1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers
Product name : Dimethyl sulfide
Product Number : 274380
Brand : Sigma-Aldrich
CAS-No. : 75-18-3

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO  63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number
Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
- Flammable liquids (Category 2), H225
- Eye irritation (Category 2A), H319
- Acute aquatic toxicity (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word : Danger

Hazard statement(s)
- H225 : Highly flammable liquid and vapour.
- H319 : Causes serious eye irritation.
- H402 : Harmful to aquatic life.

Precautionary statement(s)
- P210 : Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P233 : Keep container tightly closed.
- P240 : Ground/bond container and receiving equipment.
- P241 : Use explosion-proof electrical/ ventilating/ lighting/ equipment.
- P242 : Use only non-sparking tools.
- P243 : Take precautionary measures against static discharge.
- P264 : Wash skin thoroughly after handling.
- P273 : Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ 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.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Synonyms: Methyl sulfide
DMS

Formula: \( \text{C}_2\text{H}_6\text{S} \)
Molecular Weight: 62.13 g/mol
CAS-No.: 75-18-3
EC-No.: 200-846-2

Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl sulfide</td>
<td>Flam. Liq. 2; Eye Irrit. 2A; Aquatic Acute 3; H225, H319, H402</td>
<td>90 - 100 %</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
no data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
no data available

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Handle and store under inert gas. Refrigerate before opening. Handle and open container with care. hygroscopic

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl sulfide</td>
<td>75-18-3</td>
<td>TWA</td>
<td>10 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
<td>Upper Respiratory Tract irritation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Splash contact
Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Break through time: 30 min
Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
Impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance
   Form: liquid
b) Odour
   no data available
c) Odour Threshold
   no data available
d) pH
   no data available
e) Melting point/freezing point
   Melting point/range: -98 °C (-144 °F) - lit.
f) Initial boiling point and boiling range
   38 °C (100 °F) - lit.
g) Flash point
   -36 °C (-33 °F) - closed cup
h) Evaporation rate
   no data available
i) Flammability (solid, gas)
   no data available
j) Upper/lower flammability or explosive limits
   Upper explosion limit: 19.7 %(V)
   Lower explosion limit: 2.2 %(V)
k) Vapour pressure
   402.7 hPa (302.0 mmHg) at 20 °C (68 °F)
   1,356 hPa (1,017 mmHg) at 55 °C (131 °F)
l) Vapour density
   2.1
m) Relative density
   0.846 g/cm3 at 25 °C (77 °F)
n) Water solubility
   7.28 g/l at 20 °C (68 °F) - insoluble
o) Partition coefficient: n-octanol/water
   log Pow: 0.84 at 20 °C (68 °F)
p) Auto-ignition temperature 206 °C (403 °F)
q) Decomposition temperature no data available
r) Viscosity no data available
s) Explosive properties no data available
t) Oxidizing properties no data available

9.2 Other safety information
Solubility in other solvents
Ether
Ethanol
Relative vapour density 2.1

10. STABILITY AND REACTIVITY
10.1 Reactivity no data available
10.2 Chemical stability Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions Vapours may form explosive mixture with air.
10.4 Conditions to avoid Heat, flames and sparks. Extremes of temperature and direct sunlight.
10.5 Incompatible materials Strong oxidizing agents
10.6 Hazardous decomposition products Other decomposition products - no data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION
11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - rat - 3,300 mg/kg
LD50 Inhalation - rat - 4 h - 102 mg/l
(OECD Test Guideline 403)
Remarks: Lungs, Thorax, or Respiration:Other changes.
LD50 Dermal - rabbit - > 5,000 mg/kg
no data available
Skin corrosion/irritation
Serious eye damage/eye irritation
Eyes - rabbit
Result: Irritating to eyes. - 24 h
Remarks: Eye irritation
Respiratory or skin sensitisation
no data available
Germ cell mutagenicity
no data available
Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Additional Information
RTECS: PV5075000
Nausea, Headache, Vomiting

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 213 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 29 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae EC50 - Pseudokirchneriella subcapitata (green algae) - > 113.7 mg/l - 72 h (OECD Test Guideline 201)

12.2 Persistence and degradability
Biodegradability aerobic
Result: - Readily biodegradable. (OECD Test Guideline 301D)

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

**DOT (US)**
UN number: 1164   Class: 3   Packing group: II
Proper shipping name: Dimethyl sulfide
Reportable Quantity (RQ):
Marine pollutant: No
Poison Inhalation Hazard: No

**IMDG**
UN number: 1164   Class: 3   Packing group: II
Proper shipping name: DIMETHYL SULPHIDE
Marine pollutant: No

**IATA**
UN number: 1164   Class: 3   Packing group: II
Proper shipping name: Dimethyl sulphide

15. REGULATORY INFORMATION

**SARA 302 Components**
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Fire Hazard, Acute Health Hazard

**Massachusetts Right To Know Components**

<table>
<thead>
<tr>
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<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl sulfide</td>
<td>75-18-3</td>
<td>1993-04-24</td>
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</tbody>
</table>

**Pennsylvania Right To Know Components**

<table>
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**New Jersey Right To Know Components**

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<tr>
<td>Dimethyl sulfide</td>
<td>75-18-3</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

**California Prop. 65 Components**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

**Full text of H-Statements referred to under sections 2 and 3.**

Aquatic Acute: Acute aquatic toxicity
Eye Irrit.: Eye irritation
Flam. Liq.: Flammable liquids
H225: Highly flammable liquid and vapour.
H319: Causes serious eye irritation.
H402: Harmful to aquatic life.

**HMIS Rating**
Health hazard: 2
Chronic Health Hazard:
Flammability: 3
Physical Hazard 0

**NFPA Rating**
Health hazard: 2
Fire Hazard: 3
Reactivity Hazard: 0

**Further information**
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**Preparation Information**
Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 5.2 Revision Date: 07/01/2014 Print Date: 04/24/2015