



Mercaptan Assassin AOT

1. PRODUCT AND COMPANY IDENTIFICATION

Company

Arkema Inc.
900 First Avenue
King of Prussia, Pennsylvania 19406

Thio and Fine Chemicals

Customer Service Telephone Number: (800) 628-4453
(Monday through Friday, 8:30 AM to 5:30 PM EST)

Emergency Information

Transportation: CHEMTREC: (800) 424-9300
(24 hrs., 7 days a week)
Medical: Rocky Mountain Poison Center: (866) 767-5089
(24 hrs., 7 days a week)

Product Information

Product name: Mercaptan Assassin AOT
Synonyms: Airborn Odor Treatment
Molecular formula: Not available
Chemical family: Orange Terpenes
Product use: liquid air freshener

2. HAZARDS IDENTIFICATION

Emergency Overview

Color: Colourless to yellow.
Physical state: liquid
Odor: mild

WARNING!
FLAMMABLE LIQUID AND VAPOR.
MAY CAUSE EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.

Potential Health Effects

Primary routes of exposure:
Inhalation and skin contact.

Signs and symptoms of acute exposure:
May cause eye irritation. May cause skin irritation.

Skin:
Practically nontoxic. Moderately irritating. (based on animal studies)

Eyes:
Moderately irritating. (based on animal studies)

**Mercaptan Assassin AOT****Ingestion:**

Slightly toxic to practically nontoxic. (based on animal studies)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Wt/Wt	OSHA Hazardous
Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (4R)-	5989-27-5	> 99 %	Y

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

This material is classified as hazardous under Federal OSHA regulation.

4. FIRST AID MEASURES**Inhalation:**

If inhaled, remove victim to fresh air.

Skin:

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation persists. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes:

Immediately flush eye(s) with plenty of water. Get medical attention if irritation persists.

Ingestion:

If swallowed, DO NOT induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person.

5. FIREFIGHTING MEASURES

Flash point 120 °F (49 °C) (Method: TCC method)

Auto-ignition temperature: not applicable

Lower flammable limit (LFL): not applicable

Upper flammable limit (UFL): not applicable

Extinguishing media (suitable):Carbon dioxide (CO₂), Dry chemical, Foam**Protective equipment:**

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).

Further firefighting advice:

Fire fighting equipment should be thoroughly decontaminated after use.



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6. ACCIDENTAL RELEASE MEASURES

In case of spill or leak:

Stop the leak if you can do so without risk. Extinguish sources of ignition nearby and downwind. 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. 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

General information on handling:

Keep away from heat, sparks and flames.
Avoid contact with the skin, eyes and clothing.
Use only with adequate ventilation.
Wash thoroughly after handling.
Keep container closed.
Container hazardous when empty.
Check that all equipment is properly grounded and installed to satisfy electrical classification requirements.
Follow label warnings even after container is emptied.
Emptied container retains vapor and product residue.
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

General information on storage conditions:

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 grounded and installed to satisfy electrical classification requirements. Static electricity may accumulate when transferring material. All storage containers, including drums, cylinders and IBCs, must be bonded and grounded during filling and emptying operations. This product should be stored in a closed container, away from direct sunlight, at ambient temperatures. 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.

Storage incompatibility – General:

Store separate from: oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (4R)- (5989-27-5)

US. Workplace Environmental Exposure Level (WEEL) Guides

Remarks: Listed



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Time Weighted Average (TWA): 30 ppm (165.5 mg/m³)

Only those components with exposure limits are printed in this section. Limits with skin contact designation above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required. Limits with a sensitizer designation above mean that exposure to this material may cause allergic reactions.

Engineering controls:

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

Respiratory protection:

Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components (full facepiece recommended). Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components and substances released during processing. Consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure or 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.

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 immediately if skin is contaminated. Wash contaminated clothing and clean protective equipment before reuse. Wash thoroughly after handling.

Eye protection:

Where eye contact may be likely, wear chemical goggles and have eye flushing equipment available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Colourless to yellow.
Physical state:	liquid
Odor:	mild
pH:	Not applicable
Density:	0.84 g/cm ³
Vapor pressure:	not determined
Vapor density:	not determined
Boiling point/boiling	221 °F (105 °C)



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range:

Solubility in water: Insoluble and not miscible.

10. STABILITY AND REACTIVITY

Stability:

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

Materials to avoid:

Oxidizing agents

Conditions / hazards to avoid:

Heat, flames and sparks.

Hazardous decomposition products:

Thermal decomposition giving flammable and toxic products

Carbon dioxide (CO₂)

Carbon monoxide

Hydrocarbons

11. TOXICOLOGICAL INFORMATION

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

Data for Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (4R)- (5989-27-5)

Acute toxicity

Oral:

Practically nontoxic to slightly toxic. (rat) LD₅₀ = 4,400 - 5,100 mg/kg.

Dermal:

Practically nontoxic. (rabbit) LD₅₀ > 5,000 mg/kg.

Skin Irritation:

Moderately irritating. (rabbit)

Eye Irritation:

Moderately irritating. (rabbit)

Skin Sensitization:

(mouse) Skin allergy was observed. (Weak response)

Repeated dose toxicity

Oral administration to rat, mouse, dog / affected organ(s): kidney / signs: changes in organ structure or function

Oral administration to mouse / signs: immune suppression

Mercaptan Assassin AOT**Carcinogenicity**

Chronic oral, dermal administration to mouse / No increase in tumor incidence was reported.

Chronic oral administration to rat / affected organ(s): kidney / Increased incidence of tumors was reported. (not considered relevant to humans)

Classified by the International Agency for Research on Cancer as: Group 3: Unclassifiable as to carcinogenicity in humans.

Genotoxicity**Assessment in Vitro:**

No genetic changes were observed in laboratory tests using: bacteria, animal cells

Developmental toxicity

Exposure during pregnancy. oral (mouse, rabbit) / No birth defects were observed. (at doses that produce effects in mothers)

Human experience**Inhalation:**

Lung: diminished respiratory capacity. (studied using human volunteers)

Human experience**Skin contact:**

Skin: skin irritation. (repeated or prolonged exposure) (studied using human volunteers)

Skin: Skin allergy was observed. (studied using human volunteers)

Human experience**Ingestion:**

Gastro-intestinal tract: diarrhea. (studied using human volunteers)

12. ECOLOGICAL INFORMATION**Chemical Fate and Pathway**

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

Data for Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (4R)- (5989-27-5)**Biodegradation:**

Readily biodegradable. (28 d) 100 %

Ecotoxicology

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

Data for Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (4R)- (5989-27-5)**Aquatic toxicity data:**

Practically nontoxic. Pimephales promelas (fathead minnow) LC50 = 702 mg/l

Aquatic invertebrates:

Slightly toxic. Daphnia pulex (Water flea) LC50 = 69.6 mg/l



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13. DISPOSAL CONSIDERATIONS

Waste disposal:

Disposal via incineration is recommended. Dispose of in accordance with federal, state and local regulations. 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. 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

US Department of Transportation (DOT): not regulated

Special Shipping Information: Bulk Shipments: UN1993, Flammable liquid, n.o.s. (Terepene hydrocarbon), 3, PG III.

International Maritime Dangerous Goods Code (IMDG): not regulated

15. REGULATORY INFORMATION

Chemical Inventory Status

EU. EINECS	EINECS	Conforms to
US. Toxic Substances Control Act	TSCA	The components of this product are all on the TSCA Inventory.
Australia. Industrial Chemical (Notification and Assessment) Act	AICS	Conforms to
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 144)	DSL	All components of this product are on the Canadian DSL list.
Japan. Kashin-Hou Law List	ENCS (JP)	Conforms to
Korea. Existing Chemicals Inventory (KECI)	KECI (KR)	Conforms to
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	PICCS (PH)	Conforms to
China. Inventory of Existing Chemical Substances	IECSC (CN)	Conforms to
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	NZIOC	Conforms to



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United States – Federal Regulations

SARA Title III – Section 302 Extremely Hazardous Chemicals:

The components in this product are either not SARA Section 302 regulated or regulated but present in negligible concentrations.

SARA Title III - Section 311/312 Hazard Categories:

Acute Health Hazard, Fire Hazard

SARA Title III – Section 313 Toxic Chemicals:

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.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantity (RQ):

The components in this product are either not CERCLA regulated, regulated but present in negligible concentrations, or regulated with no assigned reportable quantity.

OSHA Regulated Carcinogens (NTP, IARC, OSHA Listed):

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.

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.

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.

United States – State Regulations

New Jersey Right to Know

No components are subject to the New Jersey Right to Know Act.

Pennsylvania Right to Know

<u>Chemical Name</u>	<u>CAS-No.</u>
Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (4R)-	5989-27-5

California Prop. 65

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

16. OTHER INFORMATION

Latest Revision(s):



Material Safety Data Sheet

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Revised Section(s): typo in section 3
Reference number: 000000062738
Date of Revision: 01/13/2012
Date Printed: 01/13/2012

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