

CLIP, Chemical Laboratory Information Profile

"Only when you know the hazards, can you take the necessary precautionary measures."

Isopropyl Ether



CAS No.: 108-20-3

Synonyms: diisopropyl ether, 2,2'-oxybis(propane), 2-isopropoxypropane

Physical Properties

Exposure Limits

Colorless, extremely flammable liquid with a characteristic odor.
 Vapor pressure at 20 °C: 138 Torr
 Melting point: -86 °C
 Boiling point: 68 °C

OSHA PEL: 500 ppm
 ACGIH TLV: 250 ppm
 STEL: 310 ppm

Hazardous Characteristics

Overall toxicity	Flammability	Destructive to skin/eye	Absorbed through skin	Sensitizer?	Self-reactive?	Incompatible with:
1	3	1	0	No	No	Air, oxygen, oxidizing agents*

0: None (or very low); 1: Slight; 2: Moderate; 3: High; 4: Severe.

*Reactivity Hazards

Isopropyl ether is extremely flammable. It reacts violently with oxidizing agents. With air or oxygen itself it very readily forms light-, friction-, and shock-sensitive isopropyl ether peroxide. See Bretherick's *Handbook of Reactive Chemical Hazards* for details and for other incompatibilities.

Cited as known to be or reasonably anticipated to be carcinogenic in NTP-9? No

Identified as a reproductive toxin in Frazier and Hage, *Reproductive Hazards of the Workplace?* No

Typical symptoms of acute exposures:

Skin and eye irritation; it is a general anesthetic if inhaled.

Principal target organ(s) or system(s):

Central nervous system.

Storage Requirements

Store with other flammables in a cool, dry, well-ventilated location, away from ignition sources and separated from oxidizing agents.

Additional Remarks

The dangerous nature of the propensity of isopropyl ether to form unstable, explosive peroxides cannot be over-emphasized.

Notes

ReadMe

This Chemical Laboratory Information Profile is *not* a Material Safety Data Sheet. It is a brief summary for teachers and their students that describes some of the hazards of this chemical as it is typically used in laboratories. On the basis of your knowledge of these hazards and before using or handling this chemical, *you need to select the precautions and first-aid procedures to be followed*. For that information as well as for other useful information, refer to Material Safety Data Sheets, container labels, and references in the scientific literature that pertain to this chemical.

Reproductive Toxins

Some substances that in fact are reproductive toxins are not yet recognized as such. For the best readily available and up-to-date information, refer to "DART/ETIC". See the TOXNET home page at <http://www.sis.nlm.nih.gov> and click on "Toxicology search". *Note that some of the data in DART/ETIC have not been peer-reviewed.* See also Linda M. Frazier and Marvin L. Hage, *Reproductive Hazards of the Workplace*; Wiley, 1998; and T. H. Shepard, *Catalog of Teratogenic Agents*, 9th ed.; Johns Hopkins University Press, 1998.

Abbreviations

ACGIH TLV—American Conference of Governmental Industrial Hygienists—Threshold Limit Value. C—Ceiling. CAS—Chemical Abstracts Service. mg/m³—milligrams per cubic meter. NA—Not applicable. NE—Not established. NI—No information. NTP-9—National Toxicology Program, Ninth Annual Report on Carcinogens. OSHA PEL—Occupational Safety and Health Administration—Permissible Exposure Limit. ppm—parts per million. STEL/C—Short-term exposure limit and ceiling.

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