

GPS Safety Summary

Substance Name:

Ethyl methyl sulphide

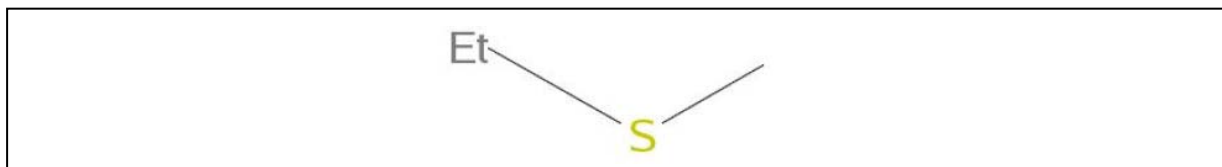
1. General Statement

Ethyl methyl sulphide is a colourless liquid organic compound, with a strong and stinging odour (a very low odour threshold about 1 ppb). Products containing ethyl methyl sulphide are commercially available to industrial customers only.

Highly flammable, irritant for eyes and harmful to aquatic life with long lasting effects, this substance must be carefully handled and stored to preserve human health and environment.

2. Chemical Identity

Name: Ethyl methyl sulphide
Brand name: Ethyl methyl sulphide
Chemical name (IUPAC): (methylsulfanyl)ethane
CAS number(s): 624-89-5
EC number: 210-868-4
Molecular formula: C₃H₈S
Structure:



3. Use and applications

Ethyl methyl sulphide is used in mixtures designed to odorize natural gas. This product should not be used on its own: it is added to other odourants and the mixtures are particularly suitable for by-pass injection system.

4. Physical / Chemical properties

Property	Value
Physical state	Liquid at 20°C and 1013 hPa
Colour	Colourless
Odour	Strong, stinging
Density	0.8394 at 20°C
Vapour pressure	264.4 hPa at 25°C
Freezing / boiling points	-106°C / 64.1°C at 1013hPa
Flammability	Highly flammable liquid

Flash point	-20°C (closed cup)
Self-ignition temperature	195°C at 1013 hPa
Explosive properties	Not explosive due to chemical structure
Oxidizing properties	Not oxidising due to chemical structure
Water solubility	6.68 g/L at 20°C
Octanol-water partition coefficient (Log K _{ow})	1.54 (measured)

5. Health Effects

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Not harmful by oral, dermal and inhalation exposures
Irritation / corrosion Skin / eye/ respiratory tract	Moderately irritating for the skin. Irritating for the eyes
Sensitisation	Not a skin sensitiser
Toxicity after repeated exposure Oral / inhalation / dermal	No significant adverse effect after repeated oral exposure of an analogue substance
Genotoxicity / Mutagenicity	Not genotoxic
Carcinogenicity	This information is not available
Reproductive / Developmental Toxicity	No effect on the development

6. Environmental Effects

Effect Assessment	Result
Aquatic Toxicity	Harmful to aquatic organisms

Fate and behaviour	Result
Biodegradation	Inherently biodegradable
Bioaccumulation potential	Not expected to bioaccumulate
PBT / vPvB conclusion	Not considered to be either PBT or vPvB

7. Exposure

7.1 Human health

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

The probability of exposure to workers is expected to be minimal because on manufacturing, formulating and sites of injection in gas, strictly controlled conditions are used. Because of its strong smell, the product must be transported in completely tight containers

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

7.2 Environment

Based on its physico-chemical properties, ethyl methyl sulphide is soluble in water. The substance is inherently biodegradable and it is not expected to sorb on soil particles and sediment. Moreover, it is not expected to bioaccumulate in aquatic or terrestrial organism tissues.

The probability of release to the environment is expected to be minimal because on manufacturing, formulating and sites of injection in gas, strictly controlled conditions are used. There are no emissions to water, soil and air in normal conditions of manufacturing and use. In the event of accidental release, spillage should be quickly collected. More information about accidental release management measures are available in the 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: At the workplace: combination with delayed penetration. Intervention at incident: anti-acid suit.
	Hand protection: Nitrile rubber protective gloves, thickness: 0.75 mm.
	Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.
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	
Do not release into the environment. Do not let product enter drains. For recovery, pump into a labelled inert emergency tank. Absorb the remainder with an inert absorbent material. Destroy by oxidation with dilute solutions of hydrogen peroxide, sodium hypochlorite or 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 is listed on inventories in the USA, Australia, Canada, Japan, Korea, Philippines, China and New-Zealand.

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 safety data sheet. 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 to CLP (EC) 1272/2008, implementation of the GHS in the European Union.

Classification	
According to REGULATION (EC) no 1272/2008: <ul style="list-style-type: none">– Flammable liquid, cat. 2– Eye irritation, cat. 2– Chronic aquatic toxicity cat. 3	
Signal Word	
Danger	
Pictogram	
– GHS02: Flame	
– GHS07: Exclamation mark	
Hazard statement	
<ul style="list-style-type: none">– H225: Highly flammable liquid and vapour– H319: Causes serious eye irritation– H412: Harmful to aquatic life with long lasting effects.	
Additional classification according to Globally Harmonized System (GHS)	
<ul style="list-style-type: none">– Skin Irritation, cat. 3 (H316 : Causes mild skin irritation)– Aquatic Acute, cat. 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:

- Arkema web site : on the product page, an actualised contact name is provided <http://www.arkema.com>
- **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: 2014/12/15
- Date of revision:

12. Disclaimer

The information contained in this paper is intended as advice only and whilst the information is provided in utmost good faith and has been based on the best information currently available, is to be relied upon at the user's own risk.

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