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according to Regulation (EU) 2015/830

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

1.1. Product identifier

Product form : Mixtures

Product name : Perchloric acid 70-72%

Type of product : Solution, Group

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 chemical

Oxidant Catalyst

Chemical raw material Metal surface treatment

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ISOLAB Laborgeräte GmbH

Am Dillhof 2 - 63863 Eschau / GERMANY

Tel: + 49 93 74 / 978 55-0 Fax: +49 93 74 / 978 55-29 prodsafe@isolab.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité CBF, Haus VIII (Wirtschaftgebäude), UG	Hindenburgdamm 30 12203 Berlin	+49 30 19240	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Ox. Liq. 1 H271 Skin Corr. 1A H314 Met. Corr. 1 H290

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :





GHS05

Signal word (CLP) : Danger

Hazard statements (CLP) : H271 - May cause fire or explosion; strong oxidiser

H290 - May be corrosive to metals.

H314 - Causes severe skin burns and eye damage

Precautionary statements (CLP) : P210 - Keep away from heat. - No smoking

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection. P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 - IF exposed or concerned: immediately call a POISON CENTER or doctor/

physician.

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2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Perchloric acid	(CAS-No.) 7601-90-3 (EC-No.) 231-512-4 (EC Index-No.) 017-006-00-4	~ 70	Ox. Liq. 1, H271 Skin Corr. 1A, H314

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Perchloric acid	(CAS-No.) 7601-90-3 (EC-No.) 231-512-4 (EC Index-No.) 017-006-00-4	(C < 50) Ox. Liq. 2, H272 (1 = <c 10)="" 2,="" <="" h315<br="" irrit.="" skin="">(1 =<c 10)="" 2,="" <="" eye="" h319<br="" irrit.="">(10 =<c 1b,="" 50)="" <="" corr.="" h314<br="" skin="">(C >= 50) Skin Corr. 1A, H314 (C >= 50) Ox. Liq. 1, H271</c></c></c>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

First-aid measures after inhalation

: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact

: Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

First-aid measures after eye contact

: Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist.

First-aid measures after ingestion

Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not give activated charcoal. Do not give chemical antidote. Call Poison Information Centre (www.big.be/antigif.htm). Immediately consult a doctor/medical service. Ingestion of large quantities: immediately to hospital. Take the container/vomit to the doctor/hospital.

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

Symptoms/effects after inhalation

: Dry/sore throat. Coughing. EXPOSURE TO HIGH CONCENTRATIONS: Corrosion of the upper respiratory tract. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung oedema. Respiratory difficulties.

Symptoms/effects after skin contact

: Caustic burns/corrosion of the skin. Slow-healing wounds.

Symptoms/effects after eye contact

: Corrosion of the eye tissue.

Symptoms/effects after ingestion

: Burns to the gastric/intestinal mucosa. Possible esophageal perforation. Shock.

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

No additional information available

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media : EXTINGUISHING MEDIA FOR SURROUNDING FIRES: Quantities of water. Water spray.

Unsuitable extinguishing media : Dry chemical powder. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard

: DIRECT FIRE HAZARD. Non combustible. INDIRECT FIRE HAZARD. Promotes combustion. Reactions involving a fire hazard: see "Reactivity Hazard".

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Explosion hazard

: DIRECT EXPLOSION HAZARD. Risk of explosion by heating. INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".

5.3. Advice for firefighters

Firefighting instructions

: Cool tanks/drums with water spray/remove them into safety. Cool from behind cover/unmanned monitors. Do not move the load if exposed to heat. Fight surrounding fire from behind cover/unmanned monitors. Dilute toxic gases with water spray. Take account of toxic firefighting water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment Emergency procedures : Gas-tight suit. Corrosion-proof suit. See "Material-Handling" to select protective clothing.

: Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. No naked flames. Corrosion-proof appliances. Keep

containers closed. Wash contaminated clothes.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment

: Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Dilute toxic gases/vapours with water spray. Take account of toxic/corrosive precipitation water.

Methods for cleaning up

: Take up liquid spill into inert absorbent material, e.g.: sand. Do not take up in combustible material such as: saw dust. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Spill must not return in its original container. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Take collected spill to manufacturer/competent authority. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

: Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Avoid shock and friction. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep away from naked flames/heat. Observe very strict hygiene - avoid contact. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

7.2. Conditions for safe storage, including any incompatibilities

Heat and ignition sources

: KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage

: KEEP SUBSTANCE AWAY FROM: combustible materials. reducing agents. (strong) acids. (strong) bases. metals. cellulosic materials. organic materials. alcohols. oils-fats.

water/moisture

Storage area

: Store in a cool area. Keep out of direct sunlight. Store in a dry area. Ventilation at floor level. Keep locked up. Unauthorized persons are not admitted. Protect against frost. Provide for a tub to collect spills. Detached building. Store only in a limited quantity. Keep only in the original container. Meet the legal requirements.

Special rules on packaging

: SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials

: SUITABLE MATERIAL: polyethylene. polypropylene. glass. stoneware/porcelain. MATERIAL TO AVOID: monel steel. carbon steel. lead. aluminium. iron. copper. nickel. bronze. PVC.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Perchloric acid 70 - 72%				
Bulgaria	Local name	Перхлорна киселина		
Bulgaria	OEL TWA (mg/m³)	2 mg/m³		
Czech Republic	Local name	Kyselina chloristá		
Czech Republic	Expoziční limity (PEL) (mg/m³)	1 mg/m³		
Czech Republic	Expoziční limity (PEL) (ppm)	0.24 ppm		
Czech Republic	Expoziční limity (NPK-P) (mg/m³)	2 mg/m³		
Czech Republic	Expoziční limity (NPK-P) (ppm)	0.49 ppm		
Poland	Local name	Kwas chlorowy(VII) (nadchlorowy kwas)		
Poland	NDS (mg/m³)	1 mg/m³		
Poland	NDSCh (mg/m³)	3 mg/m³		

Perchloric acid (7601-90-3)				
Bulgaria Local name		Перхлорна киселина		
Bulgaria	OEL TWA (mg/m³)	2 mg/m³		
Czech Republic	Local name	Kyselina chloristá		
Czech Republic	Expoziční limity (PEL) (mg/m³)	1 mg/m³		
Czech Republic	Expoziční limity (PEL) (ppm)	0.24 ppm		
Czech Republic	Expoziční limity (NPK-P) (mg/m³)	2 mg/m³		
Czech Republic	Expoziční limity (NPK-P) (ppm)	0.49 ppm		
Poland	Local name	Kwas chlorowy(VII) (nadchlorowy kwas)		
Poland	NDS (mg/m³)	1 mg/m³		
Poland	NDSCh (mg/m³)	3 mg/m³		

8.2. Exposure controls

Personal protective equipment:

Gloves. Safety glasses.

Materials for protective clothing:

GIVE GOOD RESISTANCE: chlorinated polyethylene. chlorosulfonated polyethylene. natural rubber. polyethylene. tetrafluoroethylene. viton. polyethylene/ethylenevinylalcohol. GIVE POOR RESISTANCE: chloroprene rubber. neoprene. nitrile rubber. polyurethane. PVA. PVC

Hand protection:

Gloves

Eye protection:

Safety glasses

Skin and body protection:

Head/neck protection. Corrosion-proof clothing

Respiratory protection:

Gas mask with filter type B. High vapour/gas concentration: self-contained respirator

Device	Filter type	Condition	Standard
Gas mask	Type B - Inorganic gases (hydrogen sulfide, chlorine, hydrogen cyanide)		







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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Liquid.

Colour : Colourless.

Odour : Odourless.

Odour threshold : No data available

pH : strongly acid at 20 °C

Relative evaporation rate (butylacetate=1) : No data available

Melting point : -18 °C

Freezing point : No data available
Boiling point : 198.7 °C (1013 hPa)
Flash point : Not applicable
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapour pressure : No data available

Relative vapour density at 20 °C : 3.5
Relative density : 1.4 - 1.7

Density : 1.68 g/cm3 (20 °C)

Solubility : Soluble in water. Soluble in chloroform. Soluble in acetic acid. Soluble in dichloromethane.

Water: Complete Ethanol: 0.001 g/100ml -4.63 (Estimated value)

Log Pow : -4.63 (Estimated value Viscosity, kinematic : No data available

Viscosity, dynamic : 0.002 - 0.005 Pa.s (20 °C)

Explosive properties : May cause fire or explosion; strong oxidiser.

Oxidising properties : May cause fire or explosion; strong oxidiser.

Explosive limits : No data available

9.2. Other information

VOC content : Not applicable

Other properties : Gas/vapour heavier than air at 20°C. Hygroscopic. Physical properties depending on the

concentration. Substance has acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Decomposes on exposure to temperature rise: release of toxic and corrosive gases/vapours (hydrogen chloride, chlorine, chlorine dioxide) and oxidation resulting in increased fire or explosion risk. Violent polymerisation with combustible materials and with organic material risk of spontaneous ignition. Violent to explosive reaction with many compounds e.g.: with (strong) reducers, with (some) acids and with (some) bases.

10.2. Chemical stability

Unstable on exposure to heat. Hygroscopic.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

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Skin corrosion/irritation : Causes severe skin burns and eye damage.

pH: 0.1 (70 %)

Serious eye damage/irritation : Serious eye damage, category 1, implicit

pH: 0.1 (70 %)

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Mild water pollutant (surface water). Not harmful to fishes. pH shift.

Perchloric acid (7601-90-3)		
LC50 fish 1	2000 mg/l (LC50; 96 h)	

12.2. Persistence and degradability

Perchloric acid 70 - 72%

Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
Perchloric acid (7601-90-3)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

12.3. Bioaccumulative potential

Perchloric acid 70 - 72%			
BCF fish 1	<= 1 (BCF)		
Log Pow	-4.63 (Estimated value)		
Bioaccumulative potential	Not bioaccumulative.		
Perchloric acid (7601-90-3)			
BCF fish 1	<= 1 (BCF)		

Perchloric acid (7601-90-3)		
BCF fish 1	<= 1 (BCF)	
Log Pow	-4.63 (Estimated value)	
Bioaccumulative potential	Not bioaccumulative.	

12.4. Mobility in soil

Perchloric acid 70 - 72%		
Surface tension 0.07 N/m (25 °C)		
Perchloric acid (7601-90-3)		
Perchloric acid (7601-90-3)		

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

Waste treatment methods

Product/Packaging disposal recommendations

: Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove for physico-chemical/biological treatment. Remove to an authorized dump (Class I). Do not discharge into the sewer. Do not discharge into surface water.

Additional information LWCA (the Netherlands): KGA category 01. Hazardous waste according to Directive

2008/98/EC.

European List of Waste (LoW) code 11 01 06* - acids not otherwise specified

06 01 06* - other acids

16 05 06* - laboratory chemicals consisting of or containing dangerous substances including

mixtures of laboratory chemicals

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID		
14.1. UN number						
1873	1873	1873	1873	1873		
14.2. UN proper shippi	ng name					
PERCHLORIC ACID	PERCHLORIC ACID	Perchloric acid	PERCHLORIC ACID	PERCHLORIC ACID		
Transport document descr	iption					
UN 1873 PERCHLORIC ACID, 5.1 (8), I, (B/E)	UN 1873 PERCHLORIC ACID, 5.1 (8), I	UN 1873 Perchloric acid, 5.1 (8), I	UN 1873 PERCHLORIC ACID, 5.1 (8), I	UN 1873 PERCHLORIC ACID, 5.1 (8), I		
14.3. Transport hazard	class(es)					
5.1 (8)	5.1 (8)	5.1 (8)	5.1 (8)	5.1 (8)		
5.1	5.1	5.1	5.1	5.1		
14.4. Packing group	14.4. Packing group					
1	1	1	1	1		
14.5. Environmental hazards						
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No		
	Marine pollutant : No					
No supplementary information available						

14.6. Special precautions for user

- Overland transport

: OC1 Classification code (ADR) Special provisions (ADR) : 60 : 0 Limited quantities (ADR) Excepted quantities (ADR) : E0 Packing instructions (ADR) : P502 Special packing provisions (ADR) : B3 Mixed packing provisions (ADR) : MP3 Portable tank and bulk container instructions : T10 (ADR) Portable tank and bulk container special : TP1

provisions (ADR)

Tank code (ADR) : L4DN(+) Tank special provisions (ADR) : TU3, TU28

Vehicle for tank carriage : AT : 1 Transport category (ADR)

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Special provisions for carriage - Loading, : CV24

unloading and handling (ADR)

Special provisions for carriage - Operation : S20

(ADR)

Hazard identification number (Kemler No.) : 558

Orange plates

558 1873

Tunnel restriction code (ADR) : B/E EAC code : 2P

- Transport by sea

Transport regulations (IMDG) : Subject Special provisions (IMDG) : 900 Limited quantities (IMDG) : 0 Excepted quantities (IMDG) · F0 : P502 Packing instructions (IMDG) : PP28 Special packing provisions (IMDG) : T10 Tank instructions (IMDG) Tank special provisions (IMDG) : TP1 EmS-No. (Fire) : F-A : S-Q EmS-No. (Spillage) Stowage category (IMDG) : D Segregation (IMDG) : SG16

Properties and observations (IMDG) : Colourless liquid.Mixtures with combustible material may ignite spontaneously and, when

involved in a fire, by shock or by friction, may cause an explosion. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes. Transport of PERCHLORIC ACID

with more than 72% acid, by mass is prohibited.

MFAG-No : 143

- Air transport

Transport regulations (IATA) : Subject to the provisions

PCA Excepted quantities (IATA) : E0

PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : Forbidden
PCA max net quantity (IATA) : Forbidden
CAO packing instructions (IATA) : 553
CAO max net quantity (IATA) : 2.5L
ERG code (IATA) : 5C

- Inland waterway transport

Classification code (ADN) : OC1

Special provisions (ADN) : 60

Limited quantities (ADN) : 0

Excepted quantities (ADN) : E0

Equipment required (ADN) : PP, EP

Number of blue cones/lights (ADN) : 0

- Rail transport

Transport regulations (RID) : Subject Classification code (RID) : OC1 Special provisions (RID) : 60 Limited quantities (RID) : 0 Excepted quantities (RID) : E0 : P502 Packing instructions (RID) Special packing provisions (RID) : PP28 Mixed packing provisions (RID) : MP3

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Portable tank and bulk container instructions : T10

(RID)

Portable tank and bulk container special : TP1

provisions (RID)

Tank codes for RID tanks (RID) : L4DN(+)

Special provisions for RID tanks (RID) : TU3, TU28, TE16

Transport category (RID) Special provisions for carriage - Loading,

unloading and handling (RID)

: CW24

Hazard identification number (RID)

: 558

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

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**

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : Not applicable

National regulations 15.1.2.

Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex

WGK remark : Classification water polluting in compliance with Verwaltungsvorschrift wassergefährdender

Stoffe (VwVwS) of 27 July 2005 (Anhang 2)

: Is not subject of the 12. BlmSchV (Hazardous Incident Ordinance)

12th Ordinance Implementing the Federal

Immission Control Act - 12.BlmSchV

Netherlands

SZW-lijst van kankerverwekkende stoffen

SZW-lijst van mutagene stoffen

NIET-limitatieve lijst van voor de voortplanting

giftige stoffen - Borstvoeding

NIET-limitatieve lijst van voor de voortplanting

giftige stoffen - Vruchtbaarheid

NIET-limitatieve lijst van voor de voortplanting

giftige stoffen - Ontwikkeling

: None of the components are listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

Chemical safety assessment

No additional information available

SECTION 16: Other information

Abbreviations and acronyms:

The Production of the desiry more	
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
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods

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LC50	Median lethal concentration	
LD50	Median lethal dose	
PBT	Persistent Bioaccumulative Toxic	
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006	
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail	
SDS	Safety Data Sheet	
vPvB	Very Persistent and Very Bioaccumulative	

Data sources

: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:		
Ox. Liq. 1	Oxidising Liquids, Category 1	
Skin Corr. 1A	Skin corrosion/irritation, Category 1A	
Met. Corr. 1	Corrosive to metals, Category 1	
H271	May cause fire or explosion; strong oxidiser	
H290	May be corrosive to metals	
H314	Causes severe skin burns and eye damage	

SDS ISOLAB

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

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