SAFETY DATA SHEET

Creation Date Oct-2013 **Revision Date** Oct-2018 **Revision Number** 2

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

1.1. Product identification

Product Description: Carbol Fuchsin
Cat No. : Q38573, Q38563, Q39164
Molecular Formula CF3(CF2)7CO2H

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

Recommended Use Laboratory chemicals.
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company Thermo Fisher Scientific India Pvt. Ltd
403-404, B-wing, Delphi, Hiranandani Business Park,
Powai, Mumbai 400076, INDIA.
E-mail address laboratorysolutions@thermofisher.com

1.4. Emergency telephone number

India Toll Free: 18 00 22 22 30
Chemtrec US: (800) 424-9300
Chemtrec EU: 001 (202) 483-7616

SECTION 2: HAZARDS IDENTIFICATION

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

Acute oral toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 4
Skin Corrosion/irritation	Category 1 B
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 2
Specific target organ toxicity - (repeated exposure)	Category 2

Environmental hazards
Based on available data, the classification criteria are not met

Classification according to EU Directives 67/548/EEC or 1999/45/EC
Symbol(s) C - Corrosive

R-phrase(s)

R34 - Causes burns
R40 - Limited evidence of a carcinogenic effect
R68 - Possible risk of irreversible effects
R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed
R48/20/21/22 - Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.

2.2. Label elements

Signal Word **Danger**

Hazard Statements

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H332 - Harmful if inhaled
H341 - Suspected of causing genetic defects
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician
P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water
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 + P313 - IF exposed or concerned: Get medical advice/ attention

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008	DSD Classification - 67/548/EEC
Phenol	108-95-2	EEC No. 203-632-7	<8	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Muta. 2 (H341) STOT RE 2 (H373)	T; R23/24/25 C; R34 Xn; R48/20/21/22 Muta.Cat.3; R68
Carbol Fuchsin	4197-24-4	EEC No. 224-086-6	>92	Acute Tox. 4 (H302) Carc. 2 (H351)	Xn;R22 Carc.Cat.3;R40

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

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

Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

Protection of First-aiders 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. 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
CO_2, dry chemical, dry sand, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons
No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Hydrogen chloride gas, Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO_2).

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. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Avoid dust formation.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

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

Use only under a chemical fume hood. Wear personal protective equipment. Avoid dust formation. Do not breathe dust. Do not get in eyes, on skin, or on clothing.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from light. Corrosives area.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits
List source(s): **EU** - Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. **UK** - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement. **IRE -** 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

Component	European Union	The United Kingdom	France	Belgium	Spain
Phenol	Possibility of significant uptake through the skin TWA: 2 ppm 8 hr TWA: 8 mg/m³ 8 hr STEL: 4 ppm 15 min STEL: 16 mg/m³ 15 min TWA: 7.8 mg/m³ 8 hr	STEL: 4 ppm 15 min STEL: 16 mg/m³ 15 min TWA: 2 ppm 8 hr TWA: 7.8 mg/m³ 8 hr Skin	TWA / VME: 2 ppm (8 heures). restrictive limit TWA / VME: 7.8 mg/m³ (8 heures). restrictive limit STEL / VLCT: 4 ppm. restrictive limit STEL / VLCT: 15.6 mg/m³. restrictive limit Peau	TWA: 2 ppm 8 uren TWA: 8 mg/m³ 8 uren STEL: 4 ppm 15 minuten STEL: 16 mg/m³ 15 minuten Huid	STEL / VLA-EC: 4 ppm (15 minutos). STEL / VLA-EC: 16 mg/m³ (15 minutos). TWA / VLA-ED: 2 ppm (8 horas) TWA / VLA-ED: 8 mg/m³ (8 horas) Piel

Component	Italy	Germany	Portugal	The Netherlands	Finland
Phenol	TWA: 2 ppm 8 ore. TWA: 7.8 mg/m³ 8 ore. Pelle	TWA: 2 ppm (8 Stunden). AGW - exposure factor 2 TWA: 8 mg/m³ (8 Stunden). AGW - exposure factor 2 Haut	STEL: 4 ppm 15 minutos STEL: 16 mg/m³ 15 minutos TWA: 2 ppm 8 horas TWA: 8 mg/m³ 8 horas Pele	huid TWA: 8 mg/m³ 8 uren	TWA: 2 ppm 8 tunteina TWA: 8 mg/m³ 8 tunteina STEL: 4 ppm 15 minuutteina STEL: 16 mg/m³ 15 minuutteina Iho

Component	Austria	Denmark	Switzerland	Poland	Norway

Phenol	Haut MAK-KZW: 4 ppm 15 Minuten MAK-KZW: 16 mg/m³ 15 Minuten MAK-TMW: 2 ppm 8 Stunden MAK-TMW: 8 mg/m³ 8 Stunden	TWA: 1 ppm 8 timer TWA: 4 mg/m³ 8 timer Hud	Haut/Peau STEL: 5 ppm 15 Minuten STEL: 19 mg/m³ 15 Minuten TWA: 5 ppm 8 Stunden TWA: 19 mg/m³ 8 Stunden	STEL: 16 mg/m³ 15 minutach TWA: 7.8 mg/m³ 8 godzinach	TWA: 1 ppm 8 timer TWA: 4 mg/m³ 8 timer STEL: 3 ppm 15 minutter. listed in the List of Administrative Norms STEL: 12 mg/m³ 15 minutter. listed in the List of Administrative Norms Hud

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Phenol	TWA: 2 ppm TWA: 8 mg/m³ STEL : 4 ppm STEL : 16 mg/m³ Skin notation	kože TWA-GVI: 2 ppm 8 satima. TWA-GVI: 8 mg/m³ 8 satima. STEL-KGVI: 4 ppm 15 minutama. STEL-KGVI: 16 mg/m³ 15 minutama.	TWA: 2 ppm 8 hr. TWA: 8 mg/m³ 8 hr. STEL: 4 ppm 15 min STEL: 16 mg/m³ 15 min Skin	Skin-potential for cutaneous absorption STEL: 16 mg/m³ STEL: 4 ppm TWA: 8 mg/m³ TWA: 2 ppm	TWA: 7.5 mg/m³ 8 hodinách. Potential for cutaneous absorption Ceiling: 15 mg/m³

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Phenol	Nahk TWA: 2 ppm 8 tundides. TWA: 7.8 mg/m³ 8 tundides.	Skin notation TWA: 2 ppm 8 hr TWA: 8 mg/m³ 8 hr STEL: 16 mg/m³ 15 min STEL: 4 ppm 15 min	skin - potential for cutaneous absorption STEL: 4 ppm STEL: 16 mg/m³ TWA: 2 ppm TWA: 8 mg/m³	STEL: 16 mg/m³ 15 percekben. CK TWA: 8 mg/m³ 8 órában. AK lehetséges borön keresztüli felszívódás	TWA: 1 ppm 8 klukkustundum. TWA: 4 mg/m³ 8 klukkustundum. Skin notation Ceiling: 2 ppm Ceiling: 8 mg/m³

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Phenol	skin - potential for cutaneous exposure STEL: 4 ppm STEL: 16 mg/m³ TWA: 2 ppm TWA: 8 mg/m³	TWA: 2 ppm IPRD TWA: 8 mg/m³ IPRD Oda STEL: 4 ppm STEL: 16 mg/m³	Possibility of significant uptake through the skin TWA: 2 ppm 8 Stunden TWA: 8 mg/m³ 8 Stunden STEL: 16 mg/m³ 15 Minuten STEL: 4 ppm 15 Minuten	possibility of significant uptake through the skin TWA: 2 ppm TWA: 8 mg/m³ STEL: 16 mg/m³ 15 minuti STEL: 4 ppm 15 minuti	Skin notation TWA: 2 ppm 8 ore TWA: 8 mg/m³ 8 ore STEL: 4 ppm 15 minute STEL: 16 mg/m³ 15 minute

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Phenol	TWA: 0.3 mg/m³ Skin notation STEL: 1 mg/m³ vapor	Ceiling: 16 mg/m³ Potential for cutaneous absorption TWA: 2 ppm TWA: 7.8 mg/m³	TWA: 2 ppm 8 urah TWA: 8 mg/m³ 8 urah Koža STEL: 4 ppm 15 minutah STEL: 16 mg/m³ 15 minutah	STV: 2 ppm 15 minuter STV: 8 mg/m³ 15 minuter LLV: 1 ppm 8 timmar. LLV: 4 mg/m³ 8 timmar. Hud	Deri TWA: 2 ppm 8 saat TWA: 8 mg/m³ 8 saat STEL: 4 ppm 15 dakika STEL: 16 mg/m³ 15 dakika

Biological limit values

List source(s):

Component	European Union	United Kingdom	France	Spain	Germany
Phenol			Total Phenol: 250 mg/g creatinine urine end of shift	Phenol (with hydrolysis): 120 mg/g Creatinine urine end of shift	Phenol: 120 mg/g urine (end of shift after hydrolysis; measured as mg/g Creatinine)

Component	Italy	Finland	Denmark	Bulgaria	Romania
Phenol		Total phenol: 1.3 mmol/L urine end of shift.		Phenol: 200 mg/L urine at the end of exposure or end of shift	total Phenol: 50 mg/L urine end of shift

Component	Gibraltar	Latvia	Slovak Republic	Luxembourg	Turkey

Phenol			Phenol: 200 mg/L urine end of exposure or work shift		

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) No information available

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral				
Dermal				
Inhalation				

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.
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 Butyl rubber Nitrile rubber Neoprene PVC	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure 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.
Remove gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use 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:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141 When RPE is used a face piece Fit Test should be conducted
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Dark green	
Physical State	Powder Solid	
Odor	No information available	
Odor Threshold	No data available	
pH	No information available	
Melting Point/Range	69 - 74 °C / 156.2 - 165.2 °F	
Softening Point	No data available	
Boiling Point/Range	No information available	
Flash Point	No information available	**Method -** No information available
Evaporation Rate	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Vapor Pressure	No data available	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	No data available	
Bulk Density	No data available	
Water Solubility	No information available	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
Phenol	1.47

Autoignition Temperature	Not applicable	
Decomposition Temperature	No data available	
Viscosity	Not applicable	Solid
Explosive Properties	No information available	
Oxidizing Properties	No information available	

9.2. Other information

Molecular Formula	CF3(CF2)7CO2H
Molecular Weight	464.08

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

Hazardous Polymerization No information available.

Hazardous Reactions No information available.

10.4. Conditions to avoid

Avoid dust formation. Incompatible products. Excess heat. Exposure to light.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Hydrogen chloride gas. Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO_2).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information

(a) acute toxicity;

Oral Category 4

Dermal Based on ATE data, the classification criteria are not met
ATE = 3750 mg/kg

Inhalation Category 4

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Phenol	340 mg/kg (Rat)	630 mg/kg (Rabbit)	

(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory No data available

Skin No data available

(e) germ cell mutagenicity; Category 2

(f) carcinogenicity; Category 2

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Phenol			Cat. 3B	Group 3

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; Category 2

Target Organs Respiratory system, Eyes, Skin, Gastrointestinal tract (GI), Liver, Kidney.

(j) aspiration hazard; Not applicable
Solid

Other Adverse Effects The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information

Symptoms / effects,both acute and delayed Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Phenol	4-7 mg/L LC50 96 h 32 mg/L LC50 96 h	10.2 - 15.5 mg/L EC50 48 h 4.24 - 10.7 mg/L EC50 48 h	46.42 mg/L EC50 = 96 h 0.0188 - 0.1044 mg/L EC50 96 h 187 - 279 mg/L EC50 72 h	EC50 21 - 36 mg/L 30 min EC50 = 23.28 mg/L 5 min EC50 = 25.61 mg/L 15 min EC50 = 28.8 mg/L 5 min EC50 = 31.6 mg/L 15 min

12.2. Persistence and degradability No information available

12.3. Bioaccumulative potential No information available

Component	log Pow	Bioconcentration factor (BCF)
Phenol	1.47	No data available

12.4. Mobility in soil No information available

12.5. Results of PBT and vPvB assessment No data available for assessment.

12.6. Other adverse effects

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

Persistent Organic Pollutant This product does not contain any known or suspected substance

Ozone Depletion Potential 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.

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

Other Information Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN2923

14.2. UN proper shipping name CORROSIVE SOLID, TOXIC, N.O.S

14.3. Transport hazard class(es) 8

Subsidiary Hazard Class 6.1

14.4. Packing group III

ADR

14.1. UN number UN2923
14.2. UN proper shipping name CORROSIVE SOLID, TOXIC, N.O.S
14.3. Transport hazard class(es) 8
Subsidiary Hazard Class 6.1
14.4. Packing group III
ADR/RID-Labels 6.1

IATA

14.1. UN number UN2923
14.2. UN proper shipping name CORROSIVE SOLID, TOXIC, N.O.S
14.3. Transport hazard class(es) 8
Subsidiary Hazard Class 6.1
14.4. Packing group III

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Phenol	203-632-7	-		X	X	-	X	X	X	X	X
Carbol Fuchsin	224-086-6	-		-	-	-	X	-	-	-	-

National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Phenol	WGK 2	Class I : 20 mg/m³ (Massenkonzentration)

Component	France - INRS (Tables of occupational diseases)
Phenol	Tableaux des maladies professionnelles (TMP) - RG 14

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.
Take note of Dir 94/33/EC on the protection of young people at work
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

15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3
R34 - Causes burns
R40 - Limited evidence of a carcinogenic effect
R68 - Possible risk of irreversible effects
R22 - Harmful if swallowed

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed
R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed
R48/20/21/22 - Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed

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

H301 - Toxic if swallowed
H302 - Harmful if swallowed
H311 - Toxic in contact with skin
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H331 - Toxic if inhaled
H341 - Suspected of causing genetic defects
H351 - Suspected of causing cancer

Legend

CAS - Chemical Abstracts Service

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

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

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

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

TWA - Time Weighted Average

ACGIH - American Conference of Governmental Industrial Hygienists

IARC - International Agency for Research on Cancer

DNEL - Derived No Effect Level

PNEC - Predicted No Effect Concentration

RPE - Respiratory Protective Equipment

LD50 - Lethal Dose 50%

LC50 - Lethal Concentration 50%

EC50 - Effective Concentration 50% **NOEC** - No Observed Effect Concentration

POW - Partition coefficient Octanol:Water **PBT** - Persistent, Bioaccumulative, Toxic

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

MARPOL - International Convention for the Prevention of Pollution from Ships

OECD - Organisation for Economic Co-operation and Development

ATE - Acute Toxicity Estimate

BCF - Bioconcentration factor

VOC - Volatile Organic Compounds

Key literature references and sources for data

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

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards	On basis of test data
Health Hazards	Calculation method
Environmental hazards	Calculation method

Training Advice

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

Creation Date	Oct-2013
Revision Date	Oct-2023
Revision Summary	SDS section 1 updated and update of Format.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet