

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

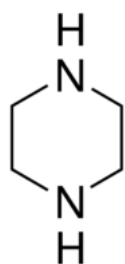
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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

|                    |                                                 |
|--------------------|-------------------------------------------------|
| Product form       | : Substance                                     |
| Trade name         | : PIPERAZINE ANHYDROUS FOR SYNTHESIS            |
| IUPAC name         | : 1,4-Diazacyclohexane                          |
| EC Index-No.       | : 612-057-00-4                                  |
| EC-No.             | : 203-808-3                                     |
| CAS-No.            | : 110-85-0                                      |
| Product code       | : 05285                                         |
| Type of product    | : Alicyclic amine                               |
| Formula            | : C <sub>4</sub> H <sub>10</sub> N <sub>2</sub> |
| Chemical structure | :                                               |



Synonyms : Hexahydropyrazine, Piperazidine, Diethylenediamine, 1,4-Diazinane

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

##### 1.2.2. Uses advised against

No additional information available

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

LOBA CHEMIE PVT.LTD.  
107 Wode House Road, Jehangir Villa, Colaba  
400005 Mumbai  
INDIA  
T +91 22 6663 6663 - F +91 22 6663 6699  
[info@lobachemie.com](mailto:info@lobachemie.com) - [www.lobachemie.com](http://www.lobachemie.com)

#### 1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (9:00am - 6:00 pm)

### SECTION 2: Hazards identification

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

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

|                                                        |        |
|--------------------------------------------------------|--------|
| Skin corrosion/irritation, Category 1, Sub-Category 1B | H314   |
| Respiratory sensitisation, Category 1                  | H334   |
| Skin sensitisation, Category 1                         | H317   |
| Reproductive toxicity, Category 2                      | H361fd |
| Full text of H- and EUH-statements: see section 16     |        |

##### Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

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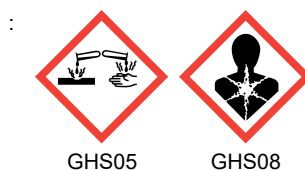
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### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS05

GHS08

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H314 - Causes severe skin burns and eye damage.  
H317 - May cause an allergic skin reaction.  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child.

Precautionary statements (CLP)

: P260 - Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 - Wear protective clothing, eye protection, face protection, protective gloves.  
P284 - Wear respiratory protection.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P304+P340+P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.

#### Nordic countries regulation

##### Denmark

MAL code

: 00-3 (Executive Order No. 301 from 1993)

### 2.3. Other hazards

Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type

: Mono-constituent

| Name                 | Product identifier                                                   | %   |
|----------------------|----------------------------------------------------------------------|-----|
| PIPERAZINE ANHYDROUS | CAS-No.: 110-85-0<br>EC-No.: 203-808-3<br>EC Index-No.: 612-057-00-4 | 100 |

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation

: Remove person to fresh air and keep comfortable for breathing. Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

First-aid measures after skin contact

: Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor. Wash with plenty of water/.... If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label). Wash contaminated clothing before reuse.

First-aid measures after eye contact

: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

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First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects : Causes severe skin burns and eye damage.  
Symptoms/effects after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>). Water spray. Dry powder. Foam.  
Unsuitable extinguishing media : Do not use a heavy water stream.

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

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection".  
Emergency procedures : Stop release.

### 6.2. Environmental precautions

Avoid release to the environment.

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

Methods for cleaning up : Mechanically recover the product. Clear up rapidly by scoop or vacuum.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid breathing dust/fume/gas/mist/vapours/spray.

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Hygiene measures : Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Technical measures : Comply with applicable regulations.  
Storage conditions : Store in original container. Keep container tightly closed. Store in a dry place. Protect from moisture. Store in a well-ventilated place. Keep cool.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

No additional information available

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

No additional information available

#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

##### Appropriate engineering controls:

Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

##### Personal protective equipment symbol(s):



##### 8.2.2.1. Eye and face protection

###### Eye protection:

Chemical goggles or safety glasses

##### 8.2.2.2. Skin protection

###### Skin and body protection:

Wear a mask

###### Hand protection:

Protective gloves

##### 8.2.2.3. Respiratory protection

###### Respiratory protection:

Wear appropriate mask

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### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

|                                                 |                                                                |
|-------------------------------------------------|----------------------------------------------------------------|
| Physical state                                  | : Solid                                                        |
| Colour                                          | : White to off white.                                          |
| Appearance                                      | : Flakes.                                                      |
| Molecular mass                                  | : 86.14 g/mol                                                  |
| Odour                                           | : ammonia odour.                                               |
| Odour threshold                                 | : Not available                                                |
| Melting point                                   | : 107 – 111 °C                                                 |
| Freezing point                                  | : Not applicable                                               |
| Boiling point                                   | : 145 – 146 °C                                                 |
| Flammability                                    | : Non flammable.                                               |
| Lower explosion limit                           | : 4 vol %                                                      |
| Upper explosion limit                           | : 14 vol %                                                     |
| Flash point                                     | : 109 °C                                                       |
| Auto-ignition temperature                       | : 320 °C                                                       |
| Decomposition temperature                       | : Not available                                                |
| pH                                              | : 10.8 – 11.8                                                  |
| pH solution concentration                       | : 10 %                                                         |
| Viscosity, kinematic                            | : Not applicable                                               |
| Solubility                                      | : Water: 0.9 g/l at 20 °C - Freely soluble<br>Ethanol: Soluble |
| Partition coefficient n-octanol/water (Log Kow) | : Not available                                                |
| Partition coefficient n-octanol/water (Log Pow) | : 1.17                                                         |
| Vapour pressure                                 | : 0.21 hPa at 20°C                                             |
| Vapour pressure at 50°C                         | : Not available                                                |
| Density                                         | : 1.1 g/cm <sup>3</sup> at 20°C                                |
| Relative density                                | : Not available                                                |
| Relative vapour density at 20°C                 | : 3 (Air = 1)                                                  |
| Particle size                                   | : Not available                                                |

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

Explosion limits : 0.04 – 0.14 vol %

#### 9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1) : Negligible  
Refractive index : 1.446 at 113°C

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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### 10.4. Conditions to avoid

Direct sunlight. Air contact. Moisture.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Thermal decomposition generates : Corrosive vapours.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

|                                   |                                                                                                                   |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Acute toxicity (oral)             | : Not classified                                                                                                  |
| Acute toxicity (dermal)           | : Not classified                                                                                                  |
| Acute toxicity (inhalation)       | : Not classified                                                                                                  |
| Skin corrosion/irritation         | : Causes severe skin burns.<br>pH: 10.8 – 11.8                                                                    |
| Serious eye damage/irritation     | : Assumed to cause serious eye damage<br>pH: 10.8 – 11.8                                                          |
| Respiratory or skin sensitisation | : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. |
| Germ cell mutagenicity            | : Not classified                                                                                                  |
| Carcinogenicity                   | : Not classified                                                                                                  |
| Reproductive toxicity             | : Suspected of damaging fertility. Suspected of damaging the unborn child.                                        |
| STOT-single exposure              | : Not classified                                                                                                  |
| STOT-repeated exposure            | : Not classified                                                                                                  |
| Aspiration hazard                 | : Not classified                                                                                                  |

### PIPERAZINE ANHYDROUS FOR SYNTHESIS (110-85-0)

|                      |                |
|----------------------|----------------|
| Viscosity, kinematic | Not applicable |
|----------------------|----------------|

### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

|                                                           |                                                                                                                         |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Ecology - general                                         | : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. |
| Hazardous to the aquatic environment, short-term (acute)  | : Not classified                                                                                                        |
| Hazardous to the aquatic environment, long-term (chronic) | : Not classified                                                                                                        |

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

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### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

### 14.1. UN number or ID number

UN-No. (ADR) : UN 2579  
UN-No. (IMDG) : UN 2579  
UN-No. (IATA) : UN 2579  
UN-No. (ADN) : UN 2579  
UN-No. (RID) : UN 2579

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : PIPERAZINE  
Proper Shipping Name (IMDG) : PIPERAZINE  
Proper Shipping Name (IATA) : Piperazine  
Proper Shipping Name (ADN) : PIPERAZINE  
Proper Shipping Name (RID) : PIPERAZINE  
Transport document description (ADR) : UN 2579 PIPERAZINE, 8, III, (E)  
Transport document description (IMDG) : UN 2579 PIPERAZINE, 8, III  
Transport document description (IATA) : UN 2579 Piperazine, 8, III  
Transport document description (ADN) : UN 2579 PIPERAZINE, 8, III  
Transport document description (RID) : UN 2579 PIPERAZINE, 8, III

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 8  
Danger labels (ADR) : 8



#### IMDG

Transport hazard class(es) (IMDG) : 8  
Danger labels (IMDG) : 8



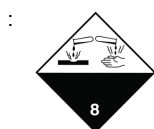
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### IATA

Transport hazard class(es) (IATA) : 8  
Danger labels (IATA) : 8



### ADN

Transport hazard class(es) (ADN) : 8  
Danger labels (ADN) : 8



### RID

Transport hazard class(es) (RID) : 8  
Danger labels (RID) : 8



## 14.4. Packing group

Packing group (ADR) : III  
Packing group (IMDG) : III  
Packing group (IATA) : III  
Packing group (ADN) : III  
Packing group (RID) : III

## 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

## 14.6. Special precautions for user

### Overland transport

Classification code (ADR) : C8  
Limited quantities (ADR) : 5kg  
Excepted quantities (ADR) : E1  
Packing instructions (ADR) : P002, IBC08, LP02, R001  
Special packing provisions (ADR) : B3  
Mixed packing provisions (ADR) : MP10  
Portable tank and bulk container instructions (ADR) : T1  
Portable tank and bulk container special provisions (ADR) : TP33  
Tank code (ADR) : SGAV, L4BN  
Vehicle for tank carriage : AT  
Transport category (ADR) : 3  
Special provisions for carriage - Bulk (ADR) : VC1, VC2, AP7  
Hazard identification number (Kemler No.) : 80  
Orange plates :



Tunnel restriction code (ADR) : E  
EAC code : 2X



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### Transport by sea

|                                    |                                                                                                                                                                                                                                                                                                                                |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Limited quantities (IMDG)          | : 5 kg                                                                                                                                                                                                                                                                                                                         |
| Excepted quantities (IMDG)         | : E1                                                                                                                                                                                                                                                                                                                           |
| Packing instructions (IMDG)        | : P002, LP02                                                                                                                                                                                                                                                                                                                   |
| IBC packing instructions (IMDG)    | : IBC08                                                                                                                                                                                                                                                                                                                        |
| IBC special provisions (IMDG)      | : B3                                                                                                                                                                                                                                                                                                                           |
| Tank instructions (IMDG)           | : T1                                                                                                                                                                                                                                                                                                                           |
| Tank special provisions (IMDG)     | : TP33                                                                                                                                                                                                                                                                                                                         |
| EmS-No. (Fire)                     | : F-A                                                                                                                                                                                                                                                                                                                          |
| EmS-No. (Spillage)                 | : S-B                                                                                                                                                                                                                                                                                                                          |
| Stowage category (IMDG)            | : A                                                                                                                                                                                                                                                                                                                            |
| Stowage and handling (IMDG)        | : SW1, H2                                                                                                                                                                                                                                                                                                                      |
| Segregation (IMDG)                 | : SGG18, SG35                                                                                                                                                                                                                                                                                                                  |
| Properties and observations (IMDG) | : Colourless, deliquescent crystals, turning dark on exposure to light. Soluble in water. Decomposes when heated and when involved in a fire, evolving highly toxic nitrous fumes. The solution in water is a strong base and is highly corrosive. Reacts violently with acids. Irritating to skin, eyes and mucous membranes. |
| MFAG-No                            | : 153                                                                                                                                                                                                                                                                                                                          |

### Air transport

|                                              |         |
|----------------------------------------------|---------|
| PCA Excepted quantities (IATA)               | : E1    |
| PCA Limited quantities (IATA)                | : Y845  |
| PCA limited quantity max net quantity (IATA) | : 5kg   |
| PCA packing instructions (IATA)              | : 860   |
| PCA max net quantity (IATA)                  | : 25kg  |
| CAO packing instructions (IATA)              | : 864   |
| CAO max net quantity (IATA)                  | : 100kg |
| Special provisions (IATA)                    | : A803  |
| ERG code (IATA)                              | : 8L    |

### Inland waterway transport

|                                   |          |
|-----------------------------------|----------|
| Classification code (ADN)         | : C8     |
| Limited quantities (ADN)          | : 5 kg   |
| Excepted quantities (ADN)         | : E1     |
| Carriage permitted (ADN)          | : T      |
| Equipment required (ADN)          | : PP, EP |
| Number of blue cones/lights (ADN) | : 0      |

### Rail transport

|                                                           |                           |
|-----------------------------------------------------------|---------------------------|
| Classification code (RID)                                 | : C8                      |
| Limited quantities (RID)                                  | : 5kg                     |
| Excepted quantities (RID)                                 | : E1                      |
| Packing instructions (RID)                                | : P002, IBC08, LP02, R001 |
| Special packing provisions (RID)                          | : B3                      |
| Mixed packing provisions (RID)                            | : MP10                    |
| Portable tank and bulk container instructions (RID)       | : T1                      |
| Portable tank and bulk container special provisions (RID) | : TP33                    |
| Tank codes for RID tanks (RID)                            | : SGAV, L4BN              |
| Transport category (RID)                                  | : 3                       |
| Special provisions for carriage – Bulk (RID)              | : VC1, VC2, AP7           |
| Colis express (express parcels) (RID)                     | : CE11                    |
| Hazard identification number (RID)                        | : 80                      |

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

###### REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

###### REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

###### REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

###### PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

###### POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

###### Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

###### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

###### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

##### 15.1.2. National regulations

###### France

| Occupational diseases |                                            |
|-----------------------|--------------------------------------------|
| Code                  | Description                                |
| RG 65                 | Eczematiform lesions of allergic mechanism |
| RG 66                 | Occupational rhinitis and asthma           |

###### Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 3083).  
Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

###### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed  
SZW-lijst van mutagene stoffen : The substance is not listed  
SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed  
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : PIPERAZINE ANHYDROUS is listed  
SZW-lijst van reprotoxische stoffen – Ontwikkeling : PIPERAZINE ANHYDROUS is listed

###### Denmark

MAL code : 00-3 (Executive Order No. 301 from 1993)  
Danish National Regulations : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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### SECTION 16: Other information

| Abbreviations and acronyms: |                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------|
| 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             |
| ATE                         | Acute Toxicity Estimate                                                                         |
| BCF                         | Bioconcentration factor                                                                         |
| BLV                         | Biological limit value                                                                          |
| BOD                         | Biochemical oxygen demand (BOD)                                                                 |
| COD                         | Chemical oxygen demand (COD)                                                                    |
| DMEL                        | Derived Minimal Effect level                                                                    |
| DNEL                        | Derived-No Effect Level                                                                         |
| EC-No.                      | European Community number                                                                       |
| EC50                        | Median effective concentration                                                                  |
| EN                          | European Standard                                                                               |
| IARC                        | International Agency for Research on Cancer                                                     |
| IATA                        | International Air Transport Association                                                         |
| IMDG                        | International Maritime Dangerous Goods                                                          |
| LC50                        | Median lethal concentration                                                                     |
| LD50                        | Median lethal dose                                                                              |
| LOAEL                       | Lowest Observed Adverse Effect Level                                                            |
| NOAEC                       | No-Observed Adverse Effect Concentration                                                        |
| NOAEL                       | No-Observed Adverse Effect Level                                                                |
| NOEC                        | No-Observed Effect Concentration                                                                |
| OECD                        | Organisation for Economic Co-operation and Development                                          |
| OEL                         | Occupational Exposure Limit                                                                     |
| PBT                         | Persistent Bioaccumulative Toxic                                                                |
| PNEC                        | Predicted No-Effect Concentration                                                               |
| RID                         | Regulations concerning the International Carriage of Dangerous Goods by Rail                    |
| SDS                         | Safety Data Sheet                                                                               |
| STP                         | Sewage treatment plant                                                                          |
| ThOD                        | Theoretical oxygen demand (ThOD)                                                                |
| TLM                         | Median Tolerance Limit                                                                          |
| VOC                         | Volatile Organic Compounds                                                                      |
| CAS-No.                     | Chemical Abstract Service number                                                                |
| N.O.S.                      | Not Otherwise Specified                                                                         |
| vPvB                        | Very Persistent and Very Bioaccumulative                                                        |
| ED                          | Endocrine disrupting properties                                                                 |

| Full text of H- and EUH-statements: |                                          |
|-------------------------------------|------------------------------------------|
| H314                                | Causes severe skin burns and eye damage. |

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### Full text of H- and EUH-statements:

|               |                                                                            |
|---------------|----------------------------------------------------------------------------|
| H317          | May cause an allergic skin reaction.                                       |
| H334          | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H361fd        | Suspected of damaging fertility. Suspected of damaging the unborn child.   |
| Repr. 2       | Reproductive toxicity, Category 2                                          |
| Resp. Sens. 1 | Respiratory sensitisation, Category 1                                      |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1, Sub-Category 1B                     |
| Skin Sens. 1  | Skin sensitisation, Category 1                                             |

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.