SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of: The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 and The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019 No. 720

Revision date 16-Dec-2025 **Revision Number** 2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name D-12

Synonyms None

Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Embalming chemical

Uses advised against Use only for intended applications

1.3. Details of the supplier of the safety data sheet

Manufacturer
The MazWell Group Ltd.
Units 11/14-15 Ardglen
Industrial Estate,
Whitchurch, Hampshire,
RG28 7BB, United Kingdom
+44 (0)1256-893883
+44 (0)1256-893868
enquiries@themazwellgroup.com

For further information, please contact
E-mail address enquiries@themazwellgroup.com

1.4. Emergency telephone number

Emergency telephone +44 (0)1256 893883 (Mon- Fri 9:00 am - 4:30 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP (SI 2020/1567 as amended)

Skin corrosion	Category 1 Sub-category B - (H314)
Serious eye damage	Category 1 - (H318)
Respiratory sensitisation	Category 1 - (H334)

Hazardous to the aquatic environment - chronic	Category 2 - (H411)

2.2. Label elements

Contains Chloramine-T

Signal word
Danger

Hazard statements
H314 - Causes severe skin burns and eye damage.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H411 - Toxic to aquatic life with long lasting effects.
EUH031 - Contact with acids liberates toxic gas

Precautionary statements
P260 - Do not breathe dust, fume, gas, mist, vapors and spray.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection and face protection.
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.
P310 - Immediately call a POISON CENTER or doctor.
P321 - Specific treatment (see supplemental first aid instructions on this label).
P391 - Collect spillage.

Additional information
This product requires child resistant fastenings if supplied to the general public. This product requires tactile warnings if supplied to the general public.

2.3. Other hazards

Other hazards May be harmful if swallowed. May be harmful in contact with skin. Toxic to aquatic life.

PBT or vPvB properties The mixture does not contain any substances meeting the PBT or vPvB criteria according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	EC No. (Index No.)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	Notes
Chloramine-T 127-65-1	10 - < 25	204-854-7 (616-010-00-9)	-	Acute Tox. 4 (H302) Skin Corr. 1B (H314)	-	-	-	-

				Resp. Sens. 1 (H334) (EUH031)				
Silica 7631-86-9	0.5-<1	231-545-4	-	-	-	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate
In the absence of LD50/LC50 data, the conversion value (converted acute toxicity point estimate) may be indicated here; please note that these values do not represent test results

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Chloramine-T 127-65-1	935	2022.02	No data available	No data available	No data available
Silica 7631-86-9	7900	5005	5.015	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >= 0.1% (UK REACH Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. 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. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. May cause allergic respiratory reaction. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention. May cause an allergic skin reaction.

Ingestion Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention. May produce an allergic reaction.

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. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Redness. May cause blindness. Coughing and/ or wheezing. May cause redness and tearing of the eyes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Itching. Rashes. Hives. 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.

Effects of Exposure None known.

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

Note to doctors Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitisation in susceptible persons. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours. Product is or contains a sensitiser. May cause sensitisation by inhalation.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labelled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

7.3. Specific end use(s)

Specific use(s) The identified uses for this product are detailed in Section 1.2.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	United Kingdom
Silica 7631-86-9	TWA: 6 mg/m³; inhalable dust TWA: 2.4 mg/m³; respirable dust STEL: 18 mg/m³; inhalable dust STEL: 7.2 mg/m³; respirable dust

Note See section 16 for terms and abbreviations

Biological occupational exposure limits 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) - Workers

Chemical name	Oral	Dermal	Inhalation
Chloramine-T 127-65-1		13.5 mg/kg bw/day [4] [6]	19.1 mg/m³ [4] [6]

Notes
[4] Systemic health effects.
[6] Long term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Chloramine-T 127-65-1	1.6 mg/kg bw/day [4] [6]		5.65 mg/m³ [4] [6]

Notes
[4] Systemic health effects.
[6] Long term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Chloramine-T 127-65-1	0.11 mg/L	0.028 mg/L	0.011 mg/L	0.0028 mg/L	

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Chloramine-T 127-65-1	0.97 mg/kg sediment dw	0.097 mg/kg sediment dw	0.057 mg/L	0.408 mg/kg soil dw	

8.2. Exposure controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Personal protective equipment
Eye/face protection Eye protection must conform to standard EN 166. Face protection shield. Tight sealing safety goggles.

Hand protection Gloves must conform to standard EN 374. Wear suitable gloves.

Skin and body protection Wear suitable protective clothing. Chemical resistant apron.

Respiratory protection Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. Use appropriate respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance Crystalline powder
Physical state Solid
Colour White to off-white
Odour Slight chlorine
Odour threshold No information available

Property	Values	Remarks • Method
pH		No data available
pH (as aqueous solution)		No data available
Melting point / freezing point		No data available
Initial boiling point and boiling range		No data available
Flash point		No data available

Evaporation rate		No data available
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits		No data available
Lower flammability or explosive limits		No data available
Vapour pressure		No data available
Relative vapour density	> 1	
Relative density		No data available
Bulk density	1120 kg/m³	
Liquid Density		No data available
Solubility(ies)		No data available
Water solubility	Soluble in water	
Partition coefficient		No data available
Autoignition temperature		No data available
Decomposition temperature		No data available
SADT (°C)		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available
Particle characteristics		
Particle Size		No data available
Particle Size Distribution		No data available

9.2. Other information

Molecular weight	No information available
VOC content	4%
Softening point	No information available

Information with regards to physical hazard classes

Explosives	Sensitivity to shock
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidizing.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity None under normal use conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Incompatible materials Acids, Bases, Oxidising agent.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause sensitisation in susceptible persons.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May result in permanent damage including blindness.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be harmful in contact with skin.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. May cause additional effects as listed under "Inhalation".

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Burning sensation. Redness. May cause blindness. Coughing and/ or wheezing. May cause redness and tearing of the eyes. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Itching. Rashes. Hives. 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.
Acute toxicity	Based on available data, the classification criteria are not met.

Numerical measures of toxicity

The following ATE values have been calculated for the mixture

ATEmix (oral)	2,687.60 mg/kg
ATEmix (dermal)	2,017.40 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Chloramine-T	= 935 mg/kg (Rat)	> 2020 mg/kg (Rabbit)	> 275 mg/m^3 (Rat) 4 h
Silica	= 7900 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 58.8 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

Respiratory or skin sensitisation May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects.

Aquatic toxicity

Component Information

Chemical name	Fish	Crustacea	Algae/aquatic plants	Toxicity to microorganisms
Chloramine-T	LC50: =31mg/L (96h, Poecilia reticulata) LC50: 20.2 - 26.2mg/L (96h, Oncorhynchus mykiss) LC50: 1.63 - 2.19mg/L (96h, Oncorhynchus mykiss) LC50: 6.52 - 7.51mg/L (96h, Pimephales promelas)	EC50: =4.5mg/L (48h, Daphnia magna)	-	-
Silica	LC50: =5000mg/L (96h, Brachydanio rerio)	EC50: =7600mg/L (48h, Ceriodaphnia dubia)	EC50: =440mg/L (72h, Pseudokirchneriella subcapitata)	-

12.2. Persistence and degradability No information available.

12.3. Bioaccumulative potential

Chemical name	Partition coefficient	Bioconcentration factor (BCF)	Trophic magnification factor (TMF)
Chloramine-T	-1.3	-	-

12.4. Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment This product does not contain any substances that are assessed to be a PBT or a vPvB.

Chemical name	PBT and vPvB assessment
Chloramine-T	Not PBT/vPvB
Silica	Not PBT/vPvB

12.6. Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number UN1759
14.2 UN proper shipping name Corrosive solid, n.o.s. (Chloramine-T)
IATA Technical Name Chloramine-T
14.3 Transport hazard class(es) 8
14.4 Packing group III
14.5 Environmental hazards No
14.6 Special precautions for user
Special Provisions A3, A803
ERG Code 8L
Description UN1759, Corrosive solid, n.o.s. (Chloramine-T), 8, III

IMDG

14.1 UN number or ID number UN1759
14.2 UN proper shipping name Corrosive solid, n.o.s. (Chloramine-T)
Technical Name Chloramine-T
14.3 Transport hazard class(es) 8
14.4 Packing group III
14.5 Environmental hazards No
Marine pollutant indicator NP
14.6 Special precautions for user
Special Provisions 223, 274
EmS-No. F-A S-B

Description	UN1759, Corrosive solid, n.o.s. (Chloramine-T), 8, III
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	UN1759
14.2 UN proper shipping name	Corrosive solid, n.o.s. (Chloramine-T)
14.3 Transport hazard class(es)	8
14.4 Packing group	III
Description	UN1759, Corrosive solid, n.o.s. (Chloramine-T), 8, III
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	274
Classification code	C10

ADR

14.1 UN number or ID number	UN1759
14.2 UN proper shipping name	Corrosive solid, n.o.s. (Chloramine-T)
14.3 Transport hazard class(es)	8
14.4 Packing group	III
Description	UN1759, Corrosive solid, n.o.s. (Chloramine-T), 8, III, (E)
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	274
Classification code	C10
Tunnel restriction code	(E)

SECTION 15: Regulatory information

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

National regulations

Authorisations and/or restrictions on use:
This product does not contain substances subject to authorisation (UK REACH - Annex XIV). This product does not contain substances subject to restriction (UK REACH - Annex XVII).

Persistent Organic Pollutants
Not applicable

Export Notification requirements
Not applicable

Dangerous substance category per COMAH (SI 2015/483 as amended)
E2 - Hazardous to the Aquatic Environment in Category Chronic 2
Named dangerous substances per COMAH (SI 2015/483 as amended)
Not applicable

The Ozone-Depleting Substances Regulations 2015
Not applicable

The Biocidal Products Regulations 2001 (as amended)

Chemical name	The Biocidal Products Regulations 2001 (as amended)
Chloramine-T 127-65-1	Product-type 2: Disinfectants and algaecides not intended for direct application to humans or animals Product-type 3: Veterinary hygiene Product-type 4: Food and feed area Product-type 5: Drinking water

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons and Explosives Precursor per Poisons Act 1972
Not applicable.

International Inventories
Contact supplier for inventory compliance status

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Full text of any hazard and/or precautionary statements referred to under Sections 2-15
EUH031 - Contact with acids liberates toxic gas
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
P260 - Do not breathe dust, fume, gas, mist, vapors and spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves, protective clothing, eye protection and face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
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
P310 - Immediately call a POISON CENTER or doctor
P321 - Specific treatment (see supplemental first aid instructions on this label)
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable
P261 - Avoid breathing dust, fume, gas, mist, vapors and spray
P284 - In case of inadequate ventilation wear respiratory protection
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor
P273 - Avoid release to the environment
P391 - Collect spillage

Key or legend to abbreviations and acronyms used in the safety data sheet
List may include phrases which are not applicable to this product

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Europe)
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road (Europe)
AIIC	Australian Inventory of Industrial Chemicals
ATE	Acute Toxicity Estimate
ASTM	American Society for the Testing of Materials
bar	Biological Reference Values for Chemical Compounds in the Work Area
BAT	Biological tolerance values for occupational exposure
BEL	Biological exposure limits
bw	Body weight
Ceiling	Maximum limit value
CLP	Classification, Labelling and Packaging Regulation; Regulation (EC) No 1272/2008
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DOT	Department of Transportation (United States)
DSL	Domestic Substances List (Canada)
EC Number	European Community number

EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
EPA	U.S. Environmental Protection Agency
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO	International Civil Aviation Organisation
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organisation for Standardisation
KECI	Korean Existing Chemicals Inventory
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
NOELR	No Observable Effect Loading Rate
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Cooperation and Development
OEL	Occupational exposure limits
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PMT	Persistent, Mobile and Toxic
PPE	Personal protective equipment
QSAR	Quantitative Structure Activity Relationship
REACH	Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)
RID	Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe)
SADT	Self-Accelerating Decomposition Temperature
SAR	Structure-activity relationship
SDS	Safety Data Sheet
SL	Surface Limit
STEL	Short Term Exposure Limit
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure
SVHC	Substance of very high concern
TCSI	Taiwan Chemical Substance Inventory
TDG	Transport of Dangerous Goods (Canada)
TSCA	Toxic Substances Control Act (United States)
TWA	Time-Weighted Average
UN	United Nations
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative
vPvM	Very Persistent and Very Mobile
As	Allergenic substance
DS	Dermal Sensitizer
Ot	Ototoxicant
pOt	Ototoxicant - potential to cause hearing disorders
PS	Photosensitiser
RS	Respiratory Sensitiser
S	Sensitiser
poS	Sensitizer - capable of causing occupational asthma

Sa	Simple asphyxiant
Sd	Skin designation
pSd	Skin designation - potential for cutaneous absorption
Sdv	Skin designation - vacated
Sk	Skin notation
dSk	Skin notation - danger of cutaneous absorption
pSk	Skin notation - potential for cutaneous absorption

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Chronic aquatic toxicity	Calculation method
Acute aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
U.S. Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
U.S. Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
International Organization for Economic Co-operation and Development (OECD) Environment, Health, and Safety Publications
International Organization for Economic Co-operation and Development (OECD) High Production Volume Chemicals Program
International Organization for Economic Co-operation and Development (OECD) Screening Information Data Set
United Nations World Health Organization (WHO)

Issuing Date 21-Dec-2022

Revision date 16-Dec-2025

Revision Note Updated format Change in the mixture classification

This SDS complies with the requirements of UK REACH Regulations SI 2019/758 (as amended)

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

Disclaimer
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End of Safety Data Sheet