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## MATERIAL SAFETY DATA SHEET (MSDS)

### 2-THIOPHENECARBOXALDEHYDE (FOR SYNTHESIS)

#### 1 - Chemical Product

MSDS Name: 2-Thiophenecarboxaldehyde 98% Material Safety Data Sheet  
Synonym: alpha-Formylthiophene; 2-Formylthiophene; 2-Thienaldehyde; 2-Thienylaldehyde; 2-Thienylcarboxaldehyde; 2-Thiophenealdehyde; Thiophene-2-carbaldehyde; alpha-Thiophenecarboxaldehyd

Cas NO: 98-03-3

Product Coad: SI0316500100

Molecular Formula: C<sub>5</sub>H<sub>4</sub>OS  
Molecular Weight: 112.15

#### 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	content	EINECS#
98-03-3	2-Thiophenecarboxaldehyde	98	202-629-8

#### 3 - HAZARDS IDENTIFICATION

##### EMERGENCY OVERVIEW

Harmful if swallowed.

##### Potential Health Effects

Eye: Causes moderate eye irritation. May cause chemical conjunctivitis and corneal damage.

Skin: Causes moderate skin irritation. May cause cyanosis of the extremities.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.

Inhalation: Causes respiratory tract irritation. Can produce delayed pulmonary edema. Inhalation at high concentrations may cause CNS depression and asphyxiation.

Chronic: Prolonged or repeated skin contact may cause dermatitis. Effects may be delayed.

#### 4 - FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

#### 5 - FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Combustible liquid.

Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

#### 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

#### 7 - HANDLING and STORAGE

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep refrigerated. (Store below 4C/39F.)

**MATERIAL SAFETY DATA SHEET (MSDS)****2-THIOPHENECARBOXALDEHYDE (FOR SYNTHESIS)****8 - EXPOSURE CONTROLS, PERSONAL PROTECTION**

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.  
Exposure Limits CAS# 98-03-3: Personal Protective Equipment Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.  
Skin: Wear appropriate protective gloves to prevent skin exposure.  
Clothing: Wear appropriate protective clothing to prevent skin exposure.  
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

**9 - PHYSICAL AND CHEMICAL PROPERTIES**

Physical State: Liquid  
Color: light yellow to green  
Odor: None reported.  
pH: Not available.  
Vapor Pressure: Not available.  
Viscosity: Not available.  
Boiling Point: 198 deg C @ 760.00 mmHg  
Freezing/Melting Point: Not available.  
Autoignition Temperature: Not applicable.  
Flash Point: 77 deg C ( 170.60 deg F)  
Explosion Limits, lower: Not available.  
Explosion Limits, upper: Not available.  
Decomposition Temperature:  
Solubility in water: Slightly soluble.  
Specific Gravity/Density: 1.2000 g/cm<sup>3</sup>

**10 - STABILITY AND REACTIVITY**

Chemical Stability: Stable under normal temperatures and pressures.  
Conditions to Avoid: Incompatible materials, ignition sources, excess heat, strong oxidants.  
Incompatibilities with Other Materials: Strong bases, strong oxidizing agents, strong reducing agents.  
Hazardous Decomposition Products: Carbon monoxide, oxides of sulfur, irritating and toxic fumes and gases, carbon dioxide. Hazardous Polymerization: Has not been reported.

**11 - TOXICOLOGICAL INFORMATION**

RTECS#:  
CAS# 98-03-3: XM8135000 LD50/LC50:  
CAS# 98-03-3: Dermal, guinea pig: LD50 = >10 mL/kg; Draize test, rabbit, eye: 100 mg Moderate; Draize test, rabbit, skin: 500 mg/24H Mild; Oral, mouse: LD50 = 565 mg/kg; Oral, rat: LD50 = 915 mg/kg.  
Oral, rat: LD50 = 915 Carcinogenicity:  
2-Thiophenecarboxaldehyde - Not listed by ACGIH, IARC, or NTP.  
Other: See actual entry in RTECS for complete information.

**12 - ECOLOGICAL INFORMATION****13 - DISPOSAL CONSIDERATIONS**

Dispose of in a manner consistent with federal, state, and local regulations.

**14 - TRANSPORT INFORMATION**

IATA  
Not regulated as a hazardous material.  
IMO  
Not regulated as a hazardous material.  
RID/ADR  
Not regulated as a hazardous material.

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European/International Regulations  
European Labeling in Accordance with EC Directives  
Hazard Symbols: XN  
Risk Phrases:  
R 22 Harmful if swallowed.  
Safety Phrases:  
S 24/25 Avoid contact with skin and eyes.  
S 28A After contact with skin, wash immediately with plenty of water.  
S 37 Wear suitable gloves.  
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
WGK (Water Danger/Protection)  
CAS# 98-03-3: No information available.  
Canada  
CAS# 98-03-3 is listed on Canada's DSL List.  
CAS# 98-03-3 is not listed on Canada's Ingredient Disclosure List.  
US FEDERAL  
TSCA  
CAS# 98-03-3 is listed on the TSCA inventory.

**16. Other Information**

**Product Use:** Laboratory Reagent.

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

## DISCLAIMER:

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
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