

1. PRODUCT NAME: Isophorone

2. CHEMICAL NAME:

3. SYNONYMS:

4. CAS NUMBER: 78-59-1

5. COMPOSITION: Isophorone (78-59-1)  
100%

6. PROPERTIES: ODOR & APPEARANCE: clear, colorless to pale yellow liquid with a mild peppermint odor  
ODOR THRESHOLD: approx. 0.5  
VAPOUR PRESSURE: approx. 0.mmHg/0.4kPa (20 c)  
EVAPORATION RATE (butyl Acetate=1): 0.02  
VAPOR DENSITY (air=1): 4.8  
BOILING RANGE: 215c/419F  
FREEZING POINT: -8 c/17 F  
SPECIFIC GRAVITY: 0.922 (20/20 c)  
WATER SOLUBILITY: 12 grams per litre (20 c)  
IN OTHER SOLVENTS: soluble in most organic solvents  
VISCOSITY: 2.6 centipoise (20 c)  
PH: none – (does not liberate hydrogen ions when dissolved)

7. HAZARDS: HMIS (U.S.A.): Health – 2, Fire – 1, Reactivity - 0  
MATERIAL USE: high boiling point solvent

8. FIRE FIGHTING INFORMATION: FLASH POINT: 84 c/184 F (closed cup)  
AUTOIGNITION TEMPERATRE: 460 c/860 F  
FLAMMABLE LIMITS: 0.8% - 3.8% not known  
COMBUSTION PRODUCTS: carbon monoxide, nitrogen oxides, smoke, part oxidized hydrocarbon fragments  
FIREFIGHTING PRECAUTIONS: foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water - water jet may spread flames; firefighters must wear SCBA  
STATIC DISCHARGE: probably will not accumulate a static charge  
MECHANICAL IMPACT: not sensitive  
CHEMICAL STABILITY: stable; will not polymerize  
REACTIVE WITH: strong oxidizing agents, strong acids or alkalies; may react violently with amines  
DECOMPOSOTION PRODUCTS: none from Hazardous Combustion Products

9. PERSONAL PROTECTION MEASURES: HANDS: “Responder” gloves recommended – consult supplier to confirm suitability  
EYES: safety glasses with side shields – always protect the eyes  
VENTILATION: not required unless product mist or vapor is created by handling  
CLOTHING: no special protective clothing required

10. FIRST AID PROCEDURES: SKIN: Wash with soap and plenty of water. Remove contaminated clothing and do not reuse until thoroughly cleaned or laundered.  
EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.  
INHALATION: Remove from contaminated area promptly. CAUTION: Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.

IN CASE OF  
TRANSPORT EMERGENCY  
CONTACT CHEMTREC  
USA: 1-800-424-9300  
INTERNATIONAL: 1-703-527-3887



Carolina International Sales Co., Inc

## MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive  
Matthews, NC 28105  
(704) 845 9440

www.ciscochem.com

INGESTION: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.

NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs. The risk and danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity product. The stomach should only be emptied under medical supervision, after the installation of an airway to protect the lungs.

11. EXPOSURE TWAEV ppm/mg/m<sup>3</sup>: 25\*/140

LIMITS: LD50 ORAL: 700\*\*

SKIN (mg/kg): 1400

LC50ppm INHALATION: 1240

### 12. TOXICOLOGICAL EFFECTS ACUTE EXPOSURE

INFORMATION: SKIN CONTACT: little to no effect

SKIN ABSORPTION: slight; no toxic effects likely by this route

EYE CONTACT: irritating; has caused chemical burns which heal within 48 hours

INHALATION: 15 min. at 10-15ppm vapor irritating; above 40ppm irritating almost immediately, headache, dizziness, drowsiness, nausea may occur; Note that low vapor pressure makes injury through inhalation unlikely except by misting or heating product.

INGESTION: may cause stomach discomfort, headache, dizziness, drowsiness, nausea

EFFECTS OF CHRONIC EXPOSURE

GENERAL: kidney and lung damage seen in rodents exposed to 50ppm in long term tests

SENSITISING: not a sensitizer

REPRODUCTIVE EFFECT: not known effect in humans; fetotoxic in mice at doses causing maternal toxicity

SYNERGISTIC WITH: not known

LD50: 1870mg/kg (oral, rat) 2690mg/kg (oral, mouse), 1420mg/kg (oral rabbit), 700mg/kg (oral, guinea pig); 1400mg/kg (skin, rabbit and rat)

LC50: 1240ppm (inhalation, rat), 4600ppm (inhalation, guinea pig)

13. ECOLOGICAL This product cannot accumulate in living tissue – This product is slowly biodegradable in the presence of  
INFORMATION: oxygen; biodegradable in sewage sludge ~40% gone in 2 weeks; half-life in air estimated as 5 hours.

14. DISPOSAL DO NOT FLUSH TO SEWER; may be incinerated in approved facility.  
CONSIDERATIONS:

15. CARCINOGENIC Not considered a tumorigen or a carcinogen in humans or animals.  
PROPERTIES &  
NOTIFICATIONS:

16. TRANSPORT USA 49 CFR

INFORMATION: Product identification number: UN – 1993

Shipping name: Combustible Liquid N.O.S. (isophorone)

Classification: Class 3; combustible

Label: combustible liquid, Class 3

Class: B3, D 2B

17. HANDLING & Store in a cool dry environment, away from sources of ignition, heat and oxidizing agents. Use with adequate  
STORAGE: ventilation if product mist or vapor could enter the workplace. Do not cut, drill, weld or grind on or near this container. Avoid prolonged contact with skin and wash work clothes frequently. An eye bath and



Carolina International Sales Co., Inc

## MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive  
Matthews, NC 28105  
(704) 845 9440

www.ciscochem.com

safety shower should be available near the workplace.

18. ACCIDENTAL LEAK PRECAUTION: dyke to control spillage and prevent environmental contamination.  
RELEASE HANDLING SPILL: ventilate contaminated area; recover free liquid with suitable pumps; absorb on an inert, sweep & pick up using plastic or aluminium shovel, & store in closed containers for recycling or disposal.  
MEASURES:
19. REGULATORY IMMEDIATELY DANGEROUS TO LIFE OR HEALTH (IDLH): 200ppm  
INFORMATION: ALLOWABLE TOLERANCE  
Isophrone is exempted from the requirement of a tolerance when used as a solvent or cosolvent in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only.  
OSHA STANDARDS  
Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 25ppm (140mg/cu m).  
NIOSH RECOMMENDATIONS  
Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 4ppm (23mg/cu m).  
THRESHOLD LIMIT VALUES  
Ceiling Limit: 5ppm. A3; Confined animal carcinogen with unknown relevance to humans.  
ATMOSPHERIC STANDARDS  
This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non air quality health and environmental impact and energy requirements. Isophorone is produced, as an intermediate or final product, by process units covered under this subpart.  
Listed as a hazardous air pollutant (HAP) generally known or suspected to cause serious health problems. The Clean Air Act, as amended in 1990, directs EPA to set standards requiring major sources to sharply reduce routine emissions of toxic pollutants. EPA is required to establish and phase in specific performances based standards for all air emission sources that emit one or more of the listed pollutants. Isophorone is included on this list.  
FEDERAL DRINKING WATER GUIDELINES: EPA 100ug/l.  
STATE DRINKING WATER GUIDELINES  
Florida 40 ug/l  
Maine 140 ug/l  
Minnesota 100 ug/l  
New Hampshire 140 ug/l  
CLEAN WATER ACT REQUIREMENTS  
Toxic pollutant designated pursuant to section 307 (a) (1) of the Federal Water Pollution Control Act and is subject to effluent limitations.  
CERCLA REPORTABLE QUANTITIES  
Persons in charge of vessels of facilities are required to notify the National Response Center (NRC) immediately, when there is a release of this designated hazardous substance, in an amount equal to or greater than its reportable quantity of 5000 lb or 2270 kg. The NOR toll free number is (800) 424-8802; In the Washington D.C. metropolitan area (202) 426-2675. The rule for determining when notification is required is stated in 40 CFR 302.4 (section IV. D.3b)  
TSCA REQUIREMENTS  
Pursuant to section 8(d) of TSCA, EPA promulgated a model Health and Safety Data Reporting rule. The section 8(d) model rule requires manufactures, importers, and processors of listed chemical substances and mixtures to submit to EPA copies and lists of unpublished health and safety studies. Isophorone is included on this list. Section 8 (a) of TSCA requires manufacture of this substance to report preliminary assessment information concerned with production, exposure, and use to EPA as cited in the preamble in



**Carolina International Sales Co., Inc**

## MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive  
Matthews, NC 28105  
(704) 845 9440

[www.ciscochem.com](http://www.ciscochem.com)

---

51 FR 41329.

### FIFRA REQUIREMENTS

Isophrone is exempted from the requirement of a tolerance when used as a solvent or cosolvent in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only.

### FDA REQUIREMENTS

Isophrone is listed as an indirect food additive for use only as a component of adhesives.