

## Material Safety Data Sheet

Version 4.0

Revision Date 07/26/2010

Print Date 12/31/2011

---

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 2-(Trifluoroacetyl)thiophene

Product Number : 422215

Brand : Aldrich

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832

Fax : +1 800-325-5052

Emergency Phone # : (314) 776-6555

---

2. HAZARDS IDENTIFICATION

## Emergency Overview

## OSHA Hazards

Combustible Liquid, Irritant

## GHS Label elements, including precautionary statements

Pictogram



Signal word Warning

Hazard statement(s)

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

## HMIS Classification

Health hazard: 2

Flammability: 2

Physical hazards: 0

## NFPA Rating

Health hazard: 2

Fire: 2

Reactivity Hazard: 0

## Potential Health Effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes** Causes eye irritation.

**Ingestion** May be harmful if swallowed.

---

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C<sub>6</sub>H<sub>3</sub>F<sub>3</sub>OS  
Molecular Weight : 180.15 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>2-(Trifluoroacetyl)thiophene</b>			
651-70-7	-	-	-

---

#### 4. FIRST AID MEASURES

##### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

##### **If inhaled**

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

##### **In case of skin contact**

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**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

---

#### 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**

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 in cool place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### 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

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### 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	163 - 165 °C (325 - 329 °F) - lit.
Flash point	59 °C (138 °F) - closed cup
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Density	1.403 g/mL at 25 °C (77 °F)
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

### Hazardous decomposition products

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

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

no data available

### Skin corrosion/irritation

### Serious eye damage/eye irritation

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

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

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Reproductive toxicity

no data available

### Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Inhalation - May cause respiratory irritation.

### Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

### Aspiration hazard

no data available

### Potential health effects

<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.

### Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Additional Information

---

## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

**Other adverse effects**

no data available

---

**13. DISPOSAL CONSIDERATIONS****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

---

**14. TRANSPORT INFORMATION****DOT (US)**

UN-Number: 1993 Class: 3 Packing group: III  
Proper shipping name: Flammable liquids, n.o.s. (2-(Trifluoroacetyl)thiophene)  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN-Number: 1993 Class: 3 Packing group: III EMS-No: F-E, S-E  
Proper shipping name: FLAMMABLE LIQUID, N.O.S. (2-(Trifluoroacetyl)thiophene)  
Marine pollutant: No

**IATA**

UN-Number: 1993 Class: 3 Packing group: III  
Proper shipping name: Flammable liquid, n.o.s. (2-(Trifluoroacetyl)thiophene)

---

**15. REGULATORY INFORMATION****OSHA Hazards**

Combustible Liquid, Irritant

**DSL Status**

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

2-(Trifluoroacetyl)thiophene	CAS-No. 651-70-7
------------------------------	---------------------

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

2-(Trifluoroacetyl)thiophene	CAS-No. 651-70-7	Revision Date
------------------------------	---------------------	---------------

**New Jersey Right To Know Components**

2-(Trifluoroacetyl)thiophene	CAS-No. 651-70-7	Revision Date
------------------------------	---------------------	---------------

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

---

**16. OTHER INFORMATION**

**Further information**

Copyright 2010 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

---