

SECTION 1: Identification of the substance/mixture and of the supplier/undertaking**1.1. GHS product identifier**

Product form	: Substance
Trade name	: DMDS
Chemical name	: dimethyl disulphide
EC-No.	: 210-871-0
EC Index-No.	: 016-098-00-3
CAS-No.	: 624-92-0
UN-No. (ADR)	: 2381
Product code	: DMDS
Product group	: Trade product

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. Supplier's details

ImproChem(Pty) Ltd T/A AECI Water
1 Wharhirst Road
Umbogintwini – Kwa Zulu Natal
South Africa
T +27(31) 949 8200

1.5. Emergency phone number

Emergency number : 0800 SPILLS or 0800 774557

SECTION 2: Hazard identification**2.1. GHS classification of the substance/mixture and any national or regional information****Classification according to the United Nations GHS**

Flammable liquids, Category 2	H225
Acute toxicity (oral), Category 3	H301
Acute toxicity (inhalation:dust,mist) Not classified	
Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
Specific target organ toxicity – single exposure, Category 1	H370
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 1	H410

Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects : Highly flammable liquid and vapour,Causes damage to organs,May cause drowsiness or dizziness,Toxic if inhaled,Toxic if swallowed,May cause an allergic skin reaction,Causes serious eye irritation,Very toxic to aquatic life with long lasting effects.

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2.2. GHS label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA)

:



Signal word (GHS-ZA)

: Danger

Hazard statements (GHS ZA)

: H225 - Highly flammable liquid and vapour
H301 - Toxic if swallowed
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H370 - Causes damage to organs
H410 - Very toxic to aquatic life with long lasting effects
Precautionary statements (GHS ZA) : P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P235 - Keep cool.
P260 - Do not breathe dusts or mists.
P264 - Wash ... thoroughly after handling.

2.3. Other hazards which do not result in classification or are not covered by the GHS

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Chemical name

: dimethyl disulphide

Product identifiers: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
DIMETHYL DISULPHIDE (Main constituent)	CAS-No.: 624-92-0	100	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. Not classified (Inhalation:dust,mist) Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 1, H370 STOT SE 3, H336 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of necessary first aid measures

First-aid measures general

: Obtain medical attention. Call a physician immediately.

First-aid measures after inhalation

: Remove person to fresh air and keep comfortable for breathing. Call a doctor.

First-aid measures after skin contact

: Consult a doctor/medical service. Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

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First-aid measures after eye contact	: Obtain medical attention. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical advice/attention. Rinse mouth. Call a physician immediately.

4.2. Most important symptoms/effect, acute and delayed

Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Alcohol resistant foam. Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: May explode and burn in high temperature and fire and produce toxic fumes. Highly flammable liquid and vapour.
Explosion hazard	: May explode and burn in high temperature and fire and produce toxic fumes.
Hazardous decomposition products in case of fire	: Carbon oxides (CO, CO ₂). Sulphur oxides.

5.3. Special protective actions for fire-fighters

Precautionary measures fire	: Evacuate area. Eliminate all ignition sources if safe to do so.
Firefighting instructions	: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Cool laterally with water containers exposed to flames, even after the fire is extinguished. Evacuate area.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Evacuate area. Eliminate every possible source of ignition. Avoid contact with skin, eyes and clothing. Clean up any spills as soon as possible, using an absorbent material to collect it.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Ventilate area. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.2. Environmental precautions

Avoid release to the environment.

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6.3. Methods and materials for containment and cleaning up

For containment	: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Collect spillage.
Methods for cleaning up	: Take up liquid spill into absorbent material. Scoop absorbed substance into closing containers. Do not discharge into drains or the environment. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Do not handle until all safety precautions have been read and understood. Avoid contact with skin, eyes and clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.
Hygiene measures	: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed	: Keep away from ignition sources.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Ensure adequate ventilation, especially in confined areas. Facilities: shower, eye shower. Ground/bond container and receiving equipment.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Storage area	: Keep container in a well-ventilated place. Keep only in the original container. Keep out of direct sunlight.
Incompatible materials	: Flammable materials.
Heat and ignition sources	: Keep away from heat and direct sunlight. Keep away from ignition sources. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Hand protection	: PVC gloves
Eye protection	: Protective goggles. Safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: [In case of inadequate ventilation] wear respiratory protection.
Personal protective equipment symbol(s)	



8.4. Exposure limit values for the other components

No additional information available

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SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Appearance	: No data available
Colour	: light yellow. light yellow
Odour	: Unpleasant odour. Unpleasant odour
Odour threshold	: No data available
pH	: No data available
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: -847 °C
Freezing point	: No data available
Boiling point	: 109 °C
Flash point	: 16 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: 180 °C
Flammability	: Flammable, Highly flammable liquid and vapour.
Vapour pressure	: 38 mbar @ 25 C
Vapour pressure at 50°C	: No data available
Relative vapour density at 20°C	: 1.08
Relative density	: No data available
Relative density of saturated gas/air mixture	: No data available
Density	: 1.06 g/cm ³
Relative gas density	: No data available
Solubility	: Poorly soluble in water. Soluble in alcohols. Soluble in Diethyl ether. Water: 0.25 g/100ml @ 20 C
Partition coefficient n-octanol/water (Log Pow)	: 1.77
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: 594000 mm ² /s @ 20 C
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosion limit	: 1.1 vol %
Upper explosion limit	: 16.1 vol %
Physical state	: Liquid
Appearance	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10: Stability and Reactivity

10.1. Reactivity

Highly flammable liquid and vapour.

10.2. Chemical Stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong oxidizing agent.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Sulfur oxides (SOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Toxic if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified.

DMDS (624-92-0)	
LD50 oral rat	290 mg/kg
LC50 Inhalation - Rat	15.85 mg/l
LC50 Inhalation - Rat (Vapours)	3100 mg/l/4h

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Causes damage to organs. May cause drowsiness or dizziness.
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

DMDS (624-92-0)	
Viscosity, kinematic	594000 mm²/s @ 20 C

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

DMDS (624-92-0)	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

DMDS (624-92-0)	
Partition coefficient n-octanol/water (Log Kow)	1.77
Bioaccumulative potential	Low bioaccumulation potential.

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12.4. Mobility in soil

DMDS (624-92-0)

Mobility in soil	No additional information available
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12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

SECTION 13: Disposal Considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Ecology - waste materials	: Avoid release to the environment.
Additional information	: Flammable vapours may accumulate in the container.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
2381	2381	2381
14.2. UN Proper Shipping Name		
DIMETHYL DISULPHIDE	DIMETHYL DISULPHIDE	Dimethyl disulphide
14.3. Transport hazard class(es)		
3	3 (6.1)	3 (6.1)
		
14.4. Packing group, if applicable		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available		

14.6. Special precautions for user

SANS	
Limited quantities (SANS)	: 1 L
Limited quantities (SANS)	: 1 L
Packagings, large packagings and IBCs Packing instructions (SANS)	: P001, IBC02
Portable tank and bulk containers instructions (SANS)	: T4
Portable tank and bulk container special provisions (SANS)	: TP1

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IMDG

Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP2, TP13
EmS-No. (Fire)	: F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage)	: S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: SW2
Flash point (IMDG)	: 15°C c.c.
Properties and observations (IMDG)	: Yellow liquid with an unpleasant odour. Flashpoint: 15°C c.c. Immiscible with water. When involved in a fire, evolves toxic gases. Toxic if swallowed, by skin contact or by inhalation.

IATA

PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: Forbidden
CAO max net quantity (IATA)	: Forbidden
ERG code (IATA)	: 3P

14.7. Transport in bulk according to IMO instructions

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

SECTION 16: Other information

Issue date	: 21/02/2025
Revision date	: 21/02/2028
Data sources	: Annex VI.
Abbreviations and acronyms	: ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road ATE - Acute Toxicity Estimate BCF - Bioconcentration factor BLV - Biological limit value BOD - Biochemical oxygen demand (BOD) COD - Chemical oxygen demand (COD) DMEL - Derived Minimal Effect level DNEL - Derived-No Effect Level EC-No. - European Community number EC50 - Median effective concentration EN - European Standard IARC - International Agency for Research on Cancer IATA - International Air Transport Association IMDG - International Maritime Dangerous Goods LC50 - Median lethal concentration LD50 - Median lethal dose LOAEL - Lowest Observed Adverse Effect Level NOAEC - No-Observed Adverse Effect Concentration NOAEL - No-Observed Adverse Effect Level

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NOEC - No-Observed Effect Concentration
OECD - Organisation for Economic Co-operation and Development
OEL - Occupational Exposure Limit
PBT - Persistent Bioaccumulative Toxic
PNEC - Predicted No-Effect Concentration
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS - Safety Data Sheet
STP - Sewage treatment plant
ThOD - Theoretical oxygen demand (ThOD)
TLM - Median Tolerance Limit
VOC - Volatile Organic Compounds
CAS-No. - Chemical Abstract Service number
N.O.S. - Not Otherwise Specified
vPvB - Very Persistent and Very Bioaccumulative
ED - Endocrine disrupting properties

Full text of H-statements:

H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H370	Causes damage to organs
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Safety Data Sheet (SDS), South Africa (HCA)

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