

# Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 14.07.2010

Revision: 14.07.2010

## 1 Identification of substance

### Product details

Trade name

**Thiophene**

Stock number:

A13941, L02453

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG  
Benzstrasse 3  
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com  
www.alfa-chemcat.com

Informing department:

Product safety department.

Emergency information:

Giftnotruf Universität Mainz / Poison Information Center Mainz  
www.giftinfo.uni-mainz.de Telefon: +49(0)6131/19240

## 2 Hazards identification

Hazard designation:

Xn Harmful  
F Highly flammable

Information pertaining to particular dangers for man and environment

R 11 Highly flammable.  
 R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.  
 R 36/38 Irritating to eyes and skin.  
 R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

GHS label elements

**Danger**

H225 - Highly flammable liquid and vapour.

**Danger**

H311 - Toxic in contact with skin.

### Warning

H302 - Harmful if swallowed.

H332 - Harmful if inhaled.

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H412 - Harmful to aquatic life with long lasting effects.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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.

P361 Remove/Take off immediately all contaminated clothing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Prevention:

Response:

Storage:

Disposal:

## 3 Composition/information on ingredients

Chemical characterization:

Thiophene (CAS# 110-02-1): 100%

Designation: (CAS#)

Identification number(s):

203-729-4

EINECS Number:

## 4 First aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.

Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.

After swallowing

Rinse opened eye for several minutes under running water. Then consult doctor.

Seek immediate medical advice.

## 5 Fire fighting measures

Suitable extinguishing agents

Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

Special hazards caused by the material, its products of combustion or flue gases:

Can be released in case of fire:

Carbon monoxide and carbon dioxide

Sulphur oxides (SOx)

Wear self-contained breathing apparatus.

Wear full protective suit.

Protective equipment:

## 6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Do not allow material to be released to the environment without proper governmental permits.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

Keep away from ignition sources.

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

Measures for environmental protection:

Measures for cleaning/collecting:

Additional information:

## 7 Handling and storage

Handling

Information for safe handling:

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Storage

Requirements to be met by storerooms and containers:

Store in cool location.

Information about storage in one common storage facility:

Store away from oxidizing agents.

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**Further information about storage conditions:**

Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.

**8 Exposure controls and personal protection****Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Components with critical values that require monitoring at the workplace:  
Additional information:**

Not required.  
No data

**Personal protective equipment  
General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.  
Keep away from foodstuffs, beverages and food.  
Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Use breathing protection with high concentrations.  
Check protective gloves prior to each use for their proper condition.  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**Breathing equipment:****Protection of hands:****Material of gloves**

Impervious gloves  
Not determined  
Safety glasses  
Face protection  
Protective work clothing.

**Penetration time of glove material****Eye protection:****Body protection:****9 Physical and chemical properties:****General Information**

**Form:** Liquid  
**Colour:** Colourless  
**Smell:** Aromatic

**Change in condition**

**Melting point/Melting range:** -38°C  
**Boiling point/Boiling range:** 83-85°C  
**Sublimation temperature / start:** Not determined

**Flash point:** -9°C

**Ignition temperature:** 395°C

**Decomposition temperature:** Not determined

**Critical values for explosion:**

**Lower:** 12.5 Vol %  
**Upper:** 1.5 Vol %

**Steam pressure at 20°C:** 80 hPa

**Density at 20°C** 1.066 g/cm³

**Solubility in / Miscibility with Water:** Not miscible or difficult to mix

**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

**Materials to be avoided:**

Oxidizing agents

**Dangerous reactions:**

No dangerous reactions known

**Dangerous products of decomposition:**

Carbon monoxide and carbon dioxide  
Sulphur oxides (SOx)

**11 Toxicological information****Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	420 mg/kg (mouse) 1400 mg/kg (rat)
Dermal	LD50	830 mg/kg (rat)
Inhalative	LC50/2H	9500 mg/m3/2H (mouse)
	LCLo/4H	10500 mg/m3/4H (rat)

**Primary irritant effect:**

Irritant for skin and mucous membranes.

**on the skin:**

Irritant effect.

**on the eye:**

No sensitizing effect known.

**Sensitization:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**Additional toxicological information:**

Danger by skin resorption.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**12 Ecological information:****Ecotoxicological effects:**

Harmful to aquatic organisms

**Remark:****Additional ecological information:****General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.  
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.  
Do not allow material to be released to the environment without proper governmental permits.  
Harmful to aquatic organisms

**13 Disposal considerations****Product:****Recommendation**

Consult state, local or national regulations for proper disposal.  
Hand over to disposers of hazardous waste.  
Must be specially treated under adherence to official regulations.

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**Uncleaned packagings:**  
**Recommendation:**

Disposal must be made according to official regulations.

**14 Transport information****Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

**ADR/RID-GGVS/E Class:** 3 (F1) Flammable liquids.  
**Kemler Number:** 33  
**UN-Number:** 2414  
**Packaging group:** II  
**Label:** 3  
**Designation of goods:** 2414 THIOPHENE  
**Limited quantities (LQ)** LQ4  
**Transport category:** 2  
**Tunnel restriction code:** D1E

**Maritime transport IMDG/GGVSea:**

**IMDG/GGVSea Class:** 3  
**UN Number:** 2414  
**Label:** 3  
**Packaging group:** II  
**Marine pollutant:** No  
**Correct technical name:** THIOPHENE

**Air transport ICAO-TI and IATA-DGR:**

**ICAO/IATA Class:** 3  
**UN/ID Number:** 2414  
**Label:** 3  
**Packaging group:** II  
**Correct technical name:** THIOPHENE

**UN "Model Regulation":**

UN2414, THIOPHENE, 3, II

**15 Regulatory information****Designation according to EC guidelines:****Code letter and hazard designation of product:**

Xn Harmful  
F Highly flammable

**Risk phrases:**

11 Highly flammable.  
 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.  
 36/38 Irritating to eyes and skin.  
 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

16 Keep away from sources of ignition - No smoking.  
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 29 Do not empty into drains.  
 33 Take precautionary measures against static discharges.  
 36/37 Wear suitable protective clothing and gloves.  
 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

**National regulations****Information about limitation of use:**

Employment restrictions concerning young persons must be observed.  
 For use only by technically qualified individuals.

**Water hazard class:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing data specification sheet:** Health, Safety and Environmental Department.**Contact:** Zachariah Holt

**Abbreviations and acronyms:**  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
 ICAO: International Civil Aviation Organization  
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent