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THE POWER OF THREE³

PHARMCO-AAPER

AND COMMERCIAL ALCOHOLS

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

Manufacturer:
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Isopropyl Ether

1. CHEMICAL PRODUCT IDENTIFICATION

Product Name: Isopropyl Ether

Synonyms: Diisopropyl Ether; diisopropyl oxide; 2-isopropoxypropane; 2-2'-oxybispropane

Molecular Formula: $[(CH_3)_2CH]_2O$

Molecular Weight: 102.18

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
Isopropyl Ether	108-20-3	100.0

3. HAZARDS IDENTIFICATION

WARNING! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

NFPA Hazard Ratings: Health - 1, Flammability - 3, Reactivity - 1

NOTE: NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Potential Health Effects

Eye: Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin: May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns.

Swallowing: Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation: Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful.

Symptoms of Exposure Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), and death.

Target Organ Effects: No data

Developmental Information: No data

Cancer Information: No data

Other Health Effects: No data

Primary Route(s) of Entry: No data

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion: If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. FIRE FIGHTING MEASURES

Flash Point: -18.0 F (-27.7 C) TCC

Explosive Limit: (for product) Lower 1.4 Upper 7.9 %

Autoignition Temperature: No data

Hazardous Products of Combustion May form: carbon dioxide and carbon monoxide.

Fire and Explosion Hazards: Material is highly volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Extinguishing Media: alcohol foam, carbon dioxide, dry chemical.

Fire Fighting Instructions : Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

6. ACCIDENTAL RELEASE MEASURES

Small Spill: Absorb liquid on vermiculite, floor absorbent, or other absorbent material and transfer to hood. Eliminate all sources of ignition such as flares, flames (including pilot lights), and electrical sparks. Ventilate area.

Large Spill: Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal. Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

7. HANDLING AND STORAGE

Handling: Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Storage: Dry ether readily forms explosive peroxides with air. Heat and light accelerate peroxide formation; special attention must be paid to small glass containers and containers which have been opened and exposed to air. Partially filled containers should not be stored for prolonged periods of time since unstable peroxides may form and these may explode spontaneously or when heated. Such containers should be destroyed without opening. Samples of isopropyl ether should not be put in glass containers. Samples should not be retained. Any samples of I.P.E. stored in glass containers for six months or longer should be destroyed without opening. Isopropyl ether is inhibited by hydroquinone.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin Protection: Wear resistant gloves such as: polyvinyl alcohol, Wear normal work clothing covering arms and legs.

Respiratory Protections : If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines
Component

Isopropyl Ether (108-20-3)
OSHA VPEL 500.000 ppm - TWA
ACGIH TLV 250.000 ppm - TWA
ACGIH TLV 310.000 ppm - STEL

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: (for product) 155.0 F (68.3 C) @ 760 mmHg
Vapor Pressure: (for product) 120.000 mmHg @ 68.00 F
Specific Vapor Density: 3.500 @ AIR=1
Specific Gravity: .725 @ 68.00 F
Liquid Density: 6.040 lbs/gal @ 68.00 F; .725 kg/l @ 20.00 C
Percent Volatiles : 100.0 %
Evaporation Rate: 8.00 (BU AC)
Appearance: No data
State: LIQUID
Physical Form: HOMOGENEOUS SOLUTION
Color: CLEAR, PT-CO COLOR 25 MAX
Odor: No data
pH: Not applicable

10. STABILITY AND REACTIVITY

Hazardous Polymerization: Product will not undergo hazardous polymerization.

Hazardous Decomposition May form: carbon dioxide and carbon monoxide.

Chemical Stability: Stable.

Incompatibility: Avoid contact with: excessive heat, strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

Oral rat LD50: 8470 mg/kg. Skin rabbit LD50: 20ml/kg. Inhalation rat LD50: 162 gm/m3. Irritation data: skin rabbit 363 mg open - mild.

-----\Cancer Lists\-----

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Isopropyl Ether (108-20-3)	No	No	None

12. ECOLOGICAL INFORMATION

Environmental Fate: When released into the soil, this material may leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released into water, this material is not expected to biodegrade. When released to water, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life between 1 and 10 days. This material has an experimentally-determined bioconcentration factor (BCF) of less than 100. This material has a log octanol-water partition coefficient of less than 3.0. When released into the air, this material is expected to be readily degraded by reaction with

photochemically produced hydroxyl radicals. When released into the air, this material is not expected to be degraded by photolysis. When released into the air, this material is expected to have a half-life of less than 1 day.

Environmental Toxicity: The LC50/96-hour values for fish are between 10 and 100 mg/l.

13. DISPOSAL CONSIDERATION

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

Domestic (Land, D.O.T.)
Proper Shipping Name: Diisopropyl Ether
Hazard Class: 3
UN/NA: UN1159
Packing Group: II

International (Water, I.M.O.)
Proper Shipping Name: Diisopropyl Ether
Hazard Class: 3.1
UN/NA: UN1159
Packing Group: II

15. REGULATORY INFORMATION

US Federal Regulations
TSCA (Toxic Substances Control Act) Status
TSCA (UNITED STATES) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4(a): None listed

SARA 302 Components - 40 CFR 355 Appendix A: None

Section 311/312 Hazard Class - 40 CFR 370.2
Immediate(X) Delayed() Fire(X) Reactive() Sudden Release of Pressure()

SARA 313 Components - 40 CFR 372.65: None

International Regulations
Inventory Status: Not determined

State and Local Regulations
California Proposition 65: None

New Jersey RTK Label Information
Diisopropyl Ethe 108-20-3

Pennsylvania RTK Label Information
PROPANE, 2,2'-OXYBIS- 108-20-3

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA): No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA.

16. OTHER INFORMATION

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.