



## 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           MESITYL OXIDE  
Product Synonym(s)  
  
Chemical Family       Mesityl Oxide  
Chemical Formula  
Chemical Name         4-METHYLPENT-3-EN-2-ONE  
EPA Reg Num  
Product Use            Synthesis intermediate

## 2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
Mesityl oxide	141-79-7	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

Colorless liquid with a mint-like odor

**WARNING!**

**FLAMMABLE LIQUID AND VAPOR.**

**CAUSES EYE IRRITATION.**

**MAY CAUSE SKIN IRRITATION.**

**MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS**

### 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 or inhaled, practically non-toxic if absorbed through skin, severely irritating to corrosive to eyes and slightly irritating to skin. Prolonged or repeated contact may remove oils from the skin and may dry skin and cause irritation, redness and rash. High vapor concentrations are 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. If swallowed, this material may cause mouth and throat irritation and CNS effects as noted above.

#### 4 FIRST AID MEASURES

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

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

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. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

#### 5 FIRE FIGHTING MEASURES

##### Fire and Explosive Properties

Auto-Ignition Temperature	344 C	
Flash Point	28 C	Flash Point Method
Flammable Limits- Upper	10.1% in volume	
Lower	1.3% in volume	

##### Extinguishing Media

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

##### Fire Fighting Instructions

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out 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: Irritating or toxic vapors

#### 6 ACCIDENTAL RELEASE MEASURES

##### In Case of Spill or Leak

Extinguish or turn off all ignition sources. Ventilate the space involved. Wear appropriate personal protection equipment as indicated in Section 8 of this MSDS. Contain spill with inert materials. Construct a dike to prevent spreading. Collect with non-sparking tools to a suitable container. Prevent waterway contamination. Absorb liquid onto inert absorbent and place in DOT approved drums for disposal. 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

##### Handling

Do not get in eyes, on skin or clothing. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Keep away from heat, sparks and flames. Use grounding and bonding connection when transferring material to prevent static discharges, fire or explosion.

##### 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

**7 HANDLING AND STORAGE**

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. Store out of direct sunlight in a cool, well-ventilated place. Store at temperatures below 20 C.

**8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering Controls**

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

**Eye / Face Protection**

Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment 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 face shield and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse contaminated skin promptly. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.

**Respiratory Protection**

Avoid breathing vapor or mist. When airborne exposure limits are exceeded (see below), use NIOSH approved respirator with a P 95 particulate filter. Consult respirator manufacturer if exposure levels are greater than ten times the recommended exposure limits. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, 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**

Exposure Limit		Value
<b>Mesityl oxide</b>		
ACGIH STEL	-	25 ppm
ACGIH TWA	-	15 ppm
OSHA TWA PEL	-	25 ppm (100 mg/m3)

- 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	Colorless liquid with a mint-like odor
pH	NE
Specific Gravity	0.855 (@20 C)
Vapor Pressure	1094 Pa (20 C)
Vapor Density	(20 C) : 4.07 kg/m <sup>3</sup>
Melting Point	-53 C
Freezing Point	-53 C
Boiling Point	125 C
Solubility In Water	

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

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

**Incompatibility**

Avoid strong oxidizing agents, sodium hydroxide, amines.  
Under certain conditions may form: peroxides and acids.

**Hazardous Decomposition Products**

Thermal decomposition giving flammable and toxic products: Peroxides

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

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

## Mesityl oxide

Acute inhalation by laboratory animals was reported to produce eye and nasal irritation, labored breathing and narcosis. No skin allergy was observed in guinea pigs following repeated exposure. An increase in white blood cells, liver, kidney, and spleen size were noted in rats following repeated inhalation exposure, while a decrease in white blood cells and anemia were noted in rabbits. Repeated inhalation exposure produced decreased growth and congestion of the liver, kidney and lung in guinea pigs and rats. A decreased pregnancy rate was reported in rats exposed by inhalation throughout pre-mating and mating. No developmental or adverse effects on pregnancy were noted in rats or their offspring exposed following inhalation exposure during pregnancy. No genetic changes were observed in tests using bacteria or animals. Mesityl oxide  
Single exposure (acute) studies indicate that this material is slightly toxic if swallowed (rat LD<sub>50</sub> 655-1,120 mg/kg) or inhaled (4-hr LC<sub>50</sub> 4.5 mg/l; vapor), practically non-toxic if absorbed through skin (rabbit LD<sub>50</sub> 5,150 mg/kg), severely irritating to corrosive to rabbit eyes and slightly irritating to rabbit skin (24-hr exposure).

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

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

## Mesityl oxide

This material is slightly toxic to fathead minnow (96-hr LC<sub>50</sub> 86 mg/l) and rainbow trout (96-hr LC<sub>50</sub> 71 mg/l). It is practically non-toxic to goldfish (24-hr LC<sub>50</sub> 540 mg/l), Daphnia magna (48-hr EC<sub>50</sub> 110-970 mg/l) and algae



**12 ECOLOGICAL INFORMATION**

(96-hr EC50 120 mg/l).

**Chemical Fate Information**

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

Mesityl oxide

This material is readily biodegradable (72% after 28-days). This material has an evaporation half-life of 1.1-days (river) to 12.2-days (pond). It has a half-life in air of 4.8-hours. It has slight adsorption in soils and sediments (log Koc 1.18) and is practically non-bioaccumulable (log Pow 0.97).

**13 DISPOSAL CONSIDERATIONS**

**Waste Disposal**

Recover, reclaim or recycle when practical.

Disposal via incineration is recommended. Appropriate pretreatment and disposal in an authorized landfill is acceptable. In all cases, dispose of material in accordance with all applicable federal, state, and local laws and regulations. Consult appropriate regulatory officials or your attorney for information on such disposal.

Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

**14 TRANSPORT INFORMATION**

DOT Name Mesityl Oxide  
 DOT Technical Name  
 DOT Hazard Class 3  
 UN Number UN 1229  
 DOT Packing Group PG III  
 RQ

**15 REGULATORY INFORMATION**

**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.

**Ingredient Related Regulatory Information:**

<b>SARA Reportable Quantities</b>	<b>CERCLA RQ</b>	<b>SARA TPQ</b>
Mesityl oxide	NE	NE

**Massachusetts Right to Know**

This product does contain the following chemical(s), as indicated below, currently on the Massachusetts Right to Know Substance



**Massachusetts Right to Know**

This product does contain the following chemical(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Mesityl oxide

**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.

Mesityl oxide

**Pennsylvania Right to Know**

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

Mesityl oxide

**16 OTHER INFORMATION**

**Revision Information**

Revision Date                      28 DEC 2004                      Revision Number 4  
Supercedes Revision Dated    11-OCT-2004

**Revision Summary**

Product moved to new division

**Key**

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

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