# SAFETY DATA SHEET

## Ethylthioethanol

**Version 1.3**

**Revision Date 2016-06-07**

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Product information

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Ethylthioethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>1024590, 1024803, 1024802, 1027450</td>
</tr>
</tbody>
</table>

#### EC-No. Registration number

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Legal Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Thioethanol</td>
<td>110-77-0</td>
<td>203-802-0</td>
<td><strong>Chevron Phillips Chemicals International N.V.</strong> 01-2119491305-38-0000</td>
</tr>
</tbody>
</table>

**Relevant Identified Uses**

| Supported             | Use as an intermediate |

**Company**

- **Chevron Phillips Chemical Company LP**
  - Specialty Chemicals
  - 10001 Six Pines Drive
  - The Woodlands, TX 77380

- **Chevron Phillips Chemicals International N.V.**
  - Airport Plaza (Stockholm Building)
  - Leonardo Da Vinciлаan 19
  - 1831 Diegem
  - Belgium

**Emergency telephone:**

**Health:**

- 866.442.9628 (North America)
- 1.832.813.4984 (International)

**Transport:**

- CHEMTREC 800.424.9300 or 703.527.3887 (int'l)
- Asia: +800 CHEMCALL (+800 2436 2255) China:+86-21-22157316

**SDS Number:** 100000014120

1/13
SECTION 2: Hazards identification

Classification of the substance or mixture
REGULATION (EC) No 1272/2008

Serious eye damage, Category 1
H318: Causes serious eye damage.
Chronic aquatic toxicity, Category 3
H412: Harmful to aquatic life with long lasting effects.

Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms: 

Signal Word: Danger

Hazard Statements:
H318: Causes serious eye damage.
H412: Harmful to aquatic life with long lasting effects.

Precautionary Statements:

Prevention:
P280 Wear protective gloves/ eye protection/ face protection.
P273 Avoid release to the environment.

Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous ingredients which must be listed on the label:
- 110-77-0 Ethyl Thioethanol

SECTION 3: Composition/information on ingredients

Synonyms: 2-Ethylthioethanol ETE
Ethylthioethanol

Molecular formula: C4H10OS

Mixtures

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration [wt%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Thioethanol</td>
<td>110-77-0</td>
<td>203-802-0</td>
<td>Eye Dam. 1; H318 Aquatic Chronic 3; H412</td>
<td>99,7</td>
</tr>
</tbody>
</table>

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

SECTION 4: First aid measures

General advice: Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance. Do not leave the victim unattended.

If inhaled: If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact: If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact: Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed: Keep respiratory tract clear. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

Flash point: 78 °C (172 °F) Method: Tag closed cup

Autoignition temperature: No data available

Suitable extinguishing media: Carbon dioxide (CO2).

Unsuitable extinguishing media: High volume water jet.

Specific hazards during firefighting: Do not allow run-off from fire fighting to enter drains or water courses.

Special protective: Wear self-contained breathing apparatus for firefighting if
equipment for fire-fighters necessary.

Further information: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

Fire and explosion protection: Do not spray on an open flame or any other incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

Hazardous decomposition products: Carbon oxides. Sulfur oxides.

SECTION 6: Accidental release measures

Personal precautions: Use personal protective equipment.

Environmental precautions: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Handling

Advice on safe handling: Avoid formation of aerosol. Do not breathe vapors/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion: Do not spray on an open flame or any other incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

Storage

Requirements for storage areas and containers: No smoking. 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. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
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SECTION 8: Exposure controls/personal protection

PNEC : No data available

Engineering measures
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Full-Face Supplied-Air Respirator. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles. Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. Wear as appropriate: Complete head face and neck protection. Rubber apron. Footwear protecting against chemicals.

Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

For additional details, see the Exposure Scenario in the Annex portion

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties
Appearance
**Ethylthioethanol**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Pungent</td>
</tr>
</tbody>
</table>

**Safety data**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>78 °C (172 °F)</td>
</tr>
<tr>
<td>Method</td>
<td>Tag closed cup</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>no</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>No data available</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>C₄H₁₀OS</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>106.18 g/mol</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Pour point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>183.5 °C (362.3 °F)</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.02</td>
</tr>
<tr>
<td>at 15.6 °C (60.1 °F)</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>1.018 g/cm³</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Partly soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Percent volatile</td>
<td>&gt; 99 %</td>
</tr>
</tbody>
</table>

**SECTION 10: Stability and reactivity**

| Chemical stability            | This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. |
Possibility of hazardous reactions
Conditions to avoid: Heat, flames and sparks.
Thermal decomposition: No data available
Hazardous decomposition products: Carbon oxides, Sulfur oxides
Other data: No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

Acute oral toxicity
Ethyl Thioethanol: LD50: > 2000 mg/kg
Species: Rat
Sex: female
Method: OECD Test Guideline 423

Skin irritation
Ethyl Thioethanol: No skin irritation

Eye irritation
Ethyl Thioethanol: Risk of serious damage to eyes.

Sensitization
Ethyl Thioethanol: Did not cause sensitization on laboratory animals.

CMR effects
Ethyl Thioethanol: Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Ethylthioethanol
Further information: No data available.

SECTION 12: Ecological information

Toxicity to daphnia and other aquatic invertebrates
Ethyl Thioethanol: EC50: 29.6 mg/l
Exposure time: 24 h
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 202

Toxicity to algae

SDS Number: 100000014120 7/13
**Ethylthioethanol**

**Ethyl Thioethanol**
- Exposure time: 72 h
- Species: Desmodesmus subspicatus (green algae)
- Method: OECD Test Guideline 201

**Biodegradability**
- Ethyl Thioethanol: aerobic
- Result: Not readily biodegradable.
- 8 %
- Testing period: 28 Days

**Ecotoxicology Assessment**

**Acute aquatic toxicity**
- Ethyl Thioethanol: Harmful to aquatic life.

**Chronic aquatic toxicity**
- Ethyl Thioethanol: Harmful to aquatic life with long lasting effects.

**Additional ecological information**
- An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

**SECTION 13: Disposal considerations**

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

**Product**
- The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

**Contaminated packaging**
- Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

For additional details, see the Exposure Scenario in the Annex portion

**SECTION 14: Transport information**

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names,
etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**
NA1993, COMBUSTIBLE LIQUID, N.O.S., (ETHYL THIOETHANOL), III

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**
UN3334, AVIATION REGULATED LIQUID, N.O.S., (ETHYL THIOETHANOL), 9, III

**ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))**
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))**
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)**
NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

**SECTION 15: Regulatory information**

**National legislation**

Major Accident Hazard Legislation : 96/82/EC Directive 96/82/EC does not apply

**Notification status**

Europe REACH : On the inventory, or in compliance with the inventory
United States of America TSCA : On the inventory, or in compliance with the inventory
Canada NDSL : This product contains one or several components listed in the Canadian NDSL.
Australia AICS : On the inventory, or in compliance with the inventory
New Zealand NZIoC : Not in compliance with the inventory

SDS Number: 100000014120 9/13
SECTION 16: Other information

NFPA Classification : Health Hazard: 3
Fire Hazard: 2
Reactivity Hazard: 0

Further information
Legacy SDS Number : 44020

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>AIICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>EGSST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
</tr>
</tbody>
</table>
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Ethylthioethanol

Version 1.3

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<table>
<thead>
<tr>
<th>&gt;=</th>
<th>Greater Than or Equal To</th>
<th>STEL</th>
<th>Short-term Exposure Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act.</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
<td>UVCB</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

H318  Causes serious eye damage.
H412  Harmful to aquatic life with long lasting effects.
## 1. Short title of Exposure Scenario: **Use as an intermediate**

<table>
<thead>
<tr>
<th>Main User Groups</th>
<th>SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector of use</td>
<td>SU3, SU8, SU9: Industrial Manufacturing (all), Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals</td>
</tr>
<tr>
<td>Process category</td>
<td>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC15: Use as laboratory reagent</td>
</tr>
<tr>
<td>Environmental release category</td>
<td>ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)</td>
</tr>
<tr>
<td>Further information</td>
<td>Use as an isolated intermediate under strictly controlled conditions</td>
</tr>
</tbody>
</table>

### 2.1 Contributing scenario controlling environmental exposure for: ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

#### Technical conditions and measures / Organizational measures

- **Remarks**: Not applicable

### 2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC8b, PROC15: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities, Use as laboratory reagent

- **Amount used**
  - **Remarks**: Not applicable

### 3. Exposure estimation and reference to its source
### 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable