

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 SDS Reference Number: 06471 Issue date: 4/9/2014 Revision date: 1/2/2025 Supersedes version of: 4/9/2015 Version: 1.0

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

1.1. Product identifier

Product form Trade name EC Index-No. EC-No. CAS-No. Product code Type of product Formula Chemical structure : Substance : VANADIUM PENTOXIDE AR : 023-001-00-8 : 215-239-8 : 1314-62-1 : 06471 : Inorganic compound : V2O5 : OOU || ||

Synonyms

: Vanadium (V) oxide, Divanadium pentaoxide, Vanadic anhydride

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

Relevant identified uses

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

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, 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]

Acute toxicity (oral), Category 4	H302
Acute toxicity (inhal.), Category 4	H332
Germ cell mutagenicity, Category 2	H341
Reproductive toxicity, Category 2	H361d
Specific target organ toxicity – Single exposure, Category 3,	H335
Respiratory tract irritation	
Specific target organ toxicity - Repeated exposure, Category 1	H372
Hazardous to the aquatic environment – Chronic Hazard,	H411
Category 2	
Full text of H- and EUH-statements: see section 16	

Adverse physicochemical, human health and environmental effects

Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. Harmful if inhaled. Harmful if swallowed. May cause respiratory irritation. Toxic to aquatic life with long lasting effects.

Safety Data Sheet

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

2.2. Label elements

Labelling according to Regulation (EC) No. 1	272/2008 [CLP]
Hazard pictograms (CLP)	
	GHS07 GHS08 GHS09
Signal word (CLP)	: Danger
Hazard statements (CLP)	: H302+H332 - Harmful if swallowed or if inhaled.
	H335 - May cause respiratory irritation.
	H341 - Suspected of causing genetic defects.
	H361d - Suspected of damaging the unborn child.
	H372 - Causes damage to organs through prolonged or repeated exposure.
	H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P201 - Obtain special instructions before use.
, , , , , , , , , , , , , , , , , , ,	P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
	P273 - Avoid release to the environment.
	P280 - Wear protective gloves, protective clothing, eye protection, face protection.
	P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
	P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	P308+P313 - IF exposed or concerned: Get medical advice/attention.
	1 300 1 313 - IT exposed of concerned. Get medical advice/attention.

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	%
VANADIUM PENTOXIDE	CAS-No.: 1314-62-1 EC-No.: 215-239-8 EC Index-No.: 023-001-00-8	100

SECTION 4: First aid measures	
4.1. Description of first aid measures	
First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
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. Call a POISON CENTER/doctor if you feel unwell. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	 Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash skin with plenty of water.
First-aid measures after eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	 Rinse mouth. Call a POISON CENTER/doctor if you feel unwell. Call a poison center or a doctor if you feel unwell.
First-aid measures for first aider	: First aid workers will be equipped with suitable personal protective equipment.

Safety Data Sheet

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

4.2. Most important symptoms and effects, both acute and delayed Symptoms/effects : Suspected of causing genetic defects. Causes damage to organs through prolonged or repeated exposure. Symptoms/effects after inhalation : May cause respiratory irritation. Harmful if inhaled. Symptoms/effects after skin contact : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Symptoms/effects after eye contact : None under normal conditions. Dust from this product may cause eye irritation. Symptoms/effects after ingestion : Harmful if swallowed. Chronic symptoms : Suspected of damaging the unborn child.

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	 dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2). Water spray. Dry powder. Foam. Do not use a heavy water stream.
5.2. Special hazards arising from the subst	tance or mixture
Fire hazard Explosion hazard Hazardous decomposition products in case of fire	 No fire hazard. No direct explosion hazard. Toxic fumes may be released.
5.3. Advice for firefighters	
Firefighting instructions Protection during firefighting	 Fight fire from safe distance and protected location. 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.

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

Avoid release to the environment. Toxic to aquatic life with long lasting effects.

6.3. Methods and material for containment and cleaning up		
For containment Methods for cleaning up	 Collect spillage. Mechanically recover the product. Clear up rapidly by scoop or vacuum. Notify authorities if product enters sewers or public waters. 	
Other information	: Dispose of materials or solid residues at an authorized site.	

Safety Data Sheet

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

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage	
7.1. Precautions for safe handling	
Additional hazards when processed Precautions for safe handling Hygiene measures	 Not expected to present a significant hazard under anticipated conditions of normal use. Do not get in eyes, on skin, or on clothing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling. Always wash hands after handling the product.
7.2. Conditions for safe storage, includ	ling any incompatibilities
Technical measures Storage conditions Packaging materials	 Keep in a cool, well-ventilated place away from heat. Keep container tightly closed. Store in original container. Store in a dry place. Protect from moisture. Store locked up. Store in a well-ventilated place. Store always product in container of same material as original container.
7.3. Specific end use(s)	

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

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



Eye and face protection

Eye protection: Chemical goggles or safety glasses

Skin protection

Skin and body protection: Wear a mask

Hand protection: Protective gloves

Respiratory protection

Respiratory protection:

Wear appropriate mask. [In case of inadequate ventilation] wear respiratory protection.

Safety Data Sheet

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

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	: Brown.
Appearance	: Crystalline powder.
Molecular mass	: 181.88 g/mol
Odour	: Odourless.
Odour threshold	: Not available
Melting point	: 690 °C
Freezing point	: Not applicable
Boiling point	: 1750 °C (Decomposes)
Flammability	: Non flammable.
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
рН	: 2.7
pH solution	: saturated aqueous solution at 20 °C
Viscosity, kinematic	: Not applicable
Solubility	: Water: 0.7 g/l at 20 °C - Slightly soluble
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 3.36 g/cm ³
Relative density	: Not available
Relative vapour density at 20°C	: 6.3
Particle size	: Not available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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

Direct sunlight. Air contact. Moisture.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Safety Data Sheet

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

SECTION 11: Toxicological inform	ation
11.1. Information on hazard classes as	defined in Regulation (EC) No 1272/2008
Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Harmful if inhaled.
Skin corrosion/irritation	: Not classified
	pH: 2.7
Serious eye damage/irritation	: Not classified
	pH: 2.7
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Suspected of causing genetic defects.
Carcinogenicity	: Not classified
Reproductive toxicity	: Suspected of damaging the unborn child.
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
VANADIUM PENTOXIDE AR (1314-62-	1)
Viscosity, kinematic	Not applicable
11.2. Information on other hazards	
Other information	
Potential adverse human health effects and	: Harmful if swallowed.
symptoms	

SECTION 12: Ecological information	
12.1. Toxicity	
Ecology - general:Ecology - water:Hazardous to the aquatic environment, short-term:(acute):Hazardous to the aquatic environment, long-term:(chronic):	Toxic to aquatic life with long lasting effects. Toxic to aquatic life with long lasting effects. Not classified Toxic to aquatic life with long lasting effects.
12.2. Persistence and degradability	
VANADIUM PENTOXIDE AR (1314-62-1)	
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	

Safety Data Sheet

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

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878		
SECTION 13: Disposal considerations	s	
13.1. Waste treatment methods		
Regional waste regulation Waste treatment methods Sewage disposal recommendations Product/Packaging disposal recommendations Additional information	 Disposal must be done according to official regulations. Dispose of contents/container in accordance with licensed collector's sorting instructions. Disposal must be done according to official regulations. 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. Do not re-use empty containers. 	
SECTION 14: Transport information		
In accordance with ADR / IMDG / IATA / ADN / RI	2	
14.1. UN number or ID number		
UN-No. (ADR) UN-No. (IMDG) UN-No. (IATA) UN-No. (ADN) UN-No. (RID)	 : UN 2862 	
14.2. UN proper shipping name		
Proper Shipping Name (ADR) Proper Shipping Name (IMDG) Proper Shipping Name (IATA) Proper Shipping Name (ADN) Proper Shipping Name (RID) Transport document description (ADR) (ADR) Transport document description (IMDG) Transport document description (IATA) Transport document description (ADN) Transport document description (RID)	 VANADIUM PENTOXIDE VANADIUM PENTOXIDE Vanadium pentoxide VANADIUM PENTOXIDE VANADIUM PENTOXIDE VANADIUM PENTOXIDE UN 2862 VANADIUM PENTOXIDE, 6.1, III, (E), ENVIRONMENTALLY HAZARDOUS UN 2862 VANADIUM PENTOXIDE, 6.1, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS UN 2862 VANADIUM PENTOXIDE, 6.1, III, ENVIRONMENTALLY HAZARDOUS 	
14.3. Transport hazard class(es)		
ADR Transport hazard class(es) (ADR) Danger labels (ADR)	: 6.1 : 6.1 :	
IMDG Transport hazard class(es) (IMDG) Danger labels (IMDG)	: 6.1 : 6.1	



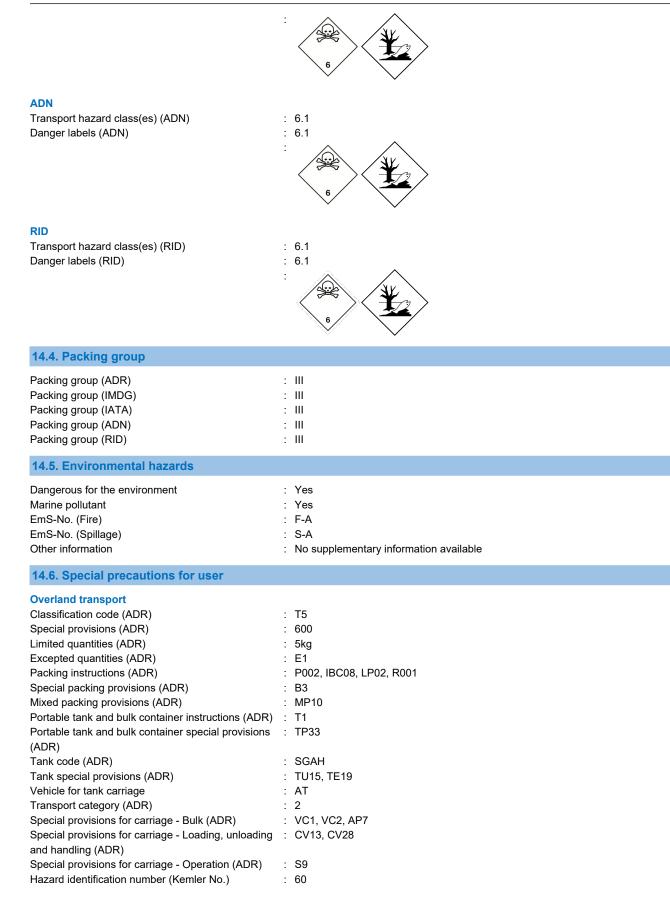
: 6.1 : 6.1

ΙΑΤΑ

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

Safety Data Sheet

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



Safety Data Sheet

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

60

2862

Brownish powder. Slightly soluble in water. Toxic if swallowed, by skin contact or by

5 kg E1 P002, LP02 IBC08 Β3 T1 TP33 А

inhalation.

: E1 Y645 2 10kg 2 : 670 : 100kg : 677 : 200kg : 6L

Orange plates	:	
Tunnel restriction code (ADR)	:	E
EAC code	: :	2X
Transport by sea		
Limited quantities (IMDG)	: :	5 kg
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P002
IBC packing instructions (IMDG)	:	IBC
IBC special provisions (IMDG)	:	B3
Tank instructions (IMDG)	: '	T1
Tank special provisions (IMDG)	: '	TP3
Stowage category (IMDG)	: .	A
Properties and observations (IMDG)		Brov
		inha
MFAG-No	:	151

MFAG-No

Air transport

PCA Excepted quantities (IATA)
PCA Limited quantities (IATA)
PCA limited quantity max net quantity (IATA)
PCA packing instructions (IATA)
PCA max net quantity (IATA)
CAO packing instructions (IATA)
CAO max net quantity (IATA)
ERG code (IATA)

Inland waterway transport

Classification code (ADN)	:	T5
Special provisions (ADN)	:	600, 802
Limited quantities (ADN)	:	5 kg
Excepted quantities (ADN)	:	E1
Equipment required (ADN)	:	PP, EP
Number of blue cones/lights (ADN)	:	0
0 ()		

Rail transport

Classification code (RID)	: T5
Special provisions (RID)	: 600
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	: TP33
(RID)	
Tank codes for RID tanks (RID)	: SGAH
Special provisions for RID tanks (RID)	: TU15
Transport category (RID)	: 2
Special provisions for carriage – Bulk (RID)	: VC1, VC2, AP7
Special provisions for carriage - Loading, unloading	: CW13, CW28, CW31
and handling (RID)	
Colis express (express parcels) (RID)	: CE11
Hazard identification number (RID)	: 60

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

Safety Data Sheet

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

SECTION 15: Regulatory information

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

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)

Contains no substance(s) 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 (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

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)

VOC ordinance (ChemVOCFarbV)

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)

National regulations

France

Occupational diseases	
Code	Description
RG 66	Occupational rhinitis and asthma
Germany	

Germany

Water hazard class (WGK)	: WGK 3, Highly hazardous to water (Classification according to AwSV).
Chemicals Prohibition Ordinance (ChemVerbotsV)	: This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the shipping route (according to § 10).
Hazardous Incident Ordinance (12. BImSchV)	: Is not subject to the Hazardous Incident Ordinance (12. BImSchV)
Netherlands	
SZW-lijst van kankerverwekkende stoffen	: VANADIUM PENTOXIDE is 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	: VANADIUM PENTOXIDE is listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	: VANADIUM PENTOXIDE is listed

Safety Data Sheet

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

Denmark

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

SECTION 16: Other information

Abbreviations and acr	ronyms:
ACGIH	American Conference of Governement Industrial Hygienists
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)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
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
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
МАК	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified

Safety Data Sheet

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

Abbreviations and acronyms:	
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety & Health Administration
РВТ	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Muta. 2	Germ cell mutagenicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

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.