

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : S-Ethyl chlorothioformate

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

According to Regulation (EC) No1272/2008

Flammable liquids (Category 3)

Acute toxicity, Inhalation (Category 1)

Acute toxicity, Dermal (Category 4)

Acute toxicity, Oral (Category 4)

Skin corrosion (Category 1B)

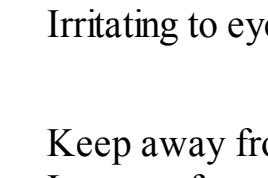
Specific target organ toxicity - single exposure (Category 3)

According to European Directive 67/548/EEC as amended.

Flammable. Harmful by inhalation, in contact with skin and if swallowed. Causes burns. Irritating to eyes and respiratory system.

Label elements

Pictogram



Signal word

Danger

Hazard statement(s)

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H330 Fatal if inhaled.

H335 May cause respiratory irritation.

Precautionary statement(s)

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P284 Wear respiratory protection.

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 or doctor/physician.

Hazard symbol(s)

C Corrosive

R-phrase(s)

R10 Flammable.

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R34 Causes burns.

R36/37 Irritating to eyes and respiratory system.

S-phrase(s)

S16 Keep away from sources of ignition - No smoking.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S27 Take off immediately all contaminated clothing.

S36/37 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Other hazards

Lachrymator.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : (Ethylthio)carbonyl chloride

Formula : C₃H₅ClOS

Molecular Weight : 124,59 g/mol

CAS-No.	EC-No.	Classification	Concentration
2941-64-2	220-928-1	Flam. Liq. 3; Acute Tox. 1; Acute Tox. 4; Skin Corr. 1B; STOT SE 3; H226, H302, H312, H314, H330, H335 C, R10 - R20/21/22 - R34 - R36/37	-

Ethyl chlorothioformate

2941-64-2 220-928-1 - Flam. Liq. 3; Acute Tox. 1;
Acute Tox. 4; Skin Corr. 1B;
STOT SE 3; H226, H302,
H312, H314, H330, H335
C, R10 - R20/21/22 - R34 -
R36/37

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

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

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

In case of skin contact

Take off contaminated clothing and shoes immediately. 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.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, 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.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and 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.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

Store in cool place. 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.

Store under inert gas. Air and moisture sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (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).

Hand protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Handle with gloves.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum).

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form liquid

Colour colourless

Safety data

pH no data available

Melting point no data available

Boiling point 132 °C - lit.

Flash point 31 °C - closed cup

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Density 1,195 g/cm³ at 25 °C

Water solubility no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents, Strong bases

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides, Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Inhalation: no data available

Skin contact: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: no data available

Specific target organ toxicity - single exposure: no data available

Inhalation: no data available

Specific target organ toxicity - repeated exposure: no data available

Genotoxicity: no data available

Carcinogenicity: no data available

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed human carcinogen by IARC.

Reproductive toxicity: no data available

STOT SE: no data available

Specific target organ toxicity - repeated exposure: no data available

Inhalation: no data available

Ingestion: no data available

Skin: no data available

Specific target organ toxicity - single exposure: no data available

Inhalation: no data available

Ingestion: no data available

Skin: no data available

Specific target organ toxicity - repeated exposure: no data available

Inhalation: no data available

Ingestion: no data available

Skin: no data available

Specific target organ toxicity - single exposure: no data available

Inhalation: no data available

Ingestion: no data available

Skin: no data available

Specific target organ toxicity - repeated exposure: no data available

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Inhalation: no data available

Ingestion: no data available

Skin: no data available

Specific target organ toxicity - repeated exposure: no data available

Inhalation: no data available

Ingestion: no data available

Skin: no data available