 1 mg/l 72h

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 a) Akutna otrovnost na vodene organizme: LC50 Ribe 110 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 23 mg/l 48h

a) Akutna otrovnost na vodene organizme: EC50 Algae > 50 mg/l 72h

b) Hronična otrovnost na vodene organizme: NOEC Daphnia 3 mg/l 21d

N,N-dimetil-1,3-diaminopropan

CAS: 109-55-7 a) Akutna otrovnost na vodene organizme: LC50 Ribe 122 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 59.46 mg/l 48h

a) Akutna otrovnost na vodene organizme: EC50 Algae 34 mg/l 72h

b) Hronična otrovnost na vodene organizme: NOEC Daphnia 3.64 mg/l - 22d

Amini, polietilenpoli-, trietilentetramin frakcija

CAS: 90640-67-8 a) Akutna otrovnost na vodene organizme: LC50 Ribe 330 mg/l 96h

a) Akutna otrovnost na vodene organizme: EC50 Daphnia 31.1 mg/l 48h

a) Akutna otrovnost na vodene organizme: EC50 Algae 20 mg/l 72h

b) Hronična otrovnost na vodene organizme: EC10 Daphnia 1.9 mg/l 21d

b) Hronična otrovnost na vodene organizme: NOEC Algae 1.34 mg/l 72h

12.2. Postojanost i razgradivost

Masne kiseline, C18-nezasićene, dimeri, oligomerni proizvodi reakcije s masnim kiselinama iz visokog ulja i trietilenetetramin

CAS: 68082-29-1 Nije brzo-biološki razgradiv

Propilidentrimetanol, propoksilirani, reakcijski produkt s amonijakom

CAS: 39423-51-3 Nije brzo-biološki razgradiv

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 Nije brzo-biološki razgradiv

N,N-dimetil-1,3-diaminopropan

CAS: 109-55-7 Brzo-biološki razgradiv

Amini, polietilenpoli-, trietilentetramin frakcija

CAS: 90640-67-8 Nije brzo-biološki razgradiv

12.3. Bioakumulacijski potencijal

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 Nije bioakumulativan

N,N-dimetil-1,3-diaminopropan

CAS: 109-55-7 Nije bioakumulativan

Amini, polietilenpoli-, trietilentetramin frakcija

CAS: 90640-67-8 Nije bioakumulativan

12.4. Pokretljivost u tlu

Masne kiseline, C18-nezasićene, dimeri, oligomerni proizvodi reakcije s masnim kiselinama iz visokog ulja i trietilenetetramin

CAS: 68082-29-1 Test: Log Koc; Vrijednost: 5.750

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 Test: Log Koc; Vrijednost: 2.970

N,N-dimetil-1,3-diaminopropan

CAS: 109-55-7 Test: Log Koc; Vrijednost: 1.810

Amini, polietilenpoli-, trietilentetramin frakcija

CAS: 90640-67-8 Test: Log Koc; Vrijednost: 3.500

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

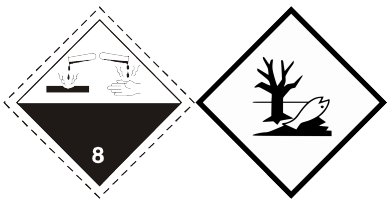
Regenerirati ako je moguće. Poslati ovlaštenim postrojenjima za odlaganje ili na spaljivanje pod kontroliranim uvjetima. Pri tome se pridržavati vrijedećih lokalnih i državnih regulativa.

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

1759

14.2. Ispravno otpremno ime prema UN-u

ADR-Naziv za otpremu: KOROZIVNA KRUTA TVAR, N.A.S. (3-aminometil-3,5,5-trimetilcikloheksilamin)

IATA-Naziv za otpremu: CORROSIVE SOLID, N.O.S. (3-aminometil-3,5,5-trimetilcikloheksilamin)

IMDG-Naziv za otpremu: CORROSIVE SOLID, N.O.S. (3-aminometil-3,5,5-trimetilcikloheksilamin)

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

Najvažnija toksična komponenta: Masne kiseline, C18-nezasićene, dimeri, oligomerni proizvodi reakcije s masnim kiselinama iz visokog ulja i trietilenetetramin

Morski polutant: Da

Zagađivači okoliša: Da

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: 859

IATA-Teretni zrakoplov: 863

IATA-Označavanje: 8

IATA-Sporedni opasnosti: -

IATA-Erg: 8L

IATA-Posebne odredbe: A3 A803

More (IMDG):

IMDG-Skladištenje i rukovanje: Category A

IMDG-Segregacija: -

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)

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: Niti jedan

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: E1	100	200

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
EUH071	Nagrizajuće za dišni sustav.
H226	Zapaljiva tekućina i para.
H302	Štetno ako se proguta.
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.
H335	Može nadražiti dišni sustav.
H361d	Sumnja na mogućnost štetnog djelovanja na nerođeno dijete.
H400	Vrlo otrovno za vodeni okoliš.
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**
2.6/3	Flam. Liq. 3	Zapaljiva tekućina, kategorija 3
3.1/4/Dermal	Acute Tox. 4	Akutna toksičnost (preko kože), kategorija 4
3.1/4/Oral	Acute Tox. 4	Akutna toksičnost (gutanje), kategorija 4
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
3.4.2/1	Skin Sens. 1	Izazivanje preosjetljivosti kože, kategorija 1
3.4.2/1A	Skin Sens. 1A	Izazivanje preosjetljivosti kože, kategorija 1A
3.7/2	Repr. 2	Reproduktivna toksičnost, Kategorija 2
3.8/3	STOT SE 3	Specifična toksičnost za ciljane organe – jednokratno izlaganje, Kategorija 3
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
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 Corr. 1B, H314	Računska metoda
Eye Dam. 1, H318	Računska metoda
Skin Sens. 1, H317	Računska metoda
Aquatic Acute 1, H400	Računska metoda
Aquatic Chronic 1, H410	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

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Substance identification
Chemical Name: 3-aminomethyl-3,5,5-trimethylcyclohexylamine
CAS number: 2855-13-2
EU index number: 612-067-00-9
EINECS number: 220-666-8

ES1 Formulation or repackaging - INDUSTRIAL USES

1. TITLE SECTION

Exposure scenario name: Preparation and repackaging of substances and mixtures
Date - Version: 15/07/2020 - 1.0
Life cycle stage: Formulation or repackaging
Main user group: Industrial uses
Sector(s) of use: Industrial uses (SU3) - Large-scale production of basic chemicals (including petroleum products) (SU8) - Formulation [blending] of preparations and/or repackaging (SU10)

Contributing scenario - Environment
CS1 Wet formulation: ERC2

Contributing scenario - Worker
CS2 Use in closed systems: PROC3
CS3 Material Transfers: PROC8a
CS4 Material Transfers: PROC8b
CS5 Material Transfers: PROC9
CS6 Blend Operations: PROC5

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. CS1 Environment Contributing Scenario: Wet Formulation (ERC2)

Environmental release categories: Formulation of mixtures (ERC2)

Product features (article)
Physical form of the product: Liquid
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use
Amounts used: Annual amount per site 2500 t
Release Type: Continuous release
Issue days: 300 days/year
Further environmental conditions:
Wet formulation
Air - minimum efficiency of: 0.25 %
Ground - minimum efficiency of: 0.01 %
Water - minimum efficiency of: 0.5 %

Measures and technical-organizational conditions
Control measures to prevent releases:
Air - minimum efficiency of: 0.25 %
Ground - minimum efficiency of: 0.01 %
Water - minimum efficiency of: 0.5 %

Conditions and measures for the municipal sewage treatment plant
Type of sewage treatment plant (STP): Municipal STP
STP effluent (m^3/day): 8640

Conditions and measures for waste treatment (including the product waste)
Waste treatment: Do not spread industrial sludge on natural soils.

Other operational conditions affecting environmental exposure
Local seawater dilution factor: 100
Local fresh water dilution factor: 11
Flow rate of receiving surface water: 86400
Indoor use

2.2. CS2 Worker Contributing Scenario: Use in Closed Systems (PROC3)

Process categories: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC3)

Product features (article)
Physical form of the product: Liquid
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use/exposure
Duration: 480 min
Frequency: 5 days/week

Measures and technical-organizational conditions
Technical organizational measures: For further data, see section 8 of the safety data sheet.

Conditions and measures related to personal protection, hygiene and health verification
Personal protective equipment:
Wear suitable gloves, tested according to EN347.
Dermal - minimum efficiency of: 95 %

Other operational conditions affecting worker exposure
Indoor use
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Palm of a hand.

Learn more about good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.
Further information on good practices: Wear waterproof clothing. Ensure regular inspection, cleaning and maintenance of machines and systems. Wear a suitable apron to avoid skin exposure.

2.3. CS3 Worker Contributing Scenario: 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
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use/exposure
Duration: 240 min
Frequency: 5 days/week

Measures and technical-organizational conditions
Technical organizational measures: For further data, see section 8 of the safety data sheet.

Conditions and measures related to personal protection, hygiene and health verification
Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum efficiency of: 98 %

Other operational conditions affecting worker exposure
Indoor use
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Palm of a hand.

Learn more about good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Wear waterproof clothing. Ensure regular inspection, cleaning and maintenance of machines and systems. Wear a suitable apron to avoid skin exposure.

2.4. CS4 orker Contributing Scenario: 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
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use/exposure

Duration: 480 min
Frequency: 5 days/week

Measures and technical-organizational conditions

Technical organizational measures: For further data, see section 8 of the safety data sheet.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347.
Dermal - minimum efficiency of: 98 %

Other operational conditions affecting worker exposure

Indoor use
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 97%
Body parts exposed: Palm of a hand. Possible skin contact is believed to be limited to the hands.

Learn more about good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Wear waterproof clothing. Ensure regular inspection, cleaning and maintenance of machines and systems. Wear a suitable apron to avoid skin exposure. Wear suitable face protection.

2.5. CS5 Worker Contributing Scenario: Material Transfers (PROC9)

Process categories: Transfer of a substance or preparation (filling/emptying) (dedicated filling line, including weighing) (PROC9)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use/exposure

Duration: 480 min
Frequency: 5 days/week

Measures and technical-organizational conditions

Technical organizational measures: For further data, see section 8 of the safety data sheet.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347.
Dermal - minimum efficiency of: 98 %

Other operational conditions affecting worker exposure

Indoor use
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Palm of a hand. Possible skin contact is believed to be limited to the hands.

Learn more about good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Wear waterproof clothing. Ensure regular inspection, cleaning and maintenance of machines and systems. Wear a suitable apron to avoid skin exposure. Wear suitable face protection.

2.6. CS6 Worker Contributing Scenario: Mixing Operations (PROC5)

Process categories: Mixing or Blending in Batch Processes (PROC5)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use/exposure

Duration: 480 min
Frequency: 5 days/week

Measures and technical-organizational conditions

Technical organizational measures: For further data, see section 8 of the safety data sheet.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum efficiency of: 98 %

Other operational conditions affecting worker exposure

Indoor use
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Palm of a hand.

Learn more about good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Wear waterproof clothing. Ensure regular inspection, cleaning and maintenance of machines and systems. Wear a suitable apron to avoid skin exposure.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. CS1 Environment Contributing Scenario: Wet Formulation (ERC2)

Protection target	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
sea water	1,025 kg/day	ECETOC TRA environment v2.0	0.81

3.2. CS2 Worker Contributing Scenario: Use in Closed Systems (PROC3)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, local, short-term	4,258 mg/m³	ECETOC TRA worker v2.0	0.212

3.3. CS3 Worker Contributing Scenario: Material Transfers (PROC8a)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, local, short-term	14,192 mg/m³	ECETOC TRA worker v2.0	0.706
by inhalation, systemic, short-term	14,192 mg/m³	ECETOC TRA worker v2.0	0.706

3.4. CS4 orker Contributing Scenario: Material Transfers (PROC8b)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, local, short-term	2,129 mg/m³	ECETOC TRA worker v2.0	0.106
by inhalation, systemic, short-term	2,129 mg/m³	ECETOC TRA worker v2.0	0.106

3.5. CS5 Worker Contributing Scenario: Material Transfers (PROC9)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, local, short-term	7,096 mg/m³	ECETOC TRA worker v2.0	0.353
by inhalation, systemic, short-term	7,096 mg/m³	ECETOC TRA worker v2.0	0.353

3.6.CS6 Worker Contributing Scenario: Mixing Operations (PROC5)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, local, short-term	7,096 mg/m³	ECETOC TRA worker v2.0	0.353
by inhalation, systemic, short-term	7,096 mg/m³	ECETOC TRA worker v2.0	0.353

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.

ES2 Formulation or repackaging - PROFESSIONAL USES

1. TITLE SECTION

Exposure scenario name: Preparation and repackaging of substances and mixtures
Date - Version: 10/03/2020 - 1.0
Life cycle stage: Formulation or repackaging
Main user group: Professional uses
Sector(s) of use: Manufacture of bulk, large scale chemicals (including petroleum products) (SU8) - Formulation [mixing] of preparations and/or re-packaging (SU10) - Professional uses (SU22)

Contributing scenario - Environment

CS1 Wet formulation: ERC2

Contributing scenario - Worker

CS2 Use in closed systems: PROC3
CS3 Material Transfers: PROC8a
CS3 Material Transfers: PROC8b
CS3 Material Transfers: PROC9
CS6 Blend Operations: PROC5

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.2. CS1 Environment Contributing Scenario: Wet Formulation (ERC2)

Environmental release categories: Formulation of mixtures (ERC2)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use

Amounts used: Annual amount per site 2500 t
Release Type: Continuous release
Issue days: 300 days/year
Further environmental conditions:
Wet formulation
Air - minimum efficiency of: 0.25 %
Ground - minimum efficiency of: 0.01 %
Water - minimum efficiency of: 0.5 %

Measures and technical-organizational conditions

Control measures to prevent releases:
Air - minimum efficiency of: 0.25 %
Ground - minimum efficiency of: 0.01 %
Water - minimum efficiency of: 0.5 %

Conditions and measures for the municipal sewage treatment plant

Type of sewage treatment plant (STP): Municipal STP
STP effluent (m^3/day): 8640

Conditions and measures for waste treatment (including the product waste)

Waste treatment: Do not spread industrial sludge on natural soils.

Other operational conditions affecting environmental exposure

Local seawater dilution factor: 100
Local fresh water dilution factor: 11
Flow rate of receiving surface water: 86400
Indoor use

2.2. CS2 Worker Contributing Scenario: Use in Closed Systems (PROC3)

Process categories: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC3)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use/exposure

Duration: 480 min
Frequency: 5 days/week

Measures and technical-organizational conditions

Technical organizational measures: For further data, see section 8 of the safety data sheet.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum efficiency of: 95 %

Other operational conditions affecting worker exposure

Indoor use
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Palm of a hand.

Learn more about good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Wear waterproof clothing. Ensure regular inspection, cleaning and maintenance of machines and systems. Wear a suitable apron to avoid skin exposure.

2.3. CS3 Worker Contributing Scenario: 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
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use/exposure

Duration: 240 min
Frequency: 5 days/week

Measures and technical-organizational conditions

Technical organizational measures: For further data, see section 8 of the safety data sheet.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum efficiency of: 98 %

Other operational conditions affecting worker exposure

Indoor use
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Palm of a hand.

Learn more about good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Wear waterproof clothing. Ensure regular inspection, cleaning and maintenance of machines and systems. Wear a suitable apron to avoid skin exposure.

2.4. CS4 orker Contributing Scenario: 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
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use/exposure

Duration: 240 min
Frequency: 5 days/week

Measures and technical-organizational conditions

Technical organizational measures: For further data, see section 8 of the safety data sheet.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum efficiency of: 98 %

Other operational conditions affecting worker exposure

Indoor use
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Palm of a hand. Possible skin contact is believed to be limited to the hands.

Learn more about good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Wear waterproof clothing. Ensure regular inspection, cleaning and maintenance of machines and systems. Wear a suitable apron to avoid skin exposure. Wear suitable face protection.

2.5. CS5 Worker Contributing Scenario: Material Transfers (PROC9)

Process categories: Transfer of a substance or preparation (filling/emptying) (dedicated filling line, including weighing) (PROC9)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use/exposure

Duration: 240 min
Frequency: 5 days/week

Measures and technical-organizational conditions

Technical organizational measures: For further data, see section 8 of the safety data sheet.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum efficiency of: 98 %

Other operational conditions affecting worker exposure

Indoor use
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Palm of a hand. Possible skin contact is believed to be limited to the hands.

Learn more about good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Wear waterproof clothing. Ensure regular inspection, cleaning and maintenance of machines and systems. Wear a suitable apron to avoid skin exposure. Wear suitable face protection.

2.6. CS6 Worker Contributing Scenario: Mixing Operations (PROC5)

Process categories: Mixing or Blending in Batch Processes (PROC5)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: 1.57 Pa

Amount used, frequency and duration of use/exposure

Duration: 60 min
Frequency: 5 days/week

Measures and technical-organizational conditions

Technical organizational measures: For further data, see section 8 of the safety data sheet.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum efficiency of: 98 %

Other operational conditions affecting worker exposure

Indoor use
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Palm of a hand. Possible skin contact is believed to be limited to the hands.

Learn more about good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Wear waterproof clothing. Ensure regular inspection, cleaning and maintenance of machines and systems. Wear a suitable apron to avoid skin exposure. Wear suitable face protection.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. CS1 Environment Contributing Scenario: Wet Formulation (ERC2)

Protection target	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
sea water	1,025 kg/day	ECETOC TRA environment v2.0	0.81

3.2. CS2 Worker Contributing Scenario: Use in Closed Systems (PROC3)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, local, short-term	8,515 mg/m³	ECETOC TRA worker v2.0	0.424

3.3. CS3 Worker Contributing Scenario: Material Transfers (PROC8a)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, local, short-term	7,096 mg/m³	ECETOC TRA worker v2.0	0.353
by inhalation, systemic, short-term	7,096 mg/m³	ECETOC TRA worker v2.0	0.353

3.4. CS4 orker Contributing Scenario: Material Transfers (PROC8b)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, local, short-term	14,192 mg/m³	ECETOC TRA worker v2.0	0.706
by inhalation, systemic, short-term	14,192 mg/m³	ECETOC TRA worker v2.0	0.706

3.5. CS5 Worker Contributing Scenario: Material Transfers (PROC9)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, local, short-term	14,192 mg/m³	ECETOC TRA worker v2.0	0.706
by inhalation, systemic, short-term	14,192 mg/m³	ECETOC TRA worker v2.0	0.706

3.6. CS6 Worker Contributing Scenario: Mixing Operations (PROC5)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, local, short-term	14,192 mg/m³	ECETOC TRA worker v2.0	0.706

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.

Amines, polyethylenepoly-, triethylenetetramine fraction

Substance identification
Chemical Name: Amines, polyethylenepoly-, triethylenetetramine fraction
CAS number: 90640-67-8

INDUSTRIAL APPLICATION OF COATINGS AND PAINTS - INDUSTRIAL USE

1. TITLE SECTION

Exposure scenario name: Industrial application of coatings and paints
Date - Version: 15/07/2020 - 1.0
Life cycle stage: Use at industrial sites
Main user group: Industrial uses
Sector(s) of use: Industrial uses (SU3)

Contributing scenario - Environment
CS1 Wet polymerization: ERC4

Contributing scenario - Worker
CS2 Blend Operations: PROC5
CS3 Spraying: PROC7
CS4 Material Transfers: PROC8a
CS5 Material Transfers: PROC8b
CS6 Material Transfers: PROC9
CS7 Roller and brush application: PROC10

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. Contributing Scenario CS1 - Environment: Wet polymerization (ERC4)

Environmental release categories: Use of non-reactive processing aid at industrial site (no inclusion into or onto article). (ERC4)

Product features (article)
Physical form of the product: Liquid

Amount used, frequency and duration of use
Amounts used: Daily quantity per site 2114 kg/day
Release Type: Continuous release
Issue days: 220 days a year

Measures and technical-organizational conditions
Control measures to prevent releases: No specific measures identified.

Other operational conditions affecting environmental exposure
Local fresh water dilution factor: 1000

2.2. CS2 Contributing Scenario - Worker: Mixing Operations (PROC5)

Process categories: Mixing or Blending in Batch Processes (PROC5)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: Includes use up to 60 min.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.3. CS3 Contributing Scenario - Worker: Spray (PROC7)

Process categories: Industrial spray application (PROC7)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 15%.

Amount used, frequency and duration of use/exposure

Duration: Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 95% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.4. CS4 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
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 25%.

Amount used, frequency and duration of use/exposure

Duration: Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.5. CS5 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
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 25%.

Amount used, frequency and duration of use/exposure

Duration:. Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 90% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.6 Contributing Scenario CS6 - Worker: Material transfers (PROC9)

Process categories: Transfer of a substance or preparation into small containers (dedicated filling line, including weighing) (PROC9)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 15%.

Amount used, frequency and duration of use/exposure

Duration: Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 90% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.7 CS7 Contributing Scenario - Worker: Roller and brush application (PROC10)

Process categories: Roller and brush application (PROC10)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 15%.

Amount used, frequency and duration of use/exposure

Duration: Includes use up to 60 min.
Additional conditions for human health: Limit the amount of substance in the product to 0.5%

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 90% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. Contributing Scenario CS1 - Environment: Wet polymerization (ERC4)

Protection target	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
fresh water	0.00317 mg/l	EUSES	0.017
fresh water sediment	1.6 mg/kg bw/day	EUSES	0.017
sea water	0.00042 mg/l	EUSES	0.008
Marine sediment	0.212 mg/kg bw/day	EUSES	0.008
ground	0.114 mg/kg bw/day	EUSES	0.006

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)
skin contact, systemic, long-term	0.68 mg/kg bw/day	N.d.	0.12
by inhalation, systemic, long-term	0.365 mg/m³	N.d.	0.366
by inhalation, systemic, short-term	0.731 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.486

3.3. CS3 Contributing Scenario - Worker: Spray (PROC7)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.128 mg/kg bw/day	N.d.	0.226
by inhalation, systemic, long-term	0.457 mg/m³	N.d.	0.457
by inhalation, systemic, short-term	0.914 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.683

3.4. CS4 Contributing Scenario - Worker: Material transfers (PROC8a)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.041 mg/kg bw/day	N.d.	0.072
by inhalation, systemic, long-term	0.548 mg/m³	N.d.	0.548
by inhalation, systemic, short-term	1,097 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.621

3.5. CS5 Contributing Scenario - Worker: Material transfers (PROC8b)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.034 mg/kg bw/day	N.d.	0.06
by inhalation, systemic, long-term	0.548 mg/m³	N.d.	0.548
by inhalation, systemic, short-term	1.096 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.609

3.6. Contributing Scenario CS6 - Worker: Material transfers (PROC9)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.068 mg/kg bw/day	N.d.	0.12
by inhalation, systemic, long-term	0.365 mg/m³	N.d.	0.366
by inhalation, systemic, short-term	1.22 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.706

3.7. CS7 Contributing Scenario - Worker: Roller and brush application (PROC10)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.082 mg/kg bw/day	N.d.	0.144
by inhalation, systemic, long-term	0.457 mg/m³	N.d.	0.229
by inhalation, systemic, short-term	0.914 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.373

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.

USE IN RIGID FOAM, COATINGS, ADHESIVES AND SEALANTS - INDUSTRIAL USE

1. TITLE SECTION

Exposure scenario name: Use in rigid foam, coatings, adhesives and sealants
Date - Version: 03/18/2020 - 1.0
Life cycle stage: Use at industrial sites
Main user group: Industrial uses
Sector(s) of use: Industrial uses (SU3)

Contributing scenario - Environment

CS1 Wet polymerization: ERC4

Contributing scenario - Worker

CS2 Blend Operations: PROC5
CS3 Spraying: PROC7
CS4 Material Transfers: PROC8a
CS5 Material Transfers: PROC8b
CS6 Material Transfers: PROC9
CS7 Roller and brush application: PROC10

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. Contributing Scenario CS1 - Environment: Wet polymerization (ERC4)

Environmental release categories: Use of non-reactive processing aid at industrial site (no inclusion into or onto article). (ERC4)

Product features (article)

Physical form of the product: Liquid

Amount used, frequency and duration of use

Amounts used: Daily quantity per site 2114 kg/day
Release Type: Continuous release
Issue days: 220 days a year

Measures and technical-organizational conditions

Control measures to prevent releases: No specific measures identified.

Other operational conditions affecting environmental exposure

Local fresh water dilution factor: 1000

2.2. CS2 Contributing Scenario - Worker: Mixing Operations (PROC5)

Process categories: Mixing or Blending in Batch Processes (PROC5)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: Includes use up to 60 min.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.3. CS3 Contributing Scenario - Worker: Spray (PROC7)

Process categories: Industrial spray application (PROC7)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 15%.

Amount used, frequency and duration of use/exposure

Duration: Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 95% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.4. CS4 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
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 25%.

Amount used, frequency and duration of use/exposure

Duration: Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.5. CS5 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
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 25%.

Amount used, frequency and duration of use/exposure

Duration:. Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 90% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.6. Contributing Scenario CS6 - Worker: Material transfers (PROC9)

Process categories: Transfer of a substance or preparation into small containers (dedicated filling line, including weighing) (PROC9)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 15%.

Amount used, frequency and duration of use/exposure

Duration: Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 90% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.7. CS7 Contributing Scenario - Worker: Roller and brush application (PROC10)

Process categories: Roller and brush application (PROC10)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 5%.

Amount used, frequency and duration of use/exposure

Duration: Covers up to 8 hours of daily exposure.
Additional conditions for human health: Limit the amount of substance in the product to 0.5%

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: -Wear suitable gloves, tested according to EN347. Dermal - minimum 90% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. Contributing Scenario CS1 - Environment: Wet polymerization (ERC4)

Protection target	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
fresh water	0.00317 mg/l	EUSES	0.017
fresh water sediment	1.6 mg/kg bw/day	EUSES	0.017
sea water	0.00042 mg/l	EUSES	0.008
Marine sediment	0.212 mg/kg bw/day	EUSES	0.008
ground	0.114 mg/kg bw/day	EUSES	0.006

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)
skin contact, systemic, long-term	0.68 mg/kg bw/day	N.d.	0.12
by inhalation, systemic, long-term	0.365 mg/m³	N.d.	0.366
by inhalation, systemic, short-term	0.731 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.486

3.3. CS3 Contributing Scenario - Worker: Spray (PROC7)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.128 mg/kg bw/day	N.d.	0.226
by inhalation, systemic, long-term	0.457 mg/m³	N.d.	0.457
by inhalation, systemic, short-term	0.914 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.683

3.4. CS4 Contributing Scenario - Worker: Material transfers (PROC8a)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.041 mg/kg bw/day	N.d.	0.072
by inhalation, systemic, long-term	0.548 mg/m³	N.d.	0.548
by inhalation, systemic, short-term	1.097 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.621

3.5. CS5 Contributing Scenario - Worker: Material transfers (PROC8b)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.034 mg/kg bw/day	N.d.	0.06
by inhalation, systemic, long-term	0.548 mg/m³	N.d.	0.548
by inhalation, systemic, short-term	1.096 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.609

3.6. Contributing Scenario CS6 - Worker: Material transfers (PROC9)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.068 mg/kg bw/day	N.d.	0.12
by inhalation, systemic, long-term	0.365 mg/m³	N.d.	0.366
by inhalation, systemic, short-term	1.22mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.706

3.7. CS7 Contributing Scenario - Worker: Roller and brush application (PROC10)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.082 mg/kg bw/day	N.d.	0.144
by inhalation, systemic, long-term	0.457 mg/m³	N.d.	0.229
by inhalation, systemic, short-term	0.914 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.373

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.

- INDUSTRIAL APPLICATION OF COATINGS AND PAINTS - PROFESSIONAL USE

1. TITLE SECTION

Exposure scenario name: Industrial application of coatings and paints
Date - Version: 03/18/2020 - 1.0
Life cycle stage: Generalized use by professional operators
Main user group: Professional uses
Sector(s) of use: Professional uses (SU22)

Contributing scenario - Environment

CS1 Wet polymerization: ERC8a - ERC8d

Contributing scenario - Worker

CS2 Blend Operations: PROC5
CS3 Material Transfers: PROC8a
CS4 Material Transfers: PROC8b
CS5 Material Transfers: PROC9
CS6 Roller and brush application: PROC10

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. Contributing Scenario CS1 - Environment: Wet polymerization (ERC4)

Environmental release categories: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor). (ERC8a, ERC8d)

Product features (article)

Physical form of the product: Liquid

Amount used, frequency and duration of use

Amounts used: Daily quantity per site 15500kg/day
Release Type: Continuous release
Issue days: 300 days/year

Measures and technical-organizational conditions

Control measures to prevent releases: Preventive treatment of wastewater by neutralization. No other specific measures identified.

Other operational conditions affecting environmental exposure

Local fresh water dilution factor: 1000

2.2. CS2 Contributing Scenario - Worker: Mixing Operations (PROC5)

Process categories: Mixing or Blending in Batch Processes (PROC5)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: Includes use up to 60 min.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

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
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: Includes use up to 15 min.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Inhalation - minimum 95% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

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
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes substance shares in the product up to 5%.

Amount used, frequency and duration of use/exposure

Duration:. Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 90% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.5. CS5 Contributing Scenario - Worker: Material transfers (PROC9)

Process categories: Transfer of a substance or preparation into small containers (dedicated filling line, including weighing) (PROC9)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 25%.

Amount used, frequency and duration of use/exposure

Duration: Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 90% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.6. Contributing Scenario CS6 - Worker: Roller and brush application (PROC10)

Process categories: Roller and brush application (PROC10)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 5%.

Amount used, frequency and duration of use/exposure

Duration: Covers up to 8 hours of daily exposure.
Additional conditions for human health: Limit the amount of substance in the product to 2%

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 90% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. Contributing Scenario CS1 - Environment: Wet polymerization (ERC8a, ERC8d)

Protection target	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
fresh water	0.0037 mg/l	EUSES	N.d.
fresh water sediment	1.6 mg/kg bw/day	EUSES	N.d.
sea water	0.00042 mg/l	EUSES	N.d.
Marine sediment	0.212 mg/kg bw/day	EUSES	N.d.
ground	0.114 mg/kg bw/day	EUSES	N.d.

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)
skin contact, systemic, long-term	0.68 mg/kg bw/day	N.d.	0.12
by inhalation, systemic, long-term	0.365 mg/m³	N.d.	0.366
by inhalation, systemic, short-term	0.731 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.486

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)
skin contact, systemic, long-term	0.09 mg/kg bw/day	N.d.	0.15
by inhalation, systemic, long-term	0.61 mg/m³	N.d.	0.609
by inhalation, systemic, short-term	1.22mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.76

3.4. CS4 Contributing Scenario - Worker: Material transfers (PROC8b)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.14 mg/kg bw/day	N.d.	0.248
by inhalation, systemic, long-term	0.76 mg/m³	N.d.	0.076
by inhalation, systemic, short-term	1.52 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.324

3.5. CS5 Contributing Scenario - Worker: Material transfers (PROC9)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.14 mg/kg bw/day	N.d.	0.248
by inhalation, systemic, long-term	0.76 mg/m³	N.d.	0.076
by inhalation, systemic, short-term	1.52 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.324

3.6. Contributing Scenario CS6 - Worker: Roller and brush application (PROC10)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.14 mg/kg bw/day	N.d.	0.248
by inhalation, systemic, long-term	0.76 mg/m³	N.d.	0.076
by inhalation, systemic, short-term	0.243 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.498

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.

USE IN RIGID FOAM, COATINGS, ADHESIVES AND SEALANTS - PROFESSIONAL USE

1. TITLE SECTION

Exposure scenario name: Industrial application of coatings and paints
Date - Version: 03/18/2020 - 1.0
Life cycle stage: Use in rigid foam, coatings, adhesives and sealants
Main user group: Professional uses
Sector(s) of use: Professional uses (SU22)

Contributing scenario - Environment

CS1 Wet polymerization: ERC8a - ERC8d

Contributing scenario - Worker

CS2 Blend Operations: PROC5
CS3 Material Transfers: PROC8a
CS4 Material Transfers: PROC8b
CS5 Material Transfers: PROC9
CS6 Roller and brush application: PROC10

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. Contributing Scenario CS1 - Environment: Wet polymerization (ERC4)

Environmental release categories: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor). (ERC8a, ERC8d)

Product features (article)

Physical form of the product: Liquid

Amount used, frequency and duration of use

Amounts used: Daily quantity per site 15500kg/day
Release Type: Continuous release
Issue days: 300 days/year

Measures and technical-organizational conditions

Control measures to prevent releases: Preventive treatment of wastewater by neutralization. No other specific measures identified.

Other operational conditions affecting environmental exposure

Local fresh water dilution factor: 1000

2.2. CS2 Contributing Scenario - Worker: Mixing Operations (PROC5)

Process categories: Mixing or Blending in Batch Processes (PROC5)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: Includes use up to 60 min.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

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
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: Includes use up to 15 min.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Inhalation - minimum 95% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

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
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 0.5 %

Amount used, frequency and duration of use/exposure

Duration:. Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: No specific measures identified.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.5. CS5 Contributing Scenario - Worker: Material transfers (PROC9)

Process categories: Transfer of a substance or preparation into small containers (dedicated filling line, including weighing) (PROC9)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes substance shares in the product up to 5%.

Amount used, frequency and duration of use/exposure

Duration: Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 90% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

2.6. Contributing Scenario CS6 - Worker: Roller and brush application (PROC10)

Process categories: Roller and brush application (PROC10)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: < 500Pa
Concentration of the substance in the product: Includes concentrations up to 5%.

Amount used, frequency and duration of use/exposure

Duration: Covers up to 8 hours of daily exposure.

Measures and technical-organizational conditions

Technical organizational measures: Provide supplementary ventilation to points where emissions occur. Inhalation - minimum 90% efficiency.

Conditions and measures related to personal protection, hygiene and health verification

Personal protective equipment: Wear suitable gloves, tested according to EN347. Dermal - minimum 90% efficiency. Wear suitable respiratory protection.
Additional conditions for human health: Assumes a good basic standard of occupational hygiene is implemented.

Other operational conditions affecting worker exposure

Indoor use

Further information on good practices. The requirements set out in the REACH Regulation Article 37(4) do not apply.

Further information on good practices: Supervise the implementation of risk management measures and compliance with the required operational conditions.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. Contributing Scenario CS1 - Environment: Wet polymerization (ERC8a, ERC8d)

Protection target	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
fresh water	0.0037 mg/l	EUSES	N.d.
fresh water sediment	1.6 mg/kg bw/day	EUSES	N.d.
sea water	0.00042 mg/l	EUSES	N.d.
Marine sediment	0.212 mg/kg bw/day	EUSES	N.d.
ground	0.114 mg/kg bw/day	EUSES	N.d.

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)
skin contact, systemic, long-term	0.68 mg/kg bw/day	N.d.	0.12
by inhalation, systemic, long-term	0.365 mg/m³	N.d.	0.366
by inhalation, systemic, short-term	0.731 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.486

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)
skin contact, systemic, long-term	0.09 mg/kg bw/day	N.d.	0.15
by inhalation, systemic, long-term	0.61 mg/m³	N.d.	0.609
by inhalation, systemic, short-term	1.22mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.76

3.4. CS4 Contributing Scenario - Worker: Material transfers (PROC8b)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.14 mg/kg bw/day	N.d.	0.248
by inhalation, systemic, long-term	0.76 mg/m³	N.d.	0.076
by inhalation, systemic, short-term	1.52 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.324

3.5. CS5 Contributing Scenario - Worker: Material transfers (PROC9)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.14 mg/kg bw/day	N.d.	0.248
by inhalation, systemic, long-term	0.76 mg/m³	N.d.	0.076
by inhalation, systemic, short-term	1.52 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.324

3.6. Contributing Scenario CS6 - Worker: Roller and brush application (PROC10)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
skin contact, systemic, long-term	0.14 mg/kg bw/day	N.d.	0.248
by inhalation, systemic, long-term	0.76 mg/m³	N.d.	0.076
by inhalation, systemic, short-term	1.52 mg/m³	N.d.	<0.001
combined routes, systemic, long-term	N.d.	N.d.	0.373

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.

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

Substance identification
Chemical Name: Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine
CAS number: 68082-29-1

USE AT INDUSTRIAL USES

1. TITLE SECTION

Exposure scenario name: Industrial production of varnishes and enamels - Industrial application of coatings and paints - Use in rigid foam, coatings, adhesives and sealants - Use in composite and foundry materials
Date - Version: 03/12/2020 - 1.0
Life cycle stage: Use at industrial sites
Main user group: Industrial uses
Sector(s) of use: Industrial uses (SU3)

Contributing scenario - Environment
CS1 Wet polymerization: ERC5

Contributing scenario - Worker
CS2 Hardening: PROC4
CS3 Spraying - Dermal Exposure Assessment: PROC7
CS4 Spraying - Dermal Exposure Assessment: PROC7
CS5 Material transfers: PROC8b
CS6 Material Transfers: PROC9

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. CS1 Environment Contributing Scenario: Wet Polymerization (ERC5)

Environmental release categories: Industrial use leading to inclusion into/onto an article (ERC5)

Product features (article)
Physical form of the product: Liquid

Amount used, frequency and duration of use
Amounts used: Daily quantity per site 3.33 tons/day - Yearly amount per site 999 tons/year
Release Type: Continuous release
Issue days: 300 days/year

Conditions and measures for the municipal sewage treatment plant
Type of sewage treatment plant (STP): Municipal STP - Water: minimum efficiency of 91.34%
STP effluent (m^3/day): 2000

Conditions and measures for waste treatment (including the 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. Contributing Scenario CS2 - Worker: Curing (PROC4)

Process categories: Chemical production where opportunity for exposure arises (PROC4)

Product features (article)

Physical form of the product: Liquid
Concentration of the substance in the product: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: Covers a daily exposure up to 8 hours.

Measures and technical-organizational conditions

Technical organizational measures:
Provide a good standard of general ventilation (up to 3 air changes per hour).
Ensure personnel are trained to minimize exposure.
Dermal - minimum efficiency 90%
Inhalation - minimum efficiency 90%

Conditions and measures for personal protection, hygiene and health verification

Personal protective equipment:
Wear an appropriate apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Dermal - minimum efficiency 95%

Other operational conditions affecting worker exposure

Indoor use
Temperature: A process temperature of up to 40°C is assumed
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Possible skin contact is believed to be limited to the hands.

2.3. Contributing Scenario CS3 - Spraying: Dermal Exposure Assessment (PROC7)

Process categories: Industrial spray application (PROC7)

Product features (article)

Physical form of the product: Liquid
Concentration of the substance in the product: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: Covers a daily exposure up to 8 hours.

Measures and technical-organizational conditions

Technical organizational measures:
Provide a good standard of general ventilation (up to 3 air changes per hour).
Ensure personnel are trained to minimize exposure.
Dermal - minimum efficiency 95%
Inhalation - minimum efficiency 90%

Conditions and measures for personal protection, hygiene and health verification

Personal protective equipment:
Wear an appropriate apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Dermal - minimum efficiency 95%

Other operational conditions affecting worker exposure

Indoor use
Temperature: A process temperature of up to 40°C is assumed
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Possible skin contact is believed to be limited to the hands and forearms.

2.4. Contributing Scenario CS4 - Spraying: Inhalation Exposure Assessment (PROC7)

Process categories: Industrial spray application (PROC7)

Product features (article)

Physical form of the product: Liquid
Vapor pressure: 7.9E-08 Pa
Concentration of the substance in the product: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: For each application, avoid using for a duration exceeding 480 min.

Conditions and measures for personal protection, hygiene and health verification

Personal protective equipment: Wear suitable respiratory protection. Inhalation - minimum efficiency 95%

Other operational conditions affecting worker exposure

Indoor use
Room size: Covers use in a room size of 300m².
Temperature: Includes use at room temperature.
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Possible skin contact is believed to be limited to the hands and forearms.
Additional conditions for human health: Moderate amount used (0.3-3 l/minute)

Learn more about good practices. The obligations set out in the REACH Regulation in Article 37(4) do not apply.

Further information on good practices: Use a splash guard. For further data, see section 8 of the safety data sheet. Wear suitable respiratory protection.

2.5. Contributing Scenario CS5 - 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: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: Covers a daily exposure up to 8 hours.

Measures and technical-organizational conditions

Technical organizational measures:
Provide a good standard of general ventilation (up to 3 air changes per hour).
Ensure personnel are trained to minimize exposure.
Dermal - minimum efficiency 95%
Inhalation - minimum efficiency 95%

Conditions and measures for personal protection, hygiene and health verification

Personal protective equipment:
Wear an appropriate apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Dermal - minimum efficiency 95 %

Other operational conditions affecting worker exposure

Indoor use
Temperature: A process temperature of up to 40°C is assumed
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Possible skin contact is believed to be limited to the hands and forearms.

2.6. Contributing Scenario CS6 - Worker: Material Transfers (PROC9)

Process categories: Transfer of a substance or preparation (filling/emptying) (dedicated filling line, including weighing) (PROC9)

Product features (article)

Physical form of the product: Liquid
Concentration of the substance in the product: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: Covers a daily exposure up to 8 hours.

Measures and technical-organizational conditions

Technical organizational measures:
Provide a good standard of general ventilation (up to 3 air changes per hour).
Ensure personnel are trained to minimize exposure.
Dermal - minimum efficiency 90%
Inhalation - minimum efficiency 90%

Conditions and measures for personal protection, hygiene and health verification

Personal protective equipment:
Wear an appropriate apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Dermal - minimum efficiency 95 %

Other operational conditions affecting worker exposure

Indoor use
Temperature: A process temperature of up to 40°C is assumed
Ventilation Rate: Provide a basic level of general ventilation (1 to 3 air changes per hour). 90%
Body parts exposed: Possible skin contact is believed to be limited to the hands.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. CS1 Environment Contributing Scenario: Wet Polymerization (ERC5)

Release route	Release rate	Release evaluation method
Water	0.666 kg/day	spERC
Air	8.325 kg/day	spERC
Ground	0.01 %	spERC

Protection target	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
fresh water	0.001 mg/l	N.d.	0.279
fresh water sediment	121.3 mg/kg dry weight	N.d.	0.279
sea water	0.0001251 mg/l	N.d.	0.288
Marine sediment	12.51 mg/kg dry weight	N.d.	0.288
agricultural land	7.992 mg/kg dry weight	N.d.	0.292
environmentally exposed people - Inhalation	0.002 mg/m³	N.d.	< 0.01
environmentally exposed people - Oral	208.8 mg/kg bw/day	N.d.	372.8
All ways	N.d.	N.d.	372.8

3.2. Contributing Scenario CS2 - Worker: Curing (PROC4)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, systemic, long-term	0.17 mg/m³	ECETOC TRA worker v2.0	0.044
skin contact, systemic, long-term	0.009 mg/kg bw/day	ECETOC TRA worker v2.0	0.008
combined routes, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.051

3.3. Contributing Scenario CS3 - Spraying: Dermal Exposure Assessment (PROC7)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, systemic, long-term	0.21 mg/m³	ECETOC TRA worker v2.0	0.054
skin contact, systemic, long-term	0.027 mg/kg bw/day	ECETOC TRA worker v2.0	0.024
combined routes, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.078

3.4. Contributing Scenario CS4 - Spraying: Inhalation Exposure Assessment (PROC7)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, systemic, long-term	0.21 mg/m³	ECETOC TRA worker v2.0	0.054
skin contact, systemic, long-term	0.027 mg/kg bw/day	ECETOC TRA worker v2.0	0.024
combined routes, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.078

3.5. Contributing Scenario CS5 - 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	0.085 mg/m³	ECETOC TRA worker v2.0	0.022
skin contact, systemic, long-term	0.009 mg/kg bw/day	ECETOC TRA worker v2.0	0.008
combined routes, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.03

3.6. Contributing Scenario CS6 - Worker: Material Transfers (PROC9)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, systemic, long-term	0.17 mg/m³	ECETOC TRA worker v2.0	0.044
skin contact, systemic, long-term	0.009 mg/kg bw/day	ECETOC TRA worker v2.0	0.008
combined routes, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.051

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.

GENERALIZED USE BY PROFESSIONAL OPERATORS

1. TITLE SECTION

Exposure scenario name: Industrial production of varnishes and enamels - Industrial application of coatings and paints - Use in rigid foam, coatings, adhesives and sealants - Use in composite and foundry materials
Date - Version: 03/12/2020 - 1.0
Life cycle stage: Use at industrial sites
Main user group: Generalized use by professional traders
Sector(s) of use: Professional uses (SU22)

Contributing scenario - Environment

CS1 Wet polymerization: ERC8C

Contributing scenario - Worker

CS2 Blend Operations: PROC5
CS3 Material Transfers: PROC8b
CS4 Material Transfers: PROC9

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. CS1 Environment Contributing Scenario: Wet Polymerization (ERC8c)

Environmental release categories: Widespread use resulting in an inclusion into or onto the surface of an article (indoor use) (ERC8c)

Product features (article)

Physical form of the product: Liquid

Amount used, frequency and duration of use

Amounts used: Daily quantity at site 0.0005494 tons/day

Conditions and measures for the municipal sewage treatment plant

Type of sewage treatment plant (STP): Municipal STP - Water: minimum efficiency of 91.34%
STP effluent (m^3/day): 2000

Conditions and measures for waste treatment (including the 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. Contributing Scenario CS2 - Worker: Blending Operations (PROC5)

Process categories: Mixing or Blending in Batch Processes (PROC5)

Product features (article)

Physical form of the product: Liquid
Concentration of the substance in the product: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure

Duration: Covers a daily exposure up to 4 hours.

Measures and technical-organizational conditions

Technical organizational measures:
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Ensure personnel are trained to minimize exposure.

Conditions and measures for personal protection, hygiene and health verification

Personal protective equipment:
Wear an appropriate apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Dermal - minimum efficiency 95 %

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 Worker Contributing Scenario: 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: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure
Duration: Covers a daily exposure up to 4 hours.

Measures and technical-organizational conditions
Technical organizational measures:
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Ensure personnel are trained to minimize exposure.

Conditions and measures for personal protection, hygiene and health verification
Personal protective equipment:
Wear an appropriate apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Dermal - minimum efficiency 95 %

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 and forearms.

2.4. CS4 orker Contributing Scenario: 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: Includes substance shares in the product up to 25%

Amount used, frequency and duration of use/exposure
Duration: Covers a daily exposure up to 4 hours.

Measures and technical-organizational conditions
Technical organizational measures:
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Ensure personnel are trained to minimize exposure.

Conditions and measures for personal protection, hygiene and health verification
Personal protective equipment:
Wear an appropriate apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Dermal - minimum efficiency 95 %

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 and forearms.

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. CS1 Environment Contributing Scenario: Wet Polymerization (ERC8c)

Release route	Release rate	Release evaluation method
Water	0.008 kg/day	spERC
Air	0 %	spERC
Ground	0 %	spERC

Protection target	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
fresh water	7.3E-05 mg/l	N.d.	0.017
fresh water sediment	7.301 mg/kg dry weight	N.d.	0.017
sea water	1.113E-05 mg/l	N.d.	0.026
Marine sediment	1.113 mg/kg dry weight	N.d.	0.026
agricultural land	7.318 mg/kg dry weight	N.d.	0.084
environmentally exposed people - Inhalation	9.158E-07 mg/m³	N.d.	< 0.01
environmentally exposed people - Oral	190.8 mg/kg bw/day	N.d.	340.7
All ways	N.d.	N.d.	340.7

3.2. Contributing Scenario CS2 - Worker: Blending Operations (PROC5)

Route of Exposure, Impact on Health, Exposure Indicator	Degree of exposure	Calculation method	Risk characterization ratio (RCR)
by inhalation, systemic, long-term	0.714 mg/m³	ECETOC TRA worker v2.0	0.183
skin contact, systemic, long-term	0.171 mg/kg bw/day	ECETOC TRA worker v2.0	0.156
combined routes, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.339

3.3. CS3 Worker Contributing Scenario: 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	0.714 mg/m³	ECETOC TRA worker v2.0	0.183
skin contact, systemic, long-term	0.171 mg/kg bw/day	ECETOC TRA worker v2.0	0.156
combined routes, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.339

3.4. CS4 orker Contributing Scenario: 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	0.714 mg/m³	ECETOC TRA worker v2.0	0.183
skin contact, systemic, long-term	0.171 mg/kg bw/day	ECETOC TRA worker v2.0	0.156
combined routes, systemic, long-term	N.d.	ECETOC TRA worker v2.0	0.339

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.

Propylidynetrimethanol, propoxylated, reaction products with ammonia

Substance identification
CAS number: 39423-51-3

PROFESSIONAL USES

1. TITLE SECTION

Exposure scenario name: Professional uses.
Date - Version: 05/17/2023 - 3.0

Contributing scenario - Environment
SC1 Wide dispersive external use resulting in being included in item (Indoors) ERC8c
SC2 Wide dispersive external use resulting in being included in item (In outdoor environments) ERC8f

Contributing scenario - Worker
SC3 Mixing or blending in batch processes PROC5
SC4 Transfer of a substance or mixture (charging/discharging) at non-dedicated facilities PROC8a
SC5 Transfer of a substance or a mixture (charging/discharging) at dedicated facilities PROC8b
SC6 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC9
SC7 Application with rollers or brushes PROC10
SC8 Non-industrial spraying PROC11
SC9 Treatment of articles by dipping and pouring PROC13

2. CONDITIONS OF USE AFFECTING EXPOSURE

2.1. Environmental exposure control: Wide dispersive external use resulting in being included in item (Indoors) - ERC8c

Amount used (or contained in articles), frequency and duration of use/exposure
Yearly amount used in EU: 999 tons/year
Daily amount per site: 0,547397 kg/day
Fraction of EU tonnage used in region: 0.1
Maximum allowable site tonnage (Msafe): Daily amount per site 2004,1 kg/day
Critical compartment for Msafe: The risk of environmental exposure is driven by microbes in the wastewater treatment plant.
Maximum allowable site tonnage (Msafe): Daily amount per site 7.2 kg/day
Critical compartment for Msafe: Risk from environmental exposure is driven by fresh water, freshwater sediment, marine water and marine water sediment.
Maximum allowable site tonnage (Msafe): Daily amount per site 10.9 kg/day
Critical compartment for Msafe: Risk from environmental exposure is driven by soil.
Maximum allowable site tonnage (Msafe): Daily amount per site 23924.1 kg/day
Critical compartment for Msafe: Risk from environmental exposure is determined by humans through indirect exposure (mainly from ingestion).
Days of emission: 365

Conditions and measures for the waste water treatment plant
Type of STP: Municipal wastewater treatment plant
STP effluent: 2000m³/day

Other conditions affecting environmental exposure
Water flow on the receiving surface: 18 000 m³/day
Local fresh water dilution factor: 10
Local seawater dilution factor: 100

2.2. Environmental exposure control: Wide dispersive external use resulting in being included in item (In outdoor environments) - ERC8f

Amount used (or contained in articles), frequency and duration of use/exposure
Yearly amount used in EU: 999 tons/year
Daily amount per site: 0,547397 kg/day
Fraction of EU tonnage used in region: 0.1
Maximum allowable site tonnage (Msafe): Daily amount per site 7.2 kg/day
Critical compartment for Msafe: Risk from environmental exposure is driven by fresh water, freshwater sediment, marine water and marine water sediment.
Maximum allowable site tonnage (Msafe): Daily amount per site 15.4 kg/day
Critical compartment for Msafe: Risk from environmental exposure is driven by soil.
Maximum allowable site tonnage (Msafe): Daily amount per site 23924.1 kg/day
Critical compartment for Msafe: Risk from environmental exposure is determined by humans through indirect exposure (mainly from ingestion).
Days of emission: 365

Conditions and measures for the waste water treatment plant
Type of STP: none

Other conditions affecting environmental exposure
Water flow on the receiving surface: 18 000 m³/day
Local fresh water dilution factor: 10
Local seawater dilution factor: 100

2.3. Worker Exposure Control: Mixing or blending in batch processes - PROC5

Product features (article)
Physical form of the product: Liquid blend
Vapour pressure: 0.0023 Pa
Temperature: 20°C

Amount used (or contained in articles), frequency and duration of use/exposure
Duration: Frequency and duration of use 480 min
Frequency of use: 5 days/week

Organizational and technical measures and conditions
Local exhaust ventilation
Inhalation - minimum yield of 80%.
Provide a good standard of general ventilation (3 to 5 air changes per hour).
Inhalation - minimum yield of 30%.

Conditions and measures for personal protection, hygiene and health assessment
Wear suitable respirator.
Inhalation - minimum yield of 95 %
Wear chemically resistant gloves in combination with employee training. (EN374)
Dermal - minimum efficiency of 80%.

Other conditions affecting worker exposure
Body parts exposed: Palms 480 cm²
Indoor and outdoor use: Inside.
Industrial or professional environments: Professional use.
Temperature: 20 °C

2.4. Worker Exposure Control: Transfer of a substance or mixture (charging/discharging) at non-dedicated facilities - PROC8a

Product features (article)
Physical form of the product: Liquid blend
Vapour pressure: 0.0023 Pa
Temperature: 20°C

Amount used (or contained in articles), frequency and duration of use/exposure
Duration: Frequency and duration of use 240 min
Frequency of use: 5 days/week

Organizational and technical measures and conditions
Local exhaust ventilation
Inhalation - minimum yield of 80%.
Provide a good standard of general ventilation (3 to 5 air changes per hour).
Inhalation - minimum yield of 30%.

Conditions and measures for personal protection, hygiene and health assessment
Wear suitable respirator.
Inhalation - minimum yield of 90 %
Wear chemically resistant gloves in combination with employee training. (EN374)
Dermal - minimum efficiency of 80%.

Other conditions affecting worker exposure
Body parts exposed: Both hands 960 cm²
Indoor and outdoor use: Inside.
Industrial or professional environments: Professional use.
Temperature: 20 °C

2.5. Worker Exposure Control: Transfer of a substance or a mixture (charging/discharging) at dedicated facilities - PROC8b

Product features (article)
Physical form of the product: Liquid blend
Vapour pressure: 0.0023 Pa
Temperature: 20°C

Amount used (or contained in articles), frequency and duration of use/exposure
Duration: Frequency and duration of use 240 min
Frequency of use: 5 days/week

Organizational and technical measures and conditions
Local exhaust ventilation
Inhalation - minimum yield of 90 %
Provide a good standard of general ventilation (3 to 5 air changes per hour).
Inhalation - minimum yield of 30%.

Conditions and measures for personal protection, hygiene and health assessment
Wear chemically resistant gloves (EN374)
Dermal - minimum efficiency of 80%.

Other conditions affecting worker exposure
Body parts exposed: Both hands 960 cm²
Indoor and outdoor use: Inside.
Industrial or professional environments: Professional use.
Temperature: 20 °C

2.6. Worker Exposure Control: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC9

Product features (article)
Physical form of the product: Liquid blend
Vapour pressure: 0.0023 Pa
Temperature: 20 °C

Amount used (or contained in articles), frequency and duration of use/exposure
Duration: Frequency and duration of use 240 min
Frequency of use: 5 days/week

Organizational and technical measures and conditions
Local exhaust ventilation
Inhalation - minimum yield of 90 %
Provide a good standard of general ventilation (3 to 5 air changes per hour).
Inhalation - minimum yield of 30%.

Conditions and measures for personal protection, hygiene and health assessment
Wear suitable respirator.
Inhalation - minimum yield of 90 %

Other conditions affecting worker exposure
Body parts exposed: Palms 480 cm²
Indoor and outdoor use: Inside.
Industrial or professional environments: Professional use.
Temperature: 20 °C

2.7. Worker Exposure Control: Application with rollers or brushes - PROC10

Product features (article)
Physical form of the product: Liquid blend
Vapour pressure: 0.0023 Pa
Temperature: 20 °C

Amount used (or contained in articles), frequency and duration of use/exposure
Duration: Frequency and duration of use 480 min
Frequency of use: 5 days/week

Organizational and technical measures and conditions
Local exhaust ventilation
Inhalation - minimum yield of 80%.
Provide a good standard of general ventilation (3 to 5 air changes per hour).
Inhalation - minimum yield of 30%.

Conditions and measures for personal protection, hygiene and health assessment
Wear suitable respirator.
Inhalation - minimum yield of 95 %
Wear chemically resistant gloves in combination with employee training. (EN374)
Dermal - minimum efficiency of 80%.

Other conditions affecting worker exposure
Body parts exposed: Both hands 960 cm²
Indoor and outdoor use: Inside.
Industrial or professional environments: Professional use.
Temperature: 20 °C

2.9. Worker Exposure Control: Treatment of articles by dipping and pouring - PROC13

Product features (article)
Covers percentage substance in the product up to 25 %.
Physical form of the product: Liquid blend
Vapour pressure: 0.0023 Pa
Temperature: 20 °C

Amount used (or contained in articles), frequency and duration of use/exposure
Duration: Frequency and duration of use 480 min
Frequency of use: 5 days/week

Organizational and technical measures and conditions
Local exhaust ventilation
Inhalation - minimum yield of 80%.
Provide a good standard of general ventilation (3 to 5 air changes per hour).
Inhalation - minimum yield of 30%.

Conditions and measures for personal protection, hygiene and health assessment
Wear suitable respirator.
Inhalation - minimum yield of 95 %
Wear chemically resistant gloves in combination with employee training. (EN374)
Dermal - minimum efficiency of 80%.

Other conditions affecting worker exposure
Body parts exposed: Palms 480 cm²
Indoor and outdoor use: Inside.
Industrial or professional environments: Professional use.
Temperature: 20 °C

3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1. Environmental release and exposure: Wide dispersive external use resulting in being included in item (Indoors) - ERC8c

Release route	Release rate%	Release evaluation method
Water	1	Environmental Release Category (ERC)
Air	15	Environmental Release Category (ERC)
Soil	0	Environmental Release Category (ERC)

Protection target	Estimated exposure	RCR
Sewage treatment plant	0.0027313mg/l	< 0.001
Fresh water	0.0003326mg/l	0.076
Fresh water sediments	0.0016965mg/kg dry weight	0.076
Sea water	0.0000335mg/l	0.076
marine sediments	0.0001707mg/kg dry weight	0.076
Soil	0.0000958mg/kg dry weight	0.05
Secondary poisoning	0.0002765mg/kg body weight/day	< 0.001

3.2. Environmental release and exposure: Wide dispersive external use resulting in being included in item (In outdoor environments) - ERC8f

Release route	Release rate%	Release evaluation method
Water	1	Environmental Release Category (ERC)
Air	15	Environmental Release Category (ERC)
Soil	0.5	Environmental Release Category (ERC)

Protection target	Estimated exposure	RCR
Fresh water	0.0003332mg/l	0.076
Fresh water sediments	0.0016993mg/kg dry weight	0.076
Sea water	0.0000335mg/l	0.076
marine sediments	0.000171mg/kg dry weight	0.076
Soil	0.0000677mg/kg dry weight	0.036
Secondary poisoning	0.0002769mg/kg body weight/day	< 0.001

3.3. Worker exposure: Mixing or blending in batch processes - PROC5

Exposure routes: Dermal
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 0.686 mg/kg body weight/day (EASY TRA v3.6)
RCR: 0.171

Exposure routes: Inhalation
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 0.003 mg/m³ (EASY TRA v3.6)
RCR: < 0.001

3.4. Worker exposure: Transfer of a substance or mixture (charging/discharging) at non-dedicated facilities - PROC8a

Exposure routes: Dermal
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 0.686 mg/kg body weight/day (EASY TRA v3.6)
RCR: 0.171

Exposure routes: Inhalation
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 0.004 mg/m³ (EASY TRA v3.6)
RCR: < 0.001

3.5. Worker exposure: Transfer of a substance or a mixture (charging/discharging) at dedicated facilities - PROC8b

Exposure routes: Dermal
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 0.686 mg/kg body weight/day (EASY TRA v3.6)
RCR: 0.171

Exposure routes: Inhalation
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 0.019 mg/m³ (EASY TRA v3.6)
RCR: 0.004

3.6. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - PROC9

Exposure routes: Dermal
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 1.714mg/kg body weight/day (EASY TRA v3.6)
RCR: 0.429

Exposure routes: Inhalation
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 0.004 mg/m³ (EASY TRA v3.6)
RCR: < 0.001

3.7. Worker exposure: Application with rollers or brushes - PROC10

Exposure routes: Dermal
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 1.371 mg/kg body weight/day (EASY TRA v3.6)
RCR: 0.343

Exposure routes: Inhalation
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 0.003 mg/m³ (EASY TRA v3.6)
RCR: < 0.001

3.8. Worker exposure: Non-industrial spraying - PROC11

Exposure routes: Dermal
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 2.679 mg/kg body weight/day (EASY TRA v3.6)
RCR: 0.67

Exposure routes: Inhalation
Health effect: systemic
Exposure indicator: Long-term
Estimated exposure: 0.642 mg/m³ (EASY TRA v3.6)
RCR: 0.13

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.

N,N-dimethyl-1,3-diaminopropane

Identifikacija tvari
Kemijski naziv: N,N-dimethyl-1,3-diaminopropane
CAS broj: 109-55-7

OPĆA UPOTREBA KOJU OBAVLJAJU PROFESIONALNI OPERATERI

1. NASLOVNI ODJELJAK

Naziv scenarija izloženosti: industrijska primjena obloga i boja
Datum - verzija: 17/03/2020 - 1.0
Faza životnog ciklusa: opća upotreba koju obavljaju profesionalni operateri
Primarna grupa korisnika: Profesionalna upotreba
Sektor/i upotrebe: Profesionalna upotreba (SU22)

Scenarij doprinosa – Okoliš
CS1 vlažna polimerizacija: ERC8c

Scenarij doprinosa – Radnik
CS2 nanošenje valjkom i kistom: PROC10

2. UVJETI UPOTREBE S UČINKOM NA IZLAGANJE

2.1. Scenarij doprinosa CS1 – Okoliš: vlažna polimerizacija (ERC8c)

Kategorije ispuštanja u okoliš: opća upotreba s posljedičnim uključivanjem u artikl ili na površinu artikla (upotreba u zatvorenom prostoru) (ERC8c)

Obilježja proizvoda (artikla)
Fizički oblik proizvoda: Tekućina

Upotrijebljena količina, učestalost i trajanje upotrebe
Vrsta ispuštanja: Kontinuirano otpuštanje
Dani izdavanja: 365 dana u godini

Tehničko-organizacijski uvjeti i mjere
Upotrijebljeno postrojenje za pročišćavanje.
Obrada ispušnih plinova toplinskom oksidacijom.
Ne upotrebljavajte kanalizacijski mulj s gnojivom. Mulj se odlaže ili je namijenjen oporabi.
Ne prskajte industrijski mulj na prirodna tla. Aerobna biološka obrada.

Uvjeti i mjere za komunalna postrojenja za pročišćavanje
Vrsta uređaja za pročišćavanje otpadnih voda (engleski: STP): komunalni STP
Izlazna voda STP-a (m³/dan): 2000

Drugi radni uvjeti koji utječu na okolišnu izloženost
Lokalni faktor razrjeđivanja morske vode: 100
Lokalni faktor razrjeđivanja slatke vode: 10
Brzina protoka dolazne površinske vode: 18000 m³/dan

2.2. Scenarij doprinosa CS2 – Radnik: nanošenje valjkom i kistom (PROC10)

Kategorije obrade: nanošenje valjkom i kistom (PROC10)

Obilježja proizvoda (artikla)
Fizički oblik proizvoda: Tekućina
Tlak pare: 590 Pa
Udio tvari u proizvodu: uključuje udjele tvari u proizvodu do 5 %.

Upotrijebljena količina, učestalost i trajanje upotrebe/izlaganja
Trajanje: 240 minuta
Učestalost: 5 dni v tednu

Tehničko-organizacijski uvjeti i mjere
Osigurajte dodatnu ventilaciju na mjestima na kojima nastaju emisije. Udisanje – minimalna učinkovitost od 80 %.
Osigurajte izbjegavanje kontakta s kožom.
Dodatne mjere zaštite kože, kao što su vodootporna odjeća i zaštita lica, mogu se smatrati potrebnima tijekom aktivnosti kad nastaju velika raspršivanja koja dovode do vjerojatnog stalnog ispuštanja aerosola (npr. prskanje).
Izbjegavajte izravan kontakt s proizvodom, uključujući i putem kontaminiranih ruku.
Svaki kontakt kože s tvari mora se isključiti.

Uvjeti i mjere koji se odnose na osobnu zaštitu, higijenu i zdravstvene preglede
Osobno zaštitno sredstvo:
Nosite odgovarajuću zaštitu za oči.
Nosite odgovarajuće rukavice, testirane prema normi EN347.
Nosite primjerenu zaštitu dišnog sustava. Udisanje – minimalna učinkovitost: 95 %

Drugi radni uvjeti koji utječu na izloženost radnikā
Upotreba u zatvorenom prostoru
Temperatura: Pretpostavlja se temperatura obrade do 20 °C.

3. PROCJENA IZLOŽENOSTI I REFERENCA NA NJEZIN IZVOR

3.1. Scenarij doprinosa CS1 – Okoliš: vlažna polimerizacija (ERC8c)

Cilj zaštite	Stupanj izloženosti	Način izračuna	Omjer karakterizacije rizika (RCR)
morski sediment	19,1 kg/dan	N.d.	0.001434

3.2. Scenarij doprinosa CS2 – Radnik: nanošenje valjkom i kistom (PROC10)

Put izlaganja, utjecaj na zdravlje, pokazatelj izloženosti	Stupanj izloženosti	Način izračuna	Omjer karakterizacije rizika (RCR)
udisanjem, sustavno, kratkoročno	0.5109 mg/m³	ECETOC TRA radnik v3	0.42575

4. VODIČ KOJIM SE DALJNJEM KORISNIKU OMOGUĆUJE PROCJENA RADI LI U GRANICAMA UTVRĐENIM U SCENARIJU IZLOŽENOSTI

Adresa za provjeru usklađenosti sa scenarijem izloženosti: u slučaju donošenja dodatnih mjera upravljanja rizicima / radnih uvjeta, korisnici bi trebali osigurati da su rizici ograničeni barem na jednaku razinu.