



### Section 1: Chemical Product

**Product Name:** Thiophene

**Catalog Codes:** SLT3487

**CAS#:** 110-02-1

**RTECS:** XM7350000

**TSCA:** TSCA 8(b) inventory: Thiophene

**CI#:** Not available.

**Synonym:** Thiofuran

**Chemical Formula:** C<sub>4</sub>H<sub>4</sub>S

### Section 2: Composition and Information on Ingredients

#### Composition:

**Name CAS # % by Weight**

Thiophene 110-02-1 100

**Toxicological Data on Ingredients:** Thiophene: ORAL (LD50): Acute: 1400 mg/kg [Rat]. 420 mg/kg [Mouse].

### Section 3: Hazards Identification

#### Potential Acute Health Effects:

Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of inhalation.

#### Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

The substance is toxic to blood, kidneys, the nervous system, liver, mucous membranes.

Repeated or prolonged exposure to the substance can produce target organs damage.

### Section 4: First Aid Measures

**Eye Contact:** Check for and remove any contact lenses. Do not use an eye ointment. Seek medical attention.

#### Skin Contact:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin.

Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

#### Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Inhalation:** Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

**Serious Inhalation:**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

**Ingestion:**

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

**Serious Ingestion:** Not available.

**Section 5: Fire and Explosion Data**

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** 395°C (743°F)

**Flash Points:** CLOSED CUP: 0.11°C (32.2°F).

**Flammable Limits:** LOWER: 1.5% UPPER: 12.5%

**Products of Combustion:** These products are carbon oxides (CO, CO<sub>2</sub>).

**Fire Hazards in Presence of Various Substances:** Flammable in presence of open flames and sparks.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:**

Flammable liquid, insoluble in water. SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray or fog. Never direct a water jet in the container in order to prevent any splashing of the product which could cause spreading of the fire.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

**Section 6: Accidental Release Measures**

**Small Spill:** Absorb with an inert material and put the spilled material in an appropriate waste disposal.

**Large Spill:**

Toxic flammable liquid, insoluble or very slightly soluble in water.

Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed.

Eliminate all ignition sources. Call for assistance on disposal.

**Section 7: Handling and Storage**

**Precautions:**

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapour/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

**Storage:**

Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-

ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F).

#### **Section 8: Exposure Controls/Personal Protection**

##### **Engineering Controls:**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

##### **Personal Protection:**

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

##### **Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

#### **Section 9: Physical and Chemical Properties**

**Physical state and appearance:** Liquid.

**Odor:** Benzene-like. (Slight.)

**Taste:** Not available.

**Molecular Weight:** 84.14 g/mole

**Color:** Clear Colorless.

**pH (1% soln/water):** Not applicable.

**Boiling Point:** 84.16°C (183.5°F)

**Melting Point:** 3.82°C (38.9°F)

**Critical Temperature:** Not available.

**Specific Gravity:** 1.1 (Water = 1)

**Vapor Pressure:** Not available.

**Vapor Density:** 2.9 (Air = 1)

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** Not available.

**Solubility:** Insoluble in cold water.

#### **Section 10: Stability and Reactivity Data**

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Not available.

**Incompatibility with various substances:** Not available.

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

**Special Remarks on Reactivity:** Not available.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** No.

#### **Section 11: Toxicological Information**

**Routes of Entry:** Dermal contact. Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 420 mg/kg [Mouse].

**Chronic Effects on Humans:** The substance is toxic to blood, kidneys, the nervous system, liver, mucous membranes.

**Other Toxic Effects on Humans:**

Very hazardous in case of ingestion.

Hazardous in case of skin contact (irritant, permeator), of inhalation.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:** Not available.

#### **Section 12: Ecological Information**

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

#### **Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are more toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

#### **Section 13: Disposal Considerations**

**Waste Disposal:**

#### **Section 14: Transport Information**

**DOT Classification:** Class 3: Flammable liquid.

**Identification:** : Thiophene : UN2414 PG: II

**Special Provisions for Transport:** Not available.

#### **Section 15: Other Regulatory Information**

##### **Federal and State Regulations:**

Pennsylvania RTK: Thiophene Florida: Thiophene Massachusetts RTK: Thiophene

New Jersey: Thiophene TSCA 8(b) inventory: Thiophene

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

##### **Other Classifications:**

##### **WHMIS (Canada):**

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).

CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).

##### **DSCL (EEC):**

R11- Highly flammable.

R36/38- Irritating to eyes and skin. R48/22- Harmful: danger of serious damage to health by prolonged exposure if swallowed.

##### **HMIS (U.S.A.):**

**Health Hazard:** 2

**Fire Hazard:** 3

**Reactivity:** 0

**Personal Protection:** h

##### **National Fire Protection Association (U.S.A.):**

**Health:** 2

**Flammability:** 3

**Reactivity:** 0

##### **Specific hazard:**

##### **Protective Equipment:**

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

#### **Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

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