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Certified Company



THE POWER OF THREE³

PHARMCO-AAPER

AND COMMERCIAL ALCOHOLS

Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

MATERIAL SAFETY DATA SHEETS

Manufacturer: PHARMCO-AAPER
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Emergency Contact:
CHEMTREC 1-800-424-9300

Isophorone

1 Identification of substance:

Product details:

Product name: Isophorone

**Information Department: Health, Safety and Environmental
Department**

Emergency information:

During normal hours the Health, Safety and Environmental Department.
After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

Chemical characterization:

Description: (CAS#)

3,5,5-Trimethyl-2-cyclohexen-1-one (CAS# 78-59-1): 100%

Identification number(s):

EINECS Number: 201-126-0

EU Number: 606-012-00-8

3 Hazards identification

Hazard description: Xn Harmful

**Information pertaining to particular dangers for man and
environment**

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.

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

Health (acute effects) = 1

Flammability = 2

Reactivity = 1

4 First aid measures

☐ After inhalation

Supply fresh air. If required, provide artificial respiration.

Keep patient warm.

Seek immediate medical advice.

☐ After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

☐ After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

☐ After swallowing Seek immediate medical advice.

5 Fire fighting measures

☐ Suitable extinguishing agents

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

☐ Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

☐ Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

☐ Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

☐ Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

☐ Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

☐ Handling

☐ Information for safe handling:

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Prevent formation of aerosols.

☐ Information about protection against explosions and fires:

Keep ignition sources away.

☐ Storage

☐ Requirements to be met by storerooms and receptacles:

No special requirements.

☐ Information about storage in one common storage facility:

Store away from oxidizing agents.

☐ Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:



Isophorone

ACGIH TLV 5–Ceiling; Confirmed animal carcinogen

Austria MAK 5

Belgium 5–STEL

Denmark TWA 5

Finland TWA 5; 10–STEL

France VLE 5

Germany MAK 5

Korea TLV 5–Ceiling

Netherlands MAC–TGG 5

Norway TWA 10

Poland TWA 5 mg/m³; 25 mg/m³–MAC

Russia 1 mg/m³–STEL

Sweden 5–KTV

Switzerland MAK–W 5

United Kingdom 5–STEL

USA PEL 25

Components with limit values that require monitoring at the workplace:

Additional information: No data

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Protection of hands:

Check protective gloves prior to each use for their proper condition.

Impervious gloves

Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information

Form: Liquid

Color: Light yellow

Odor: Not determined

Value/Range Unit

Method

Change in condition

Melting point/Melting range: Not determined

Boiling point/Boiling range: 212–214 °C

Sublimation temperature / start: Not determined

- Flash point:** 84 ° C
- Ignition temperature:** Not determined
- Decomposition temperature:** Not determined
- Danger of explosion:**
Product does not present an explosion hazard.
- Explosion limits:**
 - Lower:** 0.8 Vol %
 - Upper:** 3.8 Vol %
- Vapor pressure:** Not determined
- Density:** at 20 ° C 0.923 g/cm³
- Solubility in / Miscibility with**
 - Water:** Not determined

10 Stability and reactivity

- Thermal decomposition / conditions to be avoided:**
Decomposition will not occur if used and stored according to specifications.
- Materials to be avoided:** Oxidizing agents
- Dangerous reactions** No dangerous reactions known
- Dangerous products of decomposition:** Carbon monoxide and carbon dioxide

11 Toxicological information

- Acute toxicity:**
LD/LC50 values that are relevant for classification:
Oral: LD50: 700 mg/kg (gpg)
LD50: 2690 mg/kg (mus)
LD50: 1870 mg/kg (rat)
LD50: 1420 mg/kg (rbt)
Dermal: LD50: 1390 mg/kg (rat)
LD50: 1500 µL/kg (rbt)
Inhalative: LC50: 7000 mg/m³ (rat)
LC50/8H: 4600 ppm/8H (gpg)
Irritation of skin: mild: 100 mg/24H (rbt)
moderate: 500 µL/24H (rbt)
Irritation of eyes: moderate: 100 mg/24H (rbt)
severe: 920 µg (rbt)
- Primary irritant effect:**
 - on the skin:** Irritant to skin and mucous membranes.
 - on the eye:** Irritating effect.
- Sensitization:** No sensitizing effects known.
- Other information (about experimental toxicology):**
Tumorigenic effects have been observed on tests with laboratory animals.
Reproductive effects have been observed on tests with laboratory animals.
Mutagenic effects have been observed on tests with laboratory animals.
- Subacute to chronic toxicity:**
- Subacute to chronic toxicity:**
The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:
Sense Organs and Special Senses (Olfaction) – effect, not otherwise specified.
Sense Organs and Special Senses (Eye) – conjunctive irritation.
Sense Organs and Special Senses (Eye) – effect, not otherwise specified.

Lungs, Thorax, or Respiration – other changes.
Lungs, Thorax, or Respiration – dyspnea.
Lungs, Thorax, or Respiration – acute pulmonary edema.
Lungs, Thorax, or Respiration – respiratory stimulation.
Related to Chronic Data – death.
Kidney, Ureter, Bladder – changes in both tubules and glomeruli.
Kidney, Ureter, Bladder – other changes in urine composition.
Kidney, Ureter, Bladder – changes in tubules (including acute renal failure, acute tubular necrosis).
Kidney, Ureter, Bladder – tumors.
Kidney, Ureter, Bladder – Kidney tumors.
Blood – changes in cell count (unspecified).
Blood – lymphoma, including Hodgkin's disease.
Skin and Appendages – hair.
Behavioral – somnolence (general depressed activity).
Behavioral – convulsions or effect on seizure threshold.
Cardiac – pulse rate.
Liver – other changes.
Liver – changes in liver weight. Liver – tumors.
Nutritional and Gross Metabolic – weight loss or decreased weight gain.
Reproductive – Tumorigenic effects – other reproductive system tumors.
Reproductive – Maternal Effects – other effects.
Tumorigenic – equivocal tumorigenic agent by RTECS criteria.
Tumorigenic – Carcinogenic by RTECS criteria.

Additional toxicological information: Danger through skin absorption.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

EPA-C: Possible human carcinogen: limited evidence of carcinogenicity in animals in the absence of human data.

ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

12 Ecological information:

General notes:

Do not allow material to be released to the environment without proper

13 Disposal considerations

Product: Recommendation

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings; Recommendation:

Disposal must be made according to official regulations.

14 Transport information

Not a hazardous material for transportation.

DOT regulations:

Hazard class: None

Land transport ADR/RID (cross-border)

ADR/RID class: None

Maritime transport IMDG:

IMDG Class: None

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: None

Transport/Additional information:

Not dangerous according to the above specifications.

15 Regulations

Product related hazard informations:

Hazard symbols: Xn Harmful

Risk phrases:

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

36/37 Irritating to eyes and respiratory system.

40 Limited evidence of a carcinogenic effect.

Safety phrases:

13 Keep away from food, drink and animal feedingstuffs.

23 Do not breathe gas/fumes/vapour/spray.

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

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

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are:

Chemical Name	CAS Number	RQ
Isophorone	78-59-1	5,000lb

16 Other information:

The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable, PHARMCO-AAPER assumes not responsibility for the completeness or accuracy of the information contained herein.