

MATERIAL SAFETY DATA SHEET

GENIUM PUBLISHING CORPORATION

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MSDS # 324
 ISOPROPYL ALCOHOL
 Revision D
 Issued: October 1982
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From Genium's MSDS Collection, to be used as a reference.

SECTION 1. MATERIAL IDENTIFICATION

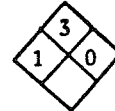
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MATERIAL NAME: ISOPROPYL ALCOHOL

OTHER DESIGNATIONS: Isopropanol, 2-Propanol, sec-Propyl Alcohol, Dimethyl Carbinol, Isohol, Petrohol, IPA, C₃H₈O, CAS # 0067 63 0

MANUFACTURER/SUPPLIER: Available from several sources, including:

Allied Corporation
 PO Box 2064R
 Morristown, NJ 07960 (201) 455-4400 - (800) 631-8050



SECTION 2. INGREDIENTS AND HAZARDS

ISOPROPYL ALCOHOL

* Current OSHA PEL and ACGIH TLV (1985-86).

The ACGIH STEL is 500 ppm, 1225 mg/m³.

NIOSH has recommended a 15-minute ceiling of 800 ppm.

NOTE: NTP and IARC list CAS #0067-63-0, "isopropyl alcohol manufacture (strong acid process)" as a human carcinogen. We believe this refers to the process and not necessarily the product. Check with your suppliers.

%	HAZARD DATA
ca 100	8-hr TWA: 400 ppm or 980 mg/m ³ *
	Human, Eye: 20 ppm
	Primary irritation dose Human, Inhalation: 400 ppm: IRR
	Man, Oral LDLo: 8600 mg/kg
	Rat, Oral: 5840 mg/kg

SECTION 3. PHYSICAL DATA

Boiling point, 1 atm 180°F, (82°C)	Specific gravity (H ₂ O=1) 0.786
Vapor pressure @ 20°C, mmHg ... 33	Melting point -127.3°F (-88.5°C)
Vapor density (Air=1) 2.07	% Volatile by volume, 20°C ... ca 100
Viscosity, 20°C, cps 2.4	Evaporation rate (CCl ₄ =1) 2.6
Solubility in water Completely soluble	Molecular weight 60.11

APPEARANCE & ODOR: Clear, colorless liquid with a slight non-residual alcohol type odor. Threshold odor concentration, 100% recognition by test panel, is 28.2 ppm.

SECTION 4. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits in Air	Lower	Upper
53°F (11.7°C) closed cup	750°F (399°C)	% by volume	2.0	12.0

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, alcohol foam. Use water spray to cool fire-exposed tanks, containers. A fine water mist may be used to smother fire or to disperse vapors. Do not use a solid stream of water since the stream will scatter and spread the fire.

Isopropyl alcohol is an OSHA Class IB flammable liquid. It is a dangerous fire hazard and a moderate explosion hazard when exposed to heat, flames or oxidizers. At 20°C, the vapor space (saturated) above isopropyl alcohol contains about 4.3 volume % of vapor. Vapors are heavier than air and may travel a considerable distance to an ignition source and flashback. Firefighters should wear self-contained breathing apparatus and full protective clothing when fighting fires involving this material.

SECTION 5. REACTIVITY DATA

This material is stable in closed containers at room temperature under normal storage and handling conditions. It does not polymerize. Isopropyl alcohol is incompatible with acetaldehyde, 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. Do not store isopropyl alcohol in aluminum containers.

Thermal-oxidative degradation products can include carbon monoxide.

SECTION 6. HEALTH HAZARD INFORMATION

TLV 400 ppm (see Section 2)

At 400 ppm, vapors of isopropanol (IPA) may cause mild irritation of the eyes, nose, and throat. Prolonged exposures above the TLV may cause nausea, headache, and mild narcosis. The liquid is irritating to the eyes and produces intense stinging and burning. If not promptly removed, IPA may cause eye damage. Repeated or prolonged contact with the skin may cause irritation and dermatitis. While toxic skin absorption is unlikely it should be considered in meeting the TLV. Ingestion of IPA will cause burning of the gastrointestinal tract, nausea, vomiting, bleeding, CNS depression, hemolysis, and pulmonary damage. Ingestion of as little as 10 ml may cause serious injury, while ingestion of 100 ml can be fatal. The single lethal dose for an adult is approximately 250 ml. The TLV for this material is set on the basis of eye, nose, and throat irritation. IPA has good warning properties.

FIRST AID: EYE CONTACT: Flush eyes, including under eyelids, with running water for at least 15 minutes. Get medical attention (Inplant, community, paramedic). SKIN CONTACT: Flush exposed area with water while removing contaminated clothing. Get medical attention if irritation persists. INHALATION: Remove victim to fresh air. Restore and/or support breathing as required. Get medical help. INGESTION: Give victim milk or water. Induce vomiting by sticking finger to back of throat. Contact a physician or Poison Control Center. Never give anything by mouth to a person who is unconscious or is having convulsions.

SECTION 7. SPILL, LEAK AND DISPOSAL PROCEDURES

Notify safety personnel of large spills or leaks. Remove all sources of heat and ignition. Provide maximum explosion-proof ventilation. Evacuate all personnel from area, except for those involved in clean-up. Remove leaking container to safe place if feasible. 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 and collect liquid, if feasible, or absorb with vermiculite or sand. Place waste or absorbent into closed container (using non-sparking tools) for disposal. Water spray can be used to dilute and flush spill if necessary, but do not flush to water course or to sewer or enclosed area. DISPOSAL: 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.

AQUATIC TOXICITY TLM 96: 1000-100 ppm.

SECTION 8. SPECIAL PROTECTION INFORMATION

Provide general and local exhaust ventilation (explosion proof) to meet TLV requirements. For emergency or nonroutine exposures where the TLV may be exceeded, use an appropriate NIOSH approved respirator. Fume hoods should have a minimum face velocity of 100 lfm. All electrical service in use or storage areas should have an explosion-proof design. Wear impervious gloves and safety glasses to prevent contact with the skin and eyes. If repeated or prolonged contact with liquid or mist is likely, wear protective clothing including boots, apron, and face-shield or splash goggles. Remove contaminated clothing immediately and do not reuse until it has been properly laundered.

Eye wash stations and safety showers should be available in use and handling areas.

Contact lenses pose a special hazard; soft lenses may absorb and all lenses concentrate irritants.

SECTION 9. SPECIAL PRECAUTIONS AND COMMENTS

Store in closed containers in a cool, dry, well-ventilated area away from oxidizers, heat, sparks, and open flame. Protect containers from physical damage.

Use only with adequate ventilation. Avoid inhalation of vapor and repeated or prolonged contact with the skin. Remove contaminated clothing immediately. Wash thoroughly after handling.

Ground and bond containers and equipment when transferring or pouring liquid. Use non-sparking tools.

Do not eat or smoke in areas where this material is being used or handled.

DOT CLASSIFICATION: Flammable liquid.

DOT I.D. NO.: UN1219

DATA SOURCE(S) CODE (See Glossary) 1-12, 19, 20, 23, 26, 31, 34, 37, 39, 43, 47, 59, 79.R.

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APPROVALS

JO. Accorilo, 11/85

INDUST. HYGIENE/SAFETY

JW 11-85

MEDICAL REVIEW:

SPD Dec 85