

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

1.1. Product identifier

Product Description: Cadmium atomic absorption standard solution
Cat No. : 195870000; 195871000; 195875000

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

UK entity/business name
Fisher Scientific UK
Bishop Meadow Road,
Loughborough, Leicestershire LE11 5RG, United Kingdom

EU entity/business name
Thermo Fisher Scientific
Janssen Pharmaceuticaaan 3a, 2440 Geel, Belgium

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

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Physical hazards

Substances/mixtures corrosive to metal Category 1 (H290)

Health hazards

Skin Corrosion/Irritation Category 2 (H315)
Serious Eye Damage/Eye Irritation Category 1 (H318)

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Germ Cell Mutagenicity Carcinogenicity	Category 1B (H340) Category 1B (H350)
Environmental hazards	
Chronic aquatic toxicity	Category 3 (H412)

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

- H290 - May be corrosive to metals
- H315 - Causes skin irritation
- H318 - Causes serious eye damage
- H340 - May cause genetic defects
- H350 - May cause cancer
- H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

- P302 + P352 - IF ON SKIN: 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
- P310 - Immediately call a POISON CENTER or doctor/physician
- P280 - Wear protective gloves/protective clothing/eye protection/face protection

Additional EU labelling

Restricted to professional users

2.3. Other hazards

- Toxic to terrestrial vertebrates
- This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS No	EC No	Weight %	CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Nitric acid ...% [C ≤ 70 %]	7697-37-2	231-714-2	3.2	Ox. Liq. 3 (H272) Met. Corr. 1 (H290) Acute Tox. 3 (H331) Skin Corr. 1A (H314) Eye Dam. 1 (H318) (EUH071)
Water	7732-18-5	231-791-2	96.53	-
Cadmium nitrate tetrahydrate	10022-68-1		0.27	Acute Tox. 3 (H301) Acute Tox. 4 (H312)

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			Acute Tox. 2 (H330) Carc. 1B (H350) Muta 1B (H340) Repr. 1B (H360) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
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Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Nitric acid ...% [C ≤ 70 %]	Ox. Liq. 2 :: C>=99% Ox. Liq. 3 :: 65%<=C<99% Acute Tox. 1 (inhal) :: C>=70% Acute Tox. 3 (inhal) :: 70%>C>=26.5% Acute Tox. 4 (inhal) :: 26.5%>C>=13.25% Skin Corr. 1A :: C>=20% Skin Corr. 1B :: 5%<=C<20% Met. Corr. 1 :: C>=2% EUH071 :: C>=20%	-	-

Note

Note 1: The concentration stated or, in the absence of such concentrations, the generic concentrations of this Regulation (Table 3.1) or the generic concentrations of Directive 1999/45/EC (Table 3.2), are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture

Component	ECHA (RAC) ATE (Oral)	ECHA (RAC) ATE (Dermal)	ECHA (RAC) ATE (Inhalation)
Nitric acid ...% [C ≤ 70 %]	-	-	ATE = 2.65 mg/L (vapours)

ECHA (RAC) - Committee for Risk Assessment - European Chemicals Agency
 ATE - Acute Toxicity Estimate

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

- General Advice** Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
- Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 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** Remove to fresh air. If not breathing, give artificial respiration. 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. Immediate medical attention is required.
- 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

None reasonably foreseeable. Causes severe eye damage.

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

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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.

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.

Hazardous Combustion Products

Nitrogen oxides (NO_x), Cadmium 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

Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

6.2. Environmental precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

6.3. Methods and material for containment and cleaning up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material.

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. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

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 in a dry, cool and well-ventilated place. Keep container tightly closed. Corrosives area. Do not store in metal containers.

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Technical Rules for Hazardous Substances (TRGS) 510
Storage Class (LGK) (Germany)

Class 6.1D

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 (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 **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **IRE** - 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

Component	The United Kingdom	European Union	Ireland
Nitric acid ...% [C ≤ 70 %]	STEL: 1 ppm 15 min STEL: 2.6 mg/m ³ 15 min	STEL: 1 ppm (15min) STEL: 2.6 mg/m ³ (15min)	STEL: 1 ppm 15 min STEL: 2.6 mg/m ³ 15 min
Cadmium nitrate tetrahydrate	STEL: 0.075 mg/m ³ 15 min TWA: 0.025 mg/m ³ 8 hr		

Biological limit values

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

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

Use only under a chemical fume hood. 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
Butyl rubber	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection Long sleeved clothing.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

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(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, 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 or Acid gases filter Type E Yellow conforming to EN14387

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

Environmental exposure controls

Prevent product from entering drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid	
Appearance	Colorless	
Odor	Odorless	
Odor Threshold	No data available	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	No information available	
Flammability (liquid)	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Flash Point	No information available	Method - No information available
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
pH	< 1	
Viscosity	No data available	
Water Solubility	Miscible	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	log Pow	
Nitric acid ...% [C ≤ 70 %]	-2.3	
Vapor Pressure	No data available	
Density / Specific Gravity	No data available	
Bulk Density	Not applicable	Liquid
Vapor Density	> 1.0	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

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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 Hazardous Reactions

Hazardous polymerization does not occur.

None under normal processing.

10.4. Conditions to avoid

Incompatible products.

10.5. Incompatible materials

Strong bases. Strong reducing agents.

10.6. Hazardous decomposition products

Nitrogen oxides (NO_x). Cadmium 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

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nitric acid ...% [C ≤ 70 %]	-	-	LC50 = 2500 ppm. (Rat) 1h
Water	-	-	-
Cadmium nitrate tetrahydrate	LD50 = 300 mg/kg (Rat)	-	-

Component	ECHA (RAC) ATE (Oral)	ECHA (RAC) ATE (Dermal)	ECHA (RAC) ATE (Inhalation)
Nitric acid ...% [C ≤ 70 %]	-	-	ATE = 2.65 mg/L (vapours)

ECHA (RAC) - Committee for Risk Assessment - European CHemicals Agency

ATE - Acute Toxicity Estimate

(b) skin corrosion/irritation;

Category 2

(c) serious eye damage/irritation;

Category 1

(d) respiratory or skin sensitization;

Respiratory

No data available

Skin

No data available

(e) germ cell mutagenicity;

Category 1B

(f) carcinogenicity;

Category 1B

Possible cancer hazard. May cause cancer based on animal data The table below indicates whether each agency has listed any ingredient as a carcinogen

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- (g) reproductive toxicity; No data available
- (h) STOT-single exposure; No data available
- (i) STOT-repeated exposure; No data available
- Target Organs None known.
- (j) aspiration hazard; No data available
- Symptoms / effects, both acute and delayed No information available.

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

Ecotoxicity effects

Do not empty into drains. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

Component	Microtox	M-Factor
Cadmium nitrate tetrahydrate	EC50 = 1.62 mg/L 30 min	

12.2. Persistence and degradability

Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary based on information available, May persist.

Persistence Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential

May have some potential to bioaccumulate

Component	log Pow	Bioconcentration factor (BCF)
Nitric acid ...% [C ≤ 70 %]	-2.3	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

No data available for assessment.

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

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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 Catalog, Waste Codes are not product specific, but application specific.
Other Information	Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Solutions with low pH-value must be neutralized before discharge. Do not let this chemical enter the environment.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number	UN3264
14.2. UN proper shipping name Technical Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. Nitric acid solution
14.3. Transport hazard class(es)	8
14.4. Packing group	III

ADR

14.1. UN number	UN3264
14.2. UN proper shipping name Technical Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. Nitric acid solution
14.3. Transport hazard class(es)	8
14.4. Packing group	III

IATA

14.1. UN number	UN3264
14.2. UN proper shipping name Technical Shipping Name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. Nitric acid solution
14.3. Transport hazard class(es)	8
14.4. Packing group	III

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

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

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Nitric acid ...% [C ≤ 70 %]	7697-37-2	231-714-2	-	-	X	X	KE-25911	X	X
Water	7732-18-5	231-791-2	-	-	X	X	KE-35400	X	-
Cadmium nitrate tetrahydrate	10022-68-1	-	-	-	X	X	-	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Nitric acid ...% [C ≤ 70 %]	7697-37-2	X	ACTIVE	X	-	X	X	X
Water	7732-18-5	X	ACTIVE	X	-	X	X	X
Cadmium nitrate tetrahydrate	10022-68-1	-	-	-	-	X	X	X

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) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Nitric acid ...% [C ≤ 70 %]	7697-37-2	-	Use restricted. See item 75. (see link for restriction details)	-
Water	7732-18-5	-	-	-
Cadmium nitrate tetrahydrate	10022-68-1	-	Use restricted. See item 23. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	SVHC Candidate list - 233-710-6 - Carcinogenic, Article 57a; Mutagenic, Article 57b; Specific target organ toxicity after repeated exposure, Article 57(f) - human health

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

REACH links

<https://echa.europa.eu/authorisation-list>

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

<https://echa.europa.eu/candidate-list-table>

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Nitric acid ...% [C ≤ 70 %]	7697-37-2	Not applicable	Not applicable
Water	7732-18-5	Not applicable	Not applicable
Cadmium nitrate tetrahydrate	10022-68-1	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

Component	ANNEX I - PART 1 List of chemicals subject to export notification procedure (referred to in Article 8)	ANNEX I - PART 2 List of chemicals qualifying for PIC notification (referred to in Article 11)	ANNEX I - PART 3 List of chemicals subject to the PIC procedure (referred to in Articles 13 and 14)
Cadmium nitrate tetrahydrate 10022-68-1 (0.27)	i(1) — industrial chemical for professional use sr — severe restriction	i — industrial chemical sr — severe restriction	-

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	i(2) — industrial chemical for public sr — severe restriction	
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<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012R0649&qid=1604065742303>.

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

Take note of Dir 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations

National Regulations

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

WGK Classification

Water endangering class = 3 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Nitric acid ...% [C ≤ 70 %]	WGK1	

Component	France - INRS (Tables of occupational diseases)
Cadmium nitrate tetrahydrate	Tableaux des maladies professionnelles (TMP) - RG 61,RG 61bis

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Nitric acid ...% [C ≤ 70 %] 7697-37-2 (3.2)	Prohibited and Restricted Substances		
Cadmium nitrate tetrahydrate 10022-68-1 (0.27)	Prohibited and Restricted Substances		Annex I - industrial chemical

15.2. Chemical safety assessment

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

SECTION 16: OTHER INFORMATION

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

- H290 - May be corrosive to metals
- H315 - Causes skin irritation
- H318 - Causes serious eye damage
- H350 - May cause cancer
- H340 - May cause genetic defects
- H412 - Harmful to aquatic life with long lasting effects
- H301 - Toxic if swallowed
- H312 - Harmful in contact with skin
- H360 - May damage fertility or the unborn child
- H410 - Very toxic to aquatic life with long lasting effects
- EUH071 - Corrosive to the respiratory tract
- H272 - May intensify fire; oxidizer
- H314 - Causes severe skin burns and eye damage
- H330 - Fatal if inhaled

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H331 - Toxic if inhaled
H372 - Causes damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical 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

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

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

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

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

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

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

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

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

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

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.

Chemical incident response training.

Creation Date 24-Nov-2010

Revision Date 09-Feb-2024

Revision Summary SDS sections updated.

This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

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