



# TETRAHYDROTHIOPHENE

Material Safety Data Sheet

Arkema Inc.

## 1 PRODUCT AND COMPANY IDENTIFICATION

### Thio and Fine Chemicals

Arkema Inc.  
2000 Market Street  
Philadelphia, PA 19103

### EMERGENCY PHONE NUMBERS:

Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887  
Medical: Rocky Mountain Poison Control Center  
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
Customer Service	1-800-628-4453	8:30 to 5:30 EST

Product Name TETRAHYDROTHIOPHENE  
Product Synonym(s)

Chemical Family Cyclic alkyl sulfide  
Chemical Formula C<sub>4</sub>H<sub>8</sub>S  
Chemical Name Thiophene, tetrahydro-  
EPA Reg Num  
Product Use

## 2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
Tetrahydrothiophene	110-01-0	100 %	Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA Inventory list.

## 3 HAZARDS IDENTIFICATION

### Emergency Overview

Water white to pale yellow liquid; gas-like odor

**DANGER!**  
FLAMMABLE LIQUID AND VAPOR.  
CAUSES SKIN BURNS.  
CAUSES EYE IRRITATION.

### Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be slightly toxic if swallowed, no more than slightly toxic if absorbed through skin, practically non-toxic if inhaled, severely irritating to eyes and corrosive to skin. This material has a strong objectionable odor that may cause nausea, headache, or dizziness. High vapor concentrations may be irritating to the eyes and respiratory tract, and may result in central nervous system (CNS) effects such as headache, dizziness, nausea, drowsiness and, in severe exposures, loss of consciousness.

**4 FIRST AID MEASURES**

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention.

IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air.

**5 FIRE FIGHTING MEASURES****Fire and Explosive Properties**

Auto-Ignition Temperature	202 C		
Flash Point	55 F	Flash Point Method	TCC
Flammable Limits- Upper	12.1		
Lower	1.1		

**Extinguishing Media**

Use water spray, carbon dioxide, foam or dry chemical.

**Fire Fighting Instructions**

Water may be ineffective. Use water spray or water fog to cool surrounding surfaces and prevent fire damage or rupture of containers. Fire fighters and others who may be exposed to products of combustion should wear full fire fighting gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

**Fire and Explosion Hazards**

When burned, the following hazardous products of combustion can occur:

Oxides of carbon  
Hydrogen sulfide  
Sulfur oxides

**6 ACCIDENTAL RELEASE MEASURES****In Case of Spill or Leak**

Ventilate the area. Contain spill by building a dike using absorbent material. Consult with environmental engineer or professional to determine if neutralization is appropriate and for handling procedures for residual materials. Do not use solid bleach for neutralization, as fire or violent reaction can occur. Collect the liquid and solid absorbent into a drum approved for waste disposal. Flush area with water. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

**7 HANDLING AND STORAGE**

**7 HANDLING AND STORAGE****Handling**

Do not get in eyes, on skin or on clothing.  
Keep container closed.  
Use only with adequate ventilation.  
Wash thoroughly after handling.  
Keep away from heat, sparks and flame.  
Do not taste or swallow.

CONTAINER HAZARDOUS WHEN EMPTY. Emptied container retains vapor and product residue. Follow labeled warnings even after container is emptied. RESIDUAL VAPORS MAY EXPLODE ON IGNITION. DO NOT CUT, DRILL GRIND OR WELD ON OR NEAR THIS CONTAINER. Improper disposal or reuse of this container may be dangerous and/or illegal.

**Storage**

Store in well ventilated area away from heat and sources of ignition such as flame, sparks and static electricity. Ensure that all storage and handling equipment is properly rated, grounded and installed to satisfy electrical classification requirements. Static electricity may accumulate and create a fire hazard. All storage containers, including containers such as drums, cylinders and IBC's, must be bonded and grounded during filling and emptying operations. Store away from oxidizers and reactive materials. Keep container tightly closed. Observe all federal, state and local regulations and National Fire Protection Association (NFPA) Codes which pertain to the specific local conditions of storage and use, including OSHA 29 CFR 1910.106 and NFPA 30, 70, 77, and 497.

**8 EXPOSURE CONTROLS / PERSONAL PROTECTION****Engineering Controls**

Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposures. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

**Eye / Face Protection**

Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment immediately available.

**Skin Protection**

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash skin thoroughly after handling.

**Respiratory Protection**

Avoid breathing vapor or mist. Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer.

**8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

**Airborne Exposure Guidelines for Ingredients**

The components of this product have no established Airborne Exposure Guidelines

- Only those components with exposure limits are printed in this section.
- Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
- ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.
- WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

**9 PHYSICAL AND CHEMICAL PROPERTIES**

Appearance/Odor	Water white to pale yellow liquid; gas-like odor
pH	NE
Specific Gravity	1.002
Vapor Pressure	0.7 psia @ 38 C
Vapor Density	3.04
Melting Point	NA
Freezing Point	-96 C
Boiling Point	125 C (257 F)
Solubility In Water	Insoluble @ 20 C
Solubility in Other Materials	Alcohols, ethyl ether,
Evaporation Rate	NE
Percent Volatile	100
Viscosity	1.042 cP
Molecular Weight	88.2
n-Octanol/Water Partition Coefficient	log Pow = 1.6
Other Physical Data	Olfactory threshold: 1 ppb Refractive index: 1.505 @ 20 C

**10 STABILITY AND REACTIVITY****Stability**

This material is chemically stable under normal and anticipated storage and handling conditions.

**Hazardous Polymerization**

Does not occur.

**Incompatibility**

Avoid contact with strong oxidizing agents.

**Hazardous Decomposition Products**

Does not occur.

**11 TOXICOLOGICAL INFORMATION****Toxicological Information**

Data on this material and/or its components are summarized below.

Single exposure (acute) studies indicate:

Oral - Slightly Toxic to Rats (LD50 1,850 mg/kg)

Dermal - No More Than Slightly Toxic to Rabbits (LD50 >2,000 mg/kg)

Inhalation - Practically Non-toxic to Rats (4-hr LC50 6,270 ppm)

Eye Irritation - Severely Irritating to Rabbits

Skin Irritation - Severely Irritating to Corrosive to Rabbits (4-hr exposure)

Increased white blood cell counts were observed in rats following repeated inhalation exposure. No birth defects were noted in rats exposed by inhalation during pregnancy, even at levels that produced significant adverse effects on the mothers. No genetic changes were observed in tests using bacteria or animal or human cells.

**12 ECOLOGICAL INFORMATION****Ecotoxicological Information**

Data on this material and/or its components are summarized below.

Tetrahydrothiophene

This material is slightly toxic to Daphnia magna (48-hr EC50 24 mg/l), algae (72-hr EC50 90 mg/l) and zebrafish (96-hr LC50 >60 mg/l).

**Chemical Fate Information**

Data on this material and/or its components are summarized below.

Tetrahydrothiophene

This material is not readily biodegradable (10% after 28-days) and is practically not bioaccumulable (log Pow 1.6). It is degraded in air by OH radicals (half-life 9.7-hours).

**13 DISPOSAL CONSIDERATIONS****Waste Disposal**

Incineration is the recommended method for disposal observing all local, state and federal regulations.

**14 TRANSPORT INFORMATION**

DOT Name	Tetrahydrothiophene
DOT Technical Name	
DOT Hazard Class	3(8)
UN Number	2412
DOT Packing Group	PG II
RQ	No
DOT Special Information	Subsidiary Hazard - CORROSIVE

**15 REGULATORY INFORMATION**



# TETRAHYDROTHIOPHENE

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## Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y	Fire	Y
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	N

The components of this product are all on the TSCA Inventory list.

## International Inventory Memo

All ingredients of this product are listed on the following international inventories:

- Australia (AICS)
- Canada (DSL)
- Europe (EINECS)
- Japan (ENCS)
- Korea (ECL)
- Philippines (PICCS)

## Ingredient Related Regulatory Information:

### SARA Reportable Quantities

Tetrahydrothiophene

CERCLA RQ

SARA TPQ

NE

## New Jersey Right to Know

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.

Tetrahydrothiophene

## 16 OTHER INFORMATION

## Revision Information

Revision Date	11 OCT 2004	Revision Number	6
Supersedes Revision Dated	01-JUN-2004		

## Revision Summary

A TOFINA Chemicals, Inc. has changed its name to Arkema Inc.

## Key

NE= Not Established    NA= Not Applicable    (R) = Registered Trademark

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