



Safety Data Sheet

according to HPR, Schedule 1

Printing date 12/08/2020

Reviewed on 12/08/2020

1 Identification

· **Product identifier**

· **Product name: Dimethyl disulfide**

· **Part number:** DRE-CA12726480

· **CAS Number:**

624-92-0

· **EC number:**

210-871-0

· **Index number:**

016-098-00-3

· **Application of the substance / the mixture** Reference material for laboratory use only

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

VHG

LGC Standards

276 Abby Road

Manchester, NH 03103

UNITED STATES OF AMERICA

Tel : +1 (603) 622-7660

Fax : +1 (603) 622-5180

Email : lgcusa@lgcgroup.com

Web : lgcstandards.com

· **Information department:**

Product safety department

eMail : sds-request@lgcgroup.com

· **Emergency telephone number:**

For Hazardous Materials or Dangerous Goods Incident

Spill, Leak, Fire Exposure, or Accident

Call CHEMTREC:

USA & Canada 1-800-424-9300

Rest of the world +1 703-741-5970

2 Hazard identification

· **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Toxicity (Oral) - Category 3

H301 Toxic if swallowed.

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure -
Category 1

H370 Causes damage to the upper respiratory tract.
Route of exposure: Inhalation.

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**GHS09 Environment***Aquatic Acute 1**Aquatic Chronic 1**H400 Very toxic to aquatic life.**H410 Very toxic to aquatic life with long lasting effects.***GHS07***Eye Irritation - Category 2A**Skin Sensitizer - Category 1**Specific Target Organ Toxicity - Single Exposure - Category 3**H319 Causes serious eye irritation.**H317 May cause an allergic skin reaction.**H336 May cause drowsiness or dizziness.*

· Label elements**· GHS label elements***The substance is classified and labeled according to the Globally Harmonized System (GHS).***· Hazard pictograms****GHS02****GHS06****GHS07****GHS08****GHS09****· Signal word Danger****· Hazard statements***H225 Highly flammable liquid and vapour.**H301+H331 Toxic if swallowed or if inhaled.**H319 Causes serious eye irritation.**H317 May cause an allergic skin reaction.**H370 Causes damage to the upper respiratory tract. Route of exposure: Inhalation.**H336 May cause drowsiness or dizziness.**H410 Very toxic to aquatic life with long lasting effects.***· Precautionary statements***P280 Wear protective gloves/protective clothing/eye protection/face protection.**P301+P310 If swallowed: Immediately call a poison center/doctor.**P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].**P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



3 Composition/Information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
624-92-0 Dimethyl disulfide
- **Identification number(s) -**
- **EC number:** 210-871-0
- **Index number:** 016-098-00-3
- **RTECS:** JO 1927500

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
Seek immediate medical advice.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse mouth. Do not induce vomiting.
Immediately call a doctor.
- **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
Mouth respiratory protective device.
Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Open and handle receptacle with care.
Ensure good ventilation/exhaustion at the workplace.
Store in cool, dry place in tightly closed receptacles.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Please refer to the manufacturers certificate for specific storage and transport temperature conditions.
Store only in the original receptacle unless other advice is given on the CoA.

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- Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
 - **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
 - **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

CAS: 624-92-0 Dimethyl disulfide

EL TWA: 0.5 ppm
Skin

EV TWA: 0.5 ppm
Skin

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374



Protective gloves

- **Material of gloves** Butyl rubber, BR

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· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:

Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties**· General Information****· Appearance:**

Form:	Liquid
Color:	Light yellow
Odor:	Unpleasant
Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	-84.7 °C
Boiling point/Boiling range:	110 °C

· Flash point: 10 °C

· Flammability (solid, gaseous): Not determined.

· Ignition temperature: Not determined

· Decomposition temperature: Not determined.

· Auto igniting: Not determined.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower:	1.1 Vol %
Upper:	16.1 Vol %

· Vapor pressure at 20 °C: 30 hPa

· Density at 20 °C:	1.06 g/cm ³
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with
Water at 20 °C:

2.7 g/l

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· Partition coefficient (n-octanol/water): 1.91 (at 20 °C) logP**· Viscosity:****Dynamic at 20 °C:**

0.59 mPas

Kinematic:

Not determined.

· Other information

No further relevant information available.

10 Stability and reactivity

· Reactivity

Stable under normal conditions.

No further relevant information available.

· Chemical stability Stable under normal conditions.**· Thermal decomposition / conditions to be avoided:**

Formation of toxic gases is possible during heating or in case of fire.

· Possibility of hazardous reactions May form flammable/explosive vapour-air mixture.**· Conditions to avoid**

Sources of ignition

Heat.

· Incompatible materials: Strong oxidizing agents.**· Hazardous decomposition products:** Formation of toxic gases is possible during heating or in case of fire.

11 Toxicological information

· Information on toxicological effects**· Acute toxicity:****· LD/LC50 values that are relevant for classification:**

Oral	LD50	190 mg/kg (ATE) 385 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rat)
Inhalative	LC50/4 h	5 mg/l (ATE) 5.05 mg/l (rat)

· Primary irritant effect:**· on the skin:** Based on available data, the classification criteria are not met.**· on the eye:** Irritating effect.**· Sensitization:** Sensitization possible through skin contact.**· Additional toxicological information:****· Carcinogenic categories****· IARC (International Agency for Research on Cancer)** Substance is not listed.**· NTP (National Toxicology Program)** Substance is not listed.

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12 Ecological information

· Toxicity**· Aquatic toxicity:**

EC50/48 h 1.82 mg/l (daphnia)

LC50/96 h 0.97 mg/l (fish)

· Persistence and degradability No further relevant information available.**· Behavior in environmental systems:****· Bioaccumulative potential** No further relevant information available.**· Mobility in soil** No further relevant information available.**· Ecotoxicological effects:****· Remark:** Very toxic for fish**· Additional ecological information:****· General notes:**

Water hazard class 3 (Assessment by list): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

· Results of PBT and vPvB assessment**· PBT:** Not applicable.**· vPvB:** Not applicable.**· Other adverse effects** No further relevant information available.

13 Disposal considerations

· Waste treatment methods**· Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:**· Recommendation:** Dispose in accordance with national regulations.

14 Transport information

· UN-Number**· DOT/TDG, ADR, IMDG, IATA****· DOT/TDG****· ADR****· IMDG****· IATA**

UN2381

Dimethyl disulfide

2381 DIMETHYL DISULPHIDE, ENVIRONMENTALLY
HAZARDOUS

DIMETHYL DISULPHIDE, MARINE POLLUTANT

DIMETHYL DISULPHIDE

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· **Transport hazard class(es)**

· **DOT/TDG (Transport dangerous goods):**

· **Class**

3 Flammable liquids

· **Label**

3, 6.1

· **ADR**

· **Class**

3 Flammable liquids

· **Label**

3+6.1

· **IMDG**

· **Class**

3 Flammable liquids

· **Label**

3/6.1

· **IATA**

· **Class**

3 Flammable liquids

· **Label**

3 (6.1)

· **Packing group**

· **DOT/TDG, ADR, IMDG, IATA**

II

· **Environmental hazards:**

Environmentally hazardous substance, liquid; Marine Pollutant

· **Marine pollutant:**

Yes (DOT)

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **Special precautions for user**

Warning: Flammable liquids

· **Hazard identification number (Kemler code):** 63

· **EMS Number:**

F-E,S-D

· **Stowage Category**

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· Stowage Code	SW2 Clear of living quarters.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT/TDG	
· Remarks:	Special marking with the symbol (fish and tree).
· ADR	
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· UN "Model Regulation":	UN 2381 DIMETHYL DISULPHIDE, 3 (6.1), II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):** ACTIVE
- **Canadian substance listings:**
- **Canadian Domestic Substances List (DSL)** Substance is listed.
- **Canadian Ingredient Disclosure list (limit 0.1%)** Substance is not listed.
- **Canadian Ingredient Disclosure list (limit 1%)** Substance is not listed.
- **Hazard pictograms**



GHS02 GHS06 GHS07 GHS08 GHS09

- **Signal word** Danger
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H301+H331 Toxic if swallowed or if inhaled.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H370 Causes damage to the upper respiratory tract. Route of exposure: Inhalation.
H336 May cause drowsiness or dizziness.
H410 Very toxic to aquatic life with long lasting effects.
- **Precautionary statements**
P280 Wear protective gloves/protective clothing/eye protection/face protection.

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- P301+P310 If swallowed: Immediately call a poison center/doctor.*
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
- P405 Store locked up.*
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information in this Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, we cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. We warrant that the chemical meets the specifications set forth on the label. We (LGC/VHG/ARMI) disclaim any other warranties, expressed or implied with regard to the product supplied hereunder, its merchantability or its fitness for a particular purpose. The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. Read all precautionary information.

· **Contact:**

· **Date of the latest revision of the safety data sheet** 12/08/2020 / 1

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

· **Sources**

Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.

· **Data compared to the previous version altered.** All sections have been updated.