

COSMOS PLASTICS & CHEMICALS

Material Safety Data Sheet Isophorone

Section 1 - Chemical Product and Company Identification

MSDS Name: Isophorone

Synonyms: 3,5,5-Trimethyl-2-cyclohexene-1-one.

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
78-59-1	Isophorone	98	201-126-0

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear pale yellow liquid. Flash Point: 84 deg C.

Warning! Causes eye and respiratory tract irritation. **Combustible liquid and vapor.** May be harmful if swallowed or absorbed through the skin. May cause cancer based on animal studies.

Target Organs: Central nervous system, respiratory system, eyes.

Potential Health Effects

Eye: Contact with eyes may cause severe irritation, and possible eye burns. Lachrymator (substance which increases the flow of tears).

Skin: May cause skin irritation. May be harmful if absorbed through the skin.

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

Inhalation: Causes narcotic effects including headache, dizziness, weakness, unconsciousness.

Chronic: Possible cancer hazard based on tests with laboratory animals. Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated exposure may cause adverse reproductive effects.

Section 4 - First Aid Measures

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

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. 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: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: Treat symptomatically and supportively.

Section 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. Use water spray to keep fire-exposed containers cool. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated. Combustible liquid and vapor.

Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use water spray to cool fire-exposed containers.

Flash Point: 84 deg C (183.20 deg F)

Autoignition Temperature: Not applicable.

Explosion Limits, Lower:0.8

Upper: 3.8

NFPA Rating: (estimated) Health: 2; Flammability: 2; Instability: 0

Section 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. Avoid runoff into storm sewers and ditches which lead to waterways. Scoop up with a nonsparking tool, then place into a suitable container for disposal. Remove all sources of ignition. Provide ventilation. Clean up residual material by washing area with a 2-5% solution of soda ash.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use only in a well-ventilated area. Avoid contact with skin and eyes. 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. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 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 general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Isophorone	5 ppm Ceiling	4 ppm TWA; 23 mg/m ³ TWA 200 ppm IDLH	25 ppm TWA; 140 mg/ m ³ TWA

OSHA Vacated PELs: Isophorone: 4 ppm TWA; 23 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear pale yellow

Odor: peppermint odor - camphor

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: 4.8 (air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 213-214 deg C

Freezing/Melting Point: -8 deg C

Decomposition Temperature: Not available.

Solubility: Slightly soluble in water.

Specific Gravity/Density: 0.9200

Molecular Formula: C₉H₁₄O

Molecular Weight: 138.21

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Ignition sources, excess heat, confined spaces.

Incompatibilities with Other Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 78-59-1: GW7700000

LD50/LC50:

CAS# 78-59-1:

Draize test, rabbit, eye: 920 ug Severe;

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, skin: 100 mg/24H Mild;

Draize test, rabbit, skin: 0.5 mL/24H Moderate;

Inhalation, rat: LC50 = 7 gm/m³;

Oral, mouse: LD50 = 2690 mg/kg;

Oral, rabbit: LD50 = 1420 mg/kg;

Oral, rat: LD50 = 1870 mg/kg;

Skin, rabbit: LD50 = 1500 uL/kg;

Skin, rat: LD50 = 1390 mg/kg;

Carcinogenicity:

CAS# 78-59-1:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** Not listed.
- **NTP:** Not listed.
- **IARC:** Not listed.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Not regulated as a hazardous material	MERCURIC IODIDE
Hazard Class:		6.1
UN Number:		UN1638
Packing Group:		II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 78-59-1 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 78-59-1: Effective 10/4/82, Sunset 10/4/92

Chemical Test Rules

CAS# 78-59-1: Testing required by manufacturers, processors

Section 12b

CAS# 78-59-1: Section 4

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 78-59-1: 5000 lb final RQ; 2270 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 78-59-1: immediate, delayed, fire, reactive.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

CAS# 78-59-1 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

CAS# 78-59-1 is listed as a Priority Pollutant under the Clean Water Act. CAS# 78-59-1 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 78-59-1 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

R 21/22 Harmful in contact with skin and if swallowed.

R 36/37 Irritating to eyes and respiratory system.

R 40 Limited evidence of a carcinogenic effect.

Safety Phrases:

S 13 Keep away from food, drink and animal feeding stuffs.

S 23 Do not inhale gas/fumes/vapour/spray.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 46 If swallowed, seek medical advice immediately and show this container or label.

WGK (Water Danger/Protection)

CAS# 78-59-1: 1

Canada - DSL/NDSL

CAS# 78-59-1 is listed on Canada's DSL List.

Canada - WHMIS

WHMIS: Not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 78-59-1 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information