

according to Regulation (EC) No. 1907/2006

Creation Date 23-Jan-2009 Revision Date 02-May-2025 Revision Number 5

# Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. Product identifier

Product Description: Dimethyl sulfoxide

Cat No.: 22914

Synonyms Dimethyl sulfoxide; DMSO

 CAS No
 67-68-5

 EC No
 200-664-3

 Molecular Formula
 C2 H6 O S

**REACH registration number** 01-2119431362-50-0019

#### 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

## 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**

#### Dimethyl sulfoxide

Revision Date 02-May-2025

#### 2.1. Classification of the substance or mixture

## CLP Classification - Regulation (EC) No 1272/2008

## **Physical hazards**

Based on available data, the classification criteria are not met

#### **Health hazards**

Based on available data, the classification criteria are not met

#### **Environmental hazards**

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

#### 2.2. Label elements

Combustible liquid

## 2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB) DMSO readily penetrates skin and may carry other dissolved chemicals into the body

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

## Section 3: Composition/information on ingredients

#### 3.1. Substances

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Dimethyl sulfoxide	67-68-5	EEC No. 200-664-3	<=100	-

	REACH registration number	01-2119431362-50-0019
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Full text of Hazard Statements: see section 16

## **Section 4: First aid measures**

## 4.1. Description of first aid measures

General Advice If symptoms persist, call a physician. Show this safety data sheet to the doctor in

attendance.

Dimethyl sulfoxide Revision Date 02-May-2025

**Eye Contact**Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention

immediately if symptoms occur.

**Ingestion** Do NOT induce vomiting. Get medical attention.

**Inhalation** Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing,

give artificial respiration.

Self-Protection of the First Aider No special precautions required.

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

Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness,

nausea and vomiting

## 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**

Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

#### Extinguishing media which must not be used for safety reasons

No information available.

#### 5.2. Special hazards arising from the substance or mixture

Combustible material. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors.

## **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO2), Sulfur oxides, Sulfides, Formaldehyde.

#### 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.

## Section 6: ACCIDENTAL RELEASE MEASURES

#### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges. Ensure adequate ventilation.

## 6.2. Environmental precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

#### Dimethyl sulfoxide

Revision Date 02-May-2025

#### 6.3. Methods and material for containment and cleaning up

Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

#### 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

Wear personal protective equipment/face protection. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

#### 7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

Technical Rules for Hazardous Substances (TRGS) 510

Storage Class (LGK) (Germany)

Storage Class/LGK 10

Switzerland - Storage of hazardous substances Storage class - SC 10/12

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): **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).

Component	Italy	Germany	Portugal	The Netherlands	Finland
Dimethyl sulfoxide		TWA: 50 ppm (8			TWA: 50 ppm 8 tunteina
· .		Stunden). AGW -			İho
		exposure factor 2			
		TWA: 160 mg/m <sup>3</sup> (8			
		Stunden). AGW -			
		exposure factor 2			
		TWA: 50 ppm (8			
		Stunden). MAK			
		TWA: 160 mg/m <sup>3</sup> (8			
		Stunden). MAK `			
		Höhepunkt: 100 ppm			
		Höhepunkt: 320 mg/m <sup>3</sup>			

## **Dimethyl sulfoxide**

Revision Date 02-May-2025

Page 5/12

		Haut			
Component	Austria	Denmark	Switzerland	Poland	Norway
Dimethyl sulfoxide	Haut	TWA: 50 ppm 8 timer	Haut/Peau		
·	MAK-TMW: 50 ppm 8	TWA: 160 mg/m <sup>3</sup> 8 timer	STEL: 100 ppm 15		
	Stunden	STEL: 100 ppm 15	Minuten		
	MAK-TMW: 160 mg/m <sup>3</sup>	minutter	STEL: 320 mg/m <sup>3</sup> 15		
	8 Stunden	STEL: 320 mg/m <sup>3</sup> 15	Minuten		
		minutter	TWA: 50 ppm 8		
			Stunden		
			TWA: 160 mg/m <sup>3</sup> 8		
			Stunden		

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Dimethyl sulfoxide	Nahk				
	TWA: 50 ppm 8				
	tundides.				
	TWA: 150 mg/m <sup>3</sup> 8				
	tundides.				
	STEL: 150 ppm 15				
	minutites.				
	STEL: 500 mg/m <sup>3</sup> 15				
	minutites.				

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Dimethyl sulfoxide		TWA: 50 ppm IPRD			
		TWA: 150 mg/m <sup>3</sup> IPRD			
		Oda			
		STEL: 150 ppm			
		STEL: 500 mg/m <sup>3</sup>			

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Dimethyl sulfoxide	MAC: 20 mg/m <sup>3</sup>		TWA: 160 mg/m <sup>3</sup> 8 urah	Indicative STEL: 150	
	_		TWA: 50 ppm 8 urah	ppm 15 minuter	
			Koža	Indicative STEL: 500	
			STEL: 100 ppm 15	mg/m <sup>3</sup> 15 minuter	
			minutah	TLV: 50 ppm 8 timmar.	
			STEL: 320 mg/m <sup>3</sup> 15	NGV	
			minutah	TLV: 150 mg/m <sup>3</sup> 8	
				timmar. NGV	
				Hud	

## **Biological limit values**

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

## **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.

MDHS70 General methods for sampling airborne gases and vapours

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

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Dimethyl sulfoxide				DNEL = 200mg/kg
67-68-5 ( <=100 )				bw/day

# Dimethyl sulfoxide

	Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
	Dimethyl sulfoxide			DNEL = $265 \text{mg/m}^3$	$DNEL = 484mg/m^3$
-	67-68-5 ( <=100 )				

#### **Predicted No Effect Concentration (PNEC)**

See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
Dimethyl sulfoxide	PNEC = 17mg/L	PNEC = 13.4 mg/kg		PNEC = 11mg/L	PNEC = 3.02mg/kg
67-68-5 ( <=100 )	_	sediment dw			soil dw

Component	Marine water	Marine water sediment	Marine water Intermittent	Food chain	Air
Dimethyl sulfoxide	PNEC = 1.7mg/L			PNEC = 0.7g/kg	
67-68-5 ( <=100 )				food	

#### 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.

## Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Neoprene	> 480 minutes	0.45 mm	Level 6	As tested under EN374-3 Determination of
			EN 374	Resistance to Permeation by Chemicals
Nitrile rubber	> 480 minutes	> 0.2 mm		

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 above the exposure limit they must use

appropriate certified respirators.

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: Particle filter

Small scale/Laboratory use Maintain adequate ventilation

**Environmental exposure controls** Prevent product from entering drains.

## Section 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

ALFAA22914

Revision Date 02-May-2025

Dimethyl sulfoxide Revision Date 02-May-2025

Physical State Liquid

Appearance Colorless Odor Odorless

Odor ThresholdNo data availableMelting Point/Range18.4 °C / 65.1 °FSoftening PointNo data availableBoiling Point/Range189 °C / 372.2 °F

Flammability (liquid) Combustible liquid On basis of test data

Flammability (solid,gas) Not applicable Liquid

Explosion Limits Lower 2.6 Vol% Upper 42 Vol%

Upper 42 Vol%

Flash Point 87 °C / 188.6 °F Method - No information available

**Autoignition Temperature** 301 °C / 573.8 °F **Decomposition Temperature** > 190°C

pH No information available Viscosity 1.98 mPa.s @ 25°C

Water Solubility Soluble

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

**Component** log Pow Dimethyl sulfoxide -1.35

Vapor Pressure 0.55 mbar @ 20°C

Density / Specific Gravity 1.100

Bulk DensityNot applicableLiquidVapor Density2.7(Air = 1.0)

Particle characteristics Not applicable (liquid)

9.2. Other information

Molecular Formula C2 H6 O S Molecular Weight 78.13

**Explosive Properties** explosive air/vapour mixtures possible

Evaporation Rate No information available

## Section 10: Stability and reactivity

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions Thermal decomposition can take place above 189°C / 372°F.

10.4. Conditions to avoid

Incompatible products. Excess heat. Exposure to moist air or water. Keep away from open

flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases. Alkali metals.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Sulfur oxides. Sulfides. Formaldehyde.

## **Section 11: Toxicological information**

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

#### **Product Information**

(a) acute toxicity;

OralBased on available data, the classification criteria are not metDermalBased on available data, the classification criteria are not metInhalationBased on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Dimethyl sulfoxide	LD50 = 28300 mg/kg (Rat)	LD50 = 40000 mg/kg (Rat)	LC50 > 5.33 mg/L (Rat) 4 h

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Based on available data, the classification criteria are not met

(d) respiratory or skin sensitization;

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

(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

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

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

Target Organs None known.

(j) aspiration hazard; Based on available data, the classification criteria are not met

Symptoms / effects,both acute and Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. delayed

## 11.2. Information on other hazards

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

known or suspected endocrine disruptors.

## **Section 12: Ecological information**

#### 12.1. Toxicity

## Dimethyl sulfoxide

Revision Date 02-May-2025

**Ecotoxicity effects**Contains no substances known to be hazardous to the environment or that are not

degradable in waste water treatment plants. Do not empty into drains. .

Component	Freshwater Fish	Water Flea	Freshwater Algae
Dimethyl sulfoxide	40 g/L LC50 96 h 33-37 g/L LC50 96 h	EC50 24h 7000 mg/L	EC50 96h 12350 - 25500 mg/L

Component	Microtox	M-Factor
Dimethyl sulfoxide	= 16000 mg/L EC50 Pseudomonas putida 16 h	
	= 32 g/L EC50 Tetrahymena pyriformis 24 h	
	= 77 mg/L EC50 Photobacterium phosphoreum 5	
	min	

12.2. Persistence and degradability

Persistence Persistence is unlikely.

Degradation in sewage treatment plant

Contains no substances known to be hazardous to the environment or not degradable in

waste water treatment plants.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Dimethyl sulfoxide	-1.35	No data available

12.4. Mobility in soil The product is water soluble, and may spread in water systems . Will likely be mobile in the

environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB

assessment

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent

and very bioaccumulative (vPvB).

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** 

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to

ensure complete and accurate classification.

Contaminated Packaging Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use

empty containers.

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

application specific.

Other Information Do not flush to sewer.

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,

Dimethyl sulfoxide

Revision Date 02-May-2025

ADWO) SR 814.600

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

## **Section 14: Transport information**

IMDG/IMO Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

ADR Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

IATA Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

No hazards identified 14.5. Environmental hazards

14.6. Special precautions for user No special precautions required.

14.7. Maritime transport in bulk according to IMO instruments

## **Section 15: Regulatory information**

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

Not applicable, packaged goods

#### **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)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Dimethyl sulfoxide	67-68-5	200-664-3	-	-	Х	Х	KE-32367	Х	Χ
Component	CAS No	TSCA	TSCA Ir	ventory	DSL	NDSL	AICS	NZIoC	PICCS

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Dimethyl sulfoxide	67-68-5	Х	ACTIVE	X	-	X	X	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

Component	CAS No	REACH (1907/2006) -	REACH (1907/2006) -	REACH Regulation (EC
		Annex XIV - Substances	Annex XVII - Restrictions	1907/2006) article 59 -
		Subject to Authorization	on Certain Dangerous	Candidate List of
			Substances	Substances of Very High

#### Dimethyl sulfoxide

Revision Date 02-May-2025

				Concern (SVHC)
Dimethyl sulfoxide	67-68-5	-	Use restricted. See entry	-
			75.	
			(see link for restriction	
			details)	

#### **REACH links**

https://echa.europa.eu/substances-restricted-under-reach

#### Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) -	Seveso III Directive (2012/18/EC) -
		Qualifying Quantities for Major Accident	Qualifying Quantities for Safety Report
		Notification	Requirements
Dimethyl sulfoxide	67-68-5	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 .

#### **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
Dim	nethyl sulfoxide	WGK1	

Component	France - INRS (Tables of occupational diseases)
Dimethyl sulfoxide	Tableaux des maladies professionnelles (TMP) - RG 84

### **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

#### Legend

CAS - Chemical Abstracts Service

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

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances/EU List of Notified Chemical Substances

Substances List

## Dimethyl sulfoxide

Revision Date 02-May-2025

**ENCS** - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

IARC - International Agency for Research on Cancer

ICAO/IATA - International Civil Aviation Organization/International Air

MARPOL - International Convention for the Prevention of Pollution from

NZIoC - New Zealand Inventory of Chemicals

Predicted No Effect Concentration (PNEC)

vPvB - very Persistent, very Bioaccumulative

**EC50** - Effective Concentration 50% **POW** - Partition coefficient Octanol:Water

TWA - Time Weighted Average

LD50 - Lethal Dose 50%

Transport Association

ATE - Acute Toxicity Estimate

VOC - (volatile organic compound)

**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.

Prepared By Health, Safety and Environmental Department

Creation Date23-Jan-2009Revision Date02-May-2025Revision SummaryNot applicable.

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**