

GPS Safety Summary

Substance Name:

Dimethylsulfide

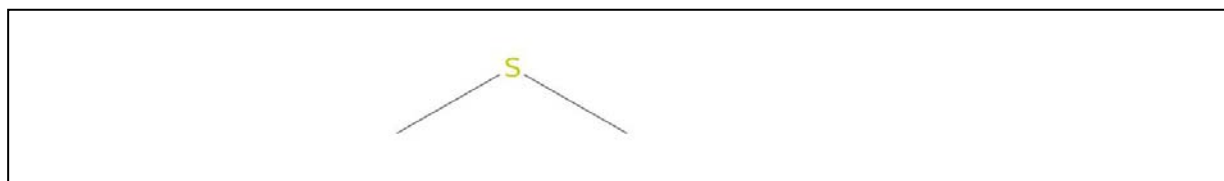
1. General Statement

Dimethyl sulfide is a colourless liquid with a very characteristic odour and extremely low odour threshold of 2,5ppb.

Flammable and eye irritant, this substance must be carefully handled and stored to preserve human health and environment.

2. Chemical Identity

Name: Dimethylsulfide
Brand names: Dimethylsulfide
Chemical name (IUPAC): dimethyl sulfide
CAS number(s): 75-18-3
EC number (optional): 200-846-2
Molecular formula (optional): C₂H₆S
Structure (optional):



3. Use and applications

Dimethyl sulfide is used alone or in mixtures as an odorant in gas (natural gas, liquefied gas, toxic gases). It can also be used as an intermediate in industrial manufacture of bulk, large scale substances and fine chemicals.

Dimethyl sulfide is approved for use as a food flavouring agent.

4. Physical / Chemical properties

Property	Value
Physical state (Liquid/solid/gaseous)	Liquid
Colour	Colourless
Odour	Mercaptans
Density	850 kg/m ³ at 20°C

Melting point	-98°C at 1013 hPa
Boiling point	37.3°C at 1013 hPa
Flammability (optional)	Lower flammable limit: 2.2% (V) Upper flammable limit: 19.7% (V)
Flash Point	-30°C at 1013 hPa
Explosive properties	Not explosive based on its structure
Oxidising properties	Not oxidising based on its structure
Self-ignition temperature	220°C at 1013 hPa
Vapour pressure	532 hPa at 20°C
Mol weight	62.13 g/mol
Water solubility	7.28 g/l at 20°C
Flash point	< -30°C (closed cup) at 1013 hPa
Octanol-water partition coefficient (LogKow)	0.84

5. Health Effects

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Of low toxicity by oral, dermal and inhalation routes.
Irritation / corrosion Skin / eye/ respiratory tract	Slightly irritating to the skin. Irritating to eyes.
Sensitisation	Not a skin sensitizer.
Toxicity after repeated exposure Oral / inhalation / dermal	Oral studies with the substance, and inhalation studies performed with an analogue substance, did not suggest a significant systemic toxicity following repeated exposure.
Genotoxicity / Mutagenicity	No evidence of genetic toxicity.
Carcinogenicity	Not anticipated to cause cancer under conditions of normal use.
Toxicity for reproduction	Studies with the substance, and with an analogue substance, did not suggest toxic effects on the fertility and the development.

6. Environmental Effects

Effect Assessment	Result
Aquatic Toxicity	Harmful to aquatic invertebrates.

Fate and behaviour	Result
Biodegradation	Readily biodegradable (OECD 301D: 77% in 28 days).
Bioaccumulation potential	Not expected to bioaccumulate (log P = 0.84).
PBT / vPvB conclusion	Neither a PBT nor a vPvB substance.

7. Exposure

7.1 Human health

The most likely route of human exposure (workers) to dimethyl sulfide is through inhalation and/or to a much lesser extent dermal contact. In industrial settings, ingestion is not an anticipated route of exposure.

The probability of exposure to workers is expected to be low because this product is manufactured in enclosed controlled environment and is transported in well sealed containers. Due to its low odour threshold (2,5ppb), leaks can be detected quickly and prolonged exposures can be avoided. Workers may be exposed during (un)loading, mixing, sampling, analysis or maintenance operations and particularly in case of batch processes. The exposure must be kept as minimum as possible by the use of appropriate risk management measures as suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.

For more information about conditions recommended, refer to the extended safety data sheet in Europe.

7.2 Environment

Based on its physico-chemical properties, dimethyl sulfide is relatively water soluble, has a high potential for volatility, a low potential of bioaccumulation due to a log Kow < 3, is readily biodegradable and is harmful to aquatic life.

Care should be taken to avoid releases of these products to sewage, drainage systems and water bodies. Spillage shall be quickly collected in the event of an accidental release. More information about release measures and accidental release measures are available in the extended safety data sheet.

8. Risk Management recommendations

Human health measures	
Organizational	Implement a good basic standard of occupational hygiene Ensure operatives are well informed of the hazards and trained to minimize exposures. Hygiene measures must be respected and incompatible materials must be clearly identified.
Protection	Eye/Face protection: Safety glasses
	Skin protection: Combination with delayed penetration
	Hand protection: Gloves nitrile rubber Glove thickness: 0.75 mm
	Respiratory protection: In case of insufficient ventilation, wear a suitable respiratory equipment. In case of high concentrations or prolonged activity: On line apparatus.
Engineering controls	Ensure sufficient air exchange and/or exhaust in work area. Ensure that eyewash stations and safety showers are close to workstation locations.

Environmental protective measures

This substance and all industrial releases that may contain the substance must be treated to avoid any exposure to the environment.

Eliminate by incineration in accordance with local and national regulations.

9. Regulatory Information / Classification and Labelling

9.1 Regulatory Information



This substance has been registered under:

- EU Regulation EC 1907/2006 (REACH)

This substance has been approved as food flavouring use under EU Regulation EC 872/2012 (Food flavouring agents).

9.2 Classification and labelling

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the eSDS. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use. Substances registered for REACH are classified according CLP (EC) 1272/2008, implementation of the GHS in the European Union.

Classification	
<u>According to REGULATION (EC) no 1272/2008:</u> Flammable liquids cat. 2 (H225: Highly flammable liquid and vapour.) Eye irritation cat. 2 (H319: Causes serious eye irritation.)	
Signal Word	
Danger	
Pictogram	
– GHS03: Flame	
– GHS07: Exclamation mark	
Labelling: hazard statement	
H225: Highly flammable liquid and vapour. H319: Causes serious eye irritation.	
Additional classification according to Globally Harmonized System (GHS)	
– Acute toxicity - Dermal: Category 5; H313: May be harmful if contact with skin. – Skin irritation: Category 3; H316: Cause mild skin irritation – Acute aquatic toxicity: Category 3; H402: Harmful to aquatic life	

10. Contact Information within Company

For further information on this substance or product safety summary in general, please contact:

- **ICCA portal where the GPS Safety Summary is posted:**
<http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/>

11. Date of Issues / Revision

- Date of issue: 2014/01/31
- Date of revision:

12. Disclaimer

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