

Classified as hazardous in accordance with the criteria of EPA New Zealand

Section 1 - Identification

Product Identifier

Product Name	<u>N,N-Dimethylformamide</u>
CAS No	68-12-2
Synonyms	DMF (Synthesis/Spectranalyzed/Certified ACS)
Molecular Formula	C ₃ H ₇ N O
Molecular Weight	73.09
Recommended Use	Laboratory chemicals.
Uses advised against	No Information available

Product Code	D132-1; D132RS-19; D132RS-50; S79999SPEC
Address	Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand
Emergency Tel.	CHEMTREC® 09 980 6780 or +64 9 980 6780
Telephone / Fax Numbers	Tel: 09 980 6700 Fax: 09 980 6788
E-mail address	ANZinfo@thermofisher.com

Section 2 - Hazard(s) Identification

Classification under Work Safe New Zealand

Classified as hazardous in accordance with the criteria of EPA New Zealand

HSNO Approval Number **HSR001133**

GHS Classification

Physical hazards

Flammable liquids

Category 3

Health hazards

Acute Oral Toxicity
Acute Dermal Toxicity
Acute Inhalation Toxicity - Vapors
Serious Eye Damage/Eye Irritation
Reproductive Toxicity

Category 4
Category 4
Category 4
Category 2
Category 1B

Environmental hazards

Based on available data, the classification criteria are not met

Label Elements

Signal Word

Danger

Hazard Statements

H319 - Causes serious eye irritation

H226 - Flammable liquid and vapor

H360 - May damage fertility or the unborn child

H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled

Precautionary Statements**Prevention**

P201 - Obtain special instructions before use

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

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P233 - Keep container tightly closed

P240 - Ground and bond container and receiving equipment

P241 - Use explosion-proof electrical/ ventilating/ lighting equipment

P242 - Use non-sparking tools

P243 - Take action to prevent static discharges

P264 - Wash face, hands and any exposed skin thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

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

Response

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

P304 + P340 - IF INHALED: Remove person to fresh air and keep 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

P312 - Call a POISON CENTER or doctor if you feel unwell

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P362 + P364 - Take off contaminated clothing and wash it before reuse

Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards which do not result in classification

Toxic to terrestrial vertebrates

Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Dimethylformamide	68-12-2	>95

Section 4 - First Aid Measures

Description of first aid measures

New Zealand Emergency Tel.

CHEMTREC®

09 980 6780 or +64 9 980 6780

Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention.
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 plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
Ingestion	Do NOT induce vomiting. 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.
First Aid Facilities	Eyewash, safety shower and washroom.
Most important symptoms and effects	Irritating to eyes. Difficulty in breathing. May be harmful if absorbed through skin: Gastrointestinal discomfort: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting
Notes to Physician	Treat symptomatically. Symptoms may be delayed.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

Do not use water jetstream.

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x).

Decomposition Temperature

> 350°C

Special protective equipment and precautions for fire fighters

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

Personal Precautions, Protective Equipment and Emergency Procedures

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. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling**Advice on safe handling**

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Do not breathe mist/vapors/spray. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges.

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.

Conditions for Safe Storage, Including any Incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

Incompatible Materials

Strong oxidizing agents. Halogens. Halogenated compounds. Reducing Agent. . Alkali metals.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

AS 1940-2004 - The storage and handling of flammable and combustible liquids

Section 8 - Exposure Controls and Personal Protection

Control parameters**Exposure limits**

NZ - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]

Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

ACGIH - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.

Component	New Zealand WEL	Australia	ACGIH TLV	The United Kingdom
Dimethylformamide	TWA: 5 ppm TWA: 15 mg/m ³ Skin	TWA: 10 ppm TWA: 30 mg/m ³	TWA: 5 ppm Skin	STEL: 10 ppm 15 min STEL: 30 mg/m ³ 15 min TWA: 5 ppm 8 hr TWA: 15 mg/m ³ 8 hr Skin

Biological limit values

ACGIH - American Conference of Governmental Industrial Hygienists (ACGIH) TLVs® and BEIs®- Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices. 2022 Edition

Component	New Zealand	Australia	ACGIH - Biological Exposure Indices	United Kingdom
Dimethylformamide			30 mg/L Medium: urine Time: end of shift Determinant: Total N-methylformamide 30 mg/L Medium: urine	

			Time: end of shift at end of workweek Determinant: N-Acetyl-S-(N-methylcarbamoyl)cysteine	
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Appropriate engineering controls**Engineering Measures**

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment. 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

Individual protection measures, such as personal protective equipment

Eye Protection Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Butyl rubber, Neoprene.	> 480 minutes	0.5 mm	AS/NZS 2161	As tested under EN374-3 Determination of Resistance to Permeation by Chemicals
	< 100 minutes	0.45 mm		

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 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.

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

Respiratory Protection Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

Recommended Filter type: Type A Organic gases and vapours filter Brown conforming to EN14387 (or AUS/NZ equivalent)

Recommended half mask:- Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141 (or AUS/NZ equivalent)
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls Prevent product from entering drains.

Section 9 - Physical and Chemical Properties**Information on basic physical and chemical properties**

Physical State	Liquid	
Appearance	Colorless	
Odor	Rotten-egg like	
Odor Threshold	No data available	
pH	6-8 @ 20°C	20% aq.sol
Melting Point/Range	-61 °C / -77.8 °F	
Softening Point	No data available	
Boiling Point/Range	153 °C / 307.4 °F	
Flammability (liquid)	Flammable	On basis of test data
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	Lower 2.2 vol%	

Flash Point	Upper 16 vol% 58 °C / 136.4 °F	Method - Abel-Pensky (DIN 51755)
Autoignition Temperature	445 °C / 833 °F	
Decomposition Temperature	> 350°C	
Viscosity	0.8 mPa.s at 20 °C	
Water Solubility	Soluble	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	log Pow	
Dimethylformamide	-1.028	
Vapor Pressure	4.9 mbar @ 20 °C	
Density / Specific Gravity	0.945	@ 20 °C
Bulk Density	Not applicable	Liquid
Vapor Density	2.5	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	

Other information

Molecular Formula	C3 H7 N O
Molecular Weight	73.09
Explosive Properties	Not explosive explosive air/vapour mixtures possible
Evaporation Rate	0.17 - (Butyl Acetate = 1.0)
Surface tension	36.42 mN/m (25 °C)

Section 10 - Stability and Reactivity

Reactivity	None known, based on information available
Stability	Stable under normal conditions.
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.
Conditions to Avoid	Incompatible products, Heat, flames and sparks, Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials	Strong oxidizing agents, Halogens, Halogenated compounds, Reducing Agent, . Alkali metals

Hazardous Decomposition Products Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

Section 11 - Toxicological Information

Acute Effects**Information on likely routes of exposure****Product Information**

Inhalation	Harmful by inhalation. May cause methemoglobinemia. INHALATION MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. May cause irritation of respiratory tract.
Eyes	Irritating to eyes. Lachrymator (substance which increases the flow of tears).
Skin	Harmful in contact with skin. Irritating to skin.
Ingestion	May be harmful if swallowed. May cause central nervous system effects. May cause adverse liver effects. May cause adverse kidney effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Numerical measures of toxicity**(a) acute toxicity;****Oral**

Based on available data, the classification criteria are not met

Dermal

Category 4

Inhalation

Category 4

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Dimethylformamide	3040 mg/kg (Rat)	1500 mg/kg (Rabbit) 3.2 g/kg (Rat)	>5.58 mg/L/4h (Rat)

(b) skin corrosion/irritation;

Based on available data, the classification criteria are not met

(c) serious eye damage/irritation;**Test species**

Category 2

Observation end point

rabbit

Irritating to eyes

(d) respiratory or skin sensitization;**Respiratory**

Based on available data, the classification criteria are not met

Skin

Based on available data, the classification criteria are not met

Component	Test method	Test species	Study result
Dimethylformamide 68-12-2 (>95)	Guinea Pig Maximisation Test (GPMT)	guinea pig	- non-sensitising

(e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

(f) carcinogenicity;

Based on available data, the classification criteria are not met

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

Component	New Zealand	Australia	New South Wales	Western Australia	IARC	EU	UK	Germany
Dimethylformamide					Group 2A			

(g) reproductive toxicity;**Reproductive Effects**
Developmental Effects

Category 1B

Experiments have shown reproductive toxicity effects on laboratory animals

May cause harm to the unborn child Developmental effects have occurred in experimental animals

Teratogenicity

Teratogenic effects have occurred in experimental animals.

(h) STOT-single exposure;

Based on available data, the classification criteria are not met

(i) STOT-repeated exposure;

Based on available data, the classification criteria are not met

Target Organs

None known.

(j) aspiration hazard;

Based on available data, the classification criteria are not met

Symptoms / effects, both acute and delayed

May be harmful if absorbed through skin. Gastrointestinal discomfort. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Section 12 - Ecological Information**Ecotoxicity**

Aquatic ecotoxicity

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Dimethylformamide	Pimephales promelas: LC50 = 10.6 g/L/96h Onchorhynchus mykiss: LC50 = 9.8 g/L/96h Lepomis macrochirus: LC50 = 6.3 g/L/96h	EC50 = 7500 mg/L/48h	EC50 = 7500 mg/L/96h	EC50 = 2000 mg/L 5 min EC50 = 570 mg/L 240 h

Terrestrial ecotoxicity There is no data for this product

Persistence and Degradability Readily biodegradable

Persistence Persistence is unlikely.

Component	Degradability
Dimethylformamide 68-12-2 (>95)	100 % (OECD 301E (21d))

Degradation in sewage treatment plant Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Dimethylformamide	-1.028	0.3 - 1.2 L/kg

Mobility The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility but will likely degrade over time. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

Other adverse effects**Endocrine Disruptor Information**

Component	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Dimethylformamide	Group III Chemical		

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

Ozone Depletion Potential This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste treatment methods**Waste from Residues/Unused Products**

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

Other Information

Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations . Waste codes should be assigned by the user based on the application for which the product was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with local regulations.

Section 14 - Transport Information

Component	Hazchem Code
Dimethylformamide 68-12-2 (>95)	2Y

NZS 5433:2020

UN-No	UN2265
Proper Shipping Name	N,N-DIMETHYLFORMAMIDE
Hazard Class	3
Packing Group	III

IATA

UN-No	UN2265
Proper Shipping Name	N,N-DIMETHYLFORMAMIDE
Hazard Class	3
Packing Group	III

IMDG/IMO

UN-No	UN2265
Proper Shipping Name	N,N-DIMETHYLFORMAMIDE
Hazard Class	3
Packing Group	III

Environmental hazards No hazards identified

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable, packaged goods

Special Precautions No special precautions required. Please refer to the applicable dangerous goods regulations for additional information.

Additional information None known

Section 15 - Regulatory Information

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

HSNO Approval Number	HSR001133
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National Regulations

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information. Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.

Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

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

Rotterdam Convention (PIC) Not applicable

Authorisation/Restrictions according to EU REACH

Component	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)
Dimethylformamide	-	Use restricted. See item 72. (see link for restriction details) Use restricted. See item 30. (see link for restriction details) Use restricted. See item 75. (see link for restriction details) Use restricted. See item 76. (see link for restriction details)	SVHC Candidate list - (Toxic to Reproduction, Article 57c)

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.

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

International Inventories

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

Component	CAS No	NZIoC	AICS	EINECS	ELINCS	NLP	KECL	IECSC	TCSI
Dimethylformamide	68-12-2	X	X	200-679-5	-	-	KE-11411	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	PICCS	ISHL	ENCS
Dimethylformamide	68-12-2	X	ACTIVE	X	-	X	X	X

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

Section 16 - Other Information

This safety data sheet complies with the requirements of the EPA Hazardous Substances (Hazard Classification) Notice 2020 and WorkSafe New Zealand Regulations

Legend

NZIoC - New Zealand Inventory of Chemicals

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

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

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

NZS 5433:2020 - Transport of Dangerous Goods on Land

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

MARPOL - International Convention for the Prevention of Pollution from

AICS - Australian Inventory of Chemical Substances

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

ENCS - Japanese Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

CAS - Chemical Abstracts Service

ACGIH - American Conference of Governmental Industrial Hygienists

PNEC - Predicted No Effect Concentration

OECD - Organisation for Economic Co-operation and Development

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

Ships

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

WEL - Workplace Exposure Limit

DNEL - Derived No Effect Level

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

VOC - (Volatile Organic Compound)

ADG - Australian Code for the Transport of Dangerous Goods by Road and Rail

LC50 - Lethal Concentration 50%

ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment

NOEC - No Observed Effect Concentration

BCF - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data

HSNO classifications provided in the New Zealand Chemical Classification Information Database (CCID).

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

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

EPA Guide to classifying hazardous substances in New Zealand

EPA - Assigning a product to an existing HSNO approval guide

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.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Revision Date

10-Mar-2023

Revision Summary

Not applicable

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