

according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended

Creation Date 12-Aug-2014 Revision Date 19-Oct-2023 Revision Number 16

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

#### 1.1. Product identifier

Product Description: Ammonium dichromate

Cat No.: A/4400/50, A/4400/63, A/4400/65
Synonyms Ammonium dichromate(VI).; Ammonium bichromate

 Index No
 024-003-00-1

 CAS No
 7789-09-5

 EC No
 232-143-1

 Molecular Formula
 H8 Cr2 N2 O7

## 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 Pharmaceuticalaan 3a

2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

Chemtrec US: (800) 424-9300 Chemtrec EU: 001-703-527-3887

Tel: 01509 231166

## **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** 

Oxidizing solids Category 2 (H272)

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#### **Health hazards**

Acute oral toxicity Category 3 (H301) Acute dermal toxicity Category 4 (H312) Acute Inhalation Toxicity - Dusts and Mists Category 2 (H330) Skin Corrosion/Irritation Category 1 B (H314) Category 1 (H318) Serious Eye Damage/Eye Irritation Respiratory Sensitization Category 1 (H334) Skin Sensitization Category 1 (H317) Germ Cell Mutagenicity Category 1B (H340) Category 1B (H350) Carcinogenicity Category 1B (H360FD) Reproductive Toxicity Specific target organ toxicity - (repeated exposure) Category 1 (H372)

**Environmental hazards** 

Acute aquatic toxicity
Chronic aquatic toxicity
Category 1 (H400)
Category 1 (H410)

Full text of Hazard Statements: see section 16

#### 2.2. Label elements



## Signal Word

#### Danger

#### **Hazard Statements**

- H272 May intensify fire; oxidizer
- H301 Toxic if swallowed
- H312 Harmful in contact with skin
- H330 Fatal if inhaled
- H314 Causes severe skin burns and eye damage
- H317 May cause an allergic skin reaction
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H340 May cause genetic defects
- H350 May cause cancer
- H360FD May damage fertility. May damage the unborn child
- H372 Causes damage to organs through prolonged or repeated exposure
- H410 Very toxic to aquatic life with long lasting effects

#### **Precautionary Statements**

- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

#### Additional EU labelling

Restricted to professional users

#### 2.3. Other hazards

Toxicity to Soil Dwelling Organisms
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 - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Ammonium bichromate	7789-09-5	EEC No. 232-143-1	>95	Ox. Sol. 2 (H272) Acute Tox. 3 (H301) Acute Tox. 4 (H312) Acute Tox. 2 (H330) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Resp. Sens. 1 (H334) Muta. 1B (H340) Carc. 1B (H350) Repr. 1B (H360FD) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

	Component	Specific concentration limits (SCL's)	M-Factor	Component notes
ı	Ammonium bichromate	Resp. Sens. 1 (H334) :: C>=0.2%	-	-
		Skin Sens. 1 (H317) :: C>=0.2%		
		STOT SE 3 (H335) :: C>=5%		ļ

Full text of Hazard Statements: 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 soap and plenty of water while removing all contaminated

clothes and shoes. Immediate medical attention is required.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately.

**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. Immediate medical attention is required. 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

Difficulty in breathing. Causes burns by all exposure routes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. 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: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

#### 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.

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

Carbon dioxide (CO<sub>2</sub>). Dry chemical. alcohol foam.

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

Oxidizer: Contact with combustible/organic material may cause fire. Risk of explosion if heated under confinement. Dust can form an explosive mixture with air. Very toxic. Corrosive material. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. Do not allow run-off from fire-fighting to enter drains or water courses.

#### **Hazardous Combustion Products**

Nitrogen oxides (NOx), Toxic fumes, Chromium 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.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

Wear self-contained breathing apparatus and protective suit. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid dust formation. Remove all sources of ignition. Do not get in eyes, on skin, or on clothing.

#### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

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

Wear self-contained breathing apparatus and protective suit. Keep combustibles (wood, paper, oil, etc) away from spilled material. Remove all sources of ignition. Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

CUIA 4400

Ammonium dichromate

#### 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/face protection. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from clothing and other combustible materials. Keep away from open flames, hot surfaces and sources of ignition. Use spark-proof tools and explosion-proof equipment.

## **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. Do not store near combustible materials. Containers should be vented periodically in order to overcome pressure buildup. Corrosives area.

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

Class 5.1B

#### 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, Fourth edition. Published 2020.

Component	The United Kingdom	European Union	Ireland
Ammonium bichromate	STEL: 0.03 mg/m <sup>3</sup> 15 min		
	STEL: 0.065 mg/m <sup>3</sup> 15 min		
	TWA: 0.01 mg/m <sup>3</sup> 8 hr		
	TWA: 0.025 mg/m <sup>3</sup> 8 hr		
	Carc. as Cr		
	Resp. Sens.		

#### **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

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

No information available.

#### 8.2. Exposure controls

#### **Engineering Measures**

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting equipment. 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 Natural rubber Nitrile rubber	Breakthrough time See manufacturers recommendations	Glove thickness	<b>EU standard</b> EN 374	Glove comments (minimum requirement)
Neoprene PVC				

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

**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

Physical State Solid

**Appearance** Orange

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Solid

Solid

Method - No information available

**Odor** Odorless

Odor Threshold
Melting Point/Range
Softening Point
Boiling Point/Range
No data available
No information available

Flammability (liquid) Not applicable

Flammability (solid,gas) No information available

Explosion Limits No data available

Flash Point No information available

Autoignition Temperature 218 °C / 424.4 °F

**Decomposition Temperature** 170 °C

pH 3-4 10% aq. sol Viscosity Not applicable Solid

Viscosity Not applicable Water Solubility 360 q/l (20°C)

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Vapor Pressure No data available

Density / Specific Gravity 2.1500

Bulk Density
No data available
Vapor Density
Not applicable

Particle characteristics No data available

9.2. Other information

Molecular FormulaH8 Cr2 N2 O7Molecular Weight252.07Oxidizing PropertiesOxidizer

Evaporation Rate Not applicable - Solid

## **SECTION 10: STABILITY AND REACTIVITY**

10.1. Reactivity

Yes

10.2. Chemical stability

Oxidizer: Contact with combustible/organic material may cause fire. Risk of explosion if

heated under confinement.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions No information available.

10.4. Conditions to avoid

Do not subject to grinding/shock/friction. Excess heat. Incompatible products. Combustible

material. Avoid dust formation.

10.5. Incompatible materials

Acids. Bases. Alcohols. Reducing Agent.

10.6. Hazardous decomposition products

Nitrogen oxides (NOx). Toxic fumes. Chromium oxide.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

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

#### **Product Information**

(a) acute toxicity;

Category 3 Oral **Dermal** Category 4 Inhalation Category 2

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium bichromate	LD50 = 48 mg/kg (Rat)	LD50 = 1860 mg/kg (Rabbit)	LC50 = 0.2 mg/L (Rat) 4 h

(b) skin corrosion/irritation; Category 1 B

Risk of serious damage to eyes

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Category 1 Respiratory Skin Category 1

May cause sensitization by skin contact

(e) germ cell mutagenicity; Category 1B

Mutagenic; May cause heritable genetic damage

(f) carcinogenicity; Category 1B

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

Component	EU	UK	Germany	IARC
Ammonium bichromate	Carc Cat. 1B			Group 1

(g) reproductive toxicity; Category 1B May impair fertility. **Reproductive Effects** 

May cause harm to the unborn child. **Developmental Effects** 

Teratogenic effects have occurred in experimental animals. **Teratogenicity** 

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; Category 1

**Target Organs** Kidney, Nasal Septum, Lungs.

(j) aspiration hazard; Not applicable

Solid

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. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

#### 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** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment. Do not allow material to contaminate ground water system.

12.2. Persistence and degradability Product contains heavy metals. Discharge into the environment must be avoided. Special

pre-treatment is necessary

May persist, based on information available. **Persistence** Not relevant for inorganic substances. Degradability

Degradation in sewage

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

May have some potential to bioaccumulate 12.3. Bioaccumulative potential

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

## **SECTION 13: DISPOSAL CONSIDERATIONS**

#### 13.1. Waste treatment methods

Waste from Residues/Unused

**Products** 

Should not be released into the environment. 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.

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

**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. Large amounts will affect pH and harm aquatic organisms. Do not let this chemical enter the environment.

## **SECTION 14: TRANSPORT INFORMATION**

### IMDG/IMO

**14.1. UN number** UN1439

**14.2. UN proper shipping name** AMMONIUM DICHROMATE

14.3. Transport hazard class(es) 5.1 14.4. Packing group II

<u>ADR</u>

**14.1. UN number** UN1439

14.2. UN proper shipping name AMMONIUM DICHROMATE

14.3. Transport hazard class(es) 5.1 14.4. Packing group II

<u>IATA</u>

**14.1. UN number** UN1439

14.2. UN proper shipping name AMMONIUM DICHROMATE

14.3. Transport hazard class(es) 5.1 14.4. Packing group II

<u>14.5. Environmental hazards</u> Dangerous for the environment

Product is a marine pollutant according to the criteria set by IMDG/IMO

**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)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Ammonium bichromate	7789-09-5	232-143-1	ı	-	X	X	KE-01653	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Ammonium bichromate	7789-09-5	X	ACTIVE	Х	ı	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	<b>Substances of Very High</b>

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				Concern (SVHC)
Ammonium bichromate	7789-09-5	Carcinogenic Category 1B,	Use restricted. See item	SVHC Candidate list -
		Mutagenic Category 1B,	72.	232-143-1 - Carcinogenic,
		Toxic for reproduction	(see link for restriction	Article 57a;Mutagenic,
		Category 1B Article 57	details)	Article 57b;Toxic for
		Application date: March	Use restricted. See item	reproduction, Article 57c
		21, 2016	28.	
		Sunset date: September	(see link for restriction	
		21, 2017	details)	
		Exemption - None	Use restricted. See item	
			30.	
			(see link for restriction	
			details)	
			Use restricted. See item	
			29.	
			(see link for restriction	
			details)	
			Use restricted. See item	
			75.	
			(see link for restriction	
			details)	
			Use restricted. See item	
			47.	
			(see link for restriction	
			details) Use restricted. See	
			item 65.	
			(see link for restriction	
			details)	l

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
		NOULLCAUOLL	Requirements
Ammonium bichromate	7789-09-5	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 .

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work

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 See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Ammonium bichromate	WGK3	

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
Ammonium bichromate 7789-09-5 ( >95 )	Prohibited and Restricted Substances		

### 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

H272 - May intensify fire; oxidizer

H301 - Toxic if swallowed

H312 - Harmful in contact with skin

H314 - Causes severe skin burns and eye damage

H317 - May cause an allergic skin reaction

H340 - May cause genetic defects

H350 - May cause cancer

H360FD - May damage fertility. May damage the unborn child

H372 - Causes damage to organs through prolonged or repeated exposure

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H272 - May intensify fire; oxidizer

H330 - Fatal if inhaled

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

#### 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

PICCS - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

Substances List

**ENCS** - Japanese Existing and New Chemical Substances AICS - Australian Inventory of Chemical Substances

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

NZIoC - New Zealand Inventory of Chemicals

TWA - Time Weighted Average

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

LD50 - Lethal Dose 50%

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

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

Dangerous Goods by Road

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

MARPOL - International Convention for the Prevention of Pollution from Ships

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**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

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

#### **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 Date12-Aug-2014Revision Date19-Oct-2023Revision SummaryNot applicable.

# 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**