

SAFETY DATASHEET

according to Regulation (EC) No. 1907/2006



**Industrial
Plasters**
Proven Reliability

MEKP Resin Catalyst

Version 2

Revision Date 09.10.2018

Print Date 01.08.2019

GB / EN

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name : PEREXTER MEKP

REACH Registration Number : 01-2119514691-43

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Specific use(s): Curing agent

1.3 Details of the supplier of the safety data sheet

Company : Nouryon Functional Chemicals B.V.
Velperweg 76
NL 6824 BM Arnhem
Netherlands

Telephone : +31263664433

Telefax : +31263665830

E-mail address : RegulatoryAffairs@nouryon.com

1.4 Emergency telephone number

Emergency telephone number : 24 hours: +31 57 06 79211, US-CHEMTREC: 1-800-424-9300,
CA-CANUTEC: 1-613-996-6666, JP: +81 (3) 3234 0801, CN:
化学事故应急咨询电话 : +86 532 8388 9090

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Organic peroxides, D, H242

Acute toxicity, 4, H302

Acute toxicity, 4, H332

Skin corrosion, 1B, H314

Serious eye damage, 1, H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Pictogram



Signal word : Danger

Hazard statements : H242
H302 + H332
H314

Heating may cause a fire.
Harmful if swallowed or if inhaled.
Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234 Keep only in original packaging.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

Hazardous components which must be listed on the label:

Methyl ethyl ketone peroxide; Reaction mass of butane- 1338-23-4
2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane

2.3 Other hazards

No further data available.

PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Pure substance/mixture : Substance

Hazardous substance

| Chemical name | PBT vPvB OEL | CAS-No. EC-No. REACH No. | Classification (REGULATION (EC) No 1272/2008) | Concentration [%] |
|--|--------------------|--|--|----------------------|
| Methyl ethyl ketone peroxide;Reaction mass of butane-2,2-diyldihydroperoxide and di-sec-butylhexaoxidane | | 1338-23-4 215-661-2 01-2119514691-43 | Org. Perox. A; H240 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318 | >= 30 - < 37 |
| Methyl ethyl ketone | | 78-93-3 201-159-0 01-2119457290-43 | Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 | >= 1 - < 3 |

For the full text of the H-Statements mentioned in this Section, see Section 16.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Status : Not applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

| | |
|-------------------------|---|
| General advice | : Immediate medical attention is required. Move out of dangerous area. Show this safety data sheet to the doctor in attendance. |
| If inhaled | : If breathed in, move person into fresh air. Consult a physician after significant exposure. |
| In case of skin contact | : Take off contaminated clothing and shoes immediately. Rinse immediately with plenty of water. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. |
| In case of eye contact | : Rinse with plenty of water. Get medical attention immediately. Continue to rinse during transport. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. Small amounts splashed into eyes can cause irreversible tissue damage and blindness. |

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If swallowed : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
Do not induce vomiting! May cause chemical burns in mouth and throat.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Risks : Harmful if swallowed or if inhaled.
Causes serious eye damage.
Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting / Specific hazards arising from the chemical : CAUTION: reignition may occur.
Supports combustion.
Water spray may be ineffective unless used by experienced firefighters.
Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous decomposition products formed under fire conditions.

Combustion products : Fire will produce smoke containing hazardous combustion products (see section 10).

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Use water spray to cool unopened containers.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Wear respiratory protection.

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Ensure adequate ventilation.
Remove all sources of ignition.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Emergency measures on accidental release

- : Evacuate personnel to safe areas.
Only qualified personnel equipped with suitable protective equipment may intervene.
Prevent unauthorised persons entering the zone.

6.2 Environmental precautions

Environmental precautions

- : Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up / Methods for containment

- : Soak up with inert absorbent material and dispose of as hazardous waste.
Keep wetted with water.
Confinement must be avoided.
Never return spills in original containers for re-use.

6.4 Reference to other sections

For disposal considerations see section 13.
For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

- : For personal protection see section 8.
Avoid formation of aerosol.
Do not breathe vapours or spray mist.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion

- : Use explosion protected equipment.
Keep away from sources of ignition - No smoking.
No sparking tools should be used.
Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).
Do not cut or weld on or near this container even when empty.
Keep away from combustible material.

Temperature class

- : It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

- : No smoking.
Keep in a well-ventilated place.

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Electrical installations / working materials must comply with the technological safety standards.
Keep only in original container.
Store away from other materials.

Maximum storage temperature: : 25 °C
Other data : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

| Components | CAS-No. | Value | Control parameters | Update | Basis | Form of exposure |
|--|---------------------|-------|---|------------|------------|------------------|
| Dimethyl phthalate | 131-11-3 | TWA | 5 mg/m3 | 2005-04-06 | GB EH40 | |
| | | STEL | 10 mg/m3 | 2005-04-06 | GB EH40 | |
| Methyl ethyl ketone peroxide;Reaction mass of butane-2,2-diyli dihydroperoxide and di-sec-butylhexaoxidane | 1338-23-4 | STEL | 0.2 ppm 1.5 mg/m3 | 2005-04-06 | GB EH40 | |
| Methyl ethyl ketone | 78-93-3 | TWA | 200 ppm 600 mg/m3 | 2000-06-16 | 2000/39/EC | |
| | Further information | : | Indicative | | | |
| | | STEL | 300 ppm 900 mg/m3 | 2000-06-16 | 2000/39/EC | |
| | Further information | : | Indicative | | | |
| | | TWA | 200 ppm 600 mg/m3 | 2005-04-06 | GB EH40 | |
| | Further information | : | Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. | | | |
| | | STEL | 300 ppm 899 mg/m3 | 2005-04-06 | GB EH40 | |
| | Further information | : | Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. | | | |

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| | |
|--------|---|
| ACGIH: | American Conference of Governmental Industrial Hygienists |
| AGW: | Arbeitsplatzgrenzwert |
| BEI: | Biological Exposure Index |
| MAC: | Maximum Allowable Concentration |
| NIOSH: | National Institute for Occupational Safety and Health |
| OEL: | OEL: Occupational exposure limit. |
| STEL: | Short term exposure limit |
| TRGS: | Technische Regel für Gefahrstoffe |
| TWA: | Time Weighted Average |

Occupational exposure limits of decomposition products

| Decomposition products | CAS-No. | Value | Control parameters | Update | Basis | Form of exposure |
|------------------------|---------------------|-------|---|------------|-------------|------------------|
| Formic acid | 64-18-6, 64-18-6 | TWA | 5 ppm 9 mg/m ³ | 2006-02-09 | 2006/15/EC | |
| | Further information | : | Indicative | | | |
| | | TWA | 5 ppm 9.6 mg/m ³ | 2005-04-06 | GB EH40 | |
| | Further information | : | 2: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used | | | |
| Acetic acid | 64-19-7, 64-19-7 | TWA | 10 ppm 25 mg/m ³ | 1991-07-05 | 91/322/EEC | |
| | Further information | : | Indicative In the Annex to Directive 91/322/EEC, the references to acetic acid, calcium dihydroxide, lithium hydride and nitrogen monoxide are deleted with effect from 21 August 2018 | | | |
| | | TWA | 10 ppm 25 mg/m ³ | 2017-02-01 | 2017/164/EU | |
| | Further information | : | Indicative | | | |
| | | STEL | 20 ppm 50 mg/m ³ | 2017-02-01 | 2017/164/EU | |
| | Further information | : | Indicative | | | |
| Propionic acid | 79-09-4, 79-09-4 | TWA | 10 ppm 31 mg/m ³ | 2000-06-16 | 2000/39/EC | |
| | Further information | : | Indicative | | | |
| | | STEL | 20 ppm 62 mg/m ³ | 2000-06-16 | 2000/39/EC | |
| | Further information | : | Indicative | | | |
| | | TWA | 10 ppm 31 mg/m ³ | 2005-04-06 | GB EH40 | |
| | | STEL | 15 ppm 46 mg/m ³ | 2005-04-06 | GB EH40 | |
| Methyl ethyl ketone | 78-93-3, 78-93-3 | TWA | 200 ppm 600 mg/m ³ | 2000-06-16 | 2000/39/EC | |
| | Further information | : | Indicative | | | |
| | | STEL | 300 ppm 900 mg/m ³ | 2000-06-16 | 2000/39/EC | |
| | Further information | : | Indicative | | | |
| | | TWA | 200 ppm 600 mg/m ³ | 2005-04-06 | GB EH40 | |
| | Further information | : | Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. | | | |
| | | STEL | 300 ppm | 2005-04-06 | GB EH40 | |

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| | | | | | |
|--|---------------------|---|---|--|--|
| | | | 899 mg/m3 | | |
| | Further information | : | Sk: Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. | | |

Biological occupational exposure limits

| Substance name | CAS-No. | Control parameters | Sampling time | Update |
|---------------------|---------|--|---------------|------------|
| Methyl ethyl ketone | 78-93-3 | butan-2-one: 70 micromol per litre (Urine) | After shift | 2011-12-18 |

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

| Substance name | End Use | Exposure routes | Potential health effects | Value |
|--|-----------|-----------------|----------------------------|------------|
| Methyl ethyl ketone peroxide;Reaction mass of butane-2,2-diyldihydroperoxide and di-sec-butylhexaoxidane | Consumers | Skin contact | Long-term systemic effects | 0.54 mg/kg |
| | Consumers | Inhalation | Long-term systemic effects | 0.41 mg/m3 |
| | Consumers | Ingestion | Long-term systemic effects | 0.27 mg/kg |
| | Workers | Skin contact | Long-term systemic effects | 1.08 mg/kg |
| | Workers | Inhalation | Long-term systemic effects | 1.9 mg/m3 |
| Methyl ethyl ketone | Workers | Inhalation | Long-term systemic effects | 600 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 1161 mg/kg |
| | Consumers | Inhalation | Long-term systemic effects | 106 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 412 mg/kg |
| | Consumers | Ingestion | Long-term systemic effects | 31 mg/kg |

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

| Substance name | Environmental Compartment | Value |
|--|---------------------------|--------------------------|
| Methyl ethyl ketone peroxide;Reaction mass of butane-2,2-diyldihydroperoxide and di-sec-butylhexaoxidane | Fresh water | 0.0056 mg/l |
| | Intermittent water | 0.056 mg/l |
| | Marine water | 0.00056 mg/l |
| | Fresh water sediment | 0.019 mg/kg dry weight |
| | Marine sediment | 0.0019 mg/kg dry weight |
| | Sewage treatment plant | 1.2 mg/l |
| | Soil | 0.00231 mg/kg dry weight |
| Methyl ethyl ketone | Fresh water | 55.8 mg/l |
| | Marine water | 55.8 mg/l |
| | Intermittent water | 55.8 mg/l |

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| | | |
|--|------------------------|-------------------------|
| | Sewage treatment plant | 709 mg/l |
| | Fresh water sediment | 284.74 mg/kg dry weight |
| | Marine sediment | 284.74 mg/kg dry weight |
| | Soil | 22.5 mg/kg dry weight |
| | Oral | 1000 mg/kg food |

8.2 Exposure controls

Engineering controls

Explosion proof ventilation recommended.

Effective exhaust ventilation system

Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Respiratory protection : In the case of vapour or aerosol formation use a respirator with an approved filter.

Filter A

Hand protection : Neoprene

Nitrile rubber

Eye protection : Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Protective suit

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

Environmental exposure controls

General advice : Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Form : liquid

Colour : clear
colourless

Odour : Faint.

Odour Threshold : No data available

Safety data

| | |
|--|---|
| pH | : Weakly acidic |
| Melting point | : No data available |
| Boiling point/boiling range | : Decomposes below the boiling point. |
| Flash point | : Above the SADT value No flash point was obtained, but the product may release flammable vapour. |
| Evaporation rate | : No data available |
| Flammability (solid, gas) | : Not applicable |
| Flammability (liquids) | : Decomposition products may be flammable. |
| Lower explosion limit | : No data available |
| Upper explosion limit | : No data available |
| Vapour pressure | : 1 hPa at 84 °C |
| Relative vapour density | : No data available |
| Relative density | : 1.180 at 20 °C |
| Bulk density | : Not applicable |
| Water solubility | : at 20 °C partly miscible |
| Solubility in other solvents | : 20 °C Miscible with: Phthalates |
| Partition coefficient: n-octanol/water | : No data available |
| Auto-ignition temperature | : Test method not applicable |
| Decomposition temperature | : SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT. |
| Self-Accelerating decomposition temperature (SADT) | : 60 °C |
| Viscosity, dynamic | : 24 mPa.s at 20 °C |

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| | |
|----------------------|-------------------------------------|
| Viscosity, kinematic | : 20.34 mm ² /s at 20 °C |
| Explosive properties | : Not explosive |
| Oxidizing properties | : Not classified as oxidising. |

9.2 Other information

| | |
|-----------------------|---------------|
| Active Oxygen Content | : 8.8 - 9.0 % |
| Organic peroxides | : 30 - 37 % |

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

| | |
|---------------------|--|
| Conditions to avoid | : Confinement must be avoided. Heat, flames and sparks. |
|---------------------|--|

10.5 Incompatible materials

| | |
|--------------------|--|
| Materials to avoid | : Contact with the following incompatible materials will result in hazardous decomposition: Acids and bases Iron Copper Reducing agents Heavy metals Rust Do not mix with peroxide accelerators, unless under controlled processing. Use only stainless steel 316, PP, polyethylene or glass-lined equipment. For queries regarding the suitability of other materials please contact the supplier. |
|--------------------|--|

10.6 Hazardous decomposition products

| | |
|----------------------------------|--|
| Hazardous decomposition products | : Carbon oxides Formic acid Acetic acid Propionic acid Methyl ethyl ketone |
|----------------------------------|--|

| | |
|--|---|
| Thermal decomposition | : SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT. |
| Self-Accelerating decomposition temperature (SADT) | : 60 °C |

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Product information:

| | |
|-----------------------------------|---|
| Acute toxicity | : Harmful if swallowed or if inhaled. |
| Skin corrosion/irritation | : Causes severe burns. |
| Serious eye damage/eye irritation | : Causes serious eye damage. |
| Respiratory or skin sensitisation | : Respiratory sensitisation: Not classified based on available information. Skin sensitisation: Not classified based on available information. |
| Germ cell mutagenicity | : Not classified based on available information. |
| Carcinogenicity | : Not classified based on available information. |
| Reproductive toxicity | : Not classified based on available information. |
| STOT - single exposure | : Not classified based on available information. |
| STOT - repeated exposure | : Not classified based on available information. |
| Aspiration hazard | : Not classified based on available information. |
| Further information | : No further data available. |

Test result

| | |
|---------------------------|--|
| Acute oral toxicity | : LD50 Oral: 1,070 mg/kg Species: rats Method: OECD Test Guideline 401 |
| Acute inhalation toxicity | : LC50 (Rat): 1.5 mg/l Exposure time: 4 h Test atmosphere: dust/mist |
| Acute dermal toxicity | : LD50: 4,000 mg/kg Species: Rabbit Method: OECD Test Guideline 402 |
| Skin corrosion/irritation | : Species: Rabbit |

Result: Sub-category 1B
Classification: Category 1B
Method: Tested according to Annex V of Directive 67/548/EEC.

Serious eye damage/eye irritation : Species: Rabbit
Result: Risk of serious damage to eyes.
Classification: Risk of serious damage to eyes.
Method: Tested according to Annex V of Directive 67/548/EEC.

Toxicology data for the components:

Methyl ethyl ketone peroxide;Reaction mass of butane -2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane

Acute toxicity:

Acute oral toxicity : LD50: 1,017 mg/kg
Species: Rat

Acute inhalation toxicity : LC50 (Rat): 1.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50: 4,000 mg/kg
Species: Rat

Skin corrosion/irritation : Result: Causes burns.

Serious eye damage/eye irritation : Result: Risk of serious damage to eyes.

Germ cell mutagenicity

Genotoxicity in vitro : Ames test
Result: negative

Genotoxicity in vivo : Not classified due to data which are conclusive although insufficient for classification.

Carcinogenicity : No data available

Reproductive toxicity/Fertility : Species: Rat, male and female
Application Route: Oral
Dose: 0 25, 50, 75 milligram per kilogram
General Toxicity - Parent: No observed adverse effect level: 50 mg/kg bw/day
General Toxicity F1: No observed adverse effect level F1: 50 mg/kg bw/day
Fertility: No observed adverse effect level Parent: 75 mg/kg bw/day
Method: OECD Test Guideline 421
GLP: yes

STOT - repeated exposure : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

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Aspiration hazard : No aspiration toxicity classification

Methyl ethyl ketone

Acute toxicity:

Acute oral toxicity : LD50: 2,737 mg/kg
Species: Rat

Acute dermal toxicity : LD50: 6,480 mg/kg
Species: Rabbit

Skin corrosion/irritation : Result: Repeated exposure may cause skin dryness or cracking.
Moderately irritating.

Serious eye damage/eye irritation : Result: Irritating to eyes.

STOT - single exposure : Exposure routes: Inhalation
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

Aspiration hazard : No aspiration toxicity classification

SECTION 12: ECOLOGICAL INFORMATION

Product information:

Ecotoxicology Assessment

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.

12.1 Toxicity

Test result

Toxicity to fish : LC50: 44.2 mg/l
Exposure time: 96 h
Species: Poecilia reticulata (guppy)
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates : 39 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Test Type: Immobilization

Toxicity to algae : ErC50: 5.6 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (algae)
Test Type: Growth inhibition

Toxicity to bacteria : EC10: 12 mg/l
Exposure time: 0.5 h
Species: activated sludge
Test Type: Respiration inhibition
Method: Domestic OECD Guideline 209

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Components:

Test result

Methyl ethyl ketone peroxide;Reaction mass of butane -2,2-diyi dihydroperoxide and di-sec-butylhexaoxidane

| | |
|---|--|
| Toxicity to fish | : LC50: 44.2 mg/l Exposure time: 96 h Species: Poecilia reticulata (guppy) Test Type: semi-static test |
| Toxicity to daphnia and other aquatic invertebrates | : 39 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Test Type: Immobilization |
| Toxicity to algae | : ErC50: 5.6 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (algae) Test Type: Growth inhibition |
| Toxicity to bacteria | : EC10: 12 mg/l Exposure time: 0.5 h Species: activated sludge Test Type: Respiration inhibition Method: Domestic OECD Guideline 209 |

Methyl ethyl ketone

| | |
|------------------|--|
| Toxicity to fish | : LC50: 3,220 mg/l Exposure time: 96 h Species: Lepomis macrochirus (Bluegill sunfish) |
|------------------|--|

12.2 Persistence and degradability

| | |
|----------------------------|-----------------------------|
| Product information | : No information available. |
|----------------------------|-----------------------------|

Components:

Methyl ethyl ketone peroxide;Reaction mass of butane -2,2-diyi dihydroperoxide and di-sec-butylhexaoxidane

| | |
|----------------------------|--|
| Biodegradability | : Result: Readily biodegradable. Method: Closed Bottle test |
| Methyl ethyl ketone | |

| | |
|------------------|----------------------------------|
| Biodegradability | : Result: Readily biodegradable. |
|------------------|----------------------------------|

12.3 Bioaccumulative potential

| | |
|----------------------------|-----------------------------|
| Product information | : No information available. |
|----------------------------|-----------------------------|

Components:

Methyl ethyl ketone peroxide;Reaction mass of butane -2,2-diyi dihydroperoxide and di-sec-butylhexaoxidane

| | |
|-----------------|--|
| Bioaccumulation | : Bioconcentration factor (BCF): 10.3 Not expected considering the low log Pow value. |
|-----------------|--|

12.4 Mobility in soil

| | |
|----------------------------|-----------------------------|
| Product information | : No information available. |
|----------------------------|-----------------------------|

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12.5 Results of PBT and vPvB assessment

Product information:

PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product information

: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

: The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Hazardous waste
Dispose of contents/container in accordance with local regulation.

Contaminated packaging

: Empty remaining contents.
Dispose of as unused product.
Do not burn, or use a cutting torch on, the empty drum.
Due to the high risk of contamination recycling/recovery is not recommended.
Follow all warnings even after the container is emptied.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR : UN 3105
RID : UN 3105
IMDG-Code : UN 3105
IATA-DGR : UN 3105

14.2 Proper shipping name

ADR : ORGANIC PEROXIDE TYPE D, LIQUID
(Methyl ethyl ketone peroxide)
RID : ORGANIC PEROXIDE TYPE D, LIQUID
(Methyl ethyl ketone peroxide)
IMDG-Code : ORGANIC PEROXIDE TYPE D, LIQUID
(Methyl ethyl ketone peroxide)
IATA-DGR : Organic peroxide type D, liquid
(Methyl ethyl ketone peroxide)

14.3 Transport hazard class

ADR : 5.2
RID : 5.2
IMDG-Code : 5.2
IATA-DGR : 5.2

14.4 Packing group

ADR

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Packing group : Not Assigned

Classification Code : P1

Labels : 5.2

Tunnel restriction code : (D)

RID

Packing group : Not Assigned

Classification Code : P1

Hazard Identification Number : 539

Labels : 5.2

IMDG-Code

Packing group : Not Assigned

Labels : 5.2

EmS Code : F-J, S-R

IATA-DGR

Packing instruction (cargo aircraft) : 570

Packing instruction (passenger aircraft) : 570

Packing group : Not Assigned

Labels : 5.2 (HEAT)

14.5 Environmental hazards

ADR

Environmentally hazardous : no

RID

Environmentally hazardous : no

IMDG-Code

Marine pollutant : no

IATA-DGR

Environmentally hazardous : no

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

| | | Quantity 1 | Quantity 2 |
|-----|---|------------|------------|
| P6b | SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES | 50 t | 200 t |

Notification status

DSL : YES. All components of this product are on the Canadian DSL

AICS : YES. On the inventory, or in compliance with the inventory

NZIoC : YES. On the inventory, or in compliance with the inventory

ENCS : YES. On the inventory, or in compliance with the inventory

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| | |
|-------|--|
| ISHL | : YES. On the inventory, or in compliance with the inventory |
| KECI | : YES. On the inventory, or in compliance with the inventory |
| PICCS | : YES. On the inventory, or in compliance with the inventory |
| IECSC | : YES. On the inventory, or in compliance with the inventory |
| TCSI | : YES. On the inventory, or in compliance with the inventory |
| TSCA | : YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption. |

For explanation of abbreviation see section 16.

15.2 Chemical safety assessment

| | |
|--|---|
| Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane | : A Chemical Safety Assessment has been carried out for this substance. |
|--|---|

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

| | |
|------|--|
| H225 | : Highly flammable liquid and vapour. |
| H240 | : Heating may cause an explosion. |
| H242 | : Heating may cause a fire. |
| H302 | : Harmful if swallowed. |
| H314 | : Causes severe skin burns and eye damage. |
| H318 | : Causes serious eye damage. |
| H319 | : Causes serious eye irritation. |
| H332 | : Harmful if inhaled. |
| H336 | : May cause drowsiness or dizziness. |

Full text of other abbreviations

| | |
|--------------------|--|
| 2000/39/EC | : Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values |
| 2006/15/EC | : Europe. Indicative occupational exposure limit values |
| 2017/164/EU | : Commission Directive (EU) 2017/164 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU |
| 91/322/EEC | : Europe. Commission Directive 91/322/EEC on establishing indicative limit values |
| GB EH40 | : UK. EH40 WEL - Workplace Exposure Limits |
| 2000/39/EC / TWA | : Limit Value - eight hours |
| 2000/39/EC / STEL | : Short term exposure limit |
| 2006/15/EC / TWA | : Limit Value - eight hours |
| 2017/164/EU / STEL | : Short term exposure limit |
| 2017/164/EU / TWA | : Limit Value - eight hours |
| 91/322/EEC / TWA | : Limit Value - eight hours |
| GB EH40 / TWA | : Long-term exposure limit (8-hour TWA reference period) |
| GB EH40 / STEL | : Short-term exposure limit (15-minute reference period) |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging

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Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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Annex :

Industrial use, Formulation & (re)packing of substances and mixtures

Industrial use, Polymerization initiators, crosslinking agents or curing agents

Professional use, Processing aid

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1. Short title of Exposure Scenario: Industrial use, Formulation & (re)packing of substances and mixtures

Main User Groups : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Environmental Release Categories : ERC2: Formulation of preparations

Process categories : PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)
PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC15: Use as laboratory reagent

Further information : Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane

2.1 Contributing scenario controlling environmental exposure for: ERC2: Formulation of preparations

Amount used

Regional use tonnage (tonnes/year) : 1000 ton(s)/year

Fraction of EU tonnage used in region : 100 %

Fraction of Regional tonnage used locally : 60 %

Maximum daily site tonnage (kg/day) : 2727 kg/day

Environment factors not influenced by risk management

Flow rate : 18,000 m³/day

Dilution Factor (River) : 10

Dilution Factor (Coastal Areas) : 100

Other given operational conditions affecting environmental exposure

Number of emission days per year : 220

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Technical conditions and measures / Organizational measures

Air : Filter (Effectiveness (of a measure): 90 %)

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : On site
Flow rate of sewage treatment plant effluent : 2,000 m3/day
Percentage removed from waste water : 99.8 %

2.2 Contributing scenario controlling worker exposure for: PROC0,: Other Process or activity, Applicable to all process categories in this exposure scenario.

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : liquid

Frequency and duration of use

Application duration : < 8 h
Frequency of use : <= 220 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

Local exhaust (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures., Clean equipment and the work area every day., Clear spills immediately.

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

Wear suitable gloves tested to EN374. (Effectiveness (of a measure): 90 %)
Wear suitable respiratory protection (conforming to EN140 with Type A filter or better) and gloves (type EN374) if regular skin contact likely. (Effectiveness (of a measure): 95 %)
Use suitable eye protection.

3. Exposure estimation and reference to its source

Environment

| Contributing Scenario | Exposure Assessment Method | Specific conditions | Compartment | Value | Level of Exposure | RCR |
|-----------------------|----------------------------|---------------------|----------------------|-------|-------------------|-------|
| ERC2 | EUSES | | Fresh water | | 0.00070 mg/L | 0.126 |
| | | | Fresh water sediment | | 0.01104 mg/kg dry | 0.126 |

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| | | | | | weight | |
|--|--|--|------------------------|--|--------------------------|-------|
| | | | Marine water | | 0.00050 mg/L | 0.979 |
| | | | Marine sediment | | 0.00856 mg/kg dry weight | 0.979 |
| | | | Sewage treatment plant | | 0.00684 mg/L | 0.006 |
| | | | Soil | | 0.00200 mg/kg dry weight | 0.167 |

Workers

| Contributing Scenario | Exposure Assessment Method | Specific conditions | Value | Level of Exposure | RCR |
|-----------------------|----------------------------|---------------------|----------------------|-------------------------|-------|
| PROC1 | ECETOC TRA | | Long term inhalation | 0.004 mg/m ³ | 0.004 |
| | | | Long term dermal | 0.034 mg/kg bw/day | 0.018 |
| PROC2 | ECETOC TRA | | Long term inhalation | 0.044 mg/m ³ | 0.040 |
| | | | Long term dermal | 0.014 mg/kg bw/day | 0.007 |
| PROC3 | ECETOC TRA | | Long term inhalation | 0.131 mg/m ³ | 0.119 |
| | | | Long term dermal | 0.003 mg/kg bw/day | 0.002 |
| PROC4 | ECETOC TRA | | Long term inhalation | 0.219 mg/m ³ | 0.199 |
| | | | Long term dermal | 0.068 mg/kg bw/day | 0.036 |
| PROC5 | ECETOC TRA | | Long term inhalation | 0.217 mg/m ³ | 0.197 |
| | | | Long term dermal | 0.137 mg/kg bw/day | 0.072 |
| PROC8a | ECETOC TRA | | Long term inhalation | 0.437 mg/m ³ | 0.397 |
| | | | Long term dermal | 0.137 mg/kg bw/day | 0.072 |
| PROC8b | ECETOC TRA | | Long term inhalation | 0.065 mg/m ³ | 0.059 |
| | | | Long term dermal | 0.02 mg/kg bw/day | 0.011 |
| PROC9 | ECETOC TRA | | Long term inhalation | 0.219 mg/m ³ | 0.199 |
| | | | Long term dermal | 0.086 mg/kg bw/day | 0.036 |
| PROC15 | ECETOC TRA | | Long term inhalation | 0.437 mg/m ³ | 0.397 |
| | | | Long term dermal | 0.007 mg/kg bw/day | 0.004 |

ERC2: Formulation of preparations
PROC1: Use in closed process, no likelihood of exposure
PROC15: Use as laboratory reagent
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)
PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site: Downstream Users
http://guidance.echa.europa.eu/downstream_users_en.htm
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. Short title of Exposure Scenario: Industrial use, Polymerization initiators, crosslinking agents or curing agents

| | |
|----------------------------------|--|
| Main User Groups | : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites |
| Environmental Release Categories | : ERC6d, ERC6b: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers, Use of reactive processing aid at industrial site (no inclusion into or onto article) |
| Process categories | : PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring CS100: Production or preparation or articles by tabletting, compression, extrusion or pelletisation PROC15: Use as laboratory reagent |
| Further information | : Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane |

2.1 Contributing scenario controlling environmental exposure for: ERC6b, ERC6d: Use of reactive processing aid at industrial site (no inclusion into or onto article), Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Amount used

| | |
|--|--------------------|
| Regional use tonnage (tonnes/year): | : 1000 ton(s)/year |
| Fraction of EU tonnage used in region: | : 100 % |
| Fraction of Regional tonnage used locally: | : 80 % |
| Maximum daily site tonnage (kg/day): | : 3636 kg/day |

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Environment factors not influenced by risk management

Flow rate : 18,000 m³/day
Dilution Factor (River) : 10
Dilution Factor (Coastal Areas) : 100

Other given operational conditions affecting environmental exposure

Number of emission days per year : 220

Technical conditions and measures / Organizational measures

Water : Fat separator

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : On site
Flow rate of sewage treatment plant effluent : 2,000 m³/day
Percentage removed from waste water : 99.8 %

2.2 Contributing scenario controlling worker exposure for: PROC0,: Other Process or activity, Applicable to all process categories in this exposure scenario.

Activity : General exposures (closed systems), Continuous process

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : liquid

Frequency and duration of use

Application duration : < 8 h
Frequency of use : <= 100 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

Local exhaust (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures., Clean equipment and the work area every day., Clear spills immediately.

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

Wear a full face respirator conforming to EN136 with Type A/P2 filter or better. (Effectiveness (of a measure): 95 %)
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

3. Exposure estimation and reference to its source

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Environment

| Contributing Scenario | Exposure Assessment Method | Specific conditions | Compartment | Value | Level of Exposure | RCR |
|-----------------------|----------------------------|---------------------|------------------------|--------------------------|-------------------|-----|
| ERC6b | EUSES | | Fresh water | 0.00070 mg/L | 0.128 | |
| ERC6d | | | Fresh water sediment | 0.00240 mg/kg dry weight | 0.128 | |
| | | | Marine water | 0.00050 mg/L | 0.990 | |
| | | | Marine sediment | 0.00189 mg/kg dry weight | 0.995 | |
| | | | Sewage treatment plant | 0.00690 mg/L | 0.006 | |
| | | | Soil | 0.00180 mg/kg dry weight | 0.148 | |

Workers

| Contributing Scenario | Exposure Assessment Method | Specific conditions | Value | Level of Exposure | RCR |
|-----------------------|----------------------------|---------------------|----------------------|-------------------------|-------|
| PROC1 | ECETOC TRA | | Long term inhalation | 0.004 mg/m ³ | 0.004 |
| | | | Long term dermal | 0.034 mg/kg bw/day | 0.018 |
| PROC2 | ECETOC TRA | | Long term inhalation | 0.044 mg/m ³ | 0.040 |
| | | | Long term dermal | 0.014 mg/kg bw/day | 0.007 |
| PROC3 | ECETOC TRA | | Long term inhalation | 131 mg/m ³ | 0.119 |
| | | | Long term dermal | 0.003 mg/kg bw/day | 0.002 |
| PROC4 | ECETOC TRA | | Long term inhalation | 0.219 mg/m ³ | 0.199 |
| | | | Long term dermal | 0.068 mg/kg bw/day | 0.036 |
| PROC5 | ECETOC TRA | | Long term inhalation | 0.217 mg/m ³ | 0.197 |
| | | | Long term dermal | 0.137 mg/kg bw/day | 0.072 |
| PROC7 | ECETOC TRA | | Long term inhalation | 0.694 mg/m ³ | 0.631 |
| | | | Long term dermal | 0.465 mg/kg bw/day | 0.245 |
| PROC8a | ECETOC TRA | | Long term inhalation | 0.437 mg/m ³ | 0.397 |
| | | | Long term dermal | 0.137 mg/kg bw/day | 0.072 |

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| | | | | | |
|--------|------------|--|----------------------|-------------------------|-------|
| PROC8b | ECETOC TRA | | Long term inhalation | 0.065 mg/m ³ | 0.059 |
| | | | Long term dermal | 0.02 mg/kg bw/day | 0.011 |
| PROC9 | ECETOC TRA | | Long term inhalation | 0.219 mg/m ³ | 0.199 |
| | | | Long term dermal | 0.068 mg/kg bw/day | 0.036 |
| PROC10 | ECETOC TRA | | Long term inhalation | 0.437 mg/m ³ | 0.397 |
| | | | Long term dermal | 0.274 mg/kg bw/day | 0.144 |
| PROC13 | ECETOC TRA | | Long term inhalation | 0.437 mg/m ³ | 0.397 |
| | | | Long term dermal | 0.137 mg/kg bw/day | 0.072 |
| CS100 | ECETOC TRA | | Long term inhalation | 0.219 mg/m ³ | 0.199 |
| | | | Long term dermal | 0.034 mg/kg bw/day | 0.018 |
| PROC15 | ECETOC TRA | | Long term inhalation | 0.437 mg/m ³ | 0.397 |
| | | | Long term dermal | 0.007 mg/kg bw/day | 0.004 |

CS100: Production or preparation of articles by tabletting, compression, extrusion or pelletisation

ERC6b: Use of reactive processing aid at industrial site (no inclusion into or onto article)

ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

PROC1: Use in closed process, no likelihood of exposure

PROC10: Roller application or brushing

PROC13: Treatment of articles by dipping and pouring

PROC15: Use as laboratory reagent

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)

PROC7: Industrial spraying

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

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

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site: Downstream Users

http://guidance.echa.europa.eu/downstream_users_en.htm

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.

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1. Short title of Exposure Scenario: Professional use, Processing aid

| | |
|----------------------------------|--|
| Main User Groups | : SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen) |
| Environmental Release Categories | : ERC8b, ERC8e: Wide dispersive indoor use of reactive substances in open systems, Wide dispersive outdoor use of reactive substances in open systems |
| Process categories | : PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC11: Non-industrial spraying PROC13: Treatment of articles by dipping and pouring CS100: Production or preparation or articles by tabletting, compression, extrusion or pelletisation PROC15: Use as laboratory reagent |
| Further information | : Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane |

2.1 Contributing scenario controlling environmental exposure for: ERC8b, ERC8e: Wide dispersive indoor use of reactive substances in open systems, Wide dispersive outdoor use of reactive substances in open systems

Amount used

| | |
|--|--------------------|
| Regional use tonnage (tonnes/year): | : 1000 ton(s)/year |
| Fraction of EU tonnage used in region: | : 10 % |
| Fraction of Regional tonnage used locally: | : 100 % |

Environment factors not influenced by risk management

| | |
|---------------------------------|------------------------------|
| Flow rate | : 18,000 m ³ /day |
| Dilution Factor (River) | : 10 |
| Dilution Factor (Coastal Areas) | : 100 |

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Other given operational conditions affecting environmental exposure

Number of emission days per year : 365

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent : 2,000 m3/day
Percentage removed from waste water : 99.80 %

2.2 Contributing scenario controlling worker exposure for: PROC0,: Other Process or activity, Applicable to all process categories in this exposure scenario.

Activity : General exposures (closed systems), Continuous process

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.
Physical Form (at time of use) : liquid

Frequency and duration of use

Application duration : < 8 h
Frequency of use : <= 300 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented, Ensure operatives are trained to minimise exposures., Clean equipment and the work area every day., Clear spills immediately.

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

Wear a full face respirator conforming to EN136 with Type A/P2 filter or better. (Effectiveness (of a measure): 95 %)

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

3. Exposure estimation and reference to its source

Environment

| Contributing Scenario | Exposure Assessment Method | Specific conditions | Compartment | Value | Level of Exposure | RCR |
|-----------------------|----------------------------|---------------------|----------------------|-------|--------------------------|---------|
| ERC8b | EUSES | | Fresh water | | 0.00071 mg/L | 0.08000 |
| ERC8e | | | Fresh water sediment | | 2.56000 mg/kg dry weight | 0.80000 |
| | | | Marine water | | 0.00071 mg/L | 0.00080 |

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| | | | | | | |
|--|--|--|------------------------|--|---------------------------|---------|
| | | | Marine sediment | | 0.00256 mg/kg dry weight | 0.00800 |
| | | | Sewage treatment plant | | 0.00700 mg/l | 0.00070 |
| | | | Soil | | 23.58230 mg/kg dry weight | 0.57100 |

Workers

| Contributing Scenario | Exposure Assessment Method | Specific conditions | Value | Level of Exposure | RCR |
|-----------------------|----------------------------|---------------------|----------------------|---------------------------|---------|
| PROC1 | ECETOC TRA | | Long term inhalation | < 0.001 mg/m ³ | < 0.001 |
| | | | Long term dermal | 0.007 mg/kg bw/day | 0.004 |
| PROC2 | ECETOC TRA | | Long term inhalation | 0.087 mg/m ³ | 0.079 |
| | | | Long term dermal | 0.027 mg/kg bw/day | 0.014 |
| PROC3 | ECETOC TRA | | Long term inhalation | 0.052 mg/m ³ | 0.047 |
| | | | Long term dermal | 0.007 mg/kg bw/day | 0.004 |
| PROC4 | ECETOC TRA | | Long term inhalation | 0.175 mg/m ³ | 0.159 |
| | | | Long term dermal | 0.137 mg/kg bw/day | 0.072 |
| PROC5 | ECETOC TRA | | Long term inhalation | 0.175 mg/m ³ | 0.159 |
| | | | Long term dermal | 0.274 mg/kg bw/day | 0.144 |
| PROC8a | ECETOC TRA | | Long term inhalation | 0.437 mg/m ³ | 0.397 |
| | | | Long term dermal | 0.274 mg/kg bw/day | 0.144 |
| PROC8b | ECETOC TRA | | Long term inhalation | 0.175 mg/m ³ | 0.159 |
| | | | Long term dermal | 0.137 mg/kg bw/day | 0.072 |
| PROC9 | ECETOC TRA | | Long term inhalation | 0.175 mg/m ³ | 0.159 |
| | | | Long term dermal | 0.137 mg/kg bw/day | 0.072 |
| PROC10 | ECETOC TRA | | Long term inhalation | 0.437 mg/m ³ | 0.397 |
| | | | Long term dermal | 0.548 mg/kg bw/day | 0.288 |
| PROC11 | ECETOC TRA | | Long term inhalation | 0.226 mg/m ³ | 0.021 |
| | | | Long term | 0.387 mg/kg | 0.204 |

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| | | | dermal | bw/day | |
|--------|------------|--|----------------------|--------------------|-------|
| PROC13 | ECETOC TRA | | Long term inhalation | 0.175 mg/m3 | 0.159 |
| | | | Long term dermal | 0.274 mg/kg bw/day | 0.144 |
| CS100 | ECETOC TRA | | Long term inhalation | 0.175 mg/m3 | 0.159 |
| | | | Long term dermal | 0.068 mg/kg bw/day | 0.036 |
| PROC15 | ECETOC TRA | | Long term inhalation | 0.187 mg/m3 | 0.170 |
| | | | Long term dermal | 0.007 mg/kg bw/day | 0.004 |

CS100: Production or preparation or articles by tabletting, compression, extrusion or pelletisation

ERC8b: Wide dispersive indoor use of reactive substances in open systems

ERC8e: Wide dispersive outdoor use of reactive substances in open systems

PROC1: Use in closed process, no likelihood of exposure

PROC10: Roller application or brushing

PROC11: Non-industrial spraying

PROC13: Treatment of articles by dipping and pouring

PROC15: Use as laboratory reagent

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)

PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

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

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

For further information, please also consult our Internet site: Downstream Users

http://guidance.echa.europa.eu/downstream_users_en.htm

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.