

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

Creation Date 24-Nov-2010 Revision Date 21-Sep-2023 Revision Number 6

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

#### 1.1. Product identifier

Product Description: <u>Tetrachlorophthalic anhydride</u>

 Cat No.:
 157792500; 157790000; 157790010; 157790050

 Synonyms
 4,5,6,7-Tetrachloro-1,3-isobenzofurandione

 Index No
 607-242-00-1

 Index No
 607-242-00

 CAS No
 117-08-8

 EC No
 204-171-4

 Molecular Formula
 C8 Cl4 O3

#### 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

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**

Based on available data, the classification criteria are not met

#### **Health hazards**

#### Tetrachlorophthalic anhydride

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Serious Eye Damage/Eye IrritationCategory 1 (H318)Respiratory SensitizationCategory 1 (H334)Skin SensitizationCategory 1 (H317)CarcinogenicityCategory 1B (H350)

#### **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**

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

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

H350 - May cause cancer

H410 - Very toxic to aquatic life with long lasting effects

#### **Precautionary Statements**

P202 - Do not handle until all safety precautions have been read and understood

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

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

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

P273 - Avoid release to the environment

### Additional EU labelling

Restricted to professional users

#### 2.3. Other hazards

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

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

#### Tetrachlorophthalic anhydride

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Tetrachlorophthalic anhydride	117-08-8	EEC No. 204-171-4	>95	Skin Sens. 1 (H317) Eye Dam. 1 (H318) Resp. Sens. 1 (H334) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Hexachlorobenzene	118-74-1	EEC No. 204-273-9	0.5	Carc. 1B (H350) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

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 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 breathing is difficult, give oxygen. 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 pers

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 eye burns. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. 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 spray. Carbon dioxide (CO2). Dry chemical. Chemical foam.

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

No information available.

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

Do not allow run-off from fire-fighting to enter drains or water courses.

#### Tetrachlorophthalic anhydride

#### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO2), Hydrogen chloride gas.

#### 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

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

# 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. See Section 12 for additional Ecological Information.

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

Sweep up and shovel into suitable containers for disposal. Do not let this chemical enter the environment. 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/face protection. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Minimize dust generation and accumulation. Wash hands before breaks and immediately after handling the product.

#### **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 tightly closed in a dry and cool place.

Technical Rules for Hazardous Substances (TRGS) 510 Class 6.1C Storage Class (LGK) (Germany)

#### 7.3. Specific end use(s)

Use in laboratories

# **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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#### Tetrachlorophthalic anhydride

#### 8.1. Control parameters

#### **Exposure limits**

List source(s):

# **Biological limit values**

List source(s):

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

No information available

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

See values below.

#### 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	See manufacturers	-	EN 374	(minimum requirement)
Butyl rubber	recommendations			
Nitrile rubber				
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

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Recommended Filter type: Particulates filter conforming to EN 143

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

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

Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN

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

Off-white **Appearance** Odor Sliaht

No data available **Odor Threshold** 

Melting Point/Range 254 - 258 °C / 489.2 - 496.4 °F

**Softening Point** No data available

**Boiling Point/Range** 349 - 354 °C / 660 - 669 °F @ 760 mmHg Solid

Flammability (liquid) Not applicable

Flammability (solid,gas) No information available **Explosion Limits** No data available

No information available Flash Point Method - No information available

**Autoignition Temperature** 362 °C / 683.6 °F No data available **Decomposition Temperature** No information available рΗ

Viscosity Not applicable Solid

Water Solubility 0.8 mg/L (21°C) Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

log Pow Component Tetrachlorophthalic anhydride 4.65 Hexachlorobenzene 6.92

0.16 mmHg @ 145 °C **Vapor Pressure Density / Specific Gravity** No data available **Bulk Density** No data available

Not applicable Solid **Vapor Density** 

Particle characteristics No data available

9.2. Other information

C8 CI4 O3 Molecular Formula Molecular Weight 285.89

**Evaporation Rate** Not applicable - Solid

# **SECTION 10: STABILITY AND REACTIVITY**

10.1. Reactivity None known, based on information available

10.2. Chemical stability Stable under normal conditions. Moisture sensitive.

#### Tetrachlorophthalic anhydride

### 10.3. Possibility of hazardous reactions

**Hazardous Polymerization** 

Hazardous polymerization does not occur.

**Hazardous Reactions** 

No information available.

10.4. Conditions to avoid

Incompatible products. Exposure to moist air or water. Avoid dust formation.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

#### 10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO2). Hydrogen chloride gas.

# **SECTION 11: TOXICOLOGICAL INFORMATION**

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

#### **Product Information**

(a) acute toxicity;

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

	Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	
	Tetrachlorophthalic anhydride	LD50 > 15800 mg/kg (Rat)	LD50 > 5010 mg/kg ( Rabbit )	LC50 > 3.6 mg/L (Rat) 4 h	
Ī	Hexachlorobenzene	LD50 = 3500 mg/kg (Rat)	-	-	

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory Category 1 Skin Category 1

May cause sensitization by skin contact

No data available (e) germ cell mutagenicity;

(f) carcinogenicity; Category 1B

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

Component	EU	UK	Germany	IARC
Hexachlorobenzene	Carc Cat. 1B			Group 2B

No data available (g) reproductive toxicity;

No data available (h) STOT-single exposure;

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(i) STOT-repeated exposure; No data available

**Target Organs** No information available.

(j) aspiration hazard; Not applicable

Solid

Other Adverse Effects See actual entry in RTECS for complete information

delayed

Symptoms / effects, both acute and 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. The product contains following substances which are hazardous for the environment.

L	Component	Freshwater Fish	Water Flea	Freshwater Algae
	Hexachlorobenzene	LC50: > 10 mg/L, 96h static		EC50: > 0.01 mg/L, 96h
- 1		(Pimephales promelas)		(Desmodesmus subspicatus)
		LC50: = 7.6 mg/L, 96h static		EC50: < 0.03 mg/L, 96h static
		(Lepomis macrochirus)		(Pseudokirchneriella subcapitata)
		LC50: > 1 mg/L, 96h		
		flow-through (Lepomis		
		macrochirus)		
		,		

#### 12.2. Persistence and degradability

**Persistence** 

May persist, based on information available.

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)
Tetrachlorophthalic anhydride	4.65	No data available
Hexachlorobenzene	6.92	6000 - 30000 dimensionless

#### 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: Is not likely mobile in the environment due its low water solubility and propensity to bind to soil particles

# 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** 

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Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated
-	-	Substances
Hexachlorobenzene	Group I Chemical	High Exposure Concern

12.7. Other adverse effects

**Persistent Organic Pollutant Ozone Depletion Potential** 

See table for values

This product does not contain any known or suspected substance

Component	Persistent Organic Pollutant	Ozone Depletion Potential
Hexachlorobenzene	Annex I - Substance subject to prohibitions	
	Annex III - Substance subject to release reduction	
	Annex IV: 50 mg/kg (Waste Management - Conc.	
	Limit)	
	Annex V: 5000 mg/kg (Waste Management - Max.	
	Conc. Limit)	
	Stockholm Convention - Persistent Organic	
	Pollutant	

# **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** 

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

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. Do not let this

chemical enter the environment.

# **SECTION 14: TRANSPORT INFORMATION**

#### IMDG/IMO

14.1. UN number

14.2. UN proper shipping name **Technical Shipping Name** 

Environmentally hazardous substances, solid, n.o.s. Tetrachlorophthalic anhydride, Hexachlorobenzene

14.3. Transport hazard class(es)

14.4. Packing group

Ш

ADR

14.1. UN number

UN3077

14.2. UN proper shipping name **Technical Shipping Name** 14.3. Transport hazard class(es) Environmentally hazardous substances, solid, n.o.s. Tetrachlorophthalic anhydride, Hexachlorobenzene

14.4. Packing group

Ш

IATA

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**14.1. UN number** UN3077

14.2. UN proper shipping nameEnvironmentally hazardous substances, solid, n.o.s.Technical Shipping NameTetrachlorophthalic anhydride, Hexachlorobenzene

**14.3. Transport hazard class(es)** 9 **14.4. Packing group** III

**14.5. Environmental hazards** 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
Tetrachlorophthalic anhydride	117-08-8	204-171-4	ı	ı	X	X	KE-33299	Χ	X
Hexachlorobenzene	118-74-1	204-273-9	-	-	Х	X	-	Χ	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Tetrachlorophthalic anhydride	117-08-8	Х	ACTIVE	X	-	X	Х	Х
Hexachlorobenzene	118-74-1	Х	ACTIVE	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) - 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)
Tetrachlorophthalic anhydride	117-08-8	-	Use restricted. See item 75. (see link for restriction details)	-
Hexachlorobenzene	118-74-1	-	Use restricted. See item 28. (see link for restriction details) Use restricted. See item 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) -

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		Qualifying Quantities for Major Accident Notification	Qualifying Quantities for Safety Report Requirements
Tetrachlorophthalic anhydride	117-08-8	Not applicable	Not applicable
Hexachlorobenzene	118-74-1	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

Not applicable

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)
Hexachlorobenzene 118-74-1 ( 0.5 )	-	-	p — pesticides

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

See table for values

Component	OECD PFAS	US (EPA) PFAS	EU (ECHA) PFAS	UK (HSE) PFAS	Chemsec PFAS (Sin List)
Hexachlorobenzene (CAS #: 118-74-1)	-	-	Listed	-	-

#### **PFAS Legend**

Listed = Meets the PFAS definition of the named authority

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 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
Tetrachlorophthalic anhydride	WGK2	
Hexachlorobenzene	WGK3	

Component	France - INRS (Tables of occupational diseases)
Tetrachlorophthalic anhydride	Tableaux des maladies professionnelles (TMP) - RG 66,RG 66bis
Hexachlorobenzene	Tableaux des maladies professionnelles (TMP) - RG 9

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
Hexachlorobenzene 118-74-1 ( 0.5 )	Persistent Organic Pollutants (POPs) Prohibited and Restricted Substances		Annex I - pesticide Annex II - pesticide

# 15.2. Chemical safety assessment

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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

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

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

H350 - May cause cancer

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

#### Legend

**CAS** - Chemical Abstracts Service

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

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

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - 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

**Training Advice** 

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

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

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 21-Sep-2023 **Revision Date Revision Summary** Not 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,

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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**