# Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

**1.1. Product identifier**

Code: **411 00 00910-1851**

Product name **IDROREP**

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

Intended use **Waterproof for electrical contacts**

**1.3. Details of the supplier of the safety data sheet**

Name **Meccanocar Italia S.r.l.**

Full address **Via San Francesco, 22**

District and Country **56033 Capannoli (PI)**
**Italy**

**Tel. +39 0587 609433**

**Fax +39 0587 607145**

e-mail address of the competent person

responsible for the Safety Data Sheet **moreno.meini@meccanocar.it**

**1.4. Emergency telephone number**

For urgent inquiries refer to **National Poisons Information Service: +44 121 507 4123**

## SECTION 2. Hazards identification

**2.1. Classification of the substance or mixture**

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

| | | |
|---|---|---|
| Aerosol, category 1 | H222 | Extremely flammable aerosol. |
| | H229 | Pressurised container: may burst if heated. |
| Serious eye damage, category 1 | H318 | Causes serious eye damage. |
| Skin sensitization, category 1 | H317 | May cause an allergic skin reaction. |
| Specific target organ toxicity - single exposure, category 3 | H336 | May cause drowsiness or dizziness. |
| Hazardous to the aquatic environment, chronic toxicity, category 3 | H412 | Harmful to aquatic life with long lasting effects. |

**2.2. Label elements**

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:

Signal words: Danger

Hazard statements:

| | |
|---|---|
| **H222** | Extremely flammable aerosol. |
| **H229** | Pressurised container: may burst if heated. |
| **H318** | Causes serious eye damage. |
| **H317** | May cause an allergic skin reaction. |
| **H336** | May cause drowsiness or dizziness. |
| **H412** | Harmful to aquatic life with long lasting effects. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |

Precautionary statements:

| | |
|---|---|
| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| **P251** | Do not pierce or burn, even after use. |
| **P410+P412** | Protect from sunlight. Do no expose to temperatures exceeding 50°C / 122°F. |
| **P211** | Do not spray on an open flame or other ignition source. |
| **P331** | Do NOT induce vomiting. |
| **P305+P351+P338** | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

**Contains:** HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC
POLYOXYETHYLENE 10 TRIDECYL ETHER
(R)-P-MENTHA-1,8-DIENE
ORANGE TERPENS

**2.3. Other hazards**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

## SECTION 3. Composition/information on ingredients

**3.2. Mixtures**

Contains:

| **Identification** | **x = Conc. %** | **Classification 1272/2008 (CLP)** |
|---|---|---|
| **HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC**<br>CAS 64742-48-9<br>EC 919-857-5<br>INDEX - | 45 ≤ x < 47,5 | Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H336, EUH066 |

Reg. no. 01-2119463258-33-XXXX

**BUTANE**

| | | |
|---|---|---|
| CAS 106-97-8 | 22,5 ≤ x < 24 | Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: C U |
| EC 203-448-7 | | |
| INDEX 601-004-00-0 | | |
| Reg. no. 01-2119474691-32-XXXX | | |

**PROPANE**

| | | |
|---|---|---|
| CAS 74-98-6 | 8 ≤ x < 9 | Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note according to Annex VI to the CLP Regulation: U |
| EC 200-827-9 | | |
| INDEX 601-003-00-5 | | |
| Reg. no. 01-2119486944-21-XXXX | | |

**1-METHOXY-2-PROPANOL**

| | | |
|---|---|---|
| CAS 107-98-2 | 8 ≤ x < 9 | Flam. Liq. 3 H226, STOT SE 3 H336 |
| EC 203-539-1 | | |
| INDEX 603-064-00-3 | | |
| Reg. no. 01-2119457435-35-XXXX | | |

**ISOBUTANE**

| | | |
|---|---|---|
| CAS 75-28-5 | 8 ≤ x < 9 | Flam. Gas 1A H220, Press. Gas H280 |
| EC 200-857-2 | | |
| INDEX 601-004-00-0 | | |
| Reg. no. 01-2119485395-27-XXXX | | |

**(R)-P-MENTHA-1,8-DIENE**

| | | |
|---|---|---|
| CAS 5989-27-5 | 2 ≤ x < 2,5 | Flam. Liq. 3 H226, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 1 H410 M=1, Classification note according to Annex VI to the CLP Regulation: C |
| EC 227-813-5 | | |
| INDEX 601-029-00-7 | | |
| Reg. no. 01-2119529223-47-XXXX | | |

**ORANGE TERPENS**

| | | |
|---|---|---|
| CAS 8028-48-6 | 2 ≤ x < 2,5 | Flam. Liq. 3 H226, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411 |
| EC 232-433-8 | | |
| INDEX - | | |
| Reg. no. 01-2119493353-35-XXXX | | |

**POLYOXYETHYLENE 10 TRIDECYL ETHER**

| | | |
|---|---|---|
| CAS 24938-91-8 | 2 ≤ x < 2,5 | Acute Tox. 4 H302, Eye Dam. 1 H318 |
| EC | | |
| INDEX - | | |

The full wording of hazard (H) phrases is given in section 16 of the sheet.

The product is an aerosol containing propellants. For the purposes of calculation of the health hazards, propellants are not considered (unless they have health hazards). The percentages indicated are inclusive of the propellants.

Percentage of propellants: 39,00 %

## SECTION 4. First aid measures

**4.1. Description of first aid measures**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

**4.2. Most important symptoms and effects, both acute and delayed**

Specific information on symptoms and effects caused by the product are unknown.

**4.3. Indication of any immediate medical attention and special treatment needed**

Information not available

## SECTION 5. Firefighting measures

**5.1. Extinguishing media**

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

**5.2. Special hazards arising from the substance or mixture**

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
If overheated, aerosol cans can deform, explode and be propelled considerable distances. Put a protective helmet on before approaching the fire. Do not breathe combustion products.

**5.3. Advice for firefighters**

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site. Send away individuals who are not suitably equipped. Wear protective gloves / protective clothing / eye protection / face protection.

**6.2. Environmental precautions**

Do not disperse in the environment.

**6.3. Methods and material for containment and cleaning up**

Use inert absorbent material to soak up leaked product. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

**7.1. Precautions for safe handling**

Avoid bunching of electrostatic charges. Do not spray on flames or incandescent bodies. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Do not eat, drink or smoke during use. Do not breathe spray.

**7.2. Conditions for safe storage, including any incompatibilities**

Store in a place where adequate ventilation is ensured, away from direct sunlight at a temperature below 50°C / 122°F, away from any combustion sources.

**7.3. Specific end use(s)**

Information not available

## SECTION 8. Exposure controls/personal protection

**8.1. Control parameters**

Regulatory References:

| | | |
|---|---|---|
| ESP | España | LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST) |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Third edition,published 2018) |
| ITA | Italia | DIRETTIVA (UE) 2017/164 DELLA COMMISSIONE del 31 gennaio 2017 |
| NOR | Norge | Fastsatt av Arbeids- og sosialdepartementet 21. august 2018 med hjemmel i lov 17. juni 2005 nr. 62 om arbeidsmiljø, arbeidstid, stillingsvern mv. (arbeidsmiljøloven) § 1-3, § 1-4 og § 4-5 |
| PRT | Portugal | Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018 |
| EU | OEL EU | Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 91/322/EEC. |
| | TLV-ACGIH | ACGIH 2019 |

**BUTANE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | | 1000 | | | Gases |
| VLEP | FRA | 1900 | 800 | | | |
| WEL | GBR | 1450 | 600 | 1810 | 750 | |
| TLV | NOR | 600 | 250 | | | |
| TLV-ACGIH | | | | | 1000 | |

**1-METHOXY-2-PROPANOL**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | 375 | 100 | 568 | 150 | SKIN |
| VLEP | FRA | 188 | 50 | 375 | 10 | SKIN |
| WEL | GBR | 375 | 100 | 560 | 150 | SKIN |
| VLEP | ITA | 375 | 100 | 568 | 150 | SKIN |
| TLV | NOR | 180 | 50 | | | SKIN |
| VLE | PRT | 375 | 100 | 568 | 150 | |
| OEL | EU | 375 | 100 | 568 | 150 | SKIN |
| TLV-ACGIH | | 184 | 50 | 368 | 100 | |

| Predicted no-effect concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 10 | mg/l |
| Normal value in marine water | 1 | mg/l |
| Normal value for fresh water sediment | 52,3 | mg/kg |
| Normal value for marine water sediment | 5,2 | mg/kg |
| Normal value of STP microorganisms | 100 | mg/l |
| Normal value for the terrestrial compartment | 4,59 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 33 mg/kg bw/d | | | | |
| Inhalation | | | | 78 mg/m3 | 553,5 mg/m3 | 553,5 mg/m3 | | 369 mg/m3 |
| Skin | | | | 43,9 mg/kg bw/d | | | | 183 mg/kg bw/d |

**PROPANE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | | 1000 | | | |
| TLV | NOR | 900 | 500 | | | |
| TLV-ACGIH | | | 1000 | | | |

**ORANGE TERPENS**

| Predicted no-effect concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 0,54 | mg/l |
| Normal value in marine water | 0,054 | mg/l |
| Normal value for fresh water sediment | 1,3 | mg/kg |
| Normal value for marine water sediment | 0,13 | mg/kg |
| Normal value of STP microorganisms | 2,1 | mg/l |
| Normal value for the terrestrial compartment | 0,261 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | Effects on workers |
|---|---|---|

| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
|---|---|---|---|---|---|---|---|---|
| Oral | | | | 4,44 mg/kg bw/d | | | | |
| Inhalation | | | | 7,78 mg/m3 | | | | 31,1 mg/m3 |
| Skin | | | 9,29 mg/kg bw/d | 4,44 mg/kg bw/d | | | 18,58 mg/kg bw/d | 8,89 mg/kg bw/d |

**(R)-P-MENTHA-1,8-DIENE**

**Threshold Limit Value**

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|---|---|---|---|---|---|---|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| VLA | ESP | 168 | 30 | | | SKIN |
| TLV | NOR | 140 | 25 | | | |

| Predicted no-effect concentration - PNEC | | |
|---|---|---|
| Normal value in fresh water | 1,4 | mg/l |
| Normal value in marine water | 1,4 | mg/l |
| Normal value for fresh water sediment | 3,85 | mg/kg |
| Normal value for marine water sediment | 0,385 | mg/kg |
| Normal value of STP microorganisms | 1,8 | mg/l |
| Normal value for the food chain (secondary poisoning) | 133 | mg/kg |
| Normal value for the terrestrial compartment | 0,763 | mg/kg |

**Health - Derived no-effect level - DNEL / DMEL**

| | Effects on consumers | | | | Effects on workers | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | Acute systemic | Chronic local | Chronic systemic |
| Oral | | | | 4,8 mg/kg bw/d | | | | |
| Inhalation | | | | 16,6 mg/m3 | | | | 66,7 mg/m3 |
| Skin | | | | 4,8 mg/kg bw/d | | | | 9,5 mg/kg bw/d |

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

**8.2. Exposure controls**

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION
None required.

SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, a mask with a type AX filter combined with a type P filter should be worn (see standard EN 14387).
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Chemical resistant gloves are recommended. Nitrile, standards CEN EN 420 and EN 374 provide general requirements and lists of types of gloves.

ISOBUTANE

Suitable glove material protective gloves, e.g. nitrile butadiene rubber gloves (NBR), leather gloves, heat insulating
Selection of protective gloves to meet specific workplace requirements.
Suitability for specific workplaces must be clarified with the manufacturers of protective gloves.
The information is based on our tests, references from literature and information from glove manufacturers or derived by analogy with similar materials.
Remember that the useful time per day of a chemical protection glove can be much shorter than the breakthrough time determined according to EN 374 due to the numerous influencing factors involved.

1-METHOXY-2-PROPANOL

Use chemical resistant gloves classified according to EN374: protective gloves against chemicals and microorganisms. Examples of preferred barrier material for gloves include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable barrier materials for gloves include: Natural rubber ("latex"). Neoprene. Nitrile / butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. In case of prolonged or frequently repeated contact, a glove with a protection class of 5 or higher is recommended (breakthrough time greater than 240 minutes according to EN 374). When only brief contact is expected, a glove with a protection class of 1 or more is recommended (breakthrough time greater than 10 minutes according to EN 374). NOTICE: selection of a specific glove for a particular application and duration of use in a work environment should also take into account all relevant factors in the workplace such as, but not limited to: Other chemicals that can be handled , physical requirements (cut / puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as instructions / specifications provided by the glove supplier.

ORANGE TERPENS

Hand protection:
Preventive skin protection through the use of protective agents is recommended.
Protective gloves
The glove material must be impermeable and resistant to the product / the substance / the preparation.
Selection of glove material in consideration of breakthrough times, diffusion rates and degradation
Glove material:
The choice of suitable gloves depends not only on the material, but also on additional quality brands and varies from manufacturer to manufacturer.
Penetration time of glove material> 480 minutes at a layer thickness of 0.425 mm (Sol-Vex 37-695 / Ansell).
The exact breakthrough time must be found out by the manufacturer of the protective gloves and must be respected.
For permanent contact gloves made of the following materials are suitable: nitrile rubber, NBR
For example. next product: Ansell's Sol-Vex (37-695).
As protection from splashes, gloves made of the following materials are suitable: Nitrile rubber, NBR

(R) -P-MENTHA-1,8-DIENE

Chemical resistant protective gloves (standard EN 374-1).

## SECTION 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
| --- | --- |
| Appearance | aerosol |
| Colour | colourless |
| Odour | characteristic |
| Odour threshold | Not available |
| pH | Not available |
| Melting point / freezing point | Not available |
| Initial boiling point | Not available |
| Boiling range | Not available |
| Flash point | < 0 °C |
| Evaporation rate | Not available |
| Flammability (solid, gas) | Not available |
| Lower inflammability limit | Not available |
| Upper inflammability limit | Not available |
| Lower explosive limit | Not available |
| Upper explosive limit | Not available |
| Vapour pressure | Not available |
| Vapour density | Not available |
| Relative density | 0,725 |
| Solubility | insoluble in water |
| Partition coefficient: n-octanol/water | Not available |
| Auto-ignition temperature | Not available |
| Decomposition temperature | Not available |
| Viscosity | Not available |
| Explosive properties | Not available |
| Oxidising properties | Not available |

### 9.2. Other information

VOC (Directive 2010/75/EC) : 41,76 % - 302,79 g/litre

## SECTION 10. Stability and reactivity

### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

1-METHOXY-2-PROPANOL

Dissolves various plastic materials.Stable in normal conditions of use and storage.

Absorbs and disolves in water and in organic solvents. With air it may slowly form explosive peroxides.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

No hazardous reactions are foreseeable in normal conditions of use and storage.

BUTANE

Vapors can form an explosive mixture with air.

ISOBUTANE

Vapors can form an explosive mixture with air.

1-METHOXY-2-PROPANOL

May react dangerously with: strong oxidising agents,strong acids.

ORANGE TERPENS

Possible formation of explosive gas mixture with air. In the event of unfavorable storage conditions (introduction of air, accumulation of heat), self-ignition is possible for moistened solids (eg cloth, pulp, filter panel, binder). Reacts violently with oxidizing agents.

10.4. Conditions to avoid

Avoid overheating.

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Avoid heat, sparks, open flames and other sources of ignition.

BUTANE

Avoid heat and sources of ignition.

ISOBUTANE

Keep away from heat and other causes of fire.

1-METHOXY-2-PROPANOL

Avoid exposure to: air.

Do not distill to dryness. The product can oxidize at high temperatures. The generation of gas during decomposition can cause pressure in closed systems.

ORANGE TERPENS

Heating causes vaporization and the formation of a flammable atmosphere is possible.

(R) -P-MENTHA-1,8-DIENE

Prolonged or excessive heat and / or exposure to air can cause non-hazardous decomposition and / or oxidation of the substance.
Keep away from heat and other causes of fire.

**10.5. Incompatible materials**

Strong reducing or oxidising agents, strong acids or alkalis, hot material.

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Strong oxidants

BUTANE

Strong oxidizing agents, chlorine, oxygen.

ISOBUTANE

Strong oxidizing agents, chlorine, oxygen.

1-METHOXY-2-PROPANOL

Incompatible with: oxidising substances,strong acids,alkaline metals.

Avoid contact with: strong acids. Strong bases. Strong oxidants.

(R) -P-MENTHA-1,8-DIENE

Avoid contact with strong acids and strong oxidizing agents.

**10.6. Hazardous decomposition products**

BUTANE

In case of fire or production of thermal decomposition, for example, carbon monoxide, carbon dioxide (CO2).

ISOBUTANE

In case of fire or production of thermal decomposition, for example, carbon monoxide, carbon dioxide (CO2).

1-METHOXY-2-PROPANOL

Decomposition products depend on temperature, air supply and the presence of other materials. Decomposition products can include and are not limited

to: Aldehydes. Ketones. Organic acids.

## SECTION 11. Toxicological information

**11.1. Information on toxicological effects**

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

1-METHOXY-2-PROPANOL

WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

1-METHOXY-2-PROPANOL

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product. Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

Interactive effects

Information not available

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:
Not classified (no significant component)
LD50 (Oral) of the mixture:
>2000 mg/kg
LD50 (Dermal) of the mixture:
Not classified (no significant component)

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: OECD 423
Reliability: 2
Species: Rat (Wistar; male / female)
Route of exposure: Oral
Results: LD50> 15 000 mg / kg bw
Method: Equivalent or similar to OECD 403
Reliability: 1
Species: Rat (Crj: CD (SD); male / female)
Route of exposure: Inhalation (vapors)
Results: LC50> 4 951 mg / m³ air
Method: Equivalent or similar to OECD 402
Reliability: 2
Species: Rabbit (New Zealand White; male / female)

Route of exposure: Dermal
Results: LD50> 5 000 mg / kg bw

BUTANE

Method: Not indicated
Reliability: 2
Species: Rat (Alderley Park (SPF); male / female)
Route of exposure: Inhalation
Results: LC50: 1 443 mg / L air

1-METHOXY-2-PROPANOL

Method: EU Method B.1
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Oral
Results: LD50 = 3739 mg / kg bw
Method: Equivalent or similar to OECD 403
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Not classified
Method: Equivalent or similar to EU Method B.3
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Dermal
Results: LD50> 2000 mg / kg bw

PROPANE

Method: To study the concentrations at which the effects of the CNS occur following exposure by inhalation to propane by measuring LC50 (15 min) and EC50 (CNS) (10 min) in rats.
Reliability: 2
Species: Rat (Alderley Park (SPF); male / female)
Route of exposure: Inhalation
Results: LC50> 800 000 ppm

ORANGE TERPENS

Method: Equivalent or similar to OECD 401
Reliability: 1
Species: Rat (Wistar; male)
Route of exposure: Oral
Results: LD50> 5 000 mg / kg bw
Method: Equivalent or similar to OECD 402
Reliability: 2
Species: Rabbit (New Zealand White; female)
Route of exposure: Dermal
Results: LD50> 5 000 mg / kg bw

(R) -P-MENTHA-1,8-DIENE

Method: OECD 423
Reliability: 1
Species: Rat (Sprague-Dawley; female)
Route of exposure: Oral
Results: LD50> 2000 mg / kg bw

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: Equivalent or similar to OECD 404
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Irritating

1-METHOXY-2-PROPANOL

Method: Equivalent or similar to EU Method B.4
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Dermal
Results: Not irritating

(R) -P-MENTHA-1,8-DIENE

Method: OECD 404
Reliability: 2
Species: Rabbit (albino)
Route of exposure: Dermal
Results: Not irritating

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: OECD 405
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

1-METHOXY-2-PROPANOL

Method: Equivalent or similar to EU Method B.5
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

(R) -P-MENTHA-1,8-DIENE

Method: OECD 405
Reliability: 2
Species: Rabbit (New Zealand White)
Route of exposure: Ocular
Results: Not irritating

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

1-METHOXY-2-PROPANOL

Method: Equivalent or similar to EU Method B.6
Reliability: 1
Species: guinea pig (male / female)
Route of exposure: Dermal
Results: Not sensitizing

(R) -P-MENTHA-1,8-DIENE

Method: OECD 429
Reliability: 2
Species: Mouse (CBA / Ca; female)
Route of exposure: Dermal
Results: Sensitizers

Skin sensitization
HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: OECD 406
Reliability: 2
Species: guinea pig (Hartley; female)
Route of exposure: Dermal
Results: Not sensitizing

ORANGE TERPENS

Method: OECD Guideline 429
Reliability: 2
Species: Mouse (CBA / Ca; female)
Route of exposure: Dermal
Results: Sensitizer category 1

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium
Results: Negative with or without metabolic activation
Method: Equivalent or similar to OECD 474 in vivo test
Reliability: 1
Species: Mouse (CD-1; male / female)
Route of exposure: Oral
Results: Negative

BUTANE

Method: OECD 471 in vitro test
Reliability: 1
Species: Salmonella strains, S. typhimurium
Results: Negative without metabolic activation
Method: OECD 474-test in vivo
Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation (gas)
Results: Negative

1-METHOXY-2-PROPANOL

Method: Equivalent or similar to OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium
Results: Negative with and without metabolic activation
Method: Equivalent or similar to OECD 474 in vivo test
Reliability: 2
Species: Mouse (CD-1; male / female)

Route of exposure: Intraperitoneal
Results: Negative

PROPANE

Method: OECD 471 in vitro test
Reliability: 1
Species: Histidine Salmonella
Results: Negative with or without metabolic activation
Method: OECD 474-test in vivo
Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation (gas)
Results: Negative

ORANGE TERPENS

Method: OECD Guideline 471-in vitro test
Reliability: 1
Species: S. typhimurium, E. Coli
Results: Negative with or without metabolic activation

(R) -P-MENTHA-1,8-DIENE

Method: OECD 471 in vitro test
Reliability: 1
Species: S. typhimurium
Results: Negative with and without metabolic activation
Bibliographic reference:
Method: Comet assay (Tice et al., 2000) - in vivo test
Reliability: 2
Species: Rat (OFA Sprague-Dawley; male)
Route of exposure: Oral
Results: Negative

carcinogenicity

Does not meet the classification criteria for this hazard class

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: Equivalent or similar to OECD 453
Reliability: 1
Species: Rat (F344 / N; male / female)
Route of exposure: Inhalation (vapors)
Results: NOAEC 138 mg / $m^3$ air

1-METHOXY-2-PROPANOL

Method: OECD 453
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative

ORANGE TERPENS

Method: Equivalent or similar to OECD 452
Reliability: 2
Species: Mouse (B6C3F1; male / female)
Route of exposure: Oral
Results: LD50> = 250 - <= 500 mg / kg bw / day

(R) -P-MENTHA-1,8-DIENE

Method: Equivalent or similar to OECD 451

Reliability: 2
Species: Mouse (B6C3F1; male / female)
Route of exposure: Oral
Results: Negative

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

BUTANE

Method: OECD 413
Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation
Results: NOAEC 10000 ppm

Adverse effects on sexual function and fertility
HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: OECD TG 413
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: NOAEC> = 400 ppm

1-METHOXY-2-PROPANOL

Method: OECD 416
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEL (fertility) = 300 ppm

PROPANE

Method: OECD 413
Reliability: 1
Species: Rat (Sprague-Dawley CD; male / female)
Route of exposure: Inhalation
Results: NOAEC (fertility) 10 000 ppm

(R) -P-MENTHA-1,8-DIENE

Method: Equivalent or similar to OECD 408
Reliability: 2
Species: Mouse (B6C3F1; male / female)
Route of exposure: Oral
Results: Negative. NOAEL (fertility) = 500 mg / kg bw / day.

Adverse effects on development of the offspring
1-METHOXY-2-PROPANOL

Method: Equivalent or similar to OECD 414
Reliability: 1
Species: Rabbit (New Zealand White)
Route of exposure: Inhalation
Results: Negative, NOAEL (development) = 3000 ppm

PROPANE

Method: EPA OPPTS 870.3700
Reliability: 1
Species: Rat (VAF / Plus®, Sprague-Dawley Derived (CD®) Crl: CD® IGS BR)
Route of exposure: Inhalation (gas)
Results: NOAEC (development) 10 426 ppm

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Based on available data and through expert judgment, the substance is classified in the target organ toxicity class for single exposure.

BUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

ISOBUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

1-METHOXY-2-PROPANOL

Based on available data and through expert judgment, the substance is classified in the target organ toxicity class for single exposure.

PROPANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

ORANGE TERPENS

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

(R) -P-MENTHA-1,8-DIENE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

Target organ
1-METHOXY-2-PROPANOL

Central nervous system

Route of exposure
HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Dermal and inhalation

1-METHOXY-2-PROPANOL

inhalation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

HYDROCARBONS, C9-C11, N-ALCANS, ISOALKANS, CYCLES, <2% AROMATIC

Method: Equivalent or similar to OECD 422
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Oral
Results: NOAEL> = 1000 mg / kg / day
Method: Equivalent or similar to OECD 413
Reliability: 1
Species: Rat (Albino; male / female)
Route of exposure: Inhalation (vapors)
Results: NOAEC 10186 mg / m3

BUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

ISOBUTANE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

1-METHOXY-2-PROPANOL

Method: OECD 453
Reliability: 1
Species: Rat (Fischer 344; male / female)
Route of exposure: Inhalation (vapors)
Results: Negative, NOAEL = 300 ppm
Method: Equivalent or similar to OECD 410
Reliability: 1
Species: Rabbit (New Zealand White; male / female)
Route of exposure: Dermal
Results: Negative, NOAEL> 1000 mg / kg bw / day

PROPANE

Method: OECD 422
Reliability: 1
Species: Rat (Sprague-Dawley; male / female)
Route of exposure: Inhalation (gas)
Results: NOAEC 16 000 ppm

TERPENI D'ARANCIO

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

(R) -P-MENTHA-1,8-DIENE

Method: Equivalent or similar to OECD 409
Reliability: 2
Species: Dog (Beagle; male / female)
Route of exposure: Oral
Results: Negative. NOAEL = 100 mg / kg bw / day

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

## SECTION 12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

**12.1. Toxicity**

| | |
| --- | --- |
| (R)-P-MENTHA-1,8-DIENE | |
| LC50 - for Fish | 35 mg/l/96h Oncorhynchus mykiss |
| EC50 - for Crustacea | 69,6 mg/l/48h Daphnia pulex |
| 1-METHOXY-2-PROPANOL | |
| LC50 - for Fish | 6812 mg/l/96h |
| EC50 - for Crustacea | 23300 mg/l/48h |
| TERPENI D'ARANCIO | |
| EC50 - for Crustacea | 16 mg/l/48h |
| EC50 - for Algae / Aquatic Plants | 15 mg/l/72h |

**12.2. Persistence and degradability**

BUTANE
Quickly degradable in water.
1-METHOXY-2-PROPANOL
Easily degradable in water, 4% in 28 days.
TERPENI D'ARANCIO
Rapidly biodegradable, 72% in 14 days.
(R) -P-MENTHA-1,8-DIENE
Rapidly degradable in water, 71.4% in 28 days.

| | |
| --- | --- |
| BUTANE | |
| Solubility in water | 0,1 - 100 mg/l |
| Rapidly degradable | |
| (R)-P-MENTHA-1,8-DIENE | |
| Solubility in water | 0,1 - 100 mg/l |
| Rapidly degradable | |
| PROPANE | |
| Solubility in water | 0,1 - 100 mg/l |
| Rapidly degradable | |
| 1-METHOXY-2-PROPANOL | |
| Solubility in water | 1000 - 10000 mg/l |
| Rapidly degradable | |

**12.3. Bioaccumulative potential**

| | |
| --- | --- |
| BUTANE | |
| Partition coefficient: n-octanol/water | 1,09 |

| | |
|---|---|
| (R)-P-MENTHA-1,8-DIENE | |
| Partition coefficient: n-octanol/water | 4,38 |
| BCF | 1022 |
| PROPANE | |
| Partition coefficient: n-octanol/water | 1,09 |
| 1-METHOXY-2-PROPANOL | |
| Partition coefficient: n-octanol/water | < 1 |

**12.4. Mobility in soil**

Information not available

**12.5. Results of PBT and vPvB assessment**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

**12.6. Other adverse effects**

Information not available

## SECTION 13. Disposal considerations

**13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

BUTANE
No waste key number according to the European list of waste types can be assigned to this product, since this classification is based on the use (not yet determined) for which the product is intended for the consumer.
The key number for the waste must be determined according to the European waste type list (decision on the EU waste type list 2000/532 / EC) in collaboration with the disposal company / producer / authority Official.

ISOBUTANE
Compliance with local regulations, e.g. incineration through flaring system.
No waste key number according to the European list of waste types can be assigned to this product, since this classification is based on the use (not yet determined) for which the product is intended for the consumer.
The key number for the waste must be determined according to the European waste type list (decision on the EU waste type list 2000/532 / EC) in collaboration with the disposal company / producer / authority Official.

1-METHOXY-2-PROPANOL
This product, when disposed of in its unused and uncontaminated state, must be treated as a hazardous waste according to EC Directive 91/689 / EEC. Disposal practices must comply with all national and provincial laws and local or local laws governing hazardous waste. Further evaluation may be required for used, contaminated and residual materials. Do not discharge into sewers, onto the ground or into any body of water.

ORANGE TERPENS
Recycling is preferable to disposal or burning. Disposal must be carried out according to official regulations. They must not be disposed of with household

waste. Do not allow the product to reach the sewage system. European waste catalog: e.g. 02 03 03 wastes from solvent extraction.
Uncleaned packaging:
Recommendation: empty contaminated packaging carefully. They can be recycled after careful and correct cleaning. Packaging that cannot be cleaned is disposed of in the same way as the product.
Contaminated solids:
Recommendation: wet solids (eg cloth, pulp, filter panels, binder) can be burned after consulting the operator of the waste disposal facility and the competent authorities and adhering to the necessary technical standards. European waste catalog: e.g. 15 02 02 Filtering and absorption materials contaminated by dangerous agents.

(R) -P-MENTHA-1,8-DIENE
After a preliminary treatment, the product can be disposed of in a special waste incinerator in accordance with the rules relating to the disposal of special waste. Disposal must be carried out in accordance with local and national regulations.

## SECTION 14. Transport information

**14.1. UN number**

| | |
| --- | --- |
| ADR / RID, IMDG, IATA: | 1950 |

**14.2. UN proper shipping name**

| | |
| --- | --- |
| ADR / RID: | AEROSOLS |
| IMDG: | AEROSOLS |
| IATA: | AEROSOLS, FLAMMABLE |

**14.3. Transport hazard class(es)**

| | | |
| --- | --- | --- |
| ADR / RID: | Class: 2 | Label: 2.1 |
| IMDG: | Class: 2 | Label: 2.1 |
| IATA: | Class: 2 | Label: 2.1 |


**14.4. Packing group**

| | |
| --- | --- |
| ADR / RID, IMDG, IATA: | - |

**14.5. Environmental hazards**

| | |
| --- | --- |
| ADR / RID: | NO |
| IMDG: | NO |
| IATA: | NO |

**14.6. Special precautions for user**

| | | | |
| --- | --- | --- | --- |
| ADR / RID: | HIN - Kemler: --<br><br>Special Provision: - | Limited Quantities: 1 L | Tunnel restriction code: (D) |

| | | | |
|---|---|---|---|
| IMDG: | EMS: F-D, S-U | Limited Quantities: 1 L | |
| IATA: | Cargo: | Maximum quantity: 150 Kg | Packaging instructions: 203 |
| | Pass.: | Maximum quantity: 75 Kg | Packaging instructions: 203 |
| | Special Instructions: | A145, A167, A802 | |

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

Information not relevant

## SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EC: P3a

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product
Point 40

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

## SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

| | |
| --- | --- |
| **Flam. Gas 1A** | Flammable gas, category 1A |
| **Aerosol 1** | Aerosol, category 1 |
| **Aerosol 3** | Aerosol, category 3 |
| **Flam. Liq. 3** | Flammable liquid, category 3 |
| **Press. Gas (Liq.)** | Liquefied gas |
| **Press. Gas** | Pressurised gas |
| **Acute Tox. 4** | Acute toxicity, category 4 |
| **Asp. Tox. 1** | Aspiration hazard, category 1 |
| **Eye Dam. 1** | Serious eye damage, category 1 |
| **Skin Irrit. 2** | Skin irritation, category 2 |
| **Skin Sens. 1** | Skin sensitization, category 1 |
| **STOT SE 3** | Specific target organ toxicity - single exposure, category 3 |
| **Aquatic Chronic 1** | Hazardous to the aquatic environment, chronic toxicity, category 1 |
| **Aquatic Chronic 2** | Hazardous to the aquatic environment, chronic toxicity, category 2 |
| **Aquatic Chronic 3** | Hazardous to the aquatic environment, chronic toxicity, category 3 |
| **H220** | Extremely flammable gas. |
| **H222** | Extremely flammable aerosol. |
| **H229** | Pressurised container: may burst if heated. |
| **H226** | Flammable liquid and vapour. |
| **H280** | Contains gas under pressure; may burst if heated. |
| **H302** | Harmful if swallowed. |
| **H304** | May be fatal if swallowed and enters airways. |
| **H318** | Causes serious eye damage. |
| **H315** | Causes skin irritation. |
| **H317** | May cause an allergic skin reaction. |
| **H336** | May cause drowsiness or dizziness. |
| **H410** | Very toxic to aquatic life with long lasting effects. |
| **H411** | Toxic to aquatic life with long lasting effects. |
| **H412** | Harmful to aquatic life with long lasting effects. |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%

- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

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5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
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- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.
Product`s classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.
The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:
The following sections were modified:
02 / 03 / 04 / 08 / 09 / 10 / 11 / 12 / 13 / 15 / 16.