

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Issue date: 7/30/2024 Revision date: 7/30/2024 Supersedes version of: 10/5/2016 Version: 1.0

<ul> <li>Mixture</li> <li>CALCIUM (Ca) ICP STANDARD SOLUTION 1 GM/L IN DILUTE HNO3 traceable to NIST</li> <li>I115N</li> <li>Solution</li> <li>CALCIUM (Ca) ICP STANDARD SOLUTION 1000 mg/L IN DILUTE HNO3</li> </ul>		
nce or mixture and uses advised against		
: Laboratory chemicals, Manufacture of substances		
ita sheet		
: + 91 22 6663 6663 (9:00am - 6:00 pm)		
ture		
Classification according to Regulation (EC) No. 1272/2008 [CLP]Skin corrosion/irritation, Category 2H315Serious eye damage/eye irritation, Category 2H319Full text of H- and EUH-statements: see section 16		
Adverse physicochemical, human health and environmental effects Causes skin irritation. Causes serious eye irritation.		
2/2008 [CLP] GHS07		
: Warning		
<ul> <li>H315 - Causes skin irritation.</li> <li>H319 - Causes serious eye irritation.</li> <li>P280 - Wear protective gloves, protective clothing, eye protection, face protection.</li> <li>P302+P352 - IF ON SKIN: Wash with plenty of water.</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>		

## 2.3. Other hazards

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

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The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## **SECTION 3: Composition/information on ingredients**

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Water	CAS-No.: 7732-18-5 EC-No.: 231-791-2	90 – 98	Not classified
Nitric acid	CAS-No.: 7697-37-2 EC-No.: 231-714-2 EC Index-No.: 007-004-00-1	1 – 3	Ox. Liq. 1, H271 Met. Corr. 1, H290 Skin Corr. 1A, H314
CALCIUM NITRATE TETRAHYDRATE	CAS-No.: 13477-34-4 EC-No.: 233-332-1	0.3 – 1	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318

## SECTION 4: First aid measures

4.1. Description of first aid measures		
First-aid measures general	: If you feel unwell, seek medical advice.	
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.	
First-aid measures after skin contact	: Wash with plenty of water/ Wash contaminated clothing before reuse. Get medical advice/attention. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.	
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. If eye irritation persists: Get medical advice/attention.	
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Get medical advice/attention. 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.	
4.2. Most important symptoms and effects, both acute and delayed		
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	: Causes skin irritation. Irritation.	
Symptoms/effects after eye contact Symptoms/effects after ingestion	: Causes serious eye irritation. Eye irritation. : None under normal conditions.	
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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 a heavy water stream.</li></ul>

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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	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	<ul> <li>Do not enter fire area without proper protective equipment, including respiratory protection.</li> <li>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, protective 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.	
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.	
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
Methods for cleaning up	<ul> <li>prevent migration and entry into sewers or streams. Stop leak without risks if possible.</li> <li>Take up liquid spill into absorbent material. Collect spillage. On land, sweep or shovel into suitable containers.</li> </ul>
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		
Additional hazards when processed Precautions for safe handling	<ul> <li>Not expected to present a significant hazard under anticipated conditions of normal use.</li> <li>Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe vapours. Provide good ventilation in process area to prevent formation of vapour. 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 any incompatibilities		
Technical measures Storage conditions	<ul><li>Keep in a cool, well-ventilated place away from heat.</li><li>Store in a well-ventilated place. Keep container tightly closed.</li></ul>	

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Packaging materials

: 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

**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
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Physical state	: Liquid
Colour	: Colourless.
Appearance	: Clear liquid.
Odour	: Odourless.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: ≈0 °C
Boiling point	: ≈ 100 °C
Flammability	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available

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Flash point Auto-ignition temperature Decomposition temperature pH Viscosity, kinematic Solubility Partition coefficient n-octanol/water (Log Kow) Vapour pressure	<ul> <li>Not available</li> <li>Not available</li> <li>Not available</li> <li>Not available</li> <li>Not available</li> <li>Not available</li> <li>Water: Miscible</li> <li>Not available</li> <li>Not available</li> <li>Not available</li> <li>Not available</li> </ul>
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Solubility	: Water: Miscible
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 1.044 g/cm³ at 20 °C
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

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. Overheating.

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.

SECTION 11: Toxicological information		
11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008		
Acute toxicity (dermal)	Not classified Not classified Not classified Causes skin irritation.	
CALCIUM NITRATE TETRAHYDRATE (13477-34-4)		
рН	5 – 9	
Serious eye damage/irritation :	Causes serious eye irritation.	
CALCIUM NITRATE TETRAHYDRATE (13477-34-4)		
рН	5 – 9	
Respiratory or skin sensitisation :	Not classified	
Germ cell mutagenicity :	Not classified	
Carcinogenicity :	Not classified	

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Reproductive toxicity	: Not classified	
STOT-single exposure	: Not classified	
STOT-repeated exposure	: Not classified	
Aspiration hazard	: Not classified	
CALCIUM NITRATE TETRAHYDRATE (13477-34-4)		
Viscosity, kinematic	Not applicable	
11.2. Information on other hazards		

No additional information available

SECTION 42: Factorized information		
SECTION 12: Ecological information		
12.1. Toxicity		
(acute)	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. Not classified	
Hazardous to the aquatic environment, long-term : (chronic)		
12.2. Persistence and degradability		
CALCIUM (Ca) ICP STANDARD SOLUTION 1	GM/L IN DILUTE HNO3 traceable to NIST	
Persistence and degradability	Rapidly degradable	
Nitric acid (7697-37-2)		
Persistence and degradability	Rapidly degradable	
Water (7732-18-5)		
Persistence and degradability	Rapidly degradable	
CALCIUM NITRATE TETRAHYDRATE (13477-	-34-4)	
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		

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SECTION 13: Disposal considerations		
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 / RI	D	

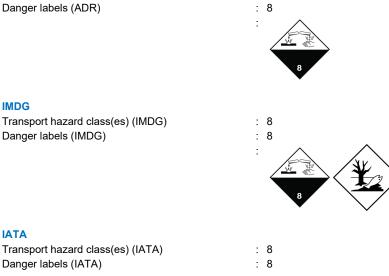
14.1. UN number or ID number	
UN-No. (ADR) UN-No. (IMDG) UN-No. (IATA) UN-No. (ADN) UN-No. (RID)	<ul> <li>UN 3264</li> <li>UN 3264</li> <li>UN 3264</li> <li>UN 3264</li> <li>UN 3264</li> </ul>
14.2. UN proper shipping name	
Proper Shipping Name (ADR) Proper Shipping Name (IMDG) Proper Shipping Name (IATA) Proper Shipping Name (ADN) Proper Shipping Name (RID) Transport document description (ADR)	<ul> <li>CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.</li> <li>UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CALCIUM ICP STANDARD SOLUTION 1 GM/L IN DILUTE NITRIC ACID), 8, III, (E)</li> </ul>
Transport document description (IMDG) Transport document description (IATA) Transport document description (ADN) Transport document description (RID)	<ul> <li>UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, III, MARINE POLLUTANT</li> <li>UN 3264 Corrosive liquid, acidic, inorganic, n.o.s. (CALCIUM ICP STANDARD SOLUTION 1 GM/L IN DILUTE NITRIC ACID), 8, III</li> <li>UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, III</li> <li>UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, III</li> </ul>
14.3. Transport hazard class(es)	

### ADR

IMDG

ΙΑΤΑ

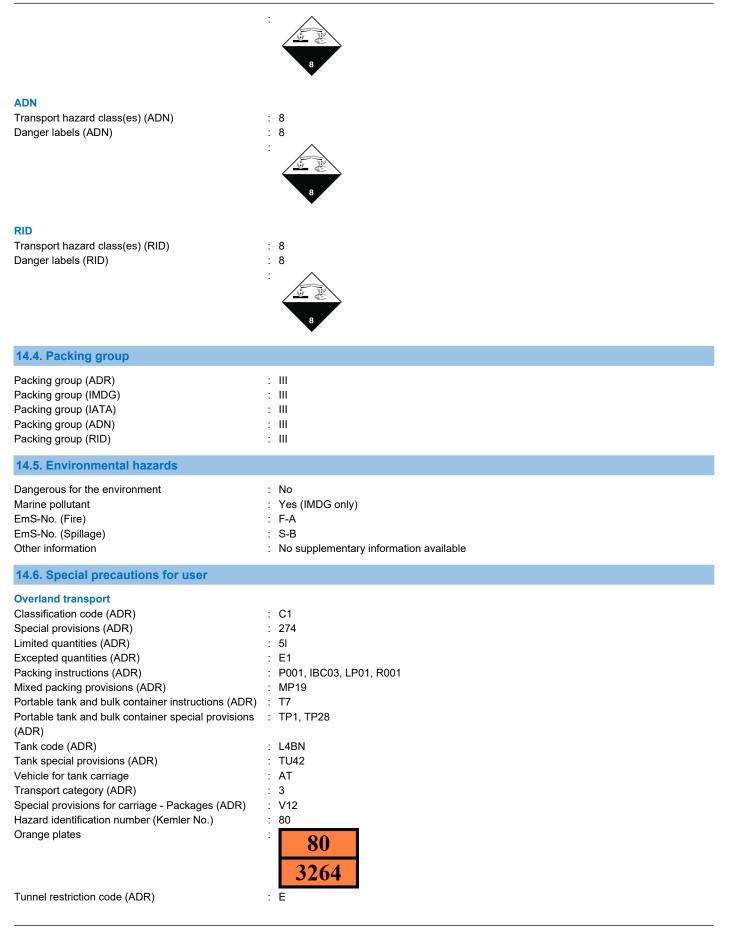
Transport hazard class(es) (ADR) Danger labels (ADR)



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EAC code	: 2X
Transport by sea	
Special provisions (IMDG)	: 223, 274
Limited quantities (IMDG)	: 5L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP1, TP28
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW2
Segregation (IMDG)	: SGG1, SG36, SG49
Properties and observations (IMDG)	: Causes burns to skin, eyes and mucous membranes.
MFAG-No	: 154
Air transport	
PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y841
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 852
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 856
CAO max net quantity (IATA)	: 60L
Special provisions (IATA)	: A3, A803
ERG code (IATA)	: 8L
Inland waterway transport	
Classification code (ADN)	: C1
Special provisions (ADN)	: 274
Limited quantities (ADN)	: 5L
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)	: C1
Special provisions (RID)	: 274
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T7
Portable tank and bulk container special provisions	: TP1, TP28
(RID)	
Tank codes for RID tanks (RID)	: L4BN
Special provisions for RID tanks (RID)	: TU42
Transport category (RID)	: 3
Special provisions for carriage – Packages (RID)	: W12
Colis express (express parcels) (RID)	: CE8
Hazard identification number (RID)	: 80
4.4.7 Mentitives there are set in bulls as a value of	

## 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

#### **EU-Regulations**

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

EU restriction list (REACH Annex XVII)			
Reference code Applicable on			
3(a)	Nitric acid		
3(b)	CALCIUM (Ca) ICP STANDARD SOLUTION 1 GM/L IN DILUTE HNO3 traceable to NIST ; Nitric acid		

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

Contains no substance(s) 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)**

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

#### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

#### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

#### 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 substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors) ANNEX I RESTRICTED EXPLOSIVES PRECURSORS

List of substances which are not to be made available to, or introduced, possessed or used by, members of the general public, whether on their own or in mixtures or substances that include those substances, unless the concentration is equal to or lower than the limit values set out in column 2, and for which suspicious transactions and significant disappearances and thefts are to be reported within 24 hours.

Name	CAS-No.	Limit value	for licensing under Article 5(3)	Combined Nomenclature (CN) code for a separate chemically defined compound meeting the requirements of Note 1 to Chapter 28 or 29 of the CN, respectively	code for mixture without
Nitric acid	7697-37-2	3 % w/w	10% w/w	ex 2808 00 00	ex 3824 99 96

#### **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)

#### **National regulations**

#### Germany

Water hazard class (WGK)

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Hazardous Incident Ordinance (12. BImSchV)	:	Is not subject to the Hazardous Incident Ordinance (12. BImSchV)
Netherlands		
SZW-lijst van kankerverwekkende stoffen	:	None of the components are listed
SZW-lijst van mutagene stoffen	:	None of the components are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding	:	None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid	:	None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	:	None of the components are listed
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 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		

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Abbreviations and acronyms:			
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 disruptor		

Full text of H- and EUH-statements:			
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4		
Eye Dam. 1	Serious eye damage/eye irritation, Category 1		
H271	lay cause fire or explosion; strong oxidiser.		
H290	lay be corrosive to metals.		
H302	Harmful if swallowed.		
H314	Causes severe skin burns and eye damage.		
H315	Causes skin irritation.		
H318	Causes serious eye damage.		
H319	Causes serious eye irritation.		
Met. Corr. 1	Corrosive to metals, Category 1		
Ox. Liq. 1	Oxidising Liquids, Category 1		
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A		

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.