

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Reference number: 0349C Issue date: 4/11/2024 Revision date: 4/11/2024 Supersedes version of: 4/16/2016 Version: 1.0

1.1. Product identifier	
Product form Frade name EC Index-No. EC-No. CAS-No. Product code Type of product Formula Chemical structure	: Substance : TRIFLUOROACETIC ACID FOR HPLC & UV SPECTROSCOPY : 607-091-00-1 : 200-929-3 : 76-05-1 : 0349C : Organic compound : C2HF3O2 :
Synonyms	HOCF3 : 2,2,2-Trifluoroacetic acid, 2,2,2-Trifluoroethanoic acid, Perfluoroacetic acid, / Trifluoroethanoic acid
1.2. Relevant identified uses of the substa	nce or mixture and uses advised against
I.2.1. Relevant identified uses	
ndustrial/Professional use spec Jse of the substance/mixture	<ul> <li>Industrial</li> <li>For professional use only</li> <li>Manufacture of substances</li> <li>Laboratory chemicals</li> </ul>
I.2.2. Uses advised against No additional information available	
1.3. Details of the supplier of the safety da	ata sheet
OBA CHEMIE PVT.LTD. 107 Wode House Road, Jehangir Villa, Colaba 400005 Mumbai NDIA F +91 22 6663 6663, F +91 22 6663 6699 nfo@lobachemie.com, www.lobachemie.com	
1.4. Emergency telephone number	
Emergency number	: + 91 22 6663 6663 (9:00am - 6:00 pm)
SECTION 2: Hazards identification	

Classification according to Regulation (EC) No. 1272/200	8 [CLP]
Acute toxicity (inhal.), Category 4	H332
Skin corrosion/irritation, Category 1	H314
Hazardous to the aquatic environment – Chronic Hazard,	H412
Category 3	

Full text of H- and EUH-statements: see section 16

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

Harmful if inhaled. Causes severe skin burns and eye damage. Harmful to aquatic life with long lasting effects.

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2.2. Label elements	
Labelling according to Regulation (EC) N	lo. 1272/2008 [CLP]
Hazard pictograms (CLP)	
	GHS05 GHS07
Signal word (CLP)	: Danger
Hazard statements (CLP)	: H314 - Causes severe skin burns and eye damage. H332 - Harmful if inhaled. H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements (CLP)	<ul> <li>P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.</li> <li>P273 - Avoid release to the environment.</li> <li>P280 - Wear protective clothing, eye protection, face protection, protective gloves.</li> <li>P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing.</li> <li>Rinse skin with water .</li> <li>P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.</li> <li>P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> </ul>
Nordic countries regulation Denmark	00.2 (Eventive Order No. 201 from 1002)
MAL code	: 00-3 (Executive Order No. 301 from 1993)

## 2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 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	%
TRIFLUOROACETIC ACID	CAS-No.: 76-05-1 EC-No.: 200-929-3 EC Index-No.: 607-091-00-1	100

# 3.2. Mixtures

### Not applicable

SECTION 4: First aid measures	
4.1. Description of first aid measures	
First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	<ul> <li>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. Call a poison center or a doctor if you feel unwell.</li> </ul>
First-aid measures after skin contact	: Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor. Call a physician immediately.
First-aid measures after eye contact	<ul> <li>Rinse cautiously with water for several minutes. Remove contact lenses, if present and eas to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Call a physician immediately.</li> </ul>
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Do no induce vomiting. Call a physician immediately.

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4.2. Most important symptoms and effects,	both acute and delayed
Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact Symptoms/effects after ingestion	<ul><li>Serious damage to eyes.</li><li>Burns.</li></ul>

### 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 Unsuitable extinguishing media	<ul><li>Carbon dioxide. Dry powder. Foam. Water spray.</li><li>Do not use extinguishing media containing water.</li></ul>	
5.2. Special hazards arising from the substance or mixture		
Fire hazard Explosion hazard Hazardous decomposition products in case of fire	<ul> <li>No fire hazard.</li> <li>No direct explosion hazard.</li> <li>Toxic fumes may be released.</li> </ul>	
5.3. Advice for firefighters		
Firefighting instructions Protection during firefighting	<ul> <li>Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.</li> <li>Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.</li> </ul>	

SECTION 6: Accidental release measures		
6.1. Personal precautions, protectiv	e equipment and emergency procedures	
General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.	
6.1.1. For non-emergency personnel		
Protective equipment	: Wear recommended personal protective equipment.	
Emergency procedures	: Ventilate spillage area. Evacuate unnecessary personnel. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.	
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	: Evacuate unnecessary personnel. Stop leak if safe to do so.	
6.2. Environmental precautions		

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up	
For containment	: Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up	: Take up liquid spill into absorbent material. On land, sweep or shovel into suitable
Other information	containers. Collect spillage. : Dispose of materials or solid residues at an authorized site.

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#### 6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage		
7.1. Precautions for safe handling		
·	<ul> <li>Not expected to present a significant hazard under anticipated conditions of normal use.</li> <li>Do not breathe vapours. Avoid contact with skin and eyes. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.</li> </ul>	
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.	
7.2. Conditions for safe storage, including a	ny incompatibilities	
	<ul> <li>Keep in a cool, well-ventilated place away from heat.</li> <li>Store in a well-ventilated place. Keep container tightly closed. Store locked up.</li> <li>Store always product in container of same material as original container.</li> </ul>	

### 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:

Wear recommended personal protective equipment. Personal protective equipment symbol(s):



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#### 8.2.2.1. Eye and face protection

#### Eye protection:

Chemical goggles or face shield

#### 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. [In case of inadequate ventilation] wear respiratory protection.

#### 8.2.2.4. Thermal hazards

No additional information available

#### 8.2.3. Environmental exposure controls

### Environmental exposure controls:

Avoid release to the environment.

9.1. Information on basic physical and ch	
Physical state	: Liquid
Colour	: Colourless.
Appearance	: Clear liquid.
Molecular mass	: 114.02 g/mol
Odour	: strong pungent odor.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: -15.4 °C
Boiling point	: 72.4 °C
Flammability	: Non flammable.
_ower explosion limit	: Not available
Jpper explosion limit	: Not available
Flash point	: > 100 °C - Pensky-Martens closed cup - ISO 2719
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
рН	: 1 at 20 °C
oH solution concentration	: 1%
/iscosity, kinematic	: Not available
Solubility	: Water: Miscible
	Ethanol: Miscible
	Ether: Miscible
	Acetone: Miscible
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: 2.1
/apour pressure	: 158 hPa at 25 °C
/apour pressure at 50°C	: Not available
Density	: 1.489 g/cm³ at 20 °C
Relative density	: Not available
Relative vapour density at 20°C	: 3.9 (Air = 1)
Particle characteristics	: Not applicable

#### **9.2. Other information**

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

No additional information available

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### 9.2.2. Other safety characteristics

No additional information available

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.	
10.4. Conditions to avoid	
Air contact. Direct sunlight.	
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 de	fined in Regulation (EC) No 1272/2008
Acute toxicity (oral) Acute toxicity (dermal) Acute toxicity (inhalation) Skin corrosion/irritation	<ul> <li>Not classified</li> <li>Not classified</li> <li>Harmful if inhaled.</li> <li>Causes severe skin burns.</li> </ul>
Serious eye damage/irritation	pH: 1 at 20 °C : Assumed to cause serious eye damage pH: 1 at 20 °C
Respiratory or skin sensitisation Germ cell mutagenicity	: Not classified : Not classified
Carcinogenicity Reproductive toxicity	: Not classified : Not classified
STOT-single exposure STOT-repeated exposure Aspiration hazard	: Not classified : Not classified : Not classified

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information	
12.1. Toxicity	
Ecology - general Ecology - water Hazardous to the aquatic environment, short–term (acute)	<ul><li>Harmful to aquatic life with long lasting effects.</li><li>Harmful to aquatic life with long lasting effects.</li><li>Not classified</li></ul>
Hazardous to the aquatic environment, long-term (chronic)	: Harmful to aquatic life with long lasting effects.

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12.2. Persistence and degradability		
TRIFLUOROACETIC ACID FOR HPLC & UV SPECTROSCOPY (76-05-1)		
Persistence and degradability	Rapidly degradable	
12.3. Bioaccumulative potential		
No additional information available		
12.4. Mobility in soil		
No additional information available		
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		

13.1. Waste treatment methods	
Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
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. Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

### **SECTION 14: Transport information**

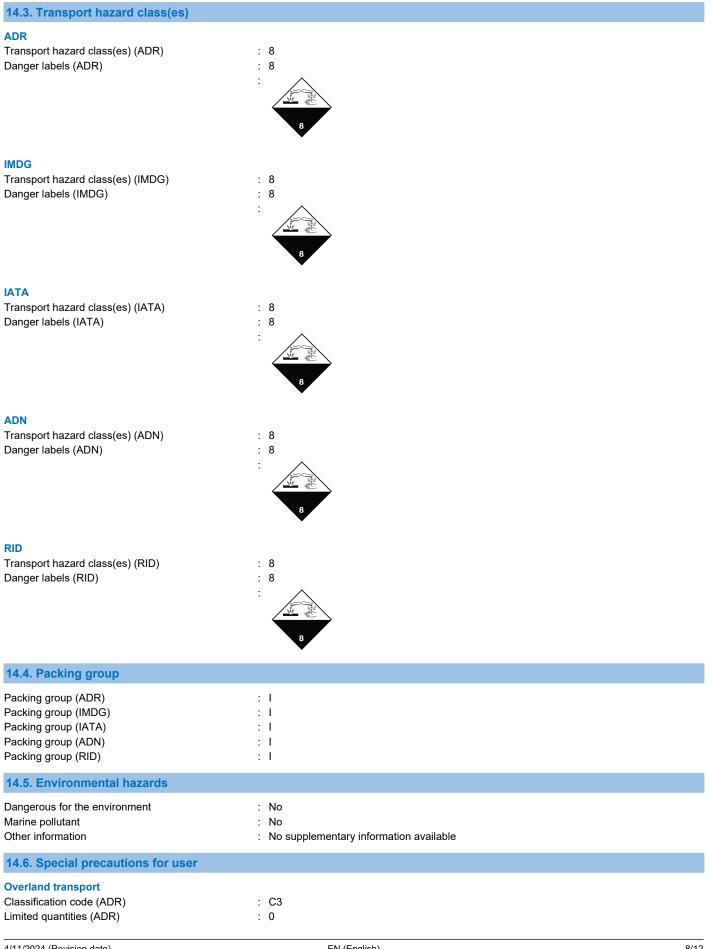
In accordance with ADR / IMDG / IATA / ADN / RID

**SECTION 13: Disposal considerations** 

UN-No. (ADR)	: UN 2699
UN-No. (IMDG)	: UN 2699
UN-No. (IATA)	: UN 2699
UN-No. (ADN)	: UN 2699
UN-No. (RID)	: UN 2699
14.2. UN proper shipping name	
Proper Shipping Name (ADR)	: TRIFLUOROACETIC ACID
Proper Shipping Name (IMDG)	: TRIFLUOROACETIC ACID
Proper Shipping Name (IATA)	: Trifluoroacetic acid
Proper Shipping Name (ADN)	: TRIFLUOROACETIC ACID
Proper Shipping Name (RID)	: TRIFLUOROACETIC ACID
Transport document description (ADR)	: UN 2699 TRIFLUOROACETIC ACID, 8, I, (E)
Transport document description (IMDG)	: UN 2699 TRIFLUOROACETIC ACID, 8, I
Transport document description (IATA)	: UN 2699 Trifluoroacetic acid, 8, I
Transport document description (ADN)	: UN 2699 TRIFLUOROACETIC ACID, 8, I
Transport document description (RID)	: UN 2699 TRIFLUOROACETIC ACID, 8, I

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Excepted quantities (ADR)	: E0
Packing instructions (ADR)	: P001
- · · · ·	: MP8, MP17
Mixed packing provisions (ADR)	
	: T10 : TP2
	. 1F2
(ADR)	. 110011
Tank code (ADR)	: L10BH
Vehicle for tank carriage	: AT
Transport category (ADR)	: 1
Special provisions for carriage - Operation (ADR)	: S20 : 88
Hazard identification number (Kemler No.)	
Orange plates	<sup>1</sup> 88
	2699
Tunnel restriction code (ADR)	: E
EAC code	: 2X
APP code	: B
Transport by sea	
Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P001
Tank instructions (IMDG)	: T10
Tank special provisions (IMDG)	: TP2
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: SW1, SW2, H2
Segregation (IMDG)	: SGG1, SG36, SG49
Properties and observations (IMDG)	: Colourless, fuming, hygroscopic liquid with a pungent odour. Miscible with water. When
	heated to decomposition or in contact with acids evolves toxic gases. In the presence of
	moisture, highly corrosive to most metals. Vapours are highly irritating to skin, eyes and
	mucous membranes. Liquid causes severe burns to skin, eyes and mucous membranes.
MFAG-No	: 154
Air transment	
Air transport	
PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA) PCA packing instructions (IATA)	: Forbidden : 850
PCA max net quantity (IATA) CAO packing instructions (IATA)	: 0.5L : 854
CAO max net quantity (IATA)	2.5L
ERG code (IATA)	: 8N
	. 511
Inland waterway transport	
Classification code (ADN)	: C3
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: EV : PP, EP
Number of blue cones/lights (ADN)	: 0
Number of blue conconging (ADN)	
Rail transport	
	: C3
Classification code (RID)	
Classification code (RID)	
Limited quantities (RID)	: 0
Limited quantities (RID) Excepted quantities (RID)	: 0 : E0
Limited quantities (RID) Excepted quantities (RID) Packing instructions (RID)	: 0 : E0 : P001
Limited quantities (RID) Excepted quantities (RID) Packing instructions (RID) Mixed packing provisions (RID)	: 0 : E0 : P001 : MP8, MP17
Limited quantities (RID) Excepted quantities (RID) Packing instructions (RID) Mixed packing provisions (RID) Portable tank and bulk container instructions (RID)	<ul> <li>: 0</li> <li>: E0</li> <li>: P001</li> <li>: MP8, MP17</li> <li>: T10</li> </ul>
Limited quantities (RID) Excepted quantities (RID) Packing instructions (RID) Mixed packing provisions (RID) Portable tank and bulk container instructions (RID)	: 0 : E0 : P001 : MP8, MP17

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Tank codes for RID tanks (RID)	: L10BH
Special provisions for RID tanks (RID)	: TU38, TE22
Transport category (RID)	: 1
Hazard identification number (RID)	: 88

14.7. Maritime transport in bulk according to IMO instruments

#### Not applicable

### **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)

EU restriction list (REACH Annex XVII)	
Reference code	Applicable on
3(b)	TRIFLUOROACETIC ACID FOR HPLC & UV SPECTROSCOPY
3(c)	TRIFLUOROACETIC ACID FOR HPLC & UV SPECTROSCOPY

#### **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)

#### Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

#### **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

### Germany

Water hazard class (WGK) Hazardous Incident Ordinance (12. BImSchV)	<ul> <li>: WGK 2, Significantly hazardous to water (Classification according to AwSV; ID No. 729).</li> <li>: Is not subject to the Hazardous Incident Ordinance (12. BImSchV)</li> </ul>
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 –	: The substance is not listed
Vruchtbaarheid	
SZW-lijst van reprotoxische stoffen – Ontwikkeling	: The substance is not listed

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#### Denmark

MAL code Danish National Regulations	<ul> <li>: 00-3 (Executive Order No. 301 from 1993)</li> <li>: Young people below the age of 18 years are not allowed to use the product</li> </ul>
Danish National Regulations	: Young people below the age of 18 years are not allowed to use the product

**15.2. Chemical safety assessment** 

No chemical safety assessment has been carried out

# **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	
ΙΑΤΑ	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	
РВТ	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	

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Abbreviations and acronyms:	
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.
Skin Corr. 1	Skin corrosion/irritation, 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.