

## SAFETY DATA SHEET

Preparation Date: 07/24/2015

Revision date 10/01/2019

Revision Number: G2

### 1. IDENTIFICATION

**Product identifier**

**Product code:** T1037  
**Product Name:** THIOPHENE, REAGENT

**Other means of identification**

**Synonyms:** Divinylene sulfide  
 Furan, thio-  
 Huile H50  
 Huile HSO  
 Thiacyclopentadiene  
 Thiaphene  
 Thiofuran  
 Thiofurfuran

**CAS #:** 110-02-1  
**RTECS #** XM7350000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300

**Contact Person:** Tom Tyner (USA - West Coast)

**Contact Person:** Ibad Tirmiz (USA - East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

**Label elements**

## Danger

### Hazard statements

Harmful if swallowed  
Causes skin irritation  
Causes serious eye irritation  
May cause respiratory irritation  
Highly flammable liquid and vapor



### Hazards not otherwise classified (HNOC)

Not Applicable

### Other hazards

Not available

### **Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid breathing mist or vapors  
Use only outdoors or in a well-ventilated area  
Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
Keep container tightly closed  
Ground container and receiving equipment  
Use explosion-proof equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge  
Keep cool  
Wear protective gloves/protective clothing/eye protection/face protection

### **Precautionary Statements - Response**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.  
If skin irritation occurs: Get medical attention  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water  
Wash contaminated clothing before reuse  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.  
IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell  
Rinse mouth

### **Precautionary Statements - Storage**

Store in a well-ventilated place. Keep container tightly closed  
Store locked up

### **Precautionary Statements - Disposal**

Dispose of contents and container to an approved waste disposal plant in accordance with local, regional, national and international regulations as applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
Thiophene	110-02-1	> 99

#### 4. FIRST AID MEASURES

##### First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention.
- Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

##### Most important symptoms and effects, both acute and delayed

- Symptoms**
- Causes serious eye irritation
  - Causes skin irritation
  - May cause respiratory irritation
  - Headache
  - Dizziness
  - Vomiting
  - Nausea
  - tiredness

##### Indication of any immediate medical attention and special treatment needed

- Notes to Physician:** Treat symptomatically.

##### Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

#### 5. FIRE-FIGHTING MEASURES

##### Extinguishing Media

- Suitable Extinguishing Media:** Use water spray or water mist, alcohol-resistant foam, Dry chemical or Carbon dioxide (CO<sub>2</sub>).
- Unsuitable Extinguishing Media:** Do not use a solid (straight) water stream as it may scatter and spread fire.

##### Specific hazards arising from the chemical

- Hazardous combustion products** Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Sulfur oxides.
- Specific hazards** Flammable. May be ignited by heat, sparks or flames. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined

areas (sewers, basements, tanks). Container explosion may occur under fire conditions or when heated. Fire may produce irritating, corrosive and/or toxic gases.

### **Special Protective Actions for Firefighters**

#### **Specific Methods:**

Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

#### **Special Protective Equipment for Firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal precautions, protective equipment and emergency procedures**

#### **Personal Precautions:**

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

#### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. Do not let product enter drains.

### **Methods and material for containment and cleaning up**

#### **Methods for containment**

Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

#### **Methods for cleaning up**

Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

#### **Safe Handling Advice:**

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

### **Conditions for safe storage, including any incompatibilities**

#### **Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away

from incompatible materials.

**Incompatible Materials:**

Strong oxidizing agents  
Strong acids

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**National occupational exposure limits**

**United States**

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Thiophene	110-02-1	None	None	None	None

**Canada**

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Thiophene	110-02-1	None	None	None	None

**Australia and Mexico**

Component	CAS No	Australia	Mexico
Thiophene	110-02-1	None	None

**Appropriate engineering controls**

**Engineering measures to reduce exposure:**

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

**Individual protection measures, such as personal protective equipment**

**Personal Protective Equipment**

- Eye protection:** Goggles or Safety glasses with side-shields.
- Skin and body protection:** Long sleeved clothing  
Gloves  
Chemical resistant apron
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state:</b> Liquid	<b>Appearance:</b> Clear.	<b>Color:</b> Colorless.
<b>Odor:</b> Benzene-like. Slight.	<b>Taste</b> No information available.	<b>Formula</b> C4H4S

<b>Molecular/Formula weight (g/mole):</b> 84.14	<b>Flammability (solid, gas)</b> no data available	<b>Flashpoint (°C/°F):</b> 0.11°C/32.2°F
<b>Flash Point Tested according to:</b> Closed cup	<b>Autoignition Temperature (°C/°F):</b> 395°C/743°F	<b>Lower Explosion Limit (%):</b> 1.5
<b>Upper Explosion Limit (%):</b> 12.5	<b>Melting point/range(°C/°F):</b> 3.82°C/38.9°F	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> 84.16°C/183.5°F	<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Specific gravity:</b> 1.1	<b>pH</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> 2.9	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> Insoluble in cold water	

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with oxidizing agents

### Chemical stability

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials.

**Incompatible Materials:** Strong oxidizing agents  
Strong acids

**Hazardous decomposition products:** Hydrogen Sulfide.

### Other Information

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Inhalation. Ingestion.

### Acute Toxicity

## Component Information

Thiophene	
CAS No	110-02-1

LD50/oral/rat = 1400 mg/kg Oral LD50 Rat  
LD50/oral/mouse = 420 mg/kg Oral LD50 Mouse  
LD50/dermal/rabbit = No information available  
LD50/dermal/rat = No information available  
LC50/inhalation/rat = No information available  
LC50/inhalation/mouse = 9500 mg/m<sup>3</sup> (2H)  
Other LD50 or LC50 information = >20 mL/kg Dermal LD50 Guinea Pig

## Product Information

LD50/oral/rat =  
Value - Acute Toxicity = 1400 mg/kg

LD50/oral/mouse =  
Value - Acute Tox = 420 mg/kg

LD50/dermal/rabbit  
Value - Acute Toxicity = No information available

LD50/dermal/rat  
VALUE - Acute Tox = No information available

LC50/inhalation/rat  
VALUE-Vapor = No information available  
VALUE-Gas = No information available  
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse  
VALUE-Vapor = 9500 mg/m<sup>3</sup> (2H)  
VALUE - Gas = No information available  
VALUE - Dust/Mist = No information available

### Symptoms

**Skin Contact:** Causes skin irritation.

**Eye Contact:** Causes serious eye irritation.

**Inhalation** May cause irritation of respiratory tract. May cause dizziness and headache.

**Ingestion** May cause digestive (gastrointestinal) tract irritation. Ingestion may cause nausea, vomiting.

**Aspiration hazard** No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Chronic Toxicity** Substance is toxic to blood, kidneys, the nervous system, liver, mucous membrane.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Thiophene	110-02-1	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*IARC (International Agency for Research on Cancer)*

*NTP (National Toxicology Program)*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** respiratory system.

**STOT - repeated exposure** No information available.

**Target Organs:** No information available.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility in soil** No information available

**Other adverse effects** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Thiophene	110-02-1	None	None	None	None



## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** UN2414  
**Proper Shipping Name:** Thiophene  
**Hazard Class** 3  
**Subsidiary Class** No information available  
**Packing group:** II  
**Emergency Response Guide Number** 130  
**Marine Pollutant** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions** IB2, T4, TP1  
**Symbol(s):** No information available  
**Description:** UN2414, Thiophene, 3, II

### TDG (Canada)

**UN-No:** UN2414  
**Proper Shipping Name:** Thiophene  
**Hazard Class** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant** No Information available  
**Description:** UN2414, Thiophene, 3, II

### ADR

**UN Number** UN2414  
**Proper Shipping Name:** Thiophene  
**Transport hazard class(es)** 3  
**Packing group** II  
**Subsidiary Risk:** No information available  
**Description:** UN2414, Thiophene, 3, II

### IMDG

**UN-No:** UN2414  
**Proper Shipping Name:** Thiophene  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant** No information available  
**EMS:** F-E  
**Description** UN2414, Thiophene, 3, II

### RID

**UN Number** UN2414  
**Proper Shipping Name:** Thiophene  
**Transport hazard class(es)** 3  
**Subsidiary Risk:** No information available  
**Packing group** II  
**Description:** UN2414, Thiophene, 3, II

### ICAO (air)

**UN-No:** UN2414  
**Proper Shipping Name:** Thiophene  
**Hazard Class** 3  
**Subsidiary Risk:** No information available

**Packing Group:** II  
**Description:** UN2414, Thiophene, 3, II

**IATA**

**UN Number:** UN2414  
**Proper Shipping Name:** Thiophene  
**Transport hazard class(es):** 3  
**Subsidiary Risk:** No information available  
**Packing group:** II  
**Precautionary Statements - Response:** 3H  
**Special Provisions:** No information available  
**Description:** UN2414, Thiophene, 3, II

**15. REGULATORY INFORMATION**

**International Inventories**

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
Thiophene	110-02-1	Present ACTIV E	Present KE-33795	Present	Present (9)-810	Present	Present	Present 203-729-4

**U.S. Regulations**

*Thiophene*

**Massachusetts RTK:** Present  
**New Jersey RTK Hazardous Substance List:** 1851  
**Pennsylvania RTK:** Present

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Thiophene	110-02-1	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Thiophene	110-02-1	None	None	None	None	None

**U.S. TSCA**

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Thiophene	110-02-1	Not Applicable	Not Applicable

**Canada**

## WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

The WHMIS 2015 classification of this product has not been validated or reviewed yet.

**Canada Hazardous Products Regulation** This product has not been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

## DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Thiophene	110-02-1	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Thiophene	110-02-1	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Thiophene	110-02-1	Not listed

## EU Classification

### EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Thiophene	110-02-1	

### EU - CLP (1272/2008)

#### **R-phrase(s)**

R11 - Highly flammable

R22 - Harmful if swallowed

R36/37/38 - Irritating to eyes, respiratory system and skin

#### **S -phrase(s)**

S 7 - Keep container tightly closed.

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

S37 - Wear suitable gloves

S36 - Wear suitable protective clothing

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Thiophene	110-02-1		No information	

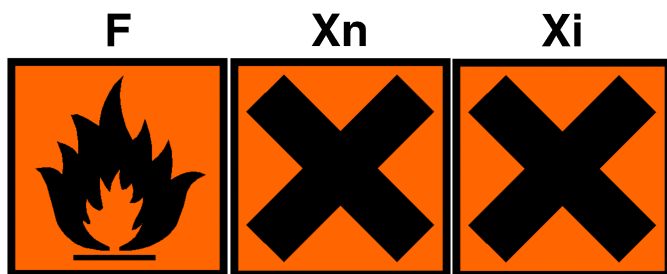
**The product is classified in accordance with Annex VI to Directive 67/548/EEC**

#### **Indication of danger:**

F - Highly flammable

Xn - Harmful

Xi - Irritant



## 16. OTHER INFORMATION

**Preparation Date:** 07/24/2015  
**Revision date** 10/01/2019  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**