**FASSA EPOXY 100 COMP.A**

Varnostni list z dne 15/05/2026 revizija 3

## ODDELEK 1: Identifikacija snovi/zmesi in družbe/podjetja

### 1.1 Identifikator izdelka

Identifikacija pripravka:

Komercialno ime: FASSA EPOXY 100 COMP.A

Komercialna koda: 1222

UFI: 2HEW-9ARA-R00F-6AVC

### 1.2 Pomembne identificirane uporabe snovi ali zmesi in odsvetovane uporabe

Priporočena uporaba: Epoksidna osnova za FRP sisteme; Samo za profesionalno uporabo

Odsvetovane uporabe: Ni namenjeno za potrošniško uporabo

### 1.3 Podrobnosti o dobavitelju varnostnega lista

Dobavitelj FASSA Srl

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

Tel. +39 0422 7222

Fax +39 0422 887509

Odgovorni: laboratorio.spresiano@fassabortolo.it

### 1.4 Telefonska številka za nujne primere

112 - Center za obveščanje (na voljo 24 ur)

## ODDELEK 2: Določitev nevarnosti



### 2.1 Razvrstitev snovi ali zmesi

**Uredba (ES) št. 1272/2008 (CLP)**

| | |
|---|---|
| Skin Corr. 1C | Povzroča hude opekline kože in poškodbe oči. |
| Skin Sens. 1A | Lahko povzroči alergijski odziv kože. |
| Repr. 1B | Ob stiku s kožo in zaužitju lahko zmanjša plodnost ali škodi zarodku. |
| Aquatic Chronic 2 | Strupeno za vodne organizme, z dolgotrajnimi učinki. |

Nevarnosti fizikalno-kemijskih lastnosti za zdravje ljudi in za okolje:

Ni drugih tveganj

### 2.2 Elementi etikete

**Uredba (ES) št. 1272/2008 (CLP)**

**Piktogrami za nevarnost in Opozorilna beseda**



Nevarno

**Stavki o nevarnosti**

| | |
|---|---|
| H314 | Povzroča hude opekline kože in poškodbe oči. |
| H317 | Lahko povzroči alergijski odziv kože. |
| H360 | Ob stiku s kožo in zaužitju lahko zmanjša plodnost ali škodi zarodku. |
| H411 | Strupeno za vodne organizme, z dolgotrajnimi učinki. |

**Previdnostni stavki**

| | |
|---|---|
| P201 | Pred uporabo pridobiti posebna navodila. |
| P260 | Ne vdihavati dima/plina/meglice/hlapov/razpršila |
| P280 | Nadenite si zaščitne rokavice/obleke ter zaščitite oči/obraz. |
| P303+P361+P353 | PRI STIKU S KOŽO (ali lasmi): Takoj sleči vsa kontaminirana oblačila. Kožo izprati z vodo [ali prho]. |
| P305+P351+P338 | PRI STIKU Z OČMI: Previdno izpirati z vodo nekaj minut. Odstranite kontaktne leče, če jih imate in če to lahko storite brez težav. Nadaljujte z izpiranjem. |

P310 Takoj pokličite CENTER ZA ZASTRUPITVE/ zdravnika.

**Posebne oznake:**

EUH205 Vsebuje epoksidne sestavine. Lahko povzroči alergijski odziv.

**Vsebuje:**

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

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

1,6-heksandiol diglicidil eter

1,3-propandiol, 2-etil-2-(hidroksimetil)-, polimer z (klorometil)oksiran

**Posebne določbe v skladu s Prilogo XVII uredbe REACH in poznejše spremembe:**

Nobeden

**2.3 Druge nevarnosti**

Ni snovi PBT, vPvB ali endokrinih motilcev v koncentraciji > = 0,1%.

Ni drugih tveganj

## ODDELEK 3: Sestava/podatki o sestavinah

**3.1 Snovi**

ni znano

**3.2 Zmesi**

Identifikacija pripravka: FASSA EPOXY 100 COMP.A

**Nevarne sestavine, skladno z Uredbo CLP in njeno razvrstitvijo:**

| Količina | Ime | Ident. št. | Razvrstitev | Registracijska številka: |
|---|---|---|---|---|
| ≥30 - <50 % | bis-[4-(2,3-epoksipropoksi)fenil]propan | CAS:1675-54-3<br>EC:216-823-5<br>Index:603-073-00-2 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411<br><br>Posebne mejne koncentracije:<br>5% ≤ C < 100%: Skin Irrit. 2 H315<br>5% ≤ C < 100%: Eye Irrit. 2 H319 | 01-2119456619-26-xxxx |
| ≥30 - <50 % | 1,6-heksandiol diglicidil eter | CAS:933999-84-9<br>EC:618-939-5 | Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1A, H317; Repr. 1B, H360Fd; Aquatic Chronic 3, H412 | 01-2119463471-41-xxxx |
| ≥10 - <20 % | reakcijska zmes 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran in 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran in 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran | EC:701-263-0 | Skin Irrit. 2, H315; Skin Sens. 1A, H317; Aquatic Chronic 2, H411 | 01-2119454392-40-xxxx |
| ≥5 - <10 % | 1,3-propandiol, 2-etil-2-(hidroksimetil)-, polimer z (klorometil)oksiran | CAS:30499-70-8<br>EC:608-489-8 | Skin Corr. 1C, H314; Eye Dam. 1, H318; Skin Sens. 1B, H317; Repr. 1B, H360F; Aquatic Chronic 2, H411 | |
| ≥0.005 - <0.025 % | 2-metoksi-1-metiletil acetat | CAS:108-65-6<br>EC:203-603-9<br>Index:607-195-00-7 | Flam. Liq. 3, H226; STOT SE 3, H336 | 01-2119475791-29-xxxx |

## ODDELEK 4: Ukrepi za prvo pomoč

**4.1 Opis ukrepov za prvo pomoč**

V primeru stika s kožo:

Kontaminirana oblačila takoj slecite in jih na varen način odstranite.

TAKOJ SE POSVETUJTE Z ZDRAVNIKOM.

V primeru stika z očmi:

V primeru stika z očmi dovolj dolgo in z odprtimi očesnimi vekami izpirajte z obilo vode, nato poiščite pomoč zdravnika oftalmologa.

Poškodovano oko zaščitite.

V primeru zaužitja:

Po zaužitju ne izzivati bruhanja, takoj poiskati zdravniško pomoč in pokazati varnostni list in nalepko.

V primeru vdihavanja:

Prizadeto osebo umaknite na svež zrak in pustite počivati na toplem.

**4.2 Najpomembnejši simptomi in učinki, akutni in zapozneli**

Simptomi in ucinki so taki, kot je pricakovano glede na nevarnosti, kar je prikazano v 2. razdelku.

**4.3 Navedba kakršne koli takojšnje medicinske oskrbe in posebnega zdravljenja**

V primeru nesreče ali slabega počutja takoj poiščite zdravniško pomoč (če je mogoče, pokažite navodila za uporabo ali varnostni list).

## ODDELEK 5: Protipožarni ukrepi

**5.1 Sredstva za gašenje**

Ustrezna sredstva za gašenje:

$CO_2$, gasilni aparat na prah, pena, pršenje z vodo.

Sredstva za gašenje, ki se jih iz varnostnih razlogov ne sme uporabljati:

Vodni curki

**5.2 Posebne nevarnosti v zvezi s snovjo ali zmesjo**

Pri gorenju nastajajo težki dimni plini.

Ne vdihavati pline, ki nastanejo pri eksploziji in/ali gorenju (ogljikov monoksid in ogljikov dioksid, dušikovi oksidi).

**5.3 Nasvet za gasilce**

Uporabiti ustrezne dihalne naprave.

Ločeno zberite kontaminirano vodo, uporabljeno za gašenje požara. Ne je izpustiti v kanalizacijo.

Če je to varno izvedljivo, nepoškodovane vsebnike umaknite iz neposredno ogroženega območja.

## ODDELEK 6: Ukrepi o nenamernih izpustih

**6.1 Osebni varnostni ukrepi, zaščitna oprema in postopki v sili**

**Za neizučeno osebje:**

Nosite osebno varovalno opremo.

Osebe umaknite na varno mesto.

Glejte v oddelku 7 in 8 navedene zaščitne ukrepe.

**Za reševalce:**

Nosite osebno varovalno opremo.

**6.2 Okoljevarstveni ukrepi**

Preprečite vstop v tla/podtalnico. Preprečite razlitje v površinske vode ali v kanalizacijo.

V primeru puščanja plina ali razlitja v vodne tokove, tla ali kanalizacijo obvestite pristojne organe.

**6.3 Metode in materiali za zadrževanje in čiščenje**

Za zbiranje primeren material: inerten vpojni materiali (npr. pesek, vermikulit).

Po pobiranju z vodo izperite območje in prizadete materiale.

Kontaminirano vodo za pranje shranite in odstranite.

**6.4 Sklicevanje na druge oddelke**

Glejte tudi naslova 8 in 13

## ODDELEK 7: Ravnanje in skladiščenje

**7.1 Varnostni ukrepi za varno ravnanje**

Preprečite stik s kožo in očmi, vdihavanje hlapov in megle.

Prazne vsebnike ne uporabite dokler niso očiščeni.

Pred postopki prenosa se prepričajte, da v vsebnikih ni ostankov nezdružljivih materialov.

**Nasveti o splošni higieni dela:**

Kontaminirana oblačila se mora pred vstopom v jedilnico zamenjati.

Med delom ne jejte in ne pijte.

Glejte tudi oddelek 8 o priporočeni varovalni opremi.

**7.2 Pogoji za varno skladiščenje, vključno z nezdružljivostjo**

Posode hranite tesno zaprte na hladnem in dobro prezračevanem mestu proč od virov toplote.

Hranite stran od hrane, pijač in krme.

Inkompaktibilne snovi:

Glejte točko 10.5

Navodila za prostore:

Primerno zračeni prostori.

**7.3 Posebne končne uporabe**

Priporočila

Glejte točko 1.2

Specifične rešitve za industrijski sektor

Nobena posebna uporaba

## ODDELEK 8: Nadzor izpostavljenosti/osebna zaščita

### 8.1 Parametri nadzora

**Mejne vrednosti za poklicno izpostavljenost**

2-metoksi-1-metiletil acetat

| | | | | |
|---|---|---|---|---|
| CAS: 108-65-6 | Tip OPZ | EU | | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm<br>Opombe: Skin |
| | Tip OPZ | MAK | Avstrija | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm<br>Opombe: Skin |
| | Tip OPZ | MAK | Nemčija | Dolgotrajna 270 mg/m3 - 50 ppm; Kratkotrajna 270 mg/m3 - 50 ppm |
| | Tip OPZ | VLEP | Belgija | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm<br>Opombe: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air. |
| | Tip OPZ | VLEP | Francija | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm<br>Opombe: Skin |
| | Tip OPZ | VLEP | Italija | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm<br>Opombe: Skin |
| | Tip OPZ | VLEP | Romunija | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm |
| | Tip OPZ | TLV | Bolgarija | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm<br>Opombe: Skin |
| | Tip OPZ | TLV | Češka | Dolgotrajna 270 mg/m3 - 49.14 ppm; Kratkotrajna 550 mg/m3 - 10.01 ppm<br>Opombe: Skin |
| | Tip OPZ | VLA | Španija | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm<br>Opombe: Skin |
| | Tip OPZ | ÁK | Madžarska | Dolgotrajna 275 mg/m3; Kratkotrajna 550 mg/m3 |
| | Tip OPZ | MAC | Nizozemska | Dolgotrajna 550 mg/m3 - 100 ppm |
| | Tip OPZ | VLE | Portugalska | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm<br>Opombe: Skin |
| | Tip OPZ | SUVA | Švicar | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 275 mg/m3 - 50 ppm |
| | Tip OPZ | WEL | U.K. | Dolgotrajna 274 mg/m3 - 50 ppm; Kratkotrajna 548 mg/m3 - 100 ppm<br>Opombe: Skin |
| | Tip OPZ | GVI | Hrvaška | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm<br>Opombe: Skin |
| | Tip OPZ | AGW | Nemčija | Dolgotrajna 270 mg/m3 - 50 ppm; Kratkotrajna 270 mg/m3 - 50 ppm |
| | Tip OPZ | NDS | Poljska | Dolgotrajna 260 mg/m3; Kratkotrajna 520 mg/m3<br>Opombe: Skin |
| | Tip OPZ | MV | Slovenija | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm<br>Opombe: Skin |
| | Tip OPZ | IPRV | Litva | Dolgotrajna 250 mg/m3 - 50 ppm; Kratkotrajna 400 mg/m3 - 75 ppm<br>Opombe: Skin |
| | Tip OPZ | RV | Latvija | Dolgotrajna 275 mg/m3 - 50 ppm; Kratkotrajna 550 mg/m3 - 100 ppm<br>Opombe: Skin |

**Mejna vrednost izpostavljenosti po PNEC**

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

| | |
|---|---|
| CAS: 1675-54-3 | Način izpostavitve: Sladka voda; PNEC Omejite: 0.006 mg/l |
| | Način izpostavitve: Morska voda; PNEC Omejite: 0.001 mg/l |
| | Način izpostavitve: Sladkovodni sedimenti; PNEC Omejite: 0.341 mg/kg |
| | Način izpostavitve: Morski sedimenti; PNEC Omejite: 0.034 mg/kg |

Način izpostavitve: Tla (kmetijska); PNEC Omejite: 0.065 mg/kg

Način izpostavitve: Mikroorganizmi v čistilnih napravah (STP); PNEC Omejite: 10 mg/l

1,6-heksandiol diglicidil eter

CAS: 933999-84-9 Način izpostavitve: Sladka voda; PNEC Omejite: 0.011 mg/l

Način izpostavitve: Morska voda; PNEC Omejite: 0.001 mg/l

Način izpostavitve: Mikroorganizmi v čistilnih napravah (STP); PNEC Omejite: 1 mg/l

Način izpostavitve: Sladkovodni sedimenti; PNEC Omejite: 0.283 mg/kg

Način izpostavitve: Morski sedimenti; PNEC Omejite: 0.028 mg/kg

Način izpostavitve: Tla (kmetijska); PNEC Omejite: 0.223 mg/kg

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

Način izpostavitve: Sladka voda; PNEC Omejite: 0.003 mg/l

Način izpostavitve: Morska voda; PNEC Omejite: 0.0003 mg/l

Način izpostavitve: Mikroorganizmi v čistilnih napravah (STP); PNEC Omejite: 10 mg/l

Način izpostavitve: Morski sedimenti; PNEC Omejite: 0.0294 mg/kg

Način izpostavitve: Sladkovodni sedimenti; PNEC Omejite: 0.294 mg/kg

Način izpostavitve: Tla (kmetijska); PNEC Omejite: 0.237 mg/kg

2-metoksi-1-metiletil acetat

CAS: 108-65-6 Način izpostavitve: Sladka voda; PNEC Omejite: 0.635 mg/l

Način izpostavitve: Morska voda; PNEC Omejite: 0.064 mg/l

Način izpostavitve: Mikroorganizmi v čistilnih napravah (STP); PNEC Omejite: 100 mg/l

Način izpostavitve: Sladkovodni sedimenti; PNEC Omejite: 3.29 mg/kg

Način izpostavitve: Morski sedimenti; PNEC Omejite: 0.329 mg/kg

Način izpostavitve: Tla (kmetijska); PNEC Omejite: 0.29 mg/kg

**Izpeljane vrednosti brez učinka. (DNEL)**

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

CAS: 1675-54-3 Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Strokovni delavec: 0.75 mg/kg; Uporabnik: 0.089 mg/kg

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Strokovni delavec: 4.93 mg/m3; Uporabnik: 0.87 mg/m3

Način izpostavitve: Oralno, človek; Pogostost izpostavitve: Kratkotrajna, sistemski učinek
Uporabnik: 0.5 mg/kg

1,6-heksandiol diglicidil eter

CAS: 933999-84-9 Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
delavec: 10.57 mg/m3; Uporabnik: 5.29 mg/m3

Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
delavec: 6 mg/kg; Uporabnik: 3 mg/kg

Način izpostavitve: Oralno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Uporabnik: 1.5 mg/kg

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Kratkotrajna, sistemski učinek
delavec: 10.57 mg/m3; Uporabnik: 5.29 mg/m3

Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Kratkotrajna, sistemski učinek
Uporabnik: 1.7 mg/kg

Način izpostavitve: Oralno, človek; Pogostost izpostavitve: Kratkotrajna, sistemski učinek
Uporabnik: 1.5 mg/kg

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, lokalni učinek
delavec: 0.44 mg/m3; Uporabnik: 0.27 mg/m3

Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Dolgotrajna, lokalni učinek
delavec: 0.022 mg/kg; Uporabnik: 0.013 mg/kg

Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Kratkotrajna, lokalni učinek
delavec: 0.022 mg/kg; Uporabnik: 0.013 mg/kg

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

Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Strokovni delavec: 104.15 mg/kg; Uporabnik: 62.5 mg/kg

Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Kratkotrajna, lokalni učinek
Strokovni delavec: 0.0083 mg/cm2

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Strokovni delavec: 29.39 mg/m3; Uporabnik: 8.7 mg/m3

Način izpostavitve: Oralno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Uporabnik: 6.25 mg/kg

2-metoksi-1-metiletil acetat

CAS: 108-65-6 Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
delavec: 796 mg/kg; Uporabnik: 320 mg/kg

Način izpostavitve: Oralno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Uporabnik: 36 mg/kg

Način izpostavitve: Oralno, človek; Pogostost izpostavitve: Kratkotrajna, sistemski učinek
Uporabnik: 500 mg/kg

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
delavec: 275 mg/m3; Uporabnik: 33 mg/m3

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Kratkotrajna, lokalni učinek
delavec: 550 mg/m3

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, lokalni učinek
Uporabnik: 33 mg/m3

**8.2 Nadzor izpostavljenosti**

Poskrbite za ustrezno prezračevanje. Kadar je to izvedljivo, je to mogoče doseči z uporabo nadomestnega prezračevanja in dobrim splošnim vsesavanjem.

Zaščita oči:

Očala s stranskimi varovali (EN 16321).

Zaščita kože:

Uporabljajte oblačila, primerna za popolno zaščito kože glede na dejavnost in izpostavljenost (EN 14605/EN 13982), npr. delovni kombinezon, predpasnik, zaščitna obutev, primerna oblačila.

Zaščita rok:

Ni materiala ali kombinacije materialov za rokavice, ki bi lahko zagotovili neomejeno odpornost na katero koli kombinacijo kemikalij ali proizvodov.

Za daljše ali večkratno rokovanje uporabite rokavice, odporne na kemikalije.

Ustrezne rokavice tipa (EN 374/EN 16523); FKM (Fluórkaučuk): debelina >= 0.4 mm; permeacijski čas >= 480 min. NBR (Nitrilkaučuk): debelina >= 0.4 mm; permeacijski čas >= 480 min

Izbira primernih rokavic ni odvisna samo od materiala, temveč tudi od drugih kakovostnih lastnosti, ki se razlikujejo od enega do drugega proizvajalca, in od načinov ter časov uporabe mešanice.

Zaščita dihalnih poti:

Če so delavci izpostavljeni koncentracijam nad mejnimi vrednostmi izpostavljenosti, morajo uporabljati primerne, certificirane dihalne aparate.

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

Nadzor izpostavljenosti okolja:

Glejte točko 6.2

Higienski in tehnični ukrepi

Glejte poglavje 7.

## ODDELEK 9: Fizikalne in kemijske lastnosti

**9.1 Podatki o osnovnih fizikalnih in kemijskih lastnostih**

fizično stanje: Tekoče

Izgled: Tekoče

Barva: brezbarven

Vonj: značilnost

Tališče/ledišče: N.D.

Vrelišče ali začetno vrelišče in območje vrelišča: N.D.

Vnetljivost: ni znano

Spodnja in zgornja meja eksplozivnosti: N.D.

Plamenišče: ni znano

Temperatura samovžiga: N.D.

Temperatura razgradnje: ni znano

pH: ni znano

Kinematična viskoznost: ni znano

Topnost v vodi: ni znano

Topnost v olju: Topno

Porazdelitveni koeficient n-oktanol/voda (logaritemska vrednost): ni znano

Parni tlak: N.D.

Gostota in/ali relativna gostota: 1.12 kg/l ( Interna metoda )

Relativna parna gostota: N.D. ni znano

**Lastnosti delcev:**

Velikost delcev: ni znano

**9.2 Drugi podatki**

Eksplozivne lastnosti: ni znano ( Notranja evalvacija )

Oksidativne lastnosti: ni znano ( Notranja evalvacija )

## ODDELEK 10: Obstojnost in reaktivnost

**10.1 Reaktivnost**

Stabilen v normalnih pogojih

**10.2 Kemijska stabilnost**

Stabilen v normalnih pogojih

**10.3 Možnost poteka nevarnih reakcij**

V stiku z močnimi oksidatorji se lahko vname.

Zaradi toplote ali v primeru požara se lahko sprostijo ogljikovi oksidi in hlapi, ki lahko škodujejo zdravju.

**10.4 Pogoji, ki se jim je treba izogniti**

Izogibajte se bližine toplotnih virov.

**10.5 Nezdružljivi materiali**

Močni oksidanti, močni reduktorji, alifatski in aromatski amini.

Glejte točko 10.3

**10.6 Nevarni produkti razgradnje**

V primeru pravilnega skladiščenja in ravnanja ne pride do razvoja nevarnih produktov razgradnje.

Glejte točko 5.2

## ODDELEK 11: Toksikološki podatki

**11.1 Podatki o razredih nevarnosti, kakor so opredeljeni v Uredbi (ES) št. 1272/2008**

Epoksidne smole, prisotne v tem izdelku so samo delno dražilne. Kljub temu vse epoksidne smole lahko povzročajo senzibilizacijo kože, ki je različna glede na osebo.

Pri nekaterih osebah se alergični dermatitis ne pokaže takoj in se pojavi šele po večih dneh ali tednih po pogostih ali daljših stikih.

Zaradi tega, čeprav so smole le lažje dražilne, se je treba skrbno izogibati stiku s kožo. Pri že razviti sensibilizaciji tudi izpostavljenost v manjših količinah lahko povzročajo lokalni edem ali eritem.

**Toksikološki podatki izdelka:**

| | |
|---|---|
| a) akutna strupenost | Ni klasificirano |
| | Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |
| b) jedkost za kožo/draženje kože | Proizvod je razvrščen: Skin Corr. 1C(H314) |
| c) resne okvare oči/draženje | Ni klasificirano |
| | Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |
| d) preobčutljivost pri vdihavanju in preobčutljivost kože | Proizvod je razvrščen: Skin Sens. 1A(H317) |
| e) mutagenost za zarodne celice | Ni klasificirano |
| | Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |
| f) rakotvornost | Ni klasificirano |
| | Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |
| g) strupenost za razmnoževanje | Proizvod je razvrščen: Repr. 1B(H360) |
| h) STOT - enkratna izpostavljenost | Ni klasificirano |
| | Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |
| i) STOT - ponavljajoča se izpostavljenost | Ni klasificirano |
| | Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |
| j) nevarnost pri vdihavanju | Ni klasificirano |
| | Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |

**Toksikološki podatki glavnih snovi, ki jih najdemo v izdelku:**

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

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

1,6-heksandiol diglicidil eter

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

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

a) akutna strupenost LD50 Koža Podgana > 2000 mg/kg
LD50 Oralno Podgana > 5000 mg/kg

1,3-propandiol, 2-etil-2-(hidroksimetil)-, polimer z (klorometil)oksiran

CAS: 30499-70-8 a) akutna strupenost LD50 Oralno Podgana > 2000 mg/kg
LD50 Koža Podgana > 3170 mg/kg

2-metoksi-1-metiletil acetat

CAS: 108-65-6 a) akutna strupenost LD50 Oralno Podgana > 5000 mg/kg
LD50 Koža Zajec > 5000 mg/kg
LC0 Vdihavanje hlapov Podgana > 4345 ppm 6h

**11.2 Podatki o drugih nevarnostih**

**Lastnosti endokrinih motilcev:**

Ni endokrinih motilcev v koncentraciji > = 0,1%.

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## ODDELEK 12: Ekološki podatki

Uporabljajte v skladu z dobrimi delovnimi navadami, izogibajte se odlaganju izdelka v okolju.

**12.1 Strupenost**

Ekotoksikološki podatki:

Strupeno za vodne organizme, z dolgotrajnimi učinki.

**Ekotoksikoloških lastnosti izdelka**

Proizvod je razvrščen: Aquatic Chronic 2(H411)

**Seznam sestavin z ekotoksikološkimi lastnostmi**

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

CAS: 1675-54-3 a) akutna strupenost za vodno okolje: EC50 Vodna bolha 1.8 mg/l 48h
a) akutna strupenost za vodno okolje: LC50 Riba 2 mg/l 96h
a) akutna strupenost za vodno okolje: EC50 Alge 11 mg/l 72h
b) kronična strupenost za vodno okolje: NOEC Vodna bolha 0.3 mg/l 21d

1,6-heksandiol diglicidil eter

CAS: 933999-84-9 a) akutna strupenost za vodno okolje: LC50 Riba 30 mg/l 96h
a) akutna strupenost za vodno okolje: EC50 Vodna bolha 47 mg/l 48h

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

a) akutna strupenost za vodno okolje: LC50 Riba 2.54 mg/l 96h
a) akutna strupenost za vodno okolje: EC50 Alge 1.8 mg/l 72h
a) akutna strupenost za vodno okolje: EC50 Vodna bolha 2.55 mg/l 48h
b) kronična strupenost za vodno okolje: NOEC Vodna bolha 0.3 mg/l - 21d

1,3-propandiol, 2-etil-2-(hidroksimetil)-, polimer z (klorometil)oksiran

CAS: 30499-70-8 a) akutna strupenost za vodno okolje: LC50 Riba 75 mg/l 96h
a) akutna strupenost za vodno okolje: EC50 Vodna bolha 3.7 mg/l 48h
a) akutna strupenost za vodno okolje: EC50 Alge 9 mg/l 72h

2-metoksi-1-metiletil acetat

CAS: 108-65-6 a) akutna strupenost za vodno okolje: LC50 Riba 134 mg/l 96h
a) akutna strupenost za vodno okolje: EC50 Vodna bolha 408 mg/l 48h
a) akutna strupenost za vodno okolje: EC50 Alge > 1000 mg/l 96h
b) kronična strupenost za vodno okolje: NOEC Riba 47.5 mg/l - 14 d

**12.2 Obstojnost in razgradljivost**

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

CAS: 1675-54-3 Ni hitro razgradljivo

2-metoksi-1-metiletil acetat

CAS: 108-65-6 Hitro razgradljivo

**12.3 Zmožnost kopičenja v organizmih**

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

CAS: 1675-54-3 Se ne kopiči v organizmih

**12.4 Mobilnost v tleh**

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

CAS: 1675-54-3 Testiranje: Log Koc; Vrednost: 2.650

**12.5 Rezultati ocene PBT in vPvB**

Na podlagi razpoložljivih podatkov, preparat ne vsebuje snovi PBT/vPvB v procentu ≥ 0.1%.

**12.6 Lastnosti endokrinih motilcev**

Ni endokrinih motilcev v koncentraciji > = 0,1%.

**12.7 Drugi škodljivi učinki**

ni znano

## ODDELEK 13: Odstranjevanje

**13.1 Metode ravnanja z odpadki**

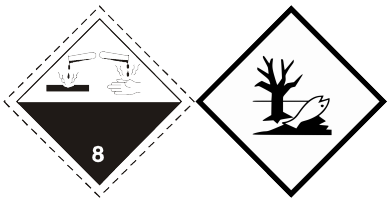
Če je mogoče, predelajte. Pošljite v usposobljena odlagališča ali v zažig pod kontroliranimi pogoji. Ravnajte se po lokalnih in državnih predpisih.

Ne dopustite, da pride v kanalizacijo ali vodne poti.

Odstraniti posode, ki jih kontaminira izdelka v skladu z lokalnimi ali nacionalnimi predpisi.

Ko izdelku poteče življenjska doba, ga odstranite v skladu z veljavno zakonodajo.

## ODDELEK 14: Podatki o prevozu




**14.1 Številka ZN in številka ID**

1760

**14.2 Pravilno odpremno ime ZN**

ADR-uradno ime blaga: JEDKA TEKOČINA, N.D.R. (1,3-propandiol, 2-etil-2-(hidroksimetil)-, polimer z (klorometil)oksiran - reakcijska zmes 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran in 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran in 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran)

IATA-uradno ime blaga: CORROSIVE LIQUID, N.O.S. (1,3-propandiol, 2-etil-2-(hidroksimetil)-, polimer z (klorometil)oksiran - reakcijska zmes 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran in 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran in 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran)

IMDG-uradno ime blaga: CORROSIVE LIQUID, N.O.S. (1,3-propandiol, 2-etil-2-(hidroksimetil)-, polimer z (klorometil)oksiran - reakcijska zmes 2,2'-[metilenbis(4,1-fenilenoksimetilen)]dioksiran in 2-({2-[4-(oksiran-2-ilmetoksi)]fenoksi})oksiran in 2,2'-[metilenbis(2,1-fenilenoksimetilen)]dioksiran)

**14.3 Razredi nevarnosti prevoza**

ADR-Razred: 8

IATA-razred: 8

IMDG-razred: 8

**14.4 Skupina embalaže**

ADR-embalažna skupina: III

IATA-embalažna skupina: III

IMDG-embalažna skupina: III

**14.5 Nevarnosti za okolje**

Onesnaževalec morja: Da

Onesnažuje okolje po: Da

IMDG-EMS: F-A, S-B

**14.6 Posebni previdnostni ukrepi za uporabnika**

Cestni in železniški transport (ADR-RID):

ADR-nalepka nevarnosti: 8

ADR - Identifikacijska številka nevarnosti: 80

ADR-posebni ukrepi: 274

ADR-Pravilnik o cestnem prevozu nevarnega blaga:

Zračni transport (IATA):

IATA-potniška letala: 852

IATA-tovorna letala: 856

IATA-nalepka: 8

IATA-dodatne nevarnosti: -

IATA-Erg: 8L

IATA-posebni ukrepi: A3 A803

Morski transport (IMDG):

IMDG-Zlaganje in ravnanje: Category A SW2

IMDG-Segregacija: -

IMDG-dodatne nevarnosti: -

IMDG-posebni ukrepi: 223 274

**14.7 Pomorski prevoz v razsutem stanju v skladu z instrumenti IMO**

ni znano

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## ODDELEK 15: Zakonsko predpisani podatki

**15.1 Predpisi/zakonodaja o zdravju, varnosti in okolju, specifični za snov ali zmes**

Dir. 98/24/ES (Varovanje delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu)
Dir. 2000/39/ES (mejne vrednosti za poklicno izpostavljenost)
Direktiva 2010/75/EU
Uredba (ES) št. 1907/2006 (REACH)
Uredba (ES) št. 1272/2008 (CLP)
Uredba (ES) št. 790/2009 (1. ATP CLP) in (EU) št. 758/2013
Uredba (EU) 2020/878
Uredba (EU) št. 286/2011 (2. ATP CLP)
Uredba (EU) št. 618/2012 (3. ATP CLP)
Uredba (EU) št. 487/2013 (4. ATP CLP)
Uredba (EU) št. 944/2013 (5. ATP CLP)
Uredba (EU) št. 605/2014 (6. ATP CLP)
Uredba (EU) 2015/1221 (7. ATP CLP)
Uredba (EU) 2016/918 (8. ATP CLP)
Uredba (EU) 2016/1179 (9. ATP CLP)
Uredba (EU) 2017/776 (10. ATP CLP)
Uredba (EU) 2018/669 (11. ATP CLP)
Uredba (EU) 2018/1480 (13. ATP CLP)
Uredba (EU) 2019/521 (12. ATP CLP)
Uredba (EU) 2020/217 (14. ATP CLP)
Uredba (EU) 2020/1182 (15. ATP CLP)
Uredba (EU) 2021/643 (16. ATP CLP)
Uredba (EU) 2021/849 (17. ATP CLP)
Uredba (EU) 2022/692 (18. ATP CLP)
Uredba (EU) 2023/707
Uredba (EU) 2023/1434 (19. ATP CLP)
Uredba (EU) 2023/1435 (20. ATP CLP)
Uredba (EU) 2024/197 (21. ATP CLP)
Uredba (EU) 2024/2564 (22. ATP CLP)
Uredba (EU) ąt. 2024/2865
Uredba (EU) 2025/1222 (23. ATP CLP)

**Omejitve, povezane z izdelkom ali vsebovanimi snovmi, v skladu s Prilogo XVII Uredbe (ES) 1907/2006 (REACH) in poznejše spremembe:**

Omejitve v zvezi z izdelkom: 3

Omejitve v zvezi z vsebovanimi snovmi: 40, 75

**Določbe v zvezi z direktivo EU 2012/18 (Seveso III)**

| Kategorija Seveso III v skladu s Prilogo 1, del 1 | Mejna vrednost nižje stopnje (v tonah) | Mejna vrednost višje stopnje (v tonah) |
|---|---|---|

| | | |
|---|---|---|
| izdelek spada v kategorijo: E2 | 200 | 500 |

**Uredba (EU) št. 649/2012 (uredba PIC)**

Snovi niso navedene

**Nemški razred nevarnosti za vodo.**

Razred 3: izjemno nevarna.

**SVHC snovi:**

Na podlagi razpoložljivih podatkov, preparat ne vsebuje snovi SVHC v procentu ≥ 0.1%.

**15.2 Ocena kemijske varnosti**

Ocena kemijske varnosti ni bila opravljena za zmes. Zgledujte se po scenarijih izpostavljenosti snovi, priloženih temu varnostnemu listu.Pri posvetovanju s scenariji upoštevajte morebitne omejitve glede uporabe, navedene v razdelku 1.2.

## ODDELEK 16: Drugi podatki

| Številka | Opis |
|---|---|
| H226 | Vnetljiva tekočina in hlapi. |
| H314 | Povzroča hude opekline kože in poškodbe oči. |
| H315 | Povzroča draženje kože. |
| H317 | Lahko povzroči alergijski odziv kože. |
| H318 | Povzroča hude poškodbe oči. |
| H319 | Povzroča hudo draženje oči. |
| H336 | Lahko povzroči zaspanost ali omotico. |
| H360 | Ob stiku s kožo in zaužitju lahko zmanjša plodnost ali škodi zarodku. |
| H360F | Lahko škoduje plodnosti. |
| H360Fd | Lahko škoduje plodnosti. Sum škodljivosti za nerojenega otroka. |
| H411 | Strupeno za vodne organizme, z dolgotrajnimi učinki. |
| H412 | Škodljivo za vodne organizme, z dolgotrajnimi učinki. |

| Številka | Razred in kategorija nevarnosti | Opis |
|---|---|---|
| 2.6/3 | Flam. Liq. 3 | Vnetljiva tekočina, Kategorija 3 |
| 3.2/1C | Skin Corr. 1C | Jedkost za kožo, Kategorija 1C |
| 3.2/2 | Skin Irrit. 2 | Draženje kože, Kategorija 2 |
| 3.3/1 | Eye Dam. 1 | Hude poškodbe oči, Kategorija 1 |
| 3.3/2 | Eye Irrit. 2 | Draženje oči, Kategorija 2 |
| 3.4.2/1 | Skin Sens. 1 | Preobčutljivost kože, Kategorija 1 |
| 3.4.2/1A | Skin Sens. 1A | Preobčutljivost kože, Kategorija 1A |
| 3.4.2/1B | Skin Sens. 1B | Preobčutljivost kože, Kategorija 1B |
| 3.7/1B | Repr. 1B | Strupenost za razmnoževanje, Kategorija 1B |
| 3.8/3 | STOT SE 3 | Specifična strupenost za ciljne organe (STOT) – enkratna izpostavljenost STOT enkrat, Kategorija 3 |
| 4.1/C2 | Aquatic Chronic 2 | Kronično (dolgotrajno) nevarnost za vodno okolje, Kategorija 2 |
| 4.1/C3 | Aquatic Chronic 3 | Kronično (dolgotrajno) nevarnost za vodno okolje, Kategorija 3 |

**Razvrstitev in postopek, uporabljen za izpeljavo razvrstitve za zmesi v skladu z Uredbo (ES) 1272/2008 [uredba CLP]:**

| Razvrstitev v skladu z Uredbo (ES) št. 1272/2008 | Postopek razvrščanja |
|---|---|
| Skin Corr. 1C, H314 | metoda izračuna |
| Skin Sens. 1A, H317 | metoda izračuna |
| Repr. 1B, H360 | metoda izračuna |
| Aquatic Chronic 2, H411 | metoda izračuna |

Ta dokument je pripravila pristojna oseba, ki je ustrezno usposobljena

Glavni bibliografski viri:

ECDIN – Informacijska mreža za okoljske podatke za kemikalije – Skupno raziskovalno središče, Komisija Evropskih skupnosti

SAX – NEVARNE LASTNOSTI INDUSTRIJSKIH MATERIALOV – 8. izdaja – Van Nostrand Reinold

Varnostni listi dobaviteljev surovin.

Predstavljene informacije se nanašajo na naše znanje v zgoraj navedenem datumu. Nanašajo se zgolj na omenjeni izdelek in ne predstavljajo garancije za posebno kakovost.

Uporabnik je dolžan preveriti pravilnost in popolnost teh informacij glede na svojo specifično uporabo.

Ta list razveljavlja in nadomešča vsako predhodno izdajo

Legenda okrajšav in kratic, uporabljenih v varnostnem listu:

ACGIH: Ameriška konferenca vladnih industrijskih higienikov
ADR: Evropski sporazum o mednarodnem prevozu nevarnih snovi v cestnem prometu.
ATE: Ocena akutne strupenosti
ATEmix: Ocena akutne strupenosti (Zmesi)
BEI: Biološki indeks izpostavljenosti
CAS: Chemical Abstracts Service (oddelek Ameriškega kemijskega društva).
CAV: Center za zastrupitve
CE: Evropska skupnost
CLP: Razvrščanje, etiketiranje, pakiranje.
CMR: Rakotvorno, mutageno in strupeno za razmnoževanje
COV: Hlapna organska spojina
CSA: Ocena kemijske varnosti
CSR: Poročilo o kemijski varnosti
DNEL: Izpeljane vrednosti brez učinka.
EC50: Srednja učinkovita koncentracija
ECHA: Evropska agencija za kemikalije
EINECS: Evropski seznam obstoječih snovi.
ES: Scenarij izpostavljenosti
GefStoffVO: Odlok o nevarnih snoveh, Nemčija.
GHS: Globalno poenoten sistem razvrščanja in označevanja nevarnih kemikalij.
IARC: Mednarodna agencija za raziskovanje raka
IATA: Mednarodno združenje za zračni transport.
IC50: Srednja inhibitorna koncentracija
IMDG: Mednarodni kodeks za prevoz nevarnega blaga po morju
LC50: Letalna koncentracija za 50 odstotkov testne populacije.
LD50: Letalna doza za 50 odstotkov testne populacije.
LDLo: Najnižja smrtna doza
N.A.: Se ne uporablja
N/A: Se ne uporablja
N/D: Ni opredeljeno/Ni razpoložljiv
N.D.: Ni razpoložljiv
NIOSH: Nacionalni inštitut za varnost in zdravje pri delu
NOAEL: Raven brez opaznih negativnih vplivov
OSHA: Upravljanje varnosti in zdravja pri delu
PBT: Obstojne, se kopičijo v organizmih in so strupene
PGK: Navodila za embalažo nevarnih snovi
PNEC: Predvidena koncentracija brez učinka.
PSG: Potniki
RID: Pravilnik o mednarodnem prevozu nevarnega blaga po železnici.
STEL: Meja za kratkotrajno izpostavljenost.
STOT: Specifično strupeno za ciljne organe.
TLV: Mejna vrednost izpostavljenosti.
TLV-TWA: Mejna vrednost izpostavljenosti v časovnem obdobju po 8 ur dnevno (ACGIH standard).
vPvB: Telo obstojno, se zelo lahko kopiči v organizmih.
WGK: Nemški razred nevarnosti za vodo.

**Odstavki spremenjeni od prejšnje revizije:**

- ODDELEK 1: Identifikacija snovi/zmesi in družbe/podjetja
- ODDELEK 2: Določitev nevarnosti
- ODDELEK 3: Sestava/podatki o sestavinah
- ODDELEK 8: Nadzor izpostavljenosti/osebna zaščita
- ODDELEK 9: Fizikalne in kemijske lastnosti
- ODDELEK 11: Toksikološki podatki
- ODDELEK 12: Ekološki podatki
- ODDELEK 15: Zakonsko predpisani podatki
- ODDELEK 16: Drugi podatki

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

**Substance identification**
Chemical Name: bis-[4-(2,3-epoxipropoxi)phenyl]propane
CAS number: 1675-54-3
Date - Version: 29/12/2021 - 1.3

## INDUSTRIAL USE - PROFESSIONAL USES: PUBLIC SECTOR (ADMINISTRATION, EDUCATION, ENTERTAINMENT, SERVICES, CRAFTS) (SU22).

## 1. TITLE SECTION

**Exposure scenario name:** Industrial use.
**Structured short title:** Professional uses: public sector (administration, education, entertainment, service, crafts) (SU22).
**Substance:** 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane
EC number: 216-823-5
Registration number: 01-2119456619-26

## ENVIRONMENT

**SC 1**: Use of non-reactive processing aid at industrial site (no inclusion in article) ERC4

## WORKER

**SC 2**: Use as laboratory reagents PROC15
**SC 3**: Treatment of articles by dipping and pouring PROC13
**SC 4**: Tableting, compression, extrusion, pelletising, granulation PROC14
**SC 5**: General greasing/lubrication in high energy conditions PROC18
**SC 6** Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8a

## 2. CONDITIONS OF USE AFFECTING EXPOSURE

### 2.1. ENVIRONMENTAL EXPOSURE CONTROL: Use of non-reactive processing aid at industrial site (no inclusion in article) (ERC4)

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

#### *Amount used (or contained in articles), frequency and duration of use/exposure*
Daily amount per site: 0,6 ton/day
Annual amount per site: 20 ton/year

#### *Conditions and measures related to sewage treatment plant*
STP Type: Municipal wastewater treatment plant.
Learn more about STP: biological elimination.
STP sludge treatment: It may be landfilled when allowed by local regulations.
STP effluent: 2,000 m³/day

#### *Other conditions affecting environmental exposure*
Water flow on the receiving surface: 18,000 m³/day
Outdoor / Indoor Indoor use.

### 2.2. WORKERS EXPOSURE CONTROL: Use as laboratory reagents (PROC15)

#### *Product features (article)*
Covers the percentage of substance in the product up to 100%.
Physical form of the product: Liquid.
Temperature: < 40°C

### *Amount used (or contained in articles), frequency and duration of use/exposure*
Duration: Covers daily exposures up to 8 hours.

### *Organizational and technical measures and conditions*
Assumes a good basic standard of occupational hygiene is implemented.
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Dermal: minimum efficiency of 0%.
Inhalation: minimum yield of 30%.

### *Conditions and measures for personal protection, hygiene and health assessment*
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use adequate eye protection.
Dermal: minimum efficiency of 95%.
Inhalation: minimum yield of 0%.

### *Other conditions affecting worker exposure*
Outdoor / Indoor Inside.
Temperature: < 40°C

## 2.3. WORKERS EXPOSURE CONTROL: Treatment of articles by dipping and pouring (PROC13)

### *Product features (article)*
Covers the percentage of substance in the product up to 25%.
Physical form of the product: Liquid.
Vapour pressure: 0,00741 Pa
Temperature: < 70°C

### *Amount used (or contained in articles), frequency and duration of use/exposure*
Duration: Covers daily exposures up to 8 hours.

### *Organizational and technical measures and conditions*
Assumes a good basic standard of occupational hygiene is implemented.
Provide a good standard of general ventilation (not less than 1 to 3 air changes per hour).
Dermal: minimum efficiency of 0%.
Inhalation: minimum yield of 0%.

### *Conditions and measures for personal protection, hygiene and health assessment*
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use adequate eye protection.
Dermal: minimum efficiency of 95%.
Inhalation: minimum yield of 0%.
Wear suitable respirator.
Inhalation: minimum yield of 90%.

### *Other conditions affecting worker exposure*
Outdoor / Indoor Inside.
Temperature: < 40°C

## 2.4. WORKERS EXPOSURE CONTROL: Tableting, compression, extrusion, pelletising, granulation (PROC14)

### *Product features (article)*
Covers the percentage of substance in the product up to 100%.
Physical form of the product: Liquid.
Temperature: < 40°C

### *Amount used (or contained in articles), frequency and duration of use/exposure*
Duration: Covers daily exposures up to 8 hours.

### *Organizational and technical measures and conditions*
Assumes a good basic standard of occupational hygiene is implemented.
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Dermal: minimum efficiency of 0%.
Inhalation: minimum yield of 30%.

### *Conditions and measures for personal protection, hygiene and health assessment*
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use adequate eye protection.
Dermal: minimum efficiency of 95%.
Inhalation: minimum yield of 0%.

### *Other conditions affecting worker exposure*
Outdoor / Indoor Inside.
Temperature: < 40°C

## 2.5. WORKERS EXPOSURE CONTROL: General greasing/lubrication in high energy conditions (PROC18)

### *Product features (article)*
Covers concentrations up to 20%.
Physical form of the product: Liquid.
Temperature: ≤ 800°C

### *Amount used (or contained in articles), frequency and duration of use/exposure*
Duration: Covers daily exposures up to 8 hours.

### *Conditions and measures for personal protection, hygiene and health assessment*
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use adequate eye protection.
Dermal: minimum efficiency of 95%.
Inhalation: minimum yield of 0%.
Wear suitable respirator.
Inhalation: minimum yield of 90%.

### *Other conditions affecting worker exposure*
Outdoor / Indoor Outside.
Industrial or professional environments: Professional use.
Temperature: ≤ 800°C

## 2.6. WORKERS EXPOSURE CONTROL: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities (PROC8a)

### *Product features (article)*
Covers the percentage of substance in the product up to 25%.
Physical form of the product: Liquid.

### *Amount used (or contained in articles), frequency and duration of use/exposure*
Duration: Covers daily exposures up to 8 hours.

### *Conditions and measures for personal protection, hygiene and health assessment*
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use adequate eye protection.
Dermal: minimum efficiency of 95%.
Inhalation: minimum yield of 0%.

### *Other conditions affecting worker exposure*
Outdoor / Indoor Outside.
Industrial or professional environments: Professional use.
Temperature: A process temperature of up to < 40°C is assumed.

## 3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

### *3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion in article) (ERC4)*

| Route release | Release rate | Method for estimating for release |
|---|---|---|
| water | 1.2E-10kg/day | FEICA SPERC 5.1 a.v1 |
| air | 3E-4kg/day | FEICA SPERC 5.1 a.v1 |
| Soil | 0% | FEICA SPERC 5.1 a.v1 |

| Protection target | Estimated Exposure (EUSES v2.1) | RCR |
|---|---|---|
| Fresh water | 3.76E-4mg/l | 0.063 |
| Fresh water sediments | 0.018mg/l | 0.053 |
| Sea water | 2.95E-5mg/kg dry weight | 0.049 |
| Marine sediment | 1.42E-3mg/kg dry weight | 0.042 |
| Sewage treatment plant | 5.68E-11mg/l | < 0.01 |
| Farmland | 2.88E-6mg/kg dry weight | < 0.01 |
| Prey for predators (freshwater) | mg/kg wet weight (EUSES v2.1) | < 0.01 |
| Prey for predators (marine water) | 9.13E-4mg/kg wet weight | < 0.01 |
| Main predator prey (marine water) | 9.13E-4mg/kg wet weight | < 0.01 |
| Prey for Predators (Terrestrial) | 1.68E-4mg/kg wet weight | < 0.01 |
| Man through the environment - inhalation | 7.65E-9mg/m³ | < 0.01 |
| Man through the environment - oral | 3E-5mg/kgbw/day | < 0.01 |
| Population exposed through the environment | - | < 0.01 |

### *3.2. Worker exposure: Use as laboratory reagents (PROC15)*

| Exposure routes | Health effect | Exposure indicator | Estimated exposure (ECETOC TRA worker v3) | RCR |
|---|---|---|---|---|
| inhalation | systemic | Long-term | 0.993mg/m³ | 0.201 |
| inhalation | local | Long-term | 0.993mg/m³ | - |
| inhalation | local | Short term | 0.993mg/m³ | - |
| dermal | systemic | Long-term | 0.172mg/kg bw/day | 0.045 |
| dermal | local | Short term | 9.92E-3mg/cm² | - |
| combined routes | - | - | - | 0.247 |

### *3.3. Worker exposure: Treatment of articles by dipping and pouring (PROC13)*

| Exposure routes | Health effect | Exposure indicator | Estimated exposure (ECETOC TRA worker v3) | RCR |
|---|---|---|---|---|
| inhalation | systemic | Long-term | 0.085mg/m³ | 0.017 |
| inhalation | local | Long-term | 0.085mg/m³ | - |
| inhalation | local | Short term | 0.085mg/m³ | - |
| dermal | systemic | Long-term | 0.411mg/kgbw/day | 0.548 |
| dermal | local | Short term | 0.06mg/cm² | - |
| combined routes | - | - | - | 0.566 |

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### 3.4. Worker exposure: Tableting, compression, extrusion, pelletising, granulation (PROC14)

| Exposure routes | Health effect | Exposure indicator | Estimated exposure (ECETOC TRA worker v3) | RCR |
|---|---|---|---|---|
| inhalation | systemic | Long-term | 0.993mg/m³ | 0.201 |
| inhalation | local | Long-term | 0.993mg/m³ | - |
| inhalation | local | Short term | 0.993mg/m³ | - |
| dermal | systemic | Long-term | 0.172mg/kg bw/day | 0.229 |
| dermal | local | Short term | 0.0025mg/cm² | - |
| combined routes | - | - | - | 0.43 |

### 3.5. Worker exposure: General greasing/lubrication in high energy conditions (PROC18)

| Exposure routes | Health effect | Exposure indicator | Estimated exposure (ECETOC TRA worker v3) | RCR |
|---|---|---|---|---|
| inhalation | systemic | Long-term | 0.596mg/m³ | 0.121 |
| inhalation | local | Long-term | 0.596mg/m³ | - |
| inhalation | local | Short term | 0.596mg/m³ | - |
| dermal | systemic | Long-term | 0.411mg/kgbw/day | 0.548 |
| dermal | local | Short term | 0.03mg/cm² | - |
| combined routes | - | - | - | 0.669 |

### 3.6. Worker exposure: Transfer of a substance or a preparation (filling/emptying) at non-dedicated facilities (PROC8a)

| Exposure routes | Health effect | Exposure indicator | Estimated exposure (ECETOC TRA worker v3) | RCR |
|---|---|---|---|---|
| inhalation | systemic | Long-term | 0.596mg/m³ | 0.121 |
| inhalation | local | Long-term | 0.596mg/m³ | - |
| inhalation | local | Short term | 0.596mg/m³ | - |
| dermal | systemic | Long-term | 0.411mg/kgbw/day | 0.548 |
| dermal | local | Short term | 0.03mg/cm² | - |
| combined routes | - | - | - | 0.669 |

## 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.

# PROFESSIONAL USE - PROFESSIONAL USES: PUBLIC SECTOR (ADMINISTRATION, EDUCATION, ENTERTAINMENT, SERVICES, CRAFTS) (SU22).

## 1. TITLE SECTION

**Exposure scenario name:** Professional.
**Structured short title:** Professional uses: public sector (administration, education, entertainment, service, crafts) (SU22).
**Substance:** 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane
EC number: 216-823-5
Registration number: 01-2119456619-26

## ENVIRONMENT

**SC 1**: Use at an industrial site leading to inclusion in article ERC5

## WORKER

**SC 2**: Industrial spraying PROC7
**SC 3** Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8a
**SC 4**: Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC8b
**SC 5**: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC9
**SC 6**: Application with rollers or brushes PROC10
**SC 7**: Non-industrial spraying PROC11

## 2. CONDITIONS OF USE AFFECTING EXPOSURE

### 2.1. ENVIRONMENTAL EXPOSURE CONTROL: Use at an industrial site leading to inclusion in article (ERC5)

#### *Product features (article)*

Covers a percentage of substance in the product up to 100%.
Physical form of the product: Liquid

#### *Amount used (or contained in articles), frequency and duration of use/exposure*

Annual amount per site: 30,000 tons/year
Daily amount per site: 100 tons/day

#### *Conditions and measures related to sewage treatment plant*

STP Type: Municipal wastewater treatment plant.
Learn more about STP: biological elimination.
STP sludge treatment: It may be landfilled when allowed by local regulations.
STP effluent: 2,000 m³/day

#### *Other conditions affecting environmental exposure*

Water flow on the receiving surface: 18,000 m³/day

### 2.2. WORKERS EXPOSURE CONTROL: Industrial spraying (PROC7)

#### *Product features (article)*

Covers the percentage of substance in the product up to 25%.
Physical form of the product: Liquid.
Vapour pressure: 0,00741 Pa

#### *Amount used (or contained in articles), frequency and duration of use/exposure*

Duration: Covers daily exposures up to 8 hours.

#### *Organizational and technical measures and conditions*

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

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### *Conditions and measures for personal protection, hygiene and health assessment*
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use adequate eye protection.
If skin contamination is expected to extend to other parts of the body, these parts should also be protected with impermeable clothing equivalent to that described for the hands.
Wear suitable respirator.
Dermal: minimum efficiency of 99%.
Inhalation: minimum yield of 90%.

### *Other conditions affecting worker exposure*
Outdoor / Indoor Inside.
Industrial or professional environments Professional use.
Temperature: Process temperature up to 70°C is assumed.

## 2.3. WORKERS EXPOSURE CONTROL: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities (PROC8a)

### *Product features (article)*
Covers the percentage of substance in the product up to 25%.
Physical form of the product: Liquid.
Vapour pressure: 0,00741 Pa
Temperature: 70°C

### *Amount used (or contained in articles), frequency and duration of use/exposure*
Duration: Covers daily exposures up to 8 hours.

### *Organizational and technical measures and conditions*
Provide a good standard of general ventilation (not less than 1 to 3 air changes per hour).
Dermal: minimum efficiency of 0%.
Inhalation: minimum yield of 0%.

### *Conditions and measures for personal protection, hygiene and health assessment*
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use adequate eye protection.
Dermal: minimum efficiency of 95%.
Inhalation: minimum yield of 0%.

### *Other conditions affecting worker exposure*
Outdoor / Indoor Inside.
Industrial or professional environments Professional use.
Temperature: 70°C

## 2.4. WORKERS EXPOSURE CONTROL: Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at dedicated facilities. (PROC8b)

### *Product features (article)*
Covers the percentage of substance in the product up to 100%.
Physical form of the product: Liquid.
Vapour pressure: 0,00741 Pa
Temperature: 70°C

### *Amount used (or contained in articles), frequency and duration of use/exposure*
Duration: Covers daily exposures up to 8 hours.

### *Organizational and technical measures and conditions*
Assumes a good basic standard of occupational hygiene is implemented.
Provide a good standard of general ventilation (not less than 1 to 3 air changes per hour).

### *Conditions and measures for personal protection, hygiene and health assessment*
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use adequate eye protection.
Dermal: minimum efficiency of 95%.
Inhalation: minimum yield of 0%.
Wear suitable respirator.
Inhalation: minimum yield of 90%.

### *Other conditions affecting worker exposure*
Outdoor / Indoor Inside.
Temperature: 70°C

## 2.5. WORKERS EXPOSURE CONTROL: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

### *Product features (article)*
Covers concentrations up to 100%.
Physical form of the product: Liquid.
Vapour pressure: 0,00741 Pa
Temperature: < 50°C

### *Amount used (or contained in articles), frequency and duration of use/exposure*
Duration: Covers daily exposures up to 8 hours.

### *Organizational and technical measures and conditions*
Assumes a good basic standard of occupational hygiene is implemented.
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Dermal: minimum efficiency of 0%.
Inhalation: minimum yield of 30%.

### *Conditions and measures for personal protection, hygiene and health assessment*
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use adequate eye protection.
Dermal: minimum efficiency of 95%.
Inhalation: minimum yield of 0%.
Wear suitable respirator.
Inhalation: minimum yield of 90%.

### *Other conditions affecting worker exposure*
Outdoor / Indoor Inside.
Temperature: < 50°C

## 2.6. WORKERS EXPOSURE CONTROL: Application with rollers or brushes (PROC10)

### *Product features (article)*
Covers the percentage of substance in the product up to 25%.
Physical form of the product: Liquid.
Vapour pressure: 0,00741 Pa
Temperature: < 70°C

### *Amount used (or contained in articles), frequency and duration of use/exposure*
Duration: Covers daily exposures up to 8 hours.

### *Organizational and technical measures and conditions*
Assumes a good basic standard of occupational hygiene is implemented.
Provide a good standard of general ventilation (not less than 1 to 3 air changes per hour).
Local exhaust ventilation.
Dermal: minimum efficiency of 0%.
Inhalation: minimum yield of 90%.

### *Conditions and measures for personal protection, hygiene and health assessment*
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use adequate eye protection.
Dermal: minimum efficiency of 99%.
Inhalation: minimum yield of 0%.

### *Other conditions affecting worker exposure*
Outdoor / Indoor Inside.
Temperature: < 70°C.

## 2.7. WORKERS EXPOSURE CONTROL: Non-industrial spraying (PROC11)

### *Product features (article)*

Covers the percentage of substance in the product up to 25%.
Physical form of the product: Liquid.
Temperature: < 40°C

### *Amount used (or contained in articles), frequency and duration of use/exposure*

Duration: Covers daily exposures up to 8 hours.

### *Organizational and technical measures and conditions*

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

### *Conditions and measures for personal protection, hygiene and health assessment*

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use adequate eye protection.
If skin contamination is expected to extend to other parts of the body, these parts should also be protected with impermeable clothing equivalent to that described for the hands.
Wear suitable respirator.
Dermal: minimum efficiency of 99%.
Inhalation: minimum yield of 90%.

### *Other conditions affecting worker exposure*

Outdoor / Indoor Inside.
Temperature: < 40°C.

## 3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

### *3.1. Environmental release and exposure: Use at an industrial site leading to inclusion in article (ERC5)*

| Route release | Release rate | Method for estimating for release |
|---|---|---|
| water | 0.06 kg/day | FEICA SPERC 8c.1 b.v1 |
| air | 0 kg/day | FEICA SPERC 8c.1 b.v1 |
| Soil | 0% | FEICA SPERC 8c.1 b.v1 |

| Protection target | Estimated Exposure (EUSES v2.1) | RCR |
|---|---|---|
| Fresh water | 3.22E-3mg/l | 0,536 |
| Fresh water sediments | 0.155mg/l | 0,454 |
| Sea water | 3.14E-4mg/l | 0,523 |
| Marine sediment | 0.015mg/kg dry weight | 0,442 |
| Sewage treatment plant | 0.028mg/l | < 0.01 |
| Farmland | 0.05mg/kg dry weight | 0,779 |
| Prey for predators (freshwater) | 0.048mg/kg wet weight | < 0.01 |
| Prey for predators (marine water) | 4.53E-3mg/kg wet weight | < 0.01 |
| Main predator prey (marine water) | 1.64E-3mg/kg wet weight | < 0.01 |
| Prey for Predators (Terrestrial) | 0.056mg/kg wet weight | < 0.01 |
| Man through the environment - inhalation | Concentration in air: 3.45E-11 mg/m³ | < 0.01 |
| Man through the environment - oral | 1.47E-3mg/kg pc/giorno | < 0.01 |
| Population exposed through the environment | - | < 0.01 |

### 3.2. Worker exposure: Industrial spraying (PROC7)

| Exposure routes | Health effect | Exposure indicator | Estimated exposure | RCR |
|---|---|---|---|---|
| inhalation | systemic | Long-term | 0.34mg/m³ (ART v1.5) | 0.069 |
| inhalation | local | Long-term | 0.34mg/m³ (ART v1.5) | - |
| inhalation | local | Short term | 0.78mg/m³ (ART v1.5) | - |
| dermal | systemic | Long-term | 0.257mg/kgbw/day (ECETOC TRA worker v3) | 0.343 |
| dermal | local | Short term | 0.012mg/cm² (ECETOC TRA worker v3) | - |
| combined routes | - | - | - | 0.412 |

### 3.3. Worker exposure: Transfer of a substance or a preparation (filling/emptying) at non-dedicated facilities (PROC8a)

| Exposure routes | Health effect | Exposure indicator | Estimated exposure (ECETOC TRA worker v3) | RCR |
|---|---|---|---|---|
| inhalation | systemic | Long-term | 0.851mg/m³ | 0.173 |
| inhalation | local | Long-term | 0.851mg/m³ | - |
| inhalation | local | Short term | 0.851mg/m³ | - |
| dermal | systemic | Long-term | 0.411mg/kgbw/day | 0.548 |
| dermal | local | Short term | 0.03mg/cm² | - |
| combined routes | - | - | - | 0.721 |

### 3.4. Worker exposure: Transfer of a substance or a mixture (fill/discharge) at dedicated facilities (PROC8b)

| Exposure routes | Health effect | Exposure indicator | Estimated exposure (ECETOC TRA worker v3) | RCR |
|---|---|---|---|---|
| inhalation | systemic | Long-term | 0.085mg/m³ | 0.017 |
| inhalation | local | Long-term | 0.085mg/m³ | - |
| inhalation | local | Short term | 0.0851mg/m³ | - |
| dermal | systemic | Long-term | 0.411mg/kgbw/day | 0.548 |
| dermal | local | Short term | 0.03mg/cm² | - |
| combined routes | - | - | - | 0.566 |

### 3.5. Worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

| Exposure routes | Health effect | Exposure indicator | Estimated exposure (ECETOC TRA worker v3) | RCR |
|---|---|---|---|---|
| inhalation | systemic | Long-term | 0.099mg/m³ | 0.02 |
| inhalation | local | Long-term | 0.099mg/m³ | - |
| inhalation | local | Short term | 0.993mg/m³ | - |
| dermal | systemic | Long-term | 0.343mg/kgbw/day | 0.457 |
| dermal | local | Short term | 0.05mg/cm² | - |
| combined routes | - | - | - | 0.659 |



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### 3.6. Worker exposure: Application with rollers or brushes (PROC10)

| Exposure routes | Health effect | Exposure indicator | Estimated exposure (ECETOC TRA worker v3) | RCR |
|---|---|---|---|---|
| inhalation | systemic | Long-term | 0.085mg/m³ | 0.017 |
| inhalation | local | Long-term | 0.085mg/m³ | - |
| inhalation | local | Short term | 0.085mg/m³ | - |
| dermal | systemic | Long-term | 0.165mg/kgbw/day | 0.219 |
| dermal | local | Short term | 0.012mg/cm² | - |
| combined routes | - | - | - | 0.237 |

### 3.7. Worker exposure: Non-industrial spraying (PROC11)

| Exposure routes | Health effect | Exposure indicator | Estimated exposure | RCR |
|---|---|---|---|---|
| inhalation | systemic | Long-term | 0.34mg/m³ (ART v1 .5) | 0.069 |
| inhalation | local | Long-term | 0.34mg/m³ (ART v1 .5) | - |
| inhalation | local | Short term | 0.78mg/m³ (ART v1 .5) | - |
| dermal | systemic | Long-term | 0.643mg/kgbw/day (ECETOC TRA worker v3) | 0.857 |
| dermal | local | Short term | 0.03mg/cm² (ECETOC TRA worker v3) | - |
| combined routes | - | - | - | 0.926 |

## 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.

1 - bis-[4-(2,3-epoxipropoxi)phenyl]propane - 1

# 2-methoxy-1-methylethyl acetate

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

## 4. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

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

## EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

## EXPOSURE SCENARIO CONSIDERED

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

### *Operating conditions*

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

### *Risk management measures*

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

### *Measures relative to the waste*

Dispose of waste cans and containers according to local regulations.

### *Exposure estimation and reference to its source*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## 5. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

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

## EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

## EXPOSURE SCENARIO CONSIDERED

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

### *Operating conditions*

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

### *Risk management measures*

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

### *Measures relative to the waste*

Dispose of waste cans and containers according to local regulations.

### *Exposure estimation and reference to its source*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Risk management measures*

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Industrial**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

# 7 USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

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

# EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

## EXPOSURE SCENARIO CONSIDERED

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

### *Operating conditions*

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

### *Risk management measures*

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

### *Measures relative to the waste*

Dispose of waste cans and containers according to local regulations.

### *Exposure estimation and reference to its source*

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

## EXPOSURE SCENARIO CONSIDERED

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

### *Operating conditions*

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

### *Risk management measures*

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*
Ensure that operations are carried out externally.

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*

Ensure that operations are carried out externally.

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

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

## 8. USE IN COATINGS. - USE IN INDUSTRIAL PLANTS

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

## EXPOSURE CONTROL AND RISK MANAGEMENT MEASURES

## EXPOSURE SCENARIO CONSIDERED

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

### *Operating conditions*

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

### *Risk management measures*

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

### *Measures relative to the waste*

Dispose of waste cans and containers according to local regulations.

### *Exposure estimation and reference to its source*

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

## EXPOSURE SCENARIO CONSIDERED

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

### *Operating conditions*

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

### *Risk management measures*

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

### *Exposure estimation and reference to its source*
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 15.02 mg/m³
Risk Characterization Ratio (RCR): 0.4
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*

Ensure that operations are carried out externally.

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 27.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.54

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

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

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

### *Exposure estimation and reference to its source*
Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 10.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.21

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*

Ensure that operations are carried out externally.

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*

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

### *Exposure estimation and reference to its source*

Evaluation method: ESIG GES tool, Operator. Worker - inhalation, long-term - systemic.
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, Operator. Worker - dermal, long-term - systemic.
Exposure estimation: 28.29 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.56

### *Guidance for downstream users*

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

## EXPOSURE SCENARIO CONSIDERED

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

**Area of use: Professional**

### *Operating conditions*

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

### *Risk management measures*

Wear suitable gloves compliant with EN ISO 374-1.

### *Exposure estimation and reference to its source*

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

### *Guidance for downstream users*

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

## ODDELEK 1: Identifikacija snovi/zmesi in družbe/podjetja

### 1.1 Identifikator izdelka

Identifikacija pripravka:

Komercialno ime: FASSA EPOXY 100 COMP.B
Komercialna koda: 1222.B
UFI: 75U2-X13E-100Q-171T

### 1.2 Pomembne identificirane uporabe snovi ali zmesi in odsvetovane uporabe

Priporočena uporaba: Epoksidna osnova za FRP sisteme; Samo za profesionalno uporabo
Odsvetovane uporabe: Ni namenjeno za potrošniško uporabo

### 1.3 Podrobnosti o dobavitelju varnostnega lista

Dobavitelj FASSA Srl
Via Lazzaris, 3 - 31027 Spresiano (TV) - ITALY
Tel. +39 0422 7222
Fax +39 0422 887509

Odgovorni: laboratorio.spresiano@fassabortolo.it

### 1.4 Telefonska številka za nujne primere

112 - Center za obveščanje (na voljo 24 ur)

## ODDELEK 2: Določitev nevarnosti



### 2.1 Razvrstitev snovi ali zmesi

**Uredba (ES) št. 1272/2008 (CLP)**

| | |
|---|---|
| Acute Tox. 4 | Zdravju škodljivo pri zaužitju. |
| Acute Tox. 4 | Zdravju škodljivo pri vdihavanju. |
| Skin Corr. 1C | Povzroča hude opekline kože in poškodbe oči. |
| Skin Sens. 1 | Lahko povzroči alergijski odziv kože. |
| Repr. 2 | Sum škodljivosti za plodnost. Sum škodljivosti za nerojenega otroka. |
| STOT RE 2 | Lahko škoduje organom pri dolgotrajni ali ponavljajoči se izpostavljenosti. |
| Aquatic Chronic 3 | Škodljivo za vodne organizme, z dolgotrajnimi učinki. |

Nevarnosti fizikalno-kemijskih lastnosti za zdravje ljudi in za okolje:
Ni drugih tveganj

### 2.2 Elementi etikete

**Uredba (ES) št. 1272/2008 (CLP)**

**Piktogrami za nevarnost in Opozorilna beseda**



Nevarno

**Stavki o nevarnosti**

| | |
|---|---|
| H302 | Zdravju škodljivo pri zaužitju. |
| H314 | Povzroča hude opekline kože in poškodbe oči. |
| H317 | Lahko povzroči alergijski odziv kože. |
| H332 | Zdravju škodljivo pri vdihavanju. |
| H361fd | Sum škodljivosti za plodnost. Sum škodljivosti za nerojenega otroka. |
| H373 | Lahko škoduje organom pri dolgotrajni ali ponavljajoči se izpostavljenosti. |
| H412 | Škodljivo za vodne organizme, z dolgotrajnimi učinki. |

**Previdnostni stavki**

| | |
|---|---|
| P260 | Ne vdihavati dima/plina/meglice/hlapov/razpršila |
| P264 | Po uporabi temeljito umiti z vodo. |
| P280 | Nadenite si zaščitne rokavice/obleke ter zaščitite oči/obraz. |
| P303+P361+P353 | PRI STIKU S KOŽO (ali lasmi): Takoj sleči vsa kontaminirana oblačila. Kožo izprati z vodo [ali prho]. |
| P305+P351+P338 | PRI STIKU Z OČMI: Previdno izpirati z vodo nekaj minut. Odstranite kontaktne leče, če jih imate in če to lahko storite brez težav. Nadaljujte z izpiranjem. |
| P310 | Takoj pokličite CENTER ZA ZASTRUPITVE/ zdravnika. |

**Vsebuje:**

3-aminometil-3,5,5-trimetilcikloheksilamin

m-phenylenebis(methylamine)

benzil alkohol

reakcijski produkti formaldehid in 4-nonilfenol in trietilentetramin in 2-piperazin-1-iletilamin

2-piperazin-1-iletilamin

3-aminopropiltrietoksisilan

**Posebne določbe v skladu s Prilogo XVII uredbe REACH in poznejše spremembe:**

Nobeden

**2.3 Druge nevarnosti**

Ni snovi PBT, vPvB ali endokrinih motilcev v koncentraciji > = 0,1%.

Ni drugih tveganj

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## ODDELEK 3: Sestava/podatki o sestavinah

**3.1 Snovi**

ni znano

**3.2 Zmesi**

Identifikacija pripravka: FASSA EPOXY 100 COMP.B

**Nevarne sestavine, skladno z Uredbo CLP in njeno razvrstitvijo:**

| Količina | Ime | Ident. št. | Razvrstitev | Registracijska številka: |
|---|---|---|---|---|
| ≥30 - <50 % | m-phenylenebis(methylamine) | CAS:1477-55-0<br>EC:216-032-5 | Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412, EUH071<br><br>Ocena akutne strupenosti:<br>ATE - Oralno: 500mg/kg tt<br>ATE - Vdihavanje (Prahom/meglice): 1.5mg/l | 01-2119480150-50-xxxx |
| ≥20 - <30 % | benzil alkohol | CAS:100-51-6<br>EC:202-859-9<br>Index:603-057-00-5 | Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317<br><br>Ocena akutne strupenosti:<br>ATE - Oralno: 1200mg/kg tt | 01-2119492630-38-xxxx |
| ≥10 - <20 % | reakcijski produkti formaldehid in 4-nonilfenol in trietilentetramin in 2-piperazin-1-iletilamin | EC:922-006-0 | Eye Dam. 1, H318; Skin Sens. 1, H317; Skin Corr. 1B, H314 | |
| ≥10 - <20 % | 3-aminometil-3,5,5-trimetilcikloheksilamin | CAS:2855-13-2<br>EC:220-666-8<br>Index:612-067-00-9 | Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317<br><br>Posebne mejne koncentracije:<br>C ≥ 0.001%: Skin Sens. 1A H317<br><br>Ocena akutne strupenosti:<br>ATE - Oralno: 1030mg/kg tt | 01-2119514687-32-xxxx |

| | | | | |
|---|---|---|---|---|
| ≥3 - <5 % | 2-piperazin-1-iletilamin | CAS:140-31-8<br>EC:205-411-0<br>Index:612-105-00-4 | Acute Tox. 3, H311 Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Repr. 2, H361fd STOT RE 1, H372 Aquatic Chronic 3, H412<br><br>Ocena akutne strupenosti:<br>ATE - Oralno: 500mg/kg tt<br>ATE - Dermalno: 866mg/kg tt | 01-2119471486-30-xxxx |
| ≥0.5 - <1 % | 3-aminopropiltrietoksisilan | CAS:919-30-2<br>EC:213-048-4<br>Index:612-108-00-0 | Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317<br><br>Ocena akutne strupenosti:<br>ATE - Oralno: 500mg/kg tt | 01-2119480479-24-xxxx |

## ODDELEK 4: Ukrepi za prvo pomoč

### 4.1 Opis ukrepov za prvo pomoč

V primeru stika s kožo:

Kontaminirana oblačila takoj slecite in jih na varen način odstranite.

TAKOJ SE POSVETUJTE Z ZDRAVNIKOM.

V primeru stika z očmi:

V primeru stika z očmi dovolj dolgo in z odprtimi očesnimi vekami izpirajte z obilo vode, nato poiščite pomoč zdravnika oftalmologa.

Poškodovano oko zaščitite.

V primeru zaužitja:

Ne zaužijte in ne pijte ničesar.

Po zaužitju ne izzivati bruhanja, takoj poiskati zdravniško pomoč in pokazati varnostni list in nalepko.

V primeru vdihavanja:

Prizadeto osebo umaknite na svež zrak in pustite počivati na toplem.

V primeru neenakomernega ali odsotnosti dihanja izvajajte umetno dihanje.

Če pride do zaužitja, takoj poiskati zdravniško pomoč in pokazati embalažo ali etiketo.

### 4.2 Najpomembnejši simptomi in učinki, akutni in zapozneli

Simptomi in ucinki so taki, kot je pricakovano glede na nevarnosti, kar je prikazano v 2. razdelku.

### 4.3 Navedba kakršne koli takojšnje medicinske oskrbe in posebnega zdravljenja

V primeru nesreče ali slabega počutja takoj poiščite zdravniško pomoč (če je mogoče, pokažite navodila za uporabo ali varnostni list).

## ODDELEK 5: Protipožarni ukrepi

### 5.1 Sredstva za gašenje

Ustrezna sredstva za gašenje:

$CO_2$, gasilni aparat na prah, pena, pršenje z vodo.

Sredstva za gašenje, ki se jih iz varnostnih razlogov ne sme uporabljati:

Vodni curki

### 5.2 Posebne nevarnosti v zvezi s snovjo ali zmesjo

Pri gorenju nastajajo težki dimni plini.

Ne vdihavati pline, ki nastanejo pri eksploziji in/ali gorenju (ogljikov monoksid in ogljikov dioksid, dušikovi oksidi).

### 5.3 Nasvet za gasilce

Uporabiti ustrezne dihalne naprave.

Ločeno zberite kontaminirano vodo, uporabljeno za gašenje požara. Ne je izpustiti v kanalizacijo.

Če je to varno izvedljivo, nepoškodovane vsebnike umaknite iz neposredno ogroženega območja.

## ODDELEK 6: Ukrepi o nenamernih izpustih

### 6.1 Osebni varnostni ukrepi, zaščitna oprema in postopki v sili

**Za neizučeno osebje:**

Nosite osebno varovalno opremo.

V primeru izpostavljenosti hlapom/prahu/aerosolom nosite dihalne aparate.

Omogočite primerno zračenje.

Uporabite ustrezno zaščito dihal.

Glejte v oddelku 7 in 8 navedene zaščitne ukrepe.

**Za reševalce:**

Nosite osebno varovalno opremo.

**6.2 Okoljevarstveni ukrepi**

Preprečite vstop v tla/podtalnico. Preprečite razlitje v površinske vode ali v kanalizacijo.

V primeru puščanja plina ali razlitja v vodne tokove, tla ali kanalizacijo obvestite pristojne organe.

**6.3 Metode in materiali za zadrževanje in čiščenje**

Za zbiranje primeren material: inerten vpojni materiali (npr. pesek, vermikulit).

Po pobiranju z vodo izperite območje in prizadete materiale.

Kontaminirano vodo za pranje shranite in odstranite.

**6.4 Sklicevanje na druge oddelke**

Glejte tudi naslova 8 in 13

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## ODDELEK 7: Ravnanje in skladiščenje

**7.1 Varnostni ukrepi za varno ravnanje**

Preprečite stik s kožo in očmi, vdihavanje hlapov in megle.

Uporabite lokaliziran sistem prezračevanja.

Prazne vsebnike ne uporabite dokler niso očiščeni.

Pred postopki prenosa se prepričajte, da v vsebnikih ni ostankov nezdružljivih materialov.

**Nasveti o splošni higieni dela:**

Kontaminirana oblačila se mora pred vstopom v jedilnico zamenjati.

Med delom ne jejte in ne pijte.

Glejte tudi oddelek 8 o priporočeni varovalni opremi.

**7.2 Pogoji za varno skladiščenje, vključno z nezdružljivostjo**

Posode hranite tesno zaprte na hladnem in dobro prezračevanem mestu proč od virov toplote.

Hranite stran od hrane, pijač in krme.

Inkompaktibilne snovi:

Glejte točko 10.5

Navodila za prostore:

Primerno zračeni prostori.

**7.3 Posebne končne uporabe**

Priporočila

Glejte točko 1.2

Specifične rešitve za industrijski sektor

Nobena posebna uporaba

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## ODDELEK 8: Nadzor izpostavljenosti/osebna zaščita

**8.1 Parametri nadzora**

**Mejne vrednosti za poklicno izpostavljenost**

m-phenylenebis(methylamine)

| | | | | |
|---|---|---|---|---|
| CAS: 1477-55-0 | Tip OPZ | ACGIH | | Kratkotrajna Zgornja meja - 0.018 ppm<br>Opombe: Skin - Eye, skin, and GI irr |
| | Tip OPZ | MAK | Avstrija | Dolgotrajna 0.1 mg/m3 |
| | Tip OPZ | VLEP | Belgija | Kratkotrajna 0.1 mg/m3 |
| | Tip OPZ | VLEP | Francija | Kratkotrajna 0.1 mg/m3 |
| | Tip OPZ | SUVA | Švicar | Dolgotrajna 0.1 mg/m3 |

benzil alkohol

| | | | | |
|---|---|---|---|---|
| CAS: 100-51-6 | Tip OPZ | MAK | Nemčija | Dolgotrajna 22 mg/m3 - 5 ppm; Kratkotrajna 44 mg/m3 - 10 ppm<br>Opombe: Inhalable fraction and vapour, Skin |
| | Tip OPZ | TLV | Bolgarija | Dolgotrajna 5 mg/m3 |
| | Tip OPZ | TLV | Češka | Dolgotrajna 40 mg/m3 - 8.88 ppm; Kratkotrajna 80 mg/m3 - 17.76 ppm |
| | Tip OPZ | SUVA | Švicar | Dolgotrajna 22 mg/m3 - 5 ppm |
| | Tip OPZ | AGW | Nemčija | Dolgotrajna 22 mg/m3 - 5 ppm; Kratkotrajna 44 mg/m3 - 10 ppm<br>Opombe: Inhalable fraction and vapour |
| | Tip OPZ | NDS | Poljska | Dolgotrajna 240 mg/m3 |
| | Tip OPZ | MV | Slovenija | Dolgotrajna 22 mg/m3 - 5 ppm; Kratkotrajna 44 mg/m3 - 10 ppm<br>Opombe: Skin |
| | Tip OPZ | IPRV | Litva | Dolgotrajna 5 mg/m3<br>Opombe: Skin |

**Mejna vrednost izpostavljenosti po PNEC**

m-phenylenebis(methylamine)

CAS: 1477-55-0 Način izpostavitve: Morska voda; PNEC Omejite: 0.009 mg/l
Način izpostavitve: Sladka voda; PNEC Omejite: 0.094 mg/l
Način izpostavitve: Morska voda; PNEC Omejite: 0.043 mg/kg
Način izpostavitve: Sladka voda; PNEC Omejite: 0.43 mg/kg
Način izpostavitve: Tla (kmetijska); PNEC Omejite: 0.045 mg/kg
Način izpostavitve: Mikroorganizmi v čistilnih napravah (STP); PNEC Omejite: 10 mg/l

benzil alkohol

CAS: 100-51-6 Način izpostavitve: Sladka voda; PNEC Omejite: 1 mg/l
Način izpostavitve: Morska voda; PNEC Omejite: 0.1 mg/l
Način izpostavitve: Mikroorganizmi v čistilnih napravah (STP); PNEC Omejite: 39 mg/l
Način izpostavitve: Sladkovodni sedimenti; PNEC Omejite: 5.27 mg/kg
Način izpostavitve: Morski sedimenti; PNEC Omejite: 0.527 mg/kg
Način izpostavitve: Tla (kmetijska); PNEC Omejite: 0.456 mg/kg

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 Način izpostavitve: Sladka voda; PNEC Omejite: 0.06 mg/l
Način izpostavitve: Morska voda; PNEC Omejite: 0.006 mg/l
Način izpostavitve: Mikroorganizmi v čistilnih napravah (STP); PNEC Omejite: 3.18 mg/l
Način izpostavitve: Sladkovodni sedimenti; PNEC Omejite: 5.784 mg/kg
Način izpostavitve: Morski sedimenti; PNEC Omejite: 0.578 mg/kg
Način izpostavitve: Tla (kmetijska); PNEC Omejite: 1.121 mg/kg

2-piperazin-1-iletilamin

CAS: 140-31-8 Način izpostavitve: Sladka voda; PNEC Omejite: 0.058 mg/l
Način izpostavitve: Morska voda; PNEC Omejite: 5.8 µg/l
Način izpostavitve: Mikroorganizmi v čistilnih napravah (STP); PNEC Omejite: 250 mg/l
Način izpostavitve: Sladkovodni sedimenti; PNEC Omejite: 215 mg/kg
Način izpostavitve: Morski sedimenti; PNEC Omejite: 21.5 mg/kg
Način izpostavitve: Prst; PNEC Omejite: 1 mg/kg

3-aminopropiltrietoksisilan

CAS: 919-30-2 Način izpostavitve: Mikroorganizmi v čistilnih napravah (STP); PNEC Omejite: 1.3 mg/l

**Izpeljane vrednosti brez učinka. (DNEL)**

m-phenylenebis(methylamine)

CAS: 1477-55-0 Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Strokovni delavec: 0.33 mg/kg

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, lokalni učinek
Strokovni delavec: 0.2 mg/m3

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Strokovni delavec: 1.2 mg/m3

benzil alkohol

CAS: 100-51-6 Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Kratkotrajna, sistemski učinek
Strokovni delavec: 110 mg/m3; Uporabnik: 27 mg/m3

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Strokovni delavec: 22 mg/m3; Uporabnik: 5.4 mg/m3

Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Kratkotrajna, sistemski učinek
Strokovni delavec: 40 mg/kg; Uporabnik: 20 mg/kg

Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Strokovni delavec: 8 mg/kg; Uporabnik: 4 mg/kg

Način izpostavitve: Oralno, človek; Pogostost izpostavitve: Kratkotrajna, sistemski učinek
Uporabnik: 20 mg/kg

Način izpostavitve: Oralno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Uporabnik: 4 mg/kg

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, lokalni učinek
Strokovni delavec: 0.073 mg/m3

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Kratkotrajna, lokalni učinek
Strokovni delavec: 0.073 mg/m3

Način izpostavitve: Oralno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Uporabnik: 0.3 mg/kg/day

Način izpostavitve: Oralno, človek; Pogostost izpostavitve: Kratkotrajna, sistemski učinek
Uporabnik: 0.3 mg/kg/day

2-piperazin-1-iletilamin

CAS: 140-31-8 Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Kratkotrajna, sistemski učinek
delavec: 10.6 mg/m3

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
delavec: 10.6 mg/m3

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, lokalni učinek
delavec: 0.015 mg/m3

Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Kratkotrajna, lokalni učinek
delavec: 0.08 mg/m3

Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
delavec: 3.33 mg/kg

3-aminopropiltrietoksisilan

CAS: 919-30-2 Način izpostavitve: Z vdihavanjem, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Strokovni delavec: 14 mg/m3; Uporabnik: 3.5 mg/m3

Način izpostavitve: Dermalno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Strokovni delavec: 2 mg/kg; Uporabnik: 1 mg/kg

Način izpostavitve: Oralno, človek; Pogostost izpostavitve: Dolgotrajna, sistemski učinek
Uporabnik: 1 mg/kg

**8.2 Nadzor izpostavljenosti**

Poskrbite za ustrezno prezračevanje. Kadar je to izvedljivo, je to mogoče doseči z uporabo nadomestnega prezračevanja in dobrim splošnim vsesavanjem.

Zaščita oči:

Očala s stranskimi varovali (EN 16321).

Zaščita kože:

Uporabljajte oblačila, primerna za popolno zaščito kože glede na dejavnost in izpostavljenost (EN 14605/EN 13982), npr. delovni kombinezon, predpasnik, zaščitna obutev, primerna oblačila.

Zaščita rok:

Ni materiala ali kombinacije materialov za rokavice, ki bi lahko zagotovili neomejeno odpornost na katero koli kombinacijo kemikalij ali proizvodov.

Za daljše ali večkratno rokovanje uporabite rokavice, odporne na kemikalije.

Ustrezne rokavice tipa (EN 374/EN 16523); FKM (Fluórkaučuk): debelina >= 0.4 mm; permeacijski čas >= 480 min. NBR (Nitrilkaučuk): debelina >= 0.4 mm; permeacijski čas >= 480 min

Izbira primernih rokavic ni odvisna samo od materiala, temveč tudi od drugih kakovostnih lastnosti, ki se razlikujejo od enega do drugega proizvajalca, in od načinov ter časov uporabe mešanice.

Zaščita dihalnih poti:

Če so delavci izpostavljeni koncentracijam nad mejnimi vrednostmi izpostavljenosti, morajo uporabljati primerne, certificirane dihalne aparate.

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

Nadzor izpostavljenosti okolja:

Glejte točko 6.2

Higienski in tehnični ukrepi

Glejte poglavje 7.

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## ODDELEK 9: Fizikalne in kemijske lastnosti

**9.1 Podatki o osnovnih fizikalnih in kemijskih lastnostih**

fizično stanje: Tekoče

Izgled: Tekoče

Barva: jantaren

Vonj: amin

Tališče/ledišče: N.D.
Vrelišče ali začetno vrelišče in območje vrelišča: N.D.
Vnetljivost: ni znano
Spodnja in zgornja meja eksplozivnosti: N.D.
Plamenišče: ni znano
Temperatura samovžiga: N.D.
Temperatura razgradnje: ni znano
pH: ni znano
Kinematična viskoznost: ni znano
Topnost v vodi: ni znano
Topnost v olju: Topno
Porazdelitveni koeficient n-oktanol/voda (logaritemska vrednost): ni znano
Parni tlak: N.D.
Gostota in/ali relativna gostota: 0.991 kg/l ( Interna metoda )
Relativna parna gostota: N.D. ni znano

**Lastnosti delcev:**

Velikost delcev: ni znano

**9.2 Drugi podatki**

Eksplozivne lastnosti: ni znano ( Notranja evalvacija )
Oksidativne lastnosti: ni znano ( Notranja evalvacija )

## ODDELEK 10: Obstojnost in reaktivnost

**10.1 Reaktivnost**

Stabilen v normalnih pogojih

**10.2 Kemijska stabilnost**

Stabilen v normalnih pogojih

**10.3 Možnost poteka nevarnih reakcij**

V stiku z močnimi oksidatorji se lahko vname.
Zaradi toplote ali v primeru požara se lahko sprostijo ogljikovi oksidi in hlapi, ki lahko škodujejo zdravju.

**10.4 Pogoji, ki se jim je treba izogniti**

Izogibajte se bližine toplotnih virov.

**10.5 Nezdružljivi materiali**

Močni oksidanti, močni reduktorji, alifatski in aromatski amini.
Glejte točko 10.3

**10.6 Nevarni produkti razgradnje**

V primeru pravilnega skladiščenja in ravnanja ne pride do razvoja nevarnih produktov razgradnje.
Glejte točko 5.2

## ODDELEK 11: Toksikološki podatki

**11.1 Podatki o razredih nevarnosti, kakor so opredeljeni v Uredbi (ES) št. 1272/2008**

**Toksikološki podatki izdelka:**

| | |
|---|---|
| a) akutna strupenost | Proizvod je razvrščen: Acute Tox. 4(H302), Acute Tox. 4(H332) |
| b) jedkost za kožo/draženje kože | Proizvod je razvrščen: Skin Corr. 1C(H314) |
| c) resne okvare oči/draženje | Ni klasificirano<br>Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |
| d) preobčutljivost pri vdihavanju in preobčutljivost kože | Proizvod je razvrščen: Skin Sens. 1(H317) |
| e) mutagenost za zarodne celice | Ni klasificirano<br>Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |
| f) rakotvornost | Ni klasificirano<br>Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |
| g) strupenost za razmnoževanje | Proizvod je razvrščen: Repr. 2(H361) |
| h) STOT - enkratna izpostavljenost | Ni klasificirano<br>Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |
| i) STOT - ponavljajoča se izpostavljenost | Proizvod je razvrščen: STOT RE 2(H373) |
| j) nevarnost pri vdihavanju | Ni klasificirano<br>Na podlagi razpoložljivih podatkov merila za razvrstitev niso izpolnjena. |

**Toksikološki podatki glavnih snovi, ki jih najdemo v izdelku:**

m-phenylenebis(methylamine)

CAS: 1477-55-0 a) akutna strupenost
ATE - Oralno: 500 mg/kg tt
ATE - Vdihavanje (Prahom/meglice): 1.5 mg/l
LD50 Koža Podgana > 3100 mg/kg
LD50 Oralno Podgana 930 mg/kg
LC50 Vdihavanje aerosola Podgana 1.34 mg/l 4h

benzil alkohol

CAS: 100-51-6 a) akutna strupenost
ATE - Oralno: 1200 mg/kg tt
LD50 Oralno Podgana 1620 mg/kg

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 a) akutna strupenost
ATE - Oralno: 1030 mg/kg tt
LC50 Vdihavanje aerosola Podgana > 5.01 mg/l 4h
LD50 Koža Podgana > 2000 mg/kg tt

2-piperazin-1-iletilamin

CAS: 140-31-8 a) akutna strupenost
ATE - Oralno: 500 mg/kg tt
ATE - Dermalno: 866 mg/kg tt

3-aminopropiltrietoksisilan

CAS: 919-30-2 a) akutna strupenost
ATE - Oralno: 500 mg/kg tt
LD50 Oralno Podgana 1490 mg/kg
LD50 Koža Zajec 4075 mg/kg

**11.2 Podatki o drugih nevarnostih**

**Lastnosti endokrinih motilcev:**

Ni endokrinih motilcev v koncentraciji > = 0,1%.

## ODDELEK 12: Ekološki podatki

Uporabljajte v skladu z dobrimi delovnimi navadami, izogibajte se odlaganju izdelka v okolju.

**12.1 Strupenost**

Ekotoksikološki podatki:

Škodljivo za vodne organizme, z dolgotrajnimi učinki.

**Ekotoksikoloških lastnosti izdelka**

Proizvod je razvrščen: Aquatic Chronic 3(H412)

**Seznam sestavin z ekotoksikološkimi lastnostmi**

m-phenylenebis(methylamine)

CAS: 1477-55-0 a) akutna strupenost za vodno okolje: LC50 Riba 87.6 mg/l 96h
a) akutna strupenost za vodno okolje: EC50 Alge 20.3 mg/l 72h
a) akutna strupenost za vodno okolje: EC50 Vodna bolha 15.2 mg/l 48h
b) kronična strupenost za vodno okolje: NOEC Vodna bolha 4.7 mg/l 21d
b) kronična strupenost za vodno okolje: NOEC Alge 10.5 mg/l 72h

benzil alkohol

CAS: 100-51-6 a) akutna strupenost za vodno okolje: LC50 Riba 460 mg/l 96h
a) akutna strupenost za vodno okolje: EC50 Vodna bolha 230 mg/l 48h
a) akutna strupenost za vodno okolje: EC50 Alge 770 mg/l 72h
b) kronična strupenost za vodno okolje: NOEC Vodna bolha 51 mg/l 21d
b) kronična strupenost za vodno okolje: NOEC Alge 310 mg/l 72h

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 a) akutna strupenost za vodno okolje: LC50 Riba 110 mg/l 96h
a) akutna strupenost za vodno okolje: EC50 Vodna bolha 23 mg/l 48h
a) akutna strupenost za vodno okolje: EC50 Alge > 50 mg/l 72h
b) kronična strupenost za vodno okolje: NOEC Vodna bolha 3 mg/l 21d

2-piperazin-1-iletilamin

CAS: 140-31-8 a) akutna strupenost za vodno okolje: LC50 Riba 2190 mg/l 96h

a) akutna strupenost za vodno okolje: EC50 Vodna bolha 58 mg/l 48h

a) akutna strupenost za vodno okolje: EC50 Alge > 1000 mg/l 72h

3-aminopropiltrietoksisilan

CAS: 919-30-2 a) akutna strupenost za vodno okolje: LC50 Riba > 934 mg/l 96h

a) akutna strupenost za vodno okolje: EC50 Vodna bolha 331 mg/l 48h

a) akutna strupenost za vodno okolje: EC50 Alge 603 mg/l 72h

**12.2 Obstojnost in razgradljivost**

m-phenylenebis(methylamine)

CAS: 1477-55-0 Ni hitro razgradljivo

benzil alkohol

CAS: 100-51-6 Hitro razgradljivo

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 Ni hitro razgradljivo

3-aminopropiltrietoksisilan

CAS: 919-30-2 Ni hitro razgradljivo

**12.3 Zmožnost kopičenja v organizmih**

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 Se ne kopiči v organizmih

3-aminopropiltrietoksisilan

CAS: 919-30-2 Se ne kopiči v organizmih

**12.4 Mobilnost v tleh**

3-aminometil-3,5,5-trimetilcikloheksilamin

CAS: 2855-13-2 Testiranje: Log Koc; Vrednost: 2.970

2-piperazin-1-iletilamin

CAS: 140-31-8 Testiranje: Log Koc

3-aminopropiltrietoksisilan

CAS: 919-30-2 Testiranje: Log Koc; Vrednost: -0.600

**12.5 Rezultati ocene PBT in vPvB**

Na podlagi razpoložljivih podatkov, preparat ne vsebuje snovi PBT/vPvB v procentu ≥ 0.1%.

**12.6 Lastnosti endokrinih motilcev**

Ni endokrinih motilcev v koncentraciji > = 0,1%.

**12.7 Drugi škodljivi učinki**

ni znano

## ODDELEK 13: Odstranjevanje

**13.1 Metode ravnanja z odpadki**

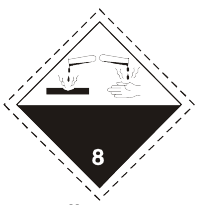
Če je mogoče, predelajte. Pošljite v usposobljena odlagališča ali v zažig pod kontroliranimi pogoji. Ravnajte se po lokalnih in državnih predpisih.

Ne dopustite, da pride v kanalizacijo ali vodne poti.

Odstraniti posode, ki jih kontaminira izdelka v skladu z lokalnimi ali nacionalnimi predpisi.

Ko izdelku poteče življenjska doba, ga odstranite v skladu z veljavno zakonodajo.

## ODDELEK 14: Podatki o prevozu




**14.1 Številka ZN in številka ID**

2735

**14.2 Pravilno odpremno ime ZN**

ADR-uradno ime blaga: TEKOČI AMINI, JEDKI, N.D.R. (m-phenylenebis(methylamine) - reakcijski produkti formaldehid in 4-nonilfenol in trietilentetramin in 2-piperazin-1-iletilamin)

IATA-uradno ime blaga: AMINES, LIQUID, CORROSIVE, N.O.S. POLYAMINES, LIQUID, CORROSIVE, N.O.S. (m-phenylenebis(methylamine) - reakcijski produkti formaldehid in 4-nonilfenol in trietilentetramin in 2-piperazin-1-iletilamin)

IMDG-uradno ime blaga: AMINES, LIQUID, CORROSIVE, N.O.S. POLYAMINES, LIQUID, CORROSIVE, N.O.S. (m-phenylenebis(methylamine) - reakcijski produkti formaldehid in 4-nonilfenol in trietilentetramin in 2-piperazin-1-iletilamin)

**14.3 Razredi nevarnosti prevoza**

ADR-Razred: 8

IATA-razred: 8

IMDG-razred: 8

**14.4 Skupina embalaže**

ADR-embalažna skupina: III

IATA-embalažna skupina: III

IMDG-embalažna skupina: III

**14.5 Nevarnosti za okolje**

Onesnaževalec morja: Ne

Onesnažuje okolje po: Ne

IMDG-EMS: F-A, S-B

**14.6 Posebni previdnostni ukrepi za uporabnika**

Cestni in železniški transport (ADR-RID):

ADR-nalepka nevarnosti: 8

ADR - Identifikacijska številka nevarnosti: 80

ADR-posebni ukrepi: 274

ADR-Pravilnik o cestnem prevozu nevarnega blaga:

Zračni transport (IATA):

IATA-potniška letala: 852

IATA-tovorna letala: 856

IATA-nalepka: 8

IATA-dodatne nevarnosti: -

IATA-Erg: 8L

IATA-posebni ukrepi: A3 A803

Morski transport (IMDG):

IMDG-Zlaganje in ravnanje: Category A

IMDG-Segregacija: SG35 SGG18

IMDG-dodatne nevarnosti: -

IMDG-posebni ukrepi: 223 274

**14.7 Pomorski prevoz v razsutem stanju v skladu z instrumenti IMO**

ni znano

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## ODDELEK 15: Zakonsko predpisani podatki

**15.1 Predpisi/zakonodaja o zdravju, varnosti in okolju, specifični za snov ali zmes**

Dir. 98/24/ES (Varovanje delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu)
Dir. 2000/39/ES (mejne vrednosti za poklicno izpostavljenost)
Direktiva 2010/75/EU
Uredba (ES) št. 1907/2006 (REACH)
Uredba (ES) št. 1272/2008 (CLP)
Uredba (ES) št. 790/2009 (1. ATP CLP) in (EU) št. 758/2013
Uredba (EU) 2020/878
Uredba (EU) št. 286/2011 (2. ATP CLP)
Uredba (EU) št. 618/2012 (3. ATP CLP)
Uredba (EU) št. 487/2013 (4. ATP CLP)
Uredba (EU) št. 944/2013 (5. ATP CLP)
Uredba (EU) št. 605/2014 (6. ATP CLP)
Uredba (EU) 2015/1221 (7. ATP CLP)
Uredba (EU) 2016/918 (8. ATP CLP)
Uredba (EU) 2016/1179 (9. ATP CLP)
Uredba (EU) 2017/776 (10. ATP CLP)
Uredba (EU) 2018/669 (11. ATP CLP)
Uredba (EU) 2018/1480 (13. ATP CLP)
Uredba (EU) 2019/521 (12. ATP CLP)

Uredba (EU) 2020/217 (14. ATP CLP)
Uredba (EU) 2020/1182 (15. ATP CLP)
Uredba (EU) 2021/643 (16. ATP CLP)
Uredba (EU) 2021/849 (17. ATP CLP)
Uredba (EU) 2022/692 (18. ATP CLP)
Uredba (EU) 2023/707
Uredba (EU) 2023/1434 (19. ATP CLP)
Uredba (EU) 2023/1435 (20. ATP CLP)
Uredba (EU) 2024/197 (21. ATP CLP)
Uredba (EU) 2024/2564 (22. ATP CLP)
Uredba (EU) ąt. 2024/2865
Uredba (EU) 2025/1222 (23. ATP CLP)

**Omejitve, povezane z izdelkom ali vsebovanimi snovmi, v skladu s Prilogo XVII Uredbe (ES) 1907/2006 (REACH) in poznejše spremembe:**

Omejitve v zvezi z izdelkom: 3

Omejitve v zvezi z vsebovanimi snovmi: 75

**Določbe v zvezi z direktivo EU 2012/18 (Seveso III)**

Nobena

**Uredba (EU) št. 649/2012 (uredba PIC)**

Snovi niso navedene

**Nemški razred nevarnosti za vodo.**

Razred 3: izjemno nevarna.

**SVHC snovi:**

Na podlagi razpoložljivih podatkov, preparat ne vsebuje snovi SVHC v procentu ≥ 0.1%.

**15.2 Ocena kemijske varnosti**

Ocena kemijske varnosti ni bila opravljena za zmes. Zgledujte se po scenarijih izpostavljenosti snovi, priloženih temu varnostnemu listu.Pri posvetovanju s scenariji upoštevajte morebitne omejitve glede uporabe, navedene v razdelku 1.2.

## ODDELEK 16: Drugi podatki

| Številka | Opis |
|---|---|
| EUH071 | Jedko za dihalne poti. |
| H302 | Zdravju škodljivo pri zaužitju. |
| H311 | Strupeno v stiku s kožo. |
| H314 | Povzroča hude opekline kože in poškodbe oči. |
| H317 | Lahko povzroči alergijski odziv kože. |
| H318 | Povzroča hude poškodbe oči. |
| H319 | Povzroča hudo draženje oči. |
| H332 | Zdravju škodljivo pri vdihavanju. |
| H361fd | Sum škodljivosti za plodnost. Sum škodljivosti za nerojenega otroka. |
| H372 | V primeru dolgotrajnega ali ponovljenega vdihavanja povzroča poškodbe notranjih organov. |
| H373 | Lahko škoduje organom pri dolgotrajni ali ponavljajoči se izpostavljenosti. |
| H412 | Škodljivo za vodne organizme, z dolgotrajnimi učinki. |

| Številka | Razred in kategorija nevarnosti | Opis |
|---|---|---|
| 3.1/3/Dermal | Acute Tox. 3 | Akutna strupenost (dermalno), Kategorija 3 |
| 3.1/4/Inhal | Acute Tox. 4 | Akutna strupenost (pri vdihavanju), Kategorija 4 |
| 3.1/4/Oral | Acute Tox. 4 | Akutna strupenost (oralno), Kategorija 4 |
| 3.2/1B | Skin Corr. 1B | Jedkost za kožo, Kategorija 1B |
| 3.2/1C | Skin Corr. 1C | Jedkost za kožo, Kategorija 1C |
| 3.3/1 | Eye Dam. 1 | Hude poškodbe oči, Kategorija 1 |
| 3.3/2 | Eye Irrit. 2 | Draženje oči, Kategorija 2 |
| 3.4.2/1 | Skin Sens. 1 | Preobčutljivost kože, Kategorija 1 |
| 3.4.2/1A | Skin Sens. 1A | Preobčutljivost kože, Kategorija 1A |
| 3.4.2/1B | Skin Sens. 1B | Preobčutljivost kože, Kategorija 1B |
| 3.7/2 | Repr. 2 | Strupenost za razmnoževanje, Kategorija 2 |
| 3.9/1 | STOT RE 1 | Specifična strupenost za ciljne organe (STOT) – ponavljajoča se izpostavljenost, Kategorija 1 |

| | | |
|---|---|---|
| 3.9/2 | STOT RE 2 | Specifična strupenost za ciljne organe (STOT) – ponavljajoča se izpostavljenost, Kategorija 2 |
| 4.1/C3 | Aquatic Chronic 3 | Kronično (dolgotrajno) nevarnost za vodno okolje, Kategorija 3 |

**Razvrstitev in postopek, uporabljen za izpeljavo razvrstitve za zmesi v skladu z Uredbo (ES) 1272/2008 [uredba CLP]:**

| Razvrstitev v skladu z Uredbo (ES) št. 1272/2008 | Postopek razvrščanja |
|---|---|
| Acute Tox. 4, H302 | metoda izračuna |
| Acute Tox. 4, H332 | metoda izračuna |
| Skin Corr. 1C, H314 | metoda izračuna |
| Skin Sens. 1, H317 | metoda izračuna |
| Repr. 2, H361fd | metoda izračuna |
| STOT RE 2, H373 | metoda izračuna |
| Aquatic Chronic 3, H412 | metoda izračuna |

Ta dokument je pripravila pristojna oseba, ki je ustrezno usposobljena

Glavni bibliografski viri:

ECDIN – Informacijska mreža za okoljske podatke za kemikalije – Skupno raziskovalno središče, Komisija Evropskih skupnosti

SAX – NEVARNE LASTNOSTI INDUSTRIJSKIH MATERIALOV – 8. izdaja – Van Nostrand Reinold

Varnostni listi dobaviteljev surovin.

Predstavljene informacije se nanašajo na naše znanje v zgoraj navedenem datumu. Nanašajo se zgolj na omenjeni izdelek in ne predstavljajo garancije za posebno kakovost.

Uporabnik je dolžan preveriti pravilnost in popolnost teh informacij glede na svojo specifično uporabo.

Ta list razveljavlja in nadomešča vsako predhodno izdajo

Legenda okrajšav in kratic, uporabljenih v varnostnem listu:

ACGIH: Ameriška konferenca vladnih industrijskih higienikov

ADR: Evropski sporazum o mednarodnem prevozu nevarnih snovi v cestnem prometu.

ATE: Ocena akutne strupenosti

ATEmix: Ocena akutne strupenosti (Zmesi)

BEI: Biološki indeks izpostavljenosti

CAS: Chemical Abstracts Service (oddelek Ameriškega kemijskega društva).

CAV: Center za zastrupitve

CE: Evropska skupnost

CLP: Razvrščanje, etiketiranje, pakiranje.

CMR: Rakotvorno, mutageno in strupeno za razmnoževanje

COV: Hlapna organska spojina

CSA: Ocena kemijske varnosti

CSR: Poročilo o kemijski varnosti

DNEL: Izpeljane vrednosti brez učinka.

EC50: Srednja učinkovita koncentracija

ECHA: Evropska agencija za kemikalije

EINECS: Evropski seznam obstoječih snovi.

ES: Scenarij izpostavljenosti

GefStoffVO: Odlok o nevarnih snoveh, Nemčija.

GHS: Globalno poenoten sistem razvrščanja in označevanja nevarnih kemikalij.

IARC: Mednarodna agencija za raziskovanje raka

IATA: Mednarodno združenje za zračni transport.

IC50: Srednja inhibitorna koncentracija

IMDG: Mednarodni kodeks za prevoz nevarnega blaga po morju

LC50: Letalna koncentracija za 50 odstotkov testne populacije.

LD50: Letalna doza za 50 odstotkov testne populacije.

LDLo: Najnižja smrtna doza

N.A.: Se ne uporablja

N/A: Se ne uporablja

N/D: Ni opredeljeno/Ni razpoložljiv

N.D.: Ni razpoložljiv

NIOSH: Nacionalni inštitut za varnost in zdravje pri delu

NOAEL: Raven brez opaznih negativnih vplivov

OSHA: Upravljanje varnosti in zdravja pri delu

PBT: Obstojne, se kopičijo v organizmih in so strupene

PGK: Navodila za embalažo nevarnih snovi

PNEC: Predvidena koncentracija brez učinka.

PSG: Potniki
RID: Pravilnik o mednarodnem prevozu nevarnega blaga po železnici.
STEL: Meja za kratkotrajno izpostavljenost.
STOT: Specifično strupeno za ciljne organe.
TLV: Mejna vrednost izpostavljenosti.
TLV-TWA: Mejna vrednost izpostavljenosti v časovnem obdobju po 8 ur dnevno (ACGIH standard).
vPvB: Telo obstojno, se zelo lahko kopiči v organizmih.
WGK: Nemški razred nevarnosti za vodo.

**Odstavki spremenjeni od prejšnje revizije:**

- ODDELEK 1: Identifikacija snovi/zmesi in družbe/podjetja
- ODDELEK 2: Določitev nevarnosti
- ODDELEK 3: Sestava/podatki o sestavinah
- ODDELEK 8: Nadzor izpostavljenosti/osebna zaščita
- ODDELEK 9: Fizikalne in kemijske lastnosti
- ODDELEK 11: Toksikološki podatki
- ODDELEK 12: Ekološki podatki
- ODDELEK 15: Zakonsko predpisani podatki

# 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.

# Benzyl alcohol

**Substance identification**
Chemical Name: Benzyl alcohol
CAS number: 100-51-6
**Date:** 07/12/2012

## INDUSTRIAL USE

## Exposure scenario for industrial use in adhesives, sealants, coatings and paints, fillers, finger paints, metallic and non-metallic surface treatment products, inks and toners (PC1, PC9a, PC9b, PC9c, PC14, PC15 , PC18)

## 1. TITLE

**Systematic title based on the use descriptor:** SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

### *Processes, activities covered:*

Mixing or dilution in batch processes
Processing by compression/pelletisation, calendering or use during foam production
Transfer operations from/to large or small containers
Treatment of objects by brush/roller application, spraying or immersion/pouring
Lubrication at high energy conditions
Use as a laboratory agent
Handling of substances bound in materials/articles

### *Evaluation method:*

ECETOC TRA (April 2010), EUSES (v.2.1)

## 2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Process categories for human health and environmental release categories for exposure assessment:
**PC1:** PROC5, 7, 8a, 8b, 9, 10, 12, 13, 14 spERC ESVOC 5 (related to ERC4)
**PC9a/b/c:** PROC5, 7, 8a, 8b, 9, 10, 13 spERC ESVOC 5 (related to ERC4)
**PC14:** PROC5, 8a, 8b, 9, 15, 23, 24, 25 spERC ESVOC 5 (related to ERC4)
**PC15:** PROC5, 8a, 8b, 9, 15 spERC ESVOC 5 (related to ERC4)
**PC18:** PROC7, 8a, 8b, 9, 10, 13 spERC ESVOC 5 (related to ERC4)

## 2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC14, PROC15

### *Product features*

Concentration ≤ 40%
Physical state: liquid

### *Quantity used*

Not applicable

### *Frequency and duration of use/exposure*

Duration of exposure per day: 8h (full shift, indoors)
Duration of exposure per year: 230 days

### *Human factors not influenced by risk management*

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

### *Other operational conditions affecting worker exposure*

Internal use
Use at room temperature

### *Technical conditions and measures to control dispersion from source to the worker*
Local vapor ventilation (efficiency > 90 %) or other adequate ventilation required

### *Organizational measures to prevent/limit releases, dispersion and exposure*
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures related to personal protection, hygiene and health evaluation*
PROC7:
Respiratory protection recommended (95% efficiency) as described in section 8.
Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

## 2.2 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC23, PROC24, PROC25

### *Product features*
Concentration ≤ 40%
Physical state: liquid

### *Quantity used*
Not applicable

### *Frequency and duration of use/exposure*
Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

### *Human factors not influenced by risk management*
Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

### *Other operational conditions affecting worker exposure*
Indoor use.
Use at room temperature

### *Technical conditions and measures to control dispersion from source to the worker*
Local vapor ventilation (efficiency > 90 %) or other adequate ventilation required.

### *Organizational measures to prevent/limit releases, dispersion and exposure*
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures related to personal protection, hygiene and health evaluation*
Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

## 2.3 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR SPERC ESVOC 5 - RELATED TO ERC4

### *Product features*
Not relevant

### *Quantity used*
Number of sites: > 1
Yearly amount used in the region: PC 1, 9a, 9b, 9c, 14, 15, 18: 412 to: 570 to (10 % rule applies)

### *Frequency and duration of use*
spERC ESVOC 5 (related to ERC4): 300 days/year

### *Environmental factors not influenced by risk management*
Local fresh water dilution factor: 10
Receiving surface water flow: 18,000 m³/d
Local seawater dilution factor 100

### *Other operational conditions affecting environmental exposure*
Indoor and outdoor use

### *Technical conditions and measures at process level (source) to prevent release*
spERC ESVOC 5 (related to ERC4):
Fraction of tonnage released to air: 9,8 %
Fraction of tonnage released to wastewater: 2 %
Fraction of tonnage released into industrial ground: 0 %

### *Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release*
Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques. Floors should be waterproof and resistant to liquids.

### *Organizational measures to prevent/limit release from site*
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures for the domestic sewage treatment plant*
Dimensions of wastewater treatment plant: 2000 $m^3$/d (removal rate: 87.4 %)

### *Conditions and measures for external treatment of waste for disposal*
No specific measures. For general conditions and measures, see section 13.

### *Conditions and measures for external recovery of waste*
No specific measures. For general conditions and measures, see section 13.

## 3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

### *Workers*

**Exposure assessment (human):**
**ECETOC TRA model (April 2010 version).** Dermal exposure estimates of ECETOC TRA have been corrected for concentration.

**Exposure estimation:**
Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

### *Environment*

**Exposure assessment (environment):**
EUSES 2.1: ERC4 modified with ESVOC 5 (ESVOC SPERC 4.3a.v1)

**Exposure estimation:**
The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

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

**Environment:**
**Under the conditions listed above the process is considered safe.** Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

**Health:**
**Under the conditions listed above the process is considered safe.** Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

**Further good practice advice beyond the REACH CSA**
**Environment:** Not applicable
Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

# PROFESSIONAL USE

## Exposure scenario for professional uses of benzyl alcohol consisting of mixing/ loading and charging/discharging, roller, brush, spray or dip application (PC0, PC1, PC09a, 9b, 9c, PC14, PC15, PC18, PC21, PC26, PC31, PC32).

## 1. TITLE

**Systematic title based on the use descriptor:** SU22 - Professional uses: Generalized use

### *Processes, activities covered:*

Mixing or dilution in batch processes BY HAND
Transfer operations from/to large or small containers
Treatment of objects by brush/roller application, spraying or immersion/pouring
Hand mixing with intimate contact and only PSD available
Handling of substances bound in materials/articles

### *Evaluation method:*

ECETOC TRA (April 2010), EUSES (v.2.1)

## 2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Process categories for human health and environmental release categories for exposure assessment:
**PC0:** PROC5, 8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d
**PC1:** PROC5, 8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d
**PC9a, 9b, 9c:** PROC5, 8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d
**PC14:** PROC8a, 8b, 9, 10, 11, 13, 19, 23, 24, 25 - ERC8a, 8d
**PC15:** PROC8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8d
**PC18:** PROC5, 8a, 8b, 10, 11, 13, 19 - ERC8a, 8d
**PC21:** PROC8a, 8b, 15 - ERC8a, 8d
**PC26:** PROC5, 6, 8a, 8b, 11, 13, 14, 19, 21 - ERC8a, 8d
**PC30:** PROC8a, 8b - ERC8a, 8d
**PC31:** PROC8b, 10, 11 - ERC8a, 8d
**PC32:** PROC8a, 8b, 9, 10, 11 - ERC8a, 8d

Number of sites: > 1

## 2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC14, PROC15

### *Product features*

Concentration ≤ 40%
Physical state: liquid

### *Quantity used*

Not applicable

### *Frequency and duration of use/exposure*

Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

### *Human factors not influenced by risk management*

Breathing volume in the conditions of use: 10 $m^3$/8h-day (light activity)
Body weight: 70kg (worker)

### *Other operational conditions affecting worker exposure*

Internal use
Use at room temperature

### *Technical conditions and measures to control dispersion from source to the worker*

No special measures are required.

### *Organizational measures to prevent/limit releases, dispersion and exposure*
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures related to personal protection, hygiene and health evaluation*
Personal protection:
PROC8b, PROC9, PROC14, PROC15: concentration ≤ 40 %: no RMM required.
PROC5, PROC8a, PROC13: > 25 % - ≤ 40 %: gloves (90 % efficiency) are required as described in section 8.
PROC6: > 5 % - ≤ 40 %: gloves (90 % efficiency) are required as described in section 8.
PROC10: < 5 % (indoor and outdoor environment): No RMMs required.
> 5 - ≤ 40 % (indoor and outdoor environment): gloves (90 % efficiency) are required as described in point 8.

Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

## 2.2 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC11

### *Product features*
Concentration ≤ 40%
Physical state: liquid

### *Quantity used*
Not applicable

### *Frequency and duration of use/exposure*
Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

### *Human factors not influenced by risk management*
Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

### *Other operational conditions affecting worker exposure*
Indoor and outdoor use
Use at room temperature

### *Technical conditions and measures to control dispersion from source to the worker*
No special measures are required.

### *Organizational measures to prevent/limit releases, dispersion and exposure*
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures related to personal protection, hygiene and health evaluation*
Personal protection:
≤ 5 % (indoor and outdoor environment): Respiratory protection (95 % efficiency) required as described in section 8.
> 5 % ≤ 40 % (indoor and outdoor environment): Respiratory protection (95 % efficiency) and gloves (90 % efficiency) required as described in section 8.
Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

## 2.3 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC19

### *Product features*
Concentration ≤ 40%
Physical state: liquid

### *Quantity used*
Not applicable

### *Frequency and duration of use/exposure*
Duration of exposure per day (concentration ≤ 25 %): 8 hours (indoors and outdoors)
Duration of exposure per day (concentration >25% ≤40%): 4 hours (indoors and outdoors)
Duration of exposure per year: 230 days

### *Human factors not influenced by risk management*
Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

### *Other operational conditions affecting worker exposure*
Indoor and outdoor use
Use at room temperature

### *Technical conditions and measures to control dispersion from source to the worker*
No special measures are required.

### *Organizational measures to prevent/limit releases, dispersion and exposure*
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures related to personal protection, hygiene and health evaluation*
Personal protection:
> 1 % (indoor): gloves (90 % efficiency) are required as described in section 8.
> 5% - 40% (outdoors): gloves (90 % efficiency) are required as described in section 8.
Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

## 2.4 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR ERC8a, ERC8d

### *Product features*
Not relevant

### *Quantity used*
Yearly amount used in the region: the 10% rule applies
ERC8a PC0, 1, 9a, 9b, 9c, 14, 15, 18, 21, 26, 30, 31, 32, 34, 35: 1,785t
ERC8d PC0, 1, 9a, 9b, 9c, 14, 15, 18, 21, 26, 31, 32, 34, 35: 1,775t
Fraction of main local source: 0.002 (default)
Issue days per site: 365 days/year (default)

### *Frequency and duration of use*
Continuous release: 365 days/year

### *Environmental factors not influenced by risk management*
Local fresh water dilution factor: 10
Receiving surface water flow: 18,000 m³/d
Local seawater dilution factor local: 100

### *Other operational conditions affecting environmental exposure*
Indoor / outdoor environment

### *Technical conditions and measures at process level (source) to prevent release*
No special measures are required.

### *Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release*
Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques.

### *Organizational measures to prevent release from site*
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures for the domestic sewage treatment plant*
Dimensions of wastewater treatment plant: 2000 m³/d (removal rate: 87.4 %)

### *Conditions and measures for external treatment of waste for disposal*
No specific measures. For general conditions and measures, see section 13.

### *Conditions and measures for external recovery of waste*
No specific measures. For general conditions and measures, see section 13.

## 3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

### *Workers*

### *PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC14, PROC15, PROC19*

**Exposure assessment (human):**

PROC5, PROC6, PROC8b, PROC9, PROC11, PROC13, PROC14, PROC15

**ECETOC TRA model (April 2010 version).** Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration.

PROC8a, PROC10

**ECETOC TRA model (April 2010 version).** Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration. Local and systemic exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration.

PROC19

**ECETOC TRA model (April 2010 version).** The dermal exposure estimates of ECETOC TRA have been linearly corrected for the concentration and according to the EMFs of CEFIC for the duration of exposure. Local exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration and in accordance with the CEFIC EMFs for the duration of exposure. Systemic exposure via inhalation has been linearly scaled for the duration of exposure.

**Exposure estimation:**

Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

### *Environment*

ERC8a, ERC8d

**Exposure assessment (environment):**

EUSES 2.1.

**Exposure estimation:**

The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

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

**Environment:**

**Under the conditions listed above the process is considered safe.** Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

**Health:**

**Under the conditions listed above the process is considered safe.** Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

**Further good practice advice beyond the REACH CSA**

**Environment:** Not applicable

Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

# PROFESSIONAL USE

## Exposure scenario for professional use in photochemicals (PC30)

## 1. TITLE

**Systematic title based on the use descriptor:** SU22 - Professional uses: Generalized use

### *Processes, activities covered:*

Transfer operations from/to large or small containers

### *Evaluation method:*

ECETOC TRA (April 2010), EUSES (v.2.1)

## 2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Human Health Exposure/Environmental Exposure:
**PC30:** PROC8a, 8b - ERC8a, 8d

Number of sites: > 1

## 2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC8a E PROC8b

### *Product features*

Concentration ≤ 40%
Physical state: liquid

### *Quantity used*

Not applicable

### *Frequency and duration of use/exposure*

Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

### *Human factors not influenced by risk management*

Breathing volume in the conditions of use: 10 $m^3$/8h-day (light activity)
Body weight: 70kg (worker)

### *Other operational conditions affecting worker exposure*

Internal use
Use at room temperature

### *Technical conditions and measures to control dispersion from source to the worker*

No special measures are required.

### *Organizational measures to prevent/limit releases, dispersion and exposure*

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures related to personal protection, hygiene and health evaluation*

Personal protection:
PROC8b: concentration ≤ 40 %: no RMM required.
PROC8a: > 25 % - ≤ 40 %: gloves (90 % efficiency) are required as described in section 8.

Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

## 2.2 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR ERC8a, ERC8b

### *Product features*
Not relevant

### *Quantity used*
Yearly amount used in the region: the 10% rule applies
ERC8a PC30: 1.785 t
ERC8d PC30: 190 t
Fraction of main local source: 0.002 (default)
Issue days per site: 365 days/year (default)

### *Frequency and duration of use*
Continuous release: 365 days/year

### *Environmental factors not influenced by risk management*
Local fresh water dilution factor: 10
Receiving surface water flow: 18,000 m³/d
Local seawater dilution factor local: 100

### *Other operational conditions affecting environmental exposure*
No special measures are required.

### *Technical conditions and measures at process level (source) to prevent release*
No special measures are required.

### *Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release*
Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques.

### *Organizational measures to prevent release from site*
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures for the domestic sewage treatment plant*
Dimensions of wastewater treatment plant: 2000 m³/d (removal rate: 87.4 %)

### *Conditions and measures for external treatment of waste for disposal*
No specific measures. For general conditions and measures, see section 13.

### *Conditions and measures for external recovery of waste*
No specific measures. For general conditions and measures, see section 13.

## 3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

### *Workers*
PROC8a, PROC8b

**Exposure assessment (human):**
PROC8a
**ECETOC TRA model (April 2010 version).** Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration. Local and systemic exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration.

PROC8b
**ECETOC TRA model (April 2010 version).** Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration.

**Exposure estimation:**
Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

### *Environment*
ERC8a, ERC8b

**Exposure assessment (environment):**
EUSES 2.1.

**Exposure estimation:**
The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

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

**Environment:**
**Under the conditions listed above the process is considered safe.** Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

**Health:**
**Under the conditions listed above the process is considered safe.** Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

**Further good practice advice beyond the REACH CSA**
**Environment:** Not applicable
Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

# PROFESSIONAL USE

## Exposure scenario for professional use in washing and cleaning products, cosmetics and personal care products (PC35, PC39)

## 1. TITLE

**Systematic title based on the use descriptor:** SU22 - Professional uses: Generalized use

### *Processes, activities covered:*

Transfer operations from/to large or small containers
Treatment of objects by roller/brush, spray or dip/pour application
Mixing or dilution in batch processes or by hand

### *Evaluation method:*

ECETOC TRA (April 2010), EUSES (v.2.1)

## 2. OPERATING CONDITIONS AND RISK MANAGEMENT MEASURES

Human Health Exposure/Environmental Exposure:
**PC35:** PROC8a, 8b, 9, 10, 11, 13, 19 - ERC8a, 8b, 8d, 8e
**PC39:** PROC13 - ERC8a, 8b, 8d, 8e

Number of sites: > 1

## 2.1 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC8a, PROC8b, PROC9, PROC10, PROC13

### *Product features*

Concentration ≤ 40%
Physical state: liquid

### *Quantity used*

Not applicable

### *Frequency and duration of use/exposure*

Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

### *Human factors not influenced by risk management*

Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

### *Other operational conditions affecting worker exposure*

Internal use
Use at room temperature

### *Technical conditions and measures to control dispersion from source to the worker*

No special measures are required.

### *Organizational measures to prevent/limit releases, dispersion and exposure*

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures related to personal protection, hygiene and health evaluation*

Personal protection:
PROC8b, PROC9: concentration ≤ 40 %: no RMM required.
PROC8a, PROC13: > 25 % - ≤ 40 %: gloves (90 % efficiency) are required as described in section 8.
PROC10: < 5 % (indoor and outdoor environment): No RMMs required
> 5 - ≤ 40 % (indoor and outdoor environment): gloves (90 % efficiency) are required as described in section 8.

Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

## 2.2 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC11

### *Product features*
Concentration ≤ 40%
Physical state: liquid

### *Quantity used*
Not applicable

### *Frequency and duration of use/exposure*
Duration of exposure per day: 8h (full shift, indoors and outdoors)
Duration of exposure per year: 230 days

### *Human factors not influenced by risk management*
Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

### *Other operational conditions affecting worker exposure*
Internal use
Use at room temperature

### *Technical conditions and measures to control dispersion from source to the worker*
No special measures are required.

### *Organizational measures to prevent/limit releases, dispersion and exposure*
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures related to personal protection, hygiene and health evaluation*
Personal protection:
≤ 5 % (indoor and outdoor environment): Respiratory protection (95 % efficiency) required as described in section 8.
> 5 % - ≤ 40 % (indoor and outdoor environment): Respiratory protection (95 % efficiency) and gloves (90 % efficiency) required as described in section 8.

Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

## 2.3 EXPOSURE SCENARIO CONTROLLING WORKER EXPOSURE FOR PROC19

### *Product features*
Concentration ≤ 40%
Physical state: liquid

### *Quantity used*
Not applicable

### *Frequency and duration of use/exposure*
Duration of exposure per day (concentration ≤ 25 %): 8 h (indoor and outdoor)
Duration of exposure per day (concentration >25% - ≤40%): 4 hours (indoors and outdoors)
Duration of exposure per year: 230 days

### *Human factors not influenced by risk management*
Breathing volume in the conditions of use: 10 m³/8h-day (light activity)
Body weight: 70kg (worker)

### *Other operational conditions affecting worker exposure*
Internal use
Use at room temperature

### *Technical conditions and measures to control dispersion from source to the worker*
No special measures are required.

### *Organizational measures to prevent/limit releases, dispersion and exposure*
Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures related to personal protection, hygiene and health evaluation*

Personal protection:
> 1 % (indoor): gloves (90 % efficiency) are required as described in section 8.
> 5% - 40% (outdoors): gloves (90 % efficiency) are required as described in section 8..

Wear safety goggles as described in section 8.
Wear protective clothing as described in section 8.

## 2.4 EXPOSURE SCENARIO CONTROLLING ENVIRONMENTAL EXPOSURE FOR ERC8a, ERC8b, ERC8d, ERC8e

### *Product features*

Not relevant

### *Quantity used*

Yearly amount used in the region: the 10% rule applies
ERC8a PC35/PC39: 1,785 t
ERC8b PC35/PC39: 190 t
ERC8d PC35/PC39: 1,775 t
ERC8e PC35/PC39: 190 t
Fraction of main local source: 0.002 (default)
Issue days per site: 365 days/year (default)

### *Frequency and duration of use*

Continuous release: 365 days/year

### *Environmental factors not influenced by risk management*

Local fresh water dilution factor: 10
Receiving surface water flow: 18,000 m³/d
Local seawater dilution factor local: 100

### *Other operational conditions affecting environmental exposure*

No special measures are required.

### *Technical conditions and measures at process level (source) to prevent release*

No special measures are required.

### *Local technical conditions and measures to reduce and limit discharges, atmospheric emissions and soil release*

Waste water must be sent to a dedicated treatment plant or treated with other suitable techniques.

### *Organizational measures to prevent release from site*

Only properly trained and authorized personnel can handle the substance. Substance handling procedures must be well documented and controlled.

### *Conditions and measures for the domestic sewage treatment plant*

Dimensions of wastewater treatment plant: 2000 m³/d (removal rate: 87.4 %)

### *Conditions and measures for external treatment of waste for disposal*

No specific measures. For general conditions and measures, see section 13.

### *Conditions and measures for external recovery of waste*

No specific measures. For general conditions and measures, see section 13.

## 3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

### *Workers*

**Exposure assessment (human):**

PROC8b, PROC9, PROC11, PROC13

**ECETOC TRA model (April 2010 version).** Dermal exposure estimates of ECETOC TRA have been corrected for concentration.

PROC8a, PROC10

**ECETOC TRA model (April 2010 version).** Dermal exposure estimates of ECETOC TRA have been linearly corrected for concentration. Local and systemic exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration.

PROC19

**ECETOC TRA model (April 2010 version).** The dermal exposure estimates of ECETOC TRA have been linearly corrected for the concentration and according to the EMFs of CEFIC for the duration of exposure. Local exposure via inhalation of ECETOC TRA has been linearly scaled based on the concentration and in accordance with the CEFIC EMFs for the duration of exposure. Systemic exposure via inhalation has been linearly scaled for the duration of exposure.

**Exposure estimation:**

Individual and combined (skin and inhalation) exposure values are below the DNELs (RCR ratios < 1).

### *Environment*

ERC8a, ERC8b, ERC8d, ERC8e

**Exposure assessment (environment):**

EUSES 2.1.

**Exposure estimation:**

The predicted exposure concentrations for air, water and soil are lower than the derived PNECs, giving an RCR < 1.

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

**Environment:**

**Under the conditions listed above the process is considered safe.** Direct release to water and soil should be avoided, air emissions should be minimised. Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

**Health:**

**Under the conditions listed above the process is considered safe.** Other conditions should be considered only when adequate measurements or calculations demonstrate that the RCR remains < 1.

**Further good practice advice beyond the REACH CSA**

**Environment:** Not applicable

Health: On possible contact with the product (sampling, use, spills, product leaks, cleaning): wear protective clothing. Wear protective gloves and safety goggles. See section 8 for information on appropriate personal protective equipment.

# m-phenylenebis(methylamine)

**Substance identification**
Chemical Name: m-phenylenebis(methylamine)
CAS number: CAS-1477-55-0
**Date - Version:** 10/03/2020 - 1.0

## PROFESSIONAL USES - GENERALIZED USE BY PROFESSIONAL OPERATORS: VARIOUS PRODUCTS (PC9a, PC9b, PC1); CONSTRUCTION (SU19)

## 1. TITLE SECTION

**Exposure scenario name:** Professional use of coatings and paints - Use in composite and foundry materials
**Life cycle stage:** Professional uses
**Sectors of use:** Construction (SU19) - Professional uses (SU22)
**Product categories:** Coatings and paints, thinners, pickling solutions (PC9a) - Additives, fillers, plasters, modeling clay (PC9b) - Adhesives, Sealants (PC1)

### *CONTRIBUTION SCENARIO - ENVIRONMENT*

**CS1**: Wet cure - Wet formulation ERC8c - ERC8f

### *CONTRIBUTION SCENARIO - WORKER*

**CS2**: Application with rollers or brushes PROC10
**CS3**: Non-industrial spray application PROC11
**CS4**: Treatment of articles by dipping and pouring PROC13
**CS5**: Manual activities with direct contact PROC19
**CS6**: Low energy handling of substances included in or on materials and/or articles PROC21

## 2. CONDITIONS OF USE AFFECTING EXPOSURE

## 2.1. CS1: CONTRIBUTION SCENARIO - ENVIRONMENT: Wet cure - Wet formulation (ERC8c, ERC8f)

### *Environmental release categories*

Widespread use resulting in inclusion in or on the surface of an article (indoor use) - Wide use leading to inclusion in/on article (outdoor use) (ERC8c, ERC8f)

### *Product features (article)*

Physical form of the product: Liquid

### *Amount used, frequency and duration of use/(or duration of use)*

Amounts used:
PROC10 ≤ 0,4 l/min
PROC11 ≤ 0,3 l/min
PROC13 ≤ 2 l/min
PROC19 ≤ 1 l/min
PROC21 ≤ 0,3 l/min

### *Measures and technical-organizational conditions*

Control measures to prevent releases: No entry of substance into waste water.

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

Waste treatment: This material and its container must be disposed of as hazardous.
Dispose of waste product or used containers according to local regulations.
Incineration of hazardous waste.

## 2.2. CS2: CONTRIBUTION SCENARIO - WORKER: Application with rollers or brushes (PROC10)

### *Product features (article)*
Physical form of the product: Liquid.
Concentration of the substance in the product: Includes substance shares in the product up to 5%.

### *Amount used, frequency and duration of use/(or duration of use)*
Amounts used: Quantity per use 0.4 l/min
Duration: ≤ 5 h/day
Frequency: 365 days/year

### *Technical organizational measures*
Ensure that direct skin contact is avoided.
Avoid direct contact with the product, even with contaminated hands.
Ensure operating personnel are trained to minimize exposure.
See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

### *Conditions and measures related to personal protection, hygiene and health verification*
Personal protective equipment:
Wear suitable face protection.
Use adequate eye protection.
Wear a suitable apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Use a respiratory protective device according to EN140.
Dermal: minimum efficiency of 80%.
Inhalation: minimum efficiency of 95%.

## 2.3. CS3: CONTRIBUTION SCENARIO - WORKER: Non-industrial spray application (PROC11)

### *Product features (article)*
Physical form of the product: Liquid.
Concentration of the substance in the product: Includes substance shares in the product up to 5%.

### *Amount used, frequency and duration of use/(or duration of use)*
Amounts used: Quantity per use 0.3 l/min
Duration: ≤ 6 h/day
Frequency: 365 days/year

### *Technical organizational measures*
Ensure that direct skin contact is avoided.
Avoid direct contact with the product, even with contaminated hands.
Ensure operating personnel are trained to minimize exposure.
See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

### *Conditions and measures related to personal protection, hygiene and health verification*
Personal protective equipment:
Wear suitable face protection.
Use adequate eye protection.
Wear a suitable apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Use a respiratory protective device according to EN140.
Dermal: minimum efficiency of 80%.
Inhalation: minimum efficiency of 95%.

## 2.4. CS4: CONTRIBUTION SCENARIO - WORKER: Treatment of articles by dipping and pouring (PROC13)

### *Product features (article)*
Physical form of the product: Liquid.
Concentration of the substance in the product: Includes substance shares in the product up to 5%.

### *Amount used, frequency and duration of use/(or duration of use)*
Amounts used: Quantity per use 2 l/min
Duration: ≤ 1 h/day
Frequency: 365 days/year

### *Technical organizational measures*
Ensure that direct skin contact is avoided.
Avoid direct contact with the product, even with contaminated hands.
Ensure operating personnel are trained to minimize exposure.
See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

### *Conditions and measures related to personal protection, hygiene and health verification*
Personal protective equipment:
Wear suitable face protection.
Use adequate eye protection.
Wear a suitable apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Use a respiratory protective device according to EN140.
Dermal: minimum efficiency of 80%.
Inhalation: minimum efficiency of 95%.

## 2.5. CS5: CONTRIBUTION SCENARIO - WORKER: Manual activities with direct contact (PROC19)

### *Product features (article)*
Physical form of the product: Liquid.
Concentration of the substance in the product: Includes substance shares in the product up to 40%.

### *Amount used, frequency and duration of use/(or duration of use)*
Amounts used: Quantity per use 1 l/min
Duration: ≤ 2 h/day
Frequency: 365 days/year

### *Technical organizational measures*
Ensure that direct skin contact is avoided.
Avoid direct contact with the product, even with contaminated hands.
Ensure operating personnel are trained to minimize exposure.
See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

### *Conditions and measures related to personal protection, hygiene and health verification*
Personal protective equipment:
Wear suitable face protection.
Use adequate eye protection.
Wear a suitable apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Use a respiratory protective device according to EN140.
Dermal: minimum efficiency of 80%.
Inhalation: minimum efficiency of 95%.

## 2.6. CS6: CONTRIBUTION SCENARIO - WORKER: Low energy handling of substances included in or on materials and/or articles (PROC21)

### *Product features (article)*

Physical form of the product: Liquid.
Concentration of the substance in the product: Includes substance shares in the product up to 5%.

### *Amount used, frequency and duration of use/(or duration of use)*

Amounts used: Quantity per use 0.3 l/min
Duration: ≤ 6 h/day
Frequency: 365 days/year

### *Technical organizational measures*

Ensure that direct skin contact is avoided.
Avoid direct contact with the product, even with contaminated hands.
Ensure operating personnel are trained to minimize exposure.
See main part of the safety data sheet, Sections 7 and/or 8, for measures mitigating the risks deriving from the physical-chemical properties.
Ensure a sufficient amount of general ventilation (1 to 3 air changes per hour).

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

Personal protective equipment:
Wear suitable face protection.
Use adequate eye protection.
Wear a suitable apron to avoid skin exposure.
Wear suitable gloves, tested according to EN347.
Use a respiratory protective device according to EN140.
Dermal: minimum efficiency of 80%.
Inhalation: minimum efficiency of 95%.

# 3. EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

## 3.1. CS1: CONTRIBUTION SCENARIO - ENVIRONMENT: Wet cure - Wet formulation (ERC8c, ERC8f)

| Protection goal | Degree of exposure | Calculation method | Risk Characterization Ratio (RCR) |
|---|---|---|---|
| fresh water | N.d. | ECETOC TRA environment v2.0 | 0.169 |
| fresh water sediment | N.d. | ECETOC TRA environment v2.0 | 0.411 |
| sea water | N.d. | ECETOC TRA environment v2.0 | 0.089 |
| Marine sediment | N.d. | ECETOC TRA environment v2.0 | 0.412 |
| Agricultural land | N.d. | ECETOC TRA environment v2.0 | 0.004 |

## 3.2. CS2: CONTRIBUTION SCENARIO - ENVIRONMENT: Application with rollers or brushes (PROC10)

| Route of exposure, Impact on health, Exposure indicator | Degree of exposure | Calculation method | Risk Characterization Ratio (RCR) |
|---|---|---|---|
| skin contact, systemic, long-term | N.d. | RISKOFDERM v2.1 | 0.83 |
| by inhalation, systemic, long-term | N.d. | ECETOC TRA worker v2.0 | 0.2 |



1 - m-phenylenebis(methylamine) - 1

## 3.3. CS3 CONTRIBUTION SCENARIO - ENVIRONMENT: Non-industrial spray application (PROC11)

| Route of exposure, Impact on health, Exposure indicator | Degree of exposure | Calculation method | Risk Characterization Ratio (RCR) |
|---|---|---|---|
| skin contact, systemic, long-term | N.d. | RISKOFDERM v2.1 | 0.83 |
| by inhalation, systemic, long-term | N.d. | ECETOC TRA worker v2.0 | 0.2 |

## 3.4. CS4 CONTRIBUTION SCENARIO - ENVIRONMENT: Treatment of articles by dipping and pouring (PROC13)

| Route of exposure, Impact on health, Exposure indicator | Degree of exposure | Calculation method | Risk Characterization Ratio (RCR) |
|---|---|---|---|
| skin contact, systemic, long-term | N.d. | RISKOFDERM v2.1 | 0.83 |
| by inhalation, systemic, long-term | N.d. | ECETOC TRA worker v2.0 | 0.2 |

## 3.5. CS5 CONTRIBUTION SCENARIO - ENVIRONMENT: Manual activities with direct contact (PROC19)

| Route of exposure, Impact on health, Exposure indicator | Degree of exposure | Calculation method | Risk Characterization Ratio (RCR) |
|---|---|---|---|
| skin contact, systemic, long-term | N.d. | RISKOFDERM v2.1 | 0.83 |
| by inhalation, systemic, long-term | N.d. | ECETOC TRA worker v2.0 | 0.2 |

## 3.6. CS6 CONTRIBUTION SCENARIO - ENVIRONMENT: Low energy handling of substances included in or on materials and/or articles (PROC21)

| Route of exposure, Impact on health, Exposure indicator | Degree of exposure | Calculation method | Risk Characterization Ratio (RCR) |
|---|---|---|---|
| skin contact, systemic, long-term | N.d. | RISKOFDERM v2.1 | 0.83 |
| by inhalation, systemic, long-term | N.d. | ECETOC TRA worker v2.0 | 0.2 |

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

Predicted exposures are not expected to exceed the applicable exposure limits (given in section 8 of the SDS) when the operational conditions/risk management measures given in Section 2 are implemented.
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.