

## Safety Data Sheet

### MAPEPUR UNIVERSAL FOAM M

Safety Data Sheet dated: 04/02/2020 - version 2



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

### 1.1. Product identifier

Mixture identification:

Trade name: MAPEPUR UNIVERSAL FOAM M

Trade code: 1669742

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

Recommended use: Polyurethane foam

Uses advised against: Data not available

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

Company: MAPEI S.p.A. - Via Cafiero, 22 - 20158 Milano

Tel: +39-02-376731

Fax: +39-02-37673.214

Responsible: sicurezza@mapei.it

### 1.4. Emergency telephone number

Poison Centre - Ospedale di Niguarda - Milan - Tel. +39/02/66101029

MAPEI S.p.A. - Tel. +(39)02376731 - (office hours)

## SECTION 2: Hazards identification



### 2.1. Classification of the substance or mixture

#### Regulation (EC) n. 1272/2008 (CLP)

|                   |  |
|-------------------|--|
| Aerosols 1        | Extremely flammable aerosol. Pressurized container: may burst if heated.   |
| Acute Tox. 4      | Harmful if inhaled.  |
| Skin Irrit. 2     | Causes skin irritation.  |
| Eye Irrit. 2      | Causes serious eye irritation.   |
| Resp. Sens. 1     | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Skin Sens. 1      | May cause an allergic skin reaction.                                       |
| Carc. 2           | Suspected of causing cancer .  |
| Lact.             | May cause harm to breast-fed children.                                     |
| STOT SE 3         | May cause respiratory irritation.  |
| STOT RE 2         | May cause damage to organs through prolonged or repeated exposure .        |
| Aquatic Chronic 4 | May cause long lasting harmful effects to aquatic life.                    |

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

#### Regulation (EC) n. 1272/2008 (CLP)

#### Pictograms and Signal Words



Danger

#### Hazard statements:

|           |  |
|-----------|--|
| H222+H229 | Extremely flammable aerosol. Pressurized container: may burst if heated.   |
| H315      | Causes skin irritation.  |
| H317      | May cause an allergic skin reaction.                                       |
| H319      | Causes serious eye irritation.   |
| H332      | Harmful if inhaled.  |
| H334      | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335      | May cause respiratory irritation.  |
| H351      | Suspected of causing cancer .  |

|      |   |
|------|---|
| H362 | May cause harm to breast-fed children.                              |
| H373 | May cause damage to organs through prolonged or repeated exposure . |
| H413 | May cause long lasting harmful effects to aquatic life.             |

#### Precautionary statements:

|                |  |
|----------------|--|
| P102           | Keep out of reach of children.   |
| P201           | Obtain special instructions before use.  |
| P210           | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.                                   |
| P211           | Do not spray on an open flame or other ignition source.  |
| P251           | Do not pierce or burn, even after use.   |
| P260           | Do not breathe dust/fume/gas/mist/vapours/spray.   |
| P280           | Wear protective gloves/protective clothing/eye protection/face protection.   |
| P284           | [In case of inadequate ventilation] wear respiratory protection.   |
| P302+P352      | IF ON SKIN: Wash with plenty of water.   |
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.   |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P313      | IF exposed or concerned: Get medical advice/attention.   |
| P410+P412      | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.  |
| P501           | Dispose of contents/container in accordance with applicable regulations.   |

#### Special Provisions:

|        |  |
|--------|--|
| EUH208 | Contains diphenylmethanediisocyanate isomers and homologues. May produce an allergic reaction. |
| EUH204 | Contains isocyanates. May produce an allergic reaction.  |

#### Special provisions according to Annex XVII of REACH and subsequent amendments:

None

#### 2.3. Other hazards

No PBT/vPvB Ingredients are present

Other Hazards: No other hazards

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Mixture identification: MAPEPUR UNIVERSAL FOAM M

#### Hazardous components within the meaning of the CLP regulation and related classification:

| Quantity    | Name   | Ident. Numb.   | Classification  | Registration Number   |
|-------------|--|--|---|-----------------------|
| ≥25 - <50 % | diphenylmethanediisocyanate isomers and homologues     | CAS:9016-87-9<br>EC:618-498-9<br>Index:615-005-00-9  | Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335; Skin Irrit. 2, H315; Resp. Sens. 1,1A,1B, H334; Skin Sens. 1,1A,1B, H317; STOT RE 2, H373; Carc. 2, H351 |                       |
| ≥10 - <20 % | alkanes, C14-17, chloro; chlorinated paraffins, C14-17 | CAS:85535-85-9<br>EC:287-477-0<br>Index:602-095-00-X | Lact., H362; Aquatic Acute 1, H400; Aquatic Chronic 1, H410, EUH066   | 01-2119519269-33-xxxx |
| ≥2.5 - <5 % | dimethyl ether   | CAS:115-10-6<br>EC:204-065-8<br>Index:603-019-00-8   | Flam. Gas 1, H220; Press. Gas, H280   |                       |

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Remove contaminated clothing immediately and dispose of safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

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

Eye irritation

Eye damages

Skin Irritation

Erythema

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

(see paragraph 4.1)

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### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

Suitable extinguishing media:

CO2 or Dry chemical fire extinguisher.

Extinguishing media which must not be used for safety reasons:

None in particular.

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

Do not inhale explosion and combustion gases.

#### **5.3. Advice for firefighters**

Use suitable breathing apparatus.

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### **SECTION 6: Accidental release measures**

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

Wear personal protection equipment.

Remove all sources of ignition.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

#### **6.2. Environmental precautions**

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Limit leakages with earth or sand.

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

Suitable material for taking up: absorbing material, organic, sand

Retain contaminated washing water and dispose it.

#### **6.4. Reference to other sections**

See also section 8 and 13

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### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

Avoid contact with skin and eyes, inhalation of vapours and mists.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

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

Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

### 7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### List of components with OEL value

| Component  | OEL Type | Country  | Ceiling | Long Term mg/m3 | Long Term ppm | Short Term mg/m3 | Short Term ppm | Behaviour | Note       |
|--|----------|--|---------|-----------------|---------------|------------------|----------------|-----------|------------|
| diphenylmethanediisocyanate isomers and homologues     | ACGIH    | NNN  |         |                 | 0,05          |                  |                |           |            |
|  | SUVA     | NNN  |         | 0,02            |               | 0,02             |                |           |            |
|  | DFG      | GERMANY  | C       |                 |               | 0,05             |                |           |            |
|  | National | GERMANY  |         | 0,05            |               |                  |                |           |            |
| alkanes, C14-17, chloro; chlorinated paraffins, C14-17 | National | GERMANY  |         | 6               | 0,3           |                  |                |           |            |
| dimethyl ether   | DFG      | GERMANY  | C       |                 |               | 15200            | 8000           |           |            |
|  | National | SWEDEN   |         | 950             | 500           |                  |                |           |            |
|  | National | FRANCE   |         | 1920            | 1000          |                  |                |           |            |
|  | National | SPAIN  |         | 1920            | 1000          |                  |                |           |            |
|  | National | GREECE   |         | 1920            | 1000          |                  |                |           |            |
|  | National | DENMARK  |         | 1920            | 1000          |                  |                |           |            |
|  | National | FINLAND  |         | 2000            | 1000          |                  |                |           |            |
|  | National | GERMANY  |         | 1900            | 1000          |                  |                |           |            |
|  | National | PORTUGAL   |         | 1920            | 1000          |                  |                |           |            |
|  | National | NORWAY   |         | 384             | 200           | 480              | 250            |           |            |
|  | National | BELGIUM  |         | 1920            | 1000          |                  |                |           |            |
|  | NDS      | POLAND   |         | 1000            |               |                  |                |           |            |
|  | NDS      | NETHERLANDS  |         | 950             |               | 1500             |                |           |            |
|  | National | CZECHIA  |         | 1000            |               |                  |                |           |            |
|  | National | HUNGARY  |         | 1920            |               | 7680             |                |           |            |
|  | National | ESTONIA  |         | 1920            | 1000          |                  |                |           |            |
|  | National | LATVIA   |         | 1920            | 1000          |                  |                |           |            |
|  | National | CZECHIA  | C       |                 |               | 2000             |                |           |            |
|  | National | SLOVAKIA   |         | 1920            | 1000          |                  |                |           |            |
|  | National | SLOVENIA   |         | 1920            | 1000          |                  |                |           |            |
|  | National | UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND |         | 766             | 400           | 958              | 500            |           |            |
|  | National | BULGARIA   |         | 1920            | 1000          |                  |                |           |            |
|  | National | ROMANIA  |         | 1920            | 1000          |                  |                |           |            |
|  | TUR      | TURKEY   |         | 1920            | 1000          |                  |                |           |            |
|  | National | LITHUANIA  |         | 1920            | 1000          | 2280             | 1500           |           |            |
|  | National | CROATIA  |         | 1920            | 1000          |                  |                |           |            |
|  | EU       |  |         | 1920            | 1000          |                  |                |           | Indicative |
|  | National | HUNGARY  |         | 1920            |               |                  |                |           |            |

#### Predicted No Effect Concentration (PNEC) values

| Component  | CAS-No.    | PNEC<br>LIMIT   | Exposure<br>Route   | Exposure<br>Frequency | Remark |
|--|------------|---|---|-----------------------|--------|
| alkanes, C14-17, chloro;<br>chlorinated paraffins,<br>C14-17 | 85535-85-9 | 0,<br>001000<br>mg/l<br><br>0,<br>000200<br>mg/l<br><br>13,<br>000000<br>mg/kg<br><br>2,<br>600000<br>mg/kg | Fresh Water<br><br>Marine water<br><br>Freshwater<br>sediments<br><br>Marine water<br>sediments |                       |        |
| dimethyl ether   | 115-10-6   | 0,155<br>mg/l   | Fresh Water   |                       |        |

#### Derived No Effect Level. (DNEL)

| Component      | CAS-No.  | Worker<br>Industr<br>y | Worker<br>Profess<br>ional | Consu<br>mer | Exposure<br>Route   | Exposure Frequency             | Remark |
|----------------|----------|------------------------|----------------------------|--------------|---------------------|--------------------------------|--------|
| dimethyl ether | 115-10-6 | 1894<br>mg/m3          |                            | 471<br>ppm   | Human<br>Inhalation | Long Term, systemic<br>effects |        |

#### 8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Suitable materials for safety gloves; EN 374:

Polychloroprene - CR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Nitrile rubber - NBR: thickness  $\geq 0,35\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Butyl rubber - IIR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Fluorinated rubber - FKM: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Neoprene gloves are suggested (0,5 mm) not recommended gloves: not waterproof gloves

Respiratory protection:

Personal Protective Equipment should comply with relevant CE standards (as EN 374 for gloves and EN 166 for goggles), correctly maintained and stored. Consult the supplier to check the suitability of equipment against specific chemicals and for user information.

In case of insufficient ventilation use mask with ABEKP filters (EN 14387).

Use adequate protective respiratory equipment.

Hygienic and Technical measures

N.A.

Appropriate engineering controls:

N.A.

## SECTION 9: Physical and chemical properties

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

Appearance and colour: aerosol various

Odour: characteristic

Odour threshold: N.A.

pH: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Flash point: N.A.

Evaporation rate: N.A.

Upper/lower flammability or explosive limits: N.A.

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: N.A.

Solubility in water: Insoluble

Partition coefficient (n-octanol/water): N.A.

- This product is a mixture

Auto-ignition temperature: N.A. - No explosive or spontaneous ignition in contact with air at room temperature  
Decomposition temperature: N.A.  
Viscosity: N.A.  
Explosive properties: N.A. - No components with explosive properties  
Oxidizing properties: N.A. - No component with oxidizing properties  
Solid/gas flammability: N.A.

## 9.2. Other information

No additional information

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Stable under normal conditions

### 10.3. Possibility of hazardous reactions

None.

### 10.4. Conditions to avoid

Stable under normal conditions.

### 10.5. Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

### 10.6. Hazardous decomposition products

None.

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

#### Toxicological information on main components of the mixture:

|  |                          |  |
|--|--------------------------|--|
| diphenylmethanediisocyanate isomers and homologues     | a) acute toxicity        | LD50 Oral Rat > 10000 mg/kg                    |
|  |                          | LD50 Skin Rabbit > 9400 mg/kg                  |
|  |                          | LC50 Inhalation Dust Rat = 0,31 mg/l 4h        |
|  |                          | LD50 Skin Rabbit > 9,4 g/kg                    |
|  |                          | LC50 Inhalation Rat = 490 mg/m <sup>3</sup> 4h |
|  |                          | LD50 Oral Rat = 49 g/kg                        |
|  | g) reproductive toxicity | NOAEL Inhalation Rat = 12 mg/m <sup>3</sup>    |
| alkanes, C14-17, chloro; chlorinated paraffins, C14-17 | a) acute toxicity        | LD50 Oral Rat > 4000 mg/kg                     |
|  |                          | LD50 Oral Rat = 2000 mg/kg                     |
| dimethyl ether   | a) acute toxicity        | LC50 Inhalation Rat = 308 mg/l 4h              |
|  |                          | LC50 Inhalation Rat = 164000 ppm 4h            |

**If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.**

- a) acute toxicity
- b) skin corrosion/irritation
- c) serious eye damage/irritation
- d) respiratory or skin sensitisation
- e) germ cell mutagenicity
- f) carcinogenicity
- g) reproductive toxicity
- h) STOT-single exposure

k) Toxicological kinetics, metabolism and distribution information

i) STOT-repeated exposure

j) aspiration hazard

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## SECTION 12: Ecological information

### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

May cause long-term adverse effects in the aquatic environment.

#### List of components with eco-toxicological properties

| Component  | Ident. Numb.  | Ecotox Infos  |
|--|---|---|
| diphenylmethanediisocyanate isomers and homologues     | CAS: 9016-87-9<br>- EINECS: 618-498-9 - INDEX: 615-005-00-9 | a) Aquatic acute toxicity : LC50 Fish > 1000 mg/L 96<br><br>a) Aquatic acute toxicity : EC50 Daphnia > 1000 mg/L 24<br>b) Aquatic chronic toxicity : NOEC Daphnia > 10 mg/L - 21 d<br>a) Aquatic acute toxicity : EC50 Algae > 1640 mg/L 72<br>c) Bacteria toxicity : EC50 > 100 mg/L 3<br>d) Terrestrial toxicity : NOEC > 1000 mg/kg - 14 d<br>e) Plant toxicity : NOEC > 1000 mg/kg - 14 d |
| alkanes, C14-17, chloro; chlorinated paraffins, C14-17 | CAS: 85535-85-9 - EINECS: 287-477-0 - INDEX: 602-095-00-X   | a) Aquatic acute toxicity : EC50 Daphnia > 0,006 mg/L<br><br>a) Aquatic acute toxicity : LC50 Fish > 5000 mg/L<br>b) Aquatic chronic toxicity : NOEC Daphnia = 0,01000 mg/L   |

### 12.2. Persistence and degradability

N.A.

### 12.3. Bioaccumulative potential

N.A.

### 12.4. Mobility in soil

N.A.

### 12.5. Results of PBT and vPvB assessment

No PBT/vPvB Ingredients are present

### 12.6. Other adverse effects

N.A.

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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

A waste code according to European waste catalogue (EWC) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

Product:

Do not dispose of waste into sewers.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Send to an authorized waste disposal service.

Contaminated packaging:

Empty remaining content.

Dispose of as unused product.

Do not re-use empty containers.

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## SECTION 14: Transport information

**14.1. UN number**

1950

**14.2. UN proper shipping name**

ADR-Shipping Name: AEROSOLS

IATA-Technical name: AEROSOLS, FLAMMABLE

IMDG-Technical name: AEROSOLS

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

ADR-Class: 2

IATA-Class: 2.1

IMDG-Class: 2

**14.4. Packing group**

ADR-Packing Group: -

IATA-Packing group: -

IMDG-Packing group: -

**14.5. Environmental hazards**

Marine pollutant: No

Environmental Pollutant: No

**14.6. Special precautions for user**

Road and Rail (ADR-RID):

ADR-Label: 2.1

ADR-Hazard identification number: -

ADR-Special Provisions: 190 327 344 625

ADR-Transport category (Tunnel restriction code): 2 (D)

Air (IATA):

IATA-Passenger Aircraft: 203

IATA-Cargo Aircraft: 203

IATA-Label: 2.1

IATA-Subsidiary hazards: -

IATA-Erg: 10L

IATA-Special Provisions: A145 A167 A802

Sea (IMDG):

IMDG-Stowage Code: SW1 SW22

IMDG-Stowage Note: SG69

IMDG-Subsidiary hazards: See SP63

IMDG-Special Provisions: 63 190 277 327 344 381 959

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-EMS: F-D, S-U

IMDG-MFAG: N/A

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

N.A.

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**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

VOC (2004/42/EC) : N.A. g/l

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EU) 2015/830

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)



Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Provisions related to directive EU 2012/18 (Seveso III):

| Seveso III category<br>according to Annex 1, part 1 | Lower-tier threshold<br>(tonnes) | Upper-tier threshold<br>(tonnes) |
|---|----------------------------------|----------------------------------|
| Products belongs to category<br>P3a                 | 150                              | 500                              |

#### German Water Hazard Class

N.A.

#### Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3, 40

Restrictions related to the substances contained: None

#### SVHC Substances:

No Data Available

#### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

### SECTION 16: Other information

| Code      | Description  |
|-----------|--|
| EUH066    | Repeated exposure may cause skin dryness or cracking.                      |
| H220      | Extremely flammable gas.   |
| H222+H229 | Extremely flammable aerosol. Pressurized container: may burst if heated.   |
| H280      | Contains gas under pressure; may explode if heated.                        |
| H315      | Causes skin irritation.  |
| H317      | May cause an allergic skin reaction.                                       |
| H319      | Causes serious eye irritation.   |
| H332      | Harmful if inhaled.  |
| H334      | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335      | May cause respiratory irritation.  |
| H351      | Suspected of causing cancer .  |
| H362      | May cause harm to breast-fed children.                                     |
| H373      | May cause damage to organs through prolonged or repeated exposure .        |
| H400      | Very toxic to aquatic life.  |
| H410      | Very toxic to aquatic life with long lasting effects.                      |
| H413      | May cause long lasting harmful effects to aquatic life.                    |

| Code          | Hazard class and hazard category | Description  |
|---------------|----------------------------------|--|
| 2.2/1         | Flam. Gas 1                      | Flammable gas, Category 1                                      |
| 2.3/1         | Aerosols 1                       | Aerosol, Category 1  |
| 2.5           | Press. Gas                       | Gases under pressure   |
| 3.1/4/Inhal   | Acute Tox. 4                     | Acute toxicity (inhalation), Category 4                        |
| 3.2/2         | Skin Irrit. 2                    | Skin irritation, Category 2                                    |
| 3.3/2         | Eye Irrit. 2                     | Eye irritation, Category 2                                     |
| 3.4.1/1       | Resp. Sens. 1                    | Respiratory Sensitisation, Category 1                          |
| 3.4.1/1-1A-1B | Resp. Sens. 1,1A,1B              | Respiratory Sensitisation, Category 1,1A,1B                    |
| 3.4.2/1       | Skin Sens. 1                     | Skin Sensitisation, Category 1                                 |
| 3.4.2/1-1A-1B | Skin Sens. 1,1A,1B               | Skin Sensitisation, Category 1,1A,1B                           |
| 3.6/2         | Carc. 2                          | Carcinogenicity, Category 2                                    |
| 3.7/Lact.     | Lact.                            | Reproductive toxicity, Hazard category for lactation effects   |
| 3.8/3         | STOT SE 3                        | Specific target organ toxicity — single exposure, Category 3   |
| 3.9/2         | STOT RE 2                        | Specific target organ toxicity — repeated exposure, Category 2 |
| 4.1/A1        | Aquatic Acute 1                  | Acute aquatic hazard, category 1                               |
| 4.1/C1        | Aquatic Chronic 1                | Chronic (long term) aquatic hazard, category 1                 |
| 4.1/C4        | Aquatic Chronic 4                | Chronic (long term) aquatic hazard, category 4                 |

## Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008

### [CLP]:

| Classification according to Regulation (EC) Nr. 1272/2008 | Classification procedure |
|---|--------------------------|
|---|--------------------------|

|             |                       |
|-------------|-----------------------|
| 2.3/1       | On basis of test data |
| 3.1/4/Inhal | Calculation method    |
| 3.2/2       | Calculation method    |
| 3.3/2       | Calculation method    |
| 3.4.1/1     | Calculation method    |
| 3.4.2/1     | Calculation method    |
| 3.6/2       | Calculation method    |
| 3.7/Lact.   | Calculation method    |
| 3.8/3       | Calculation method    |
| 3.9/2       | Calculation method    |
| 4.1/C4      | Calculation method    |

This document was prepared by a competent person who has received appropriate training.

#### Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

#### Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

IRCCS: Scientific Institute for Research, Hospitalization and Health Care

KSt: Explosion coefficient.  
LC50: Lethal concentration, for 50 percent of test population.  
LD50: Lethal dose, for 50 percent of test population.  
LDLo: Leathal Dose Low  
N.A.: Not Applicable  
N/A: Not Applicable  
N/D: Not defined/ Not available  
NA: Not available  
NIOSH: National Institute for Occupational Safety and Health  
NOAEL: No Observed Adverse Effect Level  
OSHA: Occupational Safety and Health Administration.  
PBT: Persistent, Bioaccumulative and Toxic  
PGK: Packaging Instruction  
PNEC: Predicted No Effect Concentration.  
PSG: Passengers  
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.  
STEL: Short Term Exposure limit.  
STOT: Specific Target Organ Toxicity.  
TLV: Threshold Limiting Value.  
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).  
vPvB: Very Persistent, Very Bioaccumulative.  
WGK: German Water Hazard Class.

**Paragraphs modified from the previous revision:**

- 2. HAZARDS IDENTIFICATION