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MATERIAL SAFETY DATA SHEET

CORPORATE RESEARCH & DEVELOPMENT

SCHENECTADY, N. Y. 12305



No. 324

ISOPROPYL ALCOHOL

Revision C

Date October 1982

SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: ISOPROPYL ALCOHOL

OTHER DESIGNATIONS: Isopropanol, 2-Propanol, sec-Propyl Alcohol, Dimethyl Carbinol, $\text{CH}_3\text{CHOHCH}_3$, ASTM D770, GE Material D5B57, CAS# 000 067 630

MANUFACTURER: Available from many suppliers including:

Allied Chemical

P.O. Box 1139R

Morristown, NJ 07960

Tel: (201) 455-4157

SECTION II. INGREDIENTS AND HAZARDS

Isopropyl Alcohol

%
ca 100

HAZARD DATA

8hr TWA 400 ppm or
980 mg/m^3 *

*Current OSHA standard and ACGIH (1982) TLV.

Human, eye

20 ppm

Primary irritation dose

NIOSH has proposed a 10-hr TWA (instead of the 8-hr TWA or TLV) of 400 ppm with a ceiling concentration of 800 ppm (15 minute sampling time).

Human, inhalation

TCLo 400 ppm TFX:IRR

Rat, oral

LD₅₀ 5840 mg/kg

SECTION III. PHYSICAL DATA

Boiling point, 1 atm, deg F (C) ----- 180 (82)

Specific gravity ($\text{H}_2\text{O}=1$) --- 0.786

Vapor pressure @ 20 C, mm Hg ----- 33

Melting point, deg C ----- -88.5

Vapor density (Air=1) ----- 2.07

% Volatile by volume, 20 C - ca 100

Viscosity, 20 C, cps ----- 2.4

Evaporation rate ($\text{CCl}_4=1$) -- 2.6

Solubility in water ----- Completely soluble

Molecular weight ----- 60.11

Appearance and Odor: Clear, colorless liquid with an alcohol odor.

Threshold odor concentration: 100% recognition: 28.2 ppm.

SECTION IV. FIRE AND EXPLOSION DATA

LOWER UPPER

Flash Point and Method

Autoignition Temp.

Flammability Limits In Air

53 F (closed cup)

750 F (399 C)

% by volume

2.0

12.0

Fires involving isopropyl alcohol may be extinguished with carbon dioxide, dry chemical or alcohol foam. Use water spray to cool fire exposed containers. A fine water mist may be used to smother the fire or to disperse vapors. A water stream may not be effective. A moderate explosion hazard exists when this material is exposed to heat or flames. At 20 C the vapor space (saturated) above isopropyl alcohol contains about 4.3 volume % of vapor.

An OSHA Class IB flammable liquid.

Firefighters should wear self-contained breathing apparatus.

SECTION V. REACTIVITY DATA

This is a stable material in closed containers at room temperature under normal storage and handling conditions. It does not polymerize.

Incompatible with acetadehyde, chlorine, ethylene oxide, hydrogen-palladium combination, hydrogen peroxide-sulfuric acid combination, potassium tert-butoxide, hypochlorous acid, isocyanates, nitroform, phosgene, oleum, perchloric acid, and strong oxidizing agents.

Thermal-oxidative degradation products can include carbon monoxide. Aluminum containers are not to be used for isopropyl alcohol.

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SECTION VI. HEALTH HAZARD INFORMATION	TLV 400 ppm or 980 mg/m ³
Inhalation of isopropanol at the TLV can cause mild irritation to the nose & throat; this is generally a good warning property. Prolonged exposures above the TLV may cause narcosis, nausea and headache. Eye contact will cause local irritation and burning sensations, with possible eye damage. Skin contact will cause a stinging and burning sensation with defatting and possible irritation from prolonged contact. Ingestion will cause burning sensations of the digestive tract along with nausea, vomiting, bleeding and CNS depression. This alcohol is considered poison, with ingestion of 20 ml causing serious illness. The single lethal oral dose for an adult is approximately 250 ml. <u>FIRST AID:</u> <u>Eye Contact:</u> Irrigate with water for 15 min., including under eyelids. Get medical help. <u>Skin Contact:</u> Remove contaminated clothing. Flush with water. <u>Inhalation:</u> Remove to fresh air. Restore and/or support breathing as needed. Give oxygen if breathing difficult. <u>Ingestion:</u> Get prompt medical help. Give water to drink to dilute. If medical help not readily available, the amount ingested was large and the victim is conscious and alert, induce vomiting.	
SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES	
Clean-up personnel need protection against liquid contact and vapor inhalation. Absorb small spills with paper towels, evaporate flammable alcohol in exhaust hood and burn dry paper. Contain large spills; collect liquid if feasible or absorb with vermiculite or sand; then place into covered container (using non-sparking tools) for disposal. Water spray can be used to dilute and flush spill if necessary, but <u>do not</u> flush to water course or to sewer or enclosed area. <u>DISPOSAL:</u> Burn waste liquid in an approved incinerator or dispose of via licensed waste disposal company. Absorbed liquid can be landfilled. Follow Federal, State, and Local regulations. <u>AQUATIC TOXICITY</u> TLM 96: 1000-100 ppm.	
SECTION VIII. SPECIAL PROTECTION INFORMATION	
Provide general and exhaust ventilation (explosion-proof) to meet TLV requirements. Exhaust hoods should maintain a 100 lfm face velocity. Provide self-contained or air-supplied breathing apparatus with full facepiece for non-routine or emergency use above the TLV. Use neoprene gloves and aprons where necessary to avoid skin contact. Chemical goggles should be worn in areas where splashing or misting may occur. An eyewash fountain and washing facilities should be available near use areas. Where gross spills or splashing can occur, a drenching safety shower is needed. Preplacement and periodic medical examinations should emphasize skin, sinuses, and the respiratory system. Keep records. Provide suitable training to those working with isopropanol.	
SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS	
Store in a clean, cool, ventilated area away from sources of ignition and oxidizing agents. Handle and store in a manner suitable for an OSHA Class IB Flammable Liquid. Electrical services must meet code. Bond and ground containers for transfers. Use non-sparking tools. Use with adequate ventilation. Avoid inhalation of vapors and repeated or prolonged contact of liquid with skin or clothing. Do not take internally. Wash thoroughly after handling. Do not smoke or eat in areas of storage or use. DOT Classification: FLAMMABLE LIQUID DOT I.D. No. UN1219 DATA SOURCE(S) CODE: 1-12, 19, 20, 23, 26, 31, 34, 37, 39, 43, 47	
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	INDUST. HYGIENE SAFETY <i>JW 11-5-82</i>
	MEDICAL REVIEW: 19 November 1982

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