

according to Regulation (EC) No. 1907/2006

Creation Date 21-Aug-2009 Revision Date 24-Mar-2024 Revision Number 3

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description: <u>Lithium hydride</u>

Cat No. : \$60187

Synonyms Lithium Monohydride.; LIH

 CAS No
 7580-67-8

 EC No
 231-484-3

 Molecular Formula
 H Li

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

Recommended Use Laboratory chemicals.

Sector of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC21 - Laboratory chemicals

Process categories PROC15 - Use as a laboratory reagent

Environmental release category ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Uses advised against No Information available

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1.3. Details of the supplier of the safety data sheet

Company

Thermo Fisher (Kandel) GmbH

Erlenbachweg 2, 76870 Kandel, Germany

Tel: +49 (0) 721 84007 280 Fax: +49 (0) 721 84007 300

Swiss distributor - Fisher Scientific AG Neuhofstrasse 11, CH 4153 Reinach

Tel: +41 (0) 56 618 41 11

https://www.fishersci.ch/ch/en/customer-help-

support/forms/email-us.html

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

customers in Switzerland:

Tox Info Suisse Emergency Number: 145 (24hr)

Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)

Chemtrec (24h) Toll-Free: 0800 564 402 Chemtrec Local: +41-43 508 20 11 (Zurich)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Substances/mixtures which, in contact with water, emit flammable gases Category 1 (H260)

Health hazards

Skin Corrosion/Irritation Category 1 B (H314)
Serious Eye Damage/Eye Irritation Category 1 (H318)

Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

H260 - In contact with water releases flammable gases which may ignite spontaneously

H314 - Causes severe skin burns and eye damage

EUH014 - Reacts violently with water

Precautionary Statements

P231 + P232 - Handle and store contents under inert gas. Protect from moisture

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P302 + P335 + P334 - IF ON SKIN: Brush off loose particles from skin. Immerse in cool water

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

2.3. Other hazards

Reacts violently with water

Toxicity to Soil Dwelling Organisms

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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3.1. Substances

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Lithium hydride	7580-67-8	EEC No. 231-484-3	>95	Water-react. 1 (H260) Skin Corr. 1B (H314) Eye Dam. 1 (H318) (EUH014)

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

Eye Contact Immediate medical attention is required. Rinse immediately with plenty of water, also under

the eyelids, for at least 15 minutes. Keep eye wide open while rinsing.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. Call a physician immediately.

Ingestion Do NOT induce vomiting. Immediate medical attention is required. Never give anything by

mouth to an unconscious person. Drink plenty of water.

Inhalation Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the

substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center

immediately. If not breathing, give artificial respiration.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

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

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

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

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Dry sodium chloride. Limestone powder. Dry sand.

Extinguishing media which must not be used for safety reasons

Water. Carbon dioxide (CO₂). Foam.

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5.2. Special hazards arising from the substance or mixture

The product causes burns of eyes, skin and mucous membranes. Reacts violently with water.

Hazardous Combustion Products

Hydrogen, Lithium oxide.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

6.2. Environmental precautions

Do not allow material to contaminate ground water system. Should not be released into the environment. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Do not expose spill to water.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not ingest. If swallowed then seek immediate medical assistance. Wear personal protective equipment/face protection. Do not allow contact with water.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Keep away from water or moist air. Store under an inert atmosphere.

Technical Rules for Hazardous Substances (TRGS) 510

Storage Class (LGK) (Germany)

Storage Class/LGK 4.3

Switzerland - Storage of hazardous substances

Storage class - SC 4.3

https://www.kvu.ch/de/themen/stoffe-und-produkte https://www.kvu.ch/fr/themes/substances-et-produits https://www.kvu.ch/it/temi/sostanze-e-prodotti

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): UK - EH40/2005 Work Exposure Limits, Forth edition. Published 2020. IRE - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

CH - The Government of Switzerland has set a directive on limit values for working materials (Grenzwerte am Arbeitsplatz) which is based on the Swiss Federal Regulation "Verordnung über die Verhütung von Unfällen und Berufskrankheiten". This directive is administered, periodically revised and enforced by SUVA (Swiss National Accident Insurance Fund). EU - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC

Component	European Union	The United Kingdom	France	Belgium	Spain
Lithium hydride	STEL: 0.02 mg/m ³	STEL: 0.02 mg/m ³ 15	STEL / VLCT: 0.02	STEL: 0.02 mg/m ³ 15	STEL / VLA-EC: 0.02
•	(15min)	min	mg/m³.	minuten	mg/m ³ (15 minutos).
	` ′	TWA: 0.025 mg/m ³ 8 hr	•		,
Component	Italy	Germany	Portugal	The Netherlands	Finland
Lithium hydride		TWA: 0.025 mg/m ³ (8	STEL: 0.02 mg/m ³ 15	STEL: 0.02 mg/m ³ 15	STEL: 0.02 mg/m ³ 15
		Stunden). AGW -	minutos	minuten	minuutteina
		exposure factor 1	TWA: 0.025 mg/m ³ 8		
			horas		
Component	Austria	Denmark	Switzerland	Poland	Norway
Lithium hydride	MAK-KZGW: 0.02	TWA: 0.025 mg/m ³ 8	STEL: 0.05 mg/m ³ 15	STEL: 0.02 mg/m ³ 15	STEL: 0.02 mg/m ³ 15
-	mg/m ³ 15 Minuten	timer	Minuten	minutach	minutter. value from th
	MAK-TMW: 0.025	STEL: 0.02 mg/m ³ 15	TWA: 0.025 mg/m ³ 8	TWA: 0.01 mg/m ³ 8	regulation
	mg/m3 8 Stunden	minutter	Stunden	godzinach	-
		STEL: 0.05 mg/m ³ 15			
		minutter			
		minutter			
Component	Bulgaria	minutter Croatia	Ireland	Cyprus	Czech Republic
Component Lithium hydride	Bulgaria STEL: 0.02 mg/m³			Cyprus STEL: 0.02 mg/m³	Czech Republic TWA: 0.01 mg/m³ 8
		Croatia			

L	Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
	Lithium hydride	STEL: 0.02 mg/m ³	STEL-KGVI: 0.02 mg/m ³	TWA: 0.025 mg/m ³ 8 hr.	STEL: 0.02 mg/m ³	TWA: 0.01 mg/m ³ 8
-			15 minutama. inhalable	STEL: 0.02 mg/m ³ 15		hodinách.
-			fraction	min		Ceiling: 0.02 mg/m ³
-						breathable aerosol
L						fraction

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Lithium hydride	TWA: 0.025 mg/m³ 8 tundides. respirable dust STEL: 0.02 mg/m³ 15 minutites. respirable dust		STEL: 0.02 mg/m ³	STEL: 0.02 mg/m³ 15 percekben. CK respirable fraction of the thoracic fraction	STEL: 0.02 mg/m ³ inhalable fraction

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Lithium hydride	STEL: 0.02 mg/m ³	Ceiling: 0.02 mg/m ³	STEL: 0.02 mg/m ³ 15	STEL: 0.02 mg/m ³ 15	STEL: 0.02 mg/m ³ 15
	_	inhalable fraction	Minuten	minuti	minute

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Lithium hydride		Ceiling: 0.02 mg/m ³	TWA: 0.02 mg/m ³ 8	Binding STEL: 0.02	TWA: 0.025 mg/m ³ 8
		TWA: 0.025 mg/m ³	urah inhalable fraction	mg/m ³ 15 minuter Li	saat
		_	STEL: 0.02 mg/m ³ 15		
			minutah inhalable		
			fraction		

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

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Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

No information available

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use only under a chemical fume hood.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber Nitrile rubber Neoprene	See manufacturers recommendations	-	EN 374	(minimum requirement)
PVC				

Skin and body protection Long sleeved clothing.

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection	When workers are facing concentrations a	bove the exposure limit they must use
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appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used

and maintained properly

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure

limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Particle filtering: EN149:2001 When RPE is used a face piece Fit Test should be conducted

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Environmental exposure controls No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Powder Solid

Appearance Light grey

Odor No information available **Odor Threshold** No data available Melting Point/Range 680 °C / 1256 °F **Softening Point** No data available **Boiling Point/Range** No information available

Not applicable Flammability (liquid) Solid

Flammability (solid,gas) No information available No data available

Explosion Limits

Flash Point No information available Method - No information available

>160 °C / >392 °F **Autoignition Temperature Decomposition Temperature** No data available

No information available pН

Viscosity Not applicable Solid

Water Solubility Reacts violently with water No information available Solubility in other solvents

Partition Coefficient (n-octanol/water)

Vapor Pressure No information available

Density / Specific Gravity 0.820

Bulk Density No data available

Vapor Density Not applicable Solid

Particle characteristics No data available

9.2. Other information

Molecular Formula H Li **Molecular Weight** 7.95

Substances/mixtures which, in Emitted gas ignites spontaneously Gas(es) = Hydrogen

contact with water, emit flammable

gases

Evaporation Rate Not applicable - Solid

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity Yes

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing. Reacts violently with water.

10.4. Conditions to avoid

Incompatible products. Excess heat. Exposure to moist air or water. Exposure to moisture.

10.5. Incompatible materials

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Acids. Strong oxidizing agents. Alcohols. Chlorine. oxygen.

10.6. Hazardous decomposition products

Hydrogen. Lithium oxide.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information No acute toxicity information is available for this product

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met Based on available data, the classification criteria are not met **Dermal** Inhalation Based on available data, the classification criteria are not met

Category 1 B (b) skin corrosion/irritation;

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Based on available data, the classification criteria are not met Respiratory Based on available data, the classification criteria are not met Skin

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Based on available data, the classification criteria are not met

Based on available data, the classification criteria are not met (h) STOT-single exposure;

Based on available data, the classification criteria are not met (i) STOT-repeated exposure;

Target Organs None known.

(j) aspiration hazard; Not applicable

Solid

Other Adverse Effects The toxicological properties have not been fully investigated.

delayed

Symptoms / effects,both acute and Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any

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known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Reacts with water so no ecotoxicity data for the substance is available. Discharge to water

will affect pH and harm aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Lithium hydride	LC50: 62.22 mg/L/96h (Danio	EC50: 18.1 mg/L/48h	
	rerio)		

12.2. Persistence and degradability

Persistence Degradability

Degradation in sewage treatment plant

Persistence is unlikely, based on information available. Not relevant for inorganic substances, Reacts with water.

Reacts violently with water.

Product does not bioaccumulate due to reaction with water 12.3. Bioaccumulative potential

12.4. Mobility in soil Reacts with water Reacts violently with water Is not likely mobile in the environment.

12.5. Results of PBT and vPvB

assessment

Reacts violently with water.

12.6. Endocrine disrupting

properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected substance This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused

Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point. Empty containers

retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and

empty container away from heat and sources of ignition.

According to the European Waste Catalog, Waste Codes are not product specific, but **European Waste Catalogue (EWC)**

application specific.

Other Information Waste codes should be assigned by the user based on the application for which the product

was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains. Large amounts will affect pH and harm aquatic

organisms.

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Switzerland - Waste Ordinance

Disposal should be in accordance with applicable regional, national and local laws and regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance, ADWO) SR 814.600

https://www.fedlex.admin.ch/eli/cc/2015/891/en

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN1414

14.2. UN proper shipping name LITHIUM HYDRIDE

14.3. Transport hazard class(es) 4.3 **14.4. Packing group** I

ADR

14.1. UN number UN1414

14.2. UN proper shipping name LITHIUM HYDRIDE

14.3. Transport hazard class(es) 4.3 **14.4. Packing group** I

IATA

14.1. UN number UN1414

14.2. UN proper shipping name LITHIUM HYDRIDE

14.3. Transport hazard class(es) 4.3 14.4. Packing group I

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

C	CACNE	TCCA	TCCA I		DCI	NDCI	AICC	NIZLAC	DICCC
Lithium hydride	7580-67-8	231-484-3	-	-	X	X	KE-22565	Х	X
Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Lithium hydride	7580-67-8	X	ACTIVE	-	Χ	Χ	Χ	Х

Legend: X - Listed '-' - Not Listed **KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Authorisation/Restrictions according to EU REACH Not applicable

Component	CAS No	REACH (1907/2006) -	REACH (1907/2006) -	REACH Regulation (EC
		Annex XIV - Substances	Annex XVII - Restrictions	1907/2006) article 59 -

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			Subject to Authorization		Candidate List of Substances of Very High Concern (SVHC)
Γ	Lithium hydride	7580-67-8	-	-	-

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report
		Notification	Requirements
Lithium hydride	7580-67-8	Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Lithium hydride	WGK1	

Swiss Regulations

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).

Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H260 - In contact with water releases flammable gases which may ignite spontaneously

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

EUH014 - Reacts violently with water

Legend

CAS - Chemical Abstracts Service

TSCA - United States Toxic Substances Control Act Section 8(b)

Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical

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Substances List

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic

ICAO/IATA - International Civil Aviation Organization/International Air

MARPOL - International Convention for the Prevention of Pollution from

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

IARC - International Agency for Research on Cancer

NZIoC - New Zealand Inventory of Chemicals

Predicted No Effect Concentration (PNEC)

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

TWA - Time Weighted Average

EC50 - Effective Concentration 50%

LD50 - Lethal Dose 50%

Transport Association

ATE - Acute Toxicity Estimate

VOC - (volatile organic compound)

Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances **KECL** - Korean Existing and Evaluated Chemical Substances

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment LC50 - Lethal Concentration 50% NOEC - No Observed Effect Concentration PBT - Persistent, Bioaccumulative, Toxic

ADR - European Agreement Concerning the International Carriage of

Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime

Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Ships

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Prepared By Health, Safety and Environmental Department

Creation Date 21-Aug-2009 **Revision Date** 24-Mar-2024

New emergency telephone response service provider. **Revision Summary**

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006

For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2, Number 3, ChemO (SR 813.11 - Ordinance on Protection against Dangerous Substances and Preparations).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet