

according to Regulation (EC) No. 1907/2006

Revision Date 27-Sep-2023

**Revision Number** 6

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

#### 1.1. Product identifier

Product Description: N-Phenyl-p-phenylenediamine

Cat No.: 221000000; 221000010; 221001000; 221002500

**Synonyms** 4-Aminodiphenylamine

CAS No 101-54-2 Molecular Formula C12 H12 N2

#### 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

EU entity/business name

Thermo Fisher Scientific

Janssen Pharmaceuticalaan 3a, 2440 Geel, Belgium

UK entity/business name

Fisher Scientific UK Bishop Meadow Road,

Loughborough, Leicestershire LE11 5RG, United Kingdom

Swiss distributor - Fisher Scientific AG Neuhofstrasse 11, CH 4153 Reinach

Tel: +41 (0) 56 618 41 11

e-mail - infoch@thermofisher.com

E-mail address begel.sdsdesk@thermofisher.com

#### 1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

customers in Switzerland:

Tox Info Suisse Emergency Number: 145 (24hr)

Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)

Chemtrec (24h) Toll-Free: 0800 564 402 Chemtrec Local: +41-43 508 20 11 (Zurich)

## **SECTION 2: HAZARDS IDENTIFICATION**

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

#### N-Phenyl-p-phenylenediamine

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#### 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 (H302)
Acute Inhalation Toxicity - Dusts and Mists	Category 4 (H332)
Skin Corrosion/Irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 2 (H319)
Skin Sensitization	Category 1 (H317)
Specific target organ toxicity - (single exposure)	Category 3 (H335)

#### **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

#### Warning

#### **Hazard Statements**

- H335 May cause respiratory irritation
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H317 May cause an allergic skin reaction
- H410 Very toxic to aquatic life with long lasting effects
- H302 + H332 Harmful if swallowed or if inhaled

#### **Precautionary Statements**

- P261 Avoid breathing dust/fume/gas/mist/vapors/spray
- P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
- P280 Wear eye protection/ face protection
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water
- 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

#### 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**

#### 3.1. Substances

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
p-Aminodiphenylamine	101-54-2	EEC No. 202-951-9	>95	STOT SE 3 (H335)
				Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)
				Skin Sens. 1 (H317)
				Acute Tox. 4 (H302)
				Acute Tox. 4 (H332)
				Aquatic Acute 1 (H400)
				Aquatic Chronic 1 (H410)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
p-Aminodiphenylamine	-	1	-

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. Get

medical attention.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. Get medical attention.

Ingestion Do NOT induce vomiting. Clean mouth with water. Get medical attention.

Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial Inhalation

respiration. Get medical attention.

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

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**

#### N-Phenyl-p-phenylenediamine

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#### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

Water spray. Carbon dioxide (CO<sub>2</sub>). 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.

#### **Hazardous Combustion Products**

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Ammonia.

#### 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.

#### 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.

## 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

Do not breathe dust. Avoid contact with skin and clothing. Do not ingest. If swallowed then seek immediate medical assistance. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation.

#### **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.

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

Storage Class/LGK 11

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Switzerland - Storage of hazardous substances Storage class - SC 11/13

https://www.kvu.ch/de/themen/stoffe-und-produkte https://www.kvu.ch/fr/themes/substances-et-produits https://www.kvu.ch/it/temi/sostanze-e-prodotti

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

Use in laboratories

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

#### 8.1. Control parameters

#### **Exposure limits**

List source(s):

Component	Italy	Germany	Portugal	The Netherlands	Finland
p-Aminodiphenylami		TWA: 0.91 ppm (8			
ne		Stunden). AGW -			
		exposure factor 2			
		TWA: 7 mg/m <sup>3</sup> (8			
		Stunden). AGW -			
		exposure factor 2			
		Haut			

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
p-Aminodiphenylami			TWA: 7 mg/m <sup>3</sup> 8 urah		
ne			inhalable fraction		
			TWA: 0.91 ppm 8 urah		
			Koža		
			STEL: 14 mg/m <sup>3</sup> 15		
			minutah inhalable		
			fraction		
			STEL: 1.82 ppm 15		
			minutah		

#### **Biological limit values**

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

#### **Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

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

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
p-Aminodiphenylamine 101-54-2 ( >95 )		DNEL = 8mg/kg bw/day		DNEL = 4mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
p-Aminodiphenylamine 101-54-2 ( >95 )		DNEL = 14.2mg/m <sup>3</sup>		DNEL = 7.1mg/m <sup>3</sup>

#### **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
Nitrile rubber	See manufacturers	-	EN 374	(minimum requirement)
Neoprene	recommendations			
Natural rubber				
PVC				

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

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

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

#### N-Phenyl-p-phenylenediamine

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Solid **Physical State** 

Purple **Appearance** Odorless Odor

**Odor Threshold** No data available

**Melting Point/Range** 69 - 75 °C / 156.2 - 167 °F

**Softening Point** No data available

**Boiling Point/Range** 354 °C / 669.2 °F @ 760 mmHg

Flammability (liquid) Not applicable Solid

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

**Flash Point** > 250 °C / > 482 °F Method - No information available

**Autoignition Temperature** >500 °C / >932 °F **Decomposition Temperature** No data available

0.6 g/L aq.sol Hq 7.1

Not applicable Solid Viscosity

Water Solubility 0.6 g/L (20°C)

No information available Solubility in other solvents

Partition Coefficient (n-octanol/water)

log Pow Component p-Aminodiphenylamine 2.4

**Vapor Pressure** 1 mbar @ 20 °C **Density / Specific Gravity** No data available **Bulk Density** No data available

**Vapor Density** Not applicable Solid

Particle characteristics No data available

9.2. Other information

C12 H12 N2 Molecular Formula **Molecular Weight** 184.24

**Evaporation Rate** Not applicable - Solid

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

10.1. Reactivity No

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur. **Hazardous Polymerization** 

No information available. **Hazardous Reactions** 

10.4. Conditions to avoid

Incompatible products. Avoid dust formation.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products

Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Ammonia.

#### **SECTION 11: TOXICOLOGICAL INFORMATION**

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

#### **Product Information**

(a) acute toxicity;

Oral Category 4

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

Inhalation Category 4

	Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ī	p-Aminodiphenylamine	LD50 = 464 mg/kg (Rat)	LD50 > 5 g/kg (Rabbit)	-
-				

Category 2 (b) skin corrosion/irritation;

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

Respiratory No data available Skin Category 1

May cause sensitization by skin contact

(e) germ cell mutagenicity; No data available

No data available (f) carcinogenicity;

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

No data available (g) reproductive toxicity;

(h) STOT-single exposure; Category 3

Respiratory system. Results / Target organs

(i) STOT-repeated exposure; No data available

No information available. **Target Organs** 

(j) aspiration hazard; Not applicable

Solid

**Other Adverse Effects** The toxicological properties have not been fully investigated.

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

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

known or suspected endocrine disruptors.

## **SECTION 12: ECOLOGICAL INFORMATION**

#### N-Phenyl-p-phenylenediamine

## 12.1. Toxicity

**Ecotoxicity effects** The product contains following substances which are hazardous for the environment. Very

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

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environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae
p-Aminodiphenylamine	LC50: = 1.9 mg/L, 96h static	EC50: = 0.31 mg/L, 48h	EC50: = 2.4 mg/L, 72h
	(Brachydanio rerio)	(Daphnia magna)	(Desmodesmus subspicatus)

Component	Microtox	M-Factor
p-Aminodiphenylamine	EC50 = 0.26 mg/L 15 min	1
	EC50 = 0.27 mg/L 5 min	
	EC50 = 0.33 mg/L 30 min	

#### 12.2. Persistence and degradability

Persistence Persistence is unlikely.

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** Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
p-Aminodiphenylamine	2.4	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

## **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.

**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. Do not let this

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chemical enter the environment.

**Switzerland - Waste Ordinance** 

Disposal should be in accordance with applicable regional, national and local laws and regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance,

ADWO) SR 814.600

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

## **SECTION 14: TRANSPORT INFORMATION**

#### IMDG/IMO

UN3077 14.1. UN number

Environmentally hazardous substances, solid, n.o.s. 14.2. UN proper shipping name

**Technical Shipping Name** N-Phenyl-p-phenylenediamine

14.3. Transport hazard class(es) 14.4. Packing group Ш

<u>ADR</u>

UN3077 14.1. UN number

14.2. UN proper shipping name Environmentally hazardous substances, solid, n.o.s.

**Technical Shipping Name** N-Phenyl-p-phenylenediamine

14.3. Transport hazard class(es) 14.4. Packing group Ш

IATA

UN3077 14.1. UN number

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N-Phenyl-p-phenylenediamine **Technical Shipping Name** 

14.3. Transport hazard class(es) Ш 14.4. Packing group

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
p-Aminodiphenylamine	101-54-2	202-951-9	ı	ı	X	X	KE-28309	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
p-Aminodiphenylamine	101-54-2	X	ACTIVE	X	ı	X	X	X

#### N-Phenyl-p-phenylenediamine

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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		REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	J	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
p-Aminodiphenylamine	101-54-2	-	-	-

Not applicable

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

Component	CAS No	Seveso III Directive (2012/18/EC) -	Seveso III Directive (2012/18/EC) -	
		Qualifying Quantities for Major Accident	Qualifying Quantities for Safety Report	
		Notification	Requirements	
p-Aminodiphenylamine	101-54-2	Not applicable	Not applicable	

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

#### **National Regulations**

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

WGK Classification See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
p-Aminodiphenylamine	WGK3	

#### **Swiss Regulations**

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).

Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

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
p-Aminodiphenylamine 101-54-2 ( >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

H302 - Harmful if swallowed

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H335 - May cause respiratory irritation

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

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

#### **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.

**Revision Date** 27-Sep-2023 **Revision Summary** Not applicable.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006

For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2, Number 3, ChemO (SR 813.11 - Ordinance on Protection against Dangerous Substances and Preparations).

#### **Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,

transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**