

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Isopropanol, USP, 10%

Catalog Numbers: TX PN 4-1215

Synonyms: Isopropanol; Dimethylcarbinol; sec-Propyl alcohol; Rubbing alcohol; Petrohol; 1-Methylethanol; 1-Methylethyl alcohol; 2-Hydroxypropane; 2-Propyl alcohol; Isopropyl alcohol; Propan-2-ol.

Company Identification:

Zenith Technical Innovations
1396 St Paul Ave
Gurnee, IL 60031

For information, call: 847-672-7481

Emergency Number: 847-672-7481

SECTION 2 - COMPOSITION, INFORMATION OF INGREDIENTS

CAS#	Chemical Name	Percent	EINECS/ELINCS
7732-18-5	Water	90	231-791-2
67-63-0	Isopropyl alcohol	10	200-661-7

SECTION 3 – HAZARDS IDENTIFICATION

Appearance: colorless liquid. Flash Point: 41 deg C.

Warning! Flammable liquid and vapor. May cause severe eye irritation and possible injury. Causes respiratory tract irritation. Causes mild skin irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage. May cause central nervous system depression. May form explosive peroxides. May cause kidney damage. This substance has caused adverse reproductive and fetal effects in animals.

Target Organs: Kidneys, central nervous system, respiratory system, cardiovascular system, eyes, skin.

Potential Health Effects

Eye: Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause transient corneal injury.

Skin: May cause irritation with pain and stinging, especially if the skin is abraded. Isopropanol has a low potential to cause allergic skin reactions; however, rare cases of allergic contact dermatitis have been reported. May be absorbed through intact skin.

Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause narcotic effects in high concentration. Causes upper respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis. May cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects.

SECTION 4 - FIRST AID MEASURES

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Urine acetone test may be helpful in diagnosis. Hemodialysis should be considered in severe intoxication. Treat symptomatically and supportively.

SECTION 5 - FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Flammable liquid and vapor. May form explosive peroxides. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Water may be ineffective. Do NOT use straight streams of water. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. For small fires, use carbon dioxide, dry chemical, dry sand, or alcohol-resistant foam. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: 41 deg C (105.80 deg F)

Autoignition Temperature: 399 deg C (750.20 deg F)

Explosion Limits, Lower: 2.0 vol %

Upper: 12.7 @ 93.3°C

NFPA Rating: (estimated) Health: 1; Flammability: 2; Instability: 0

SECTION 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

SECTION 7 - HANDLING AND STORAGE

KEEP OUT OF REACH OF CHILDREN!

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Loosen closure cautiously before opening. Contents may develop pressure upon prolonged storage. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Keep container tightly closed. Do not ingest or inhale. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Do not store in direct sunlight. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Addition of water or appropriate reducing materials will lessen peroxide formation. Store protected from moisture.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Water	none listed	none listed	none listed
Isopropyl alcohol	200 ppm TWA; 400 ppm STEL	400 ppm TWA; 980 mg/m ³ TWA 2000 ppm IDLH	400 ppm TWA; 980 mg/m ³ TWA

OSHA Vacated PELs: Water: No OSHA Vacated PELs are listed for this chemical. Isopropyl alcohol: 400 ppm TWA; 980 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Appearance: Colorless

Odor: Alcohol-like

pH: Not available.

Vapor Pressure: 33 mm Hg @ 20 deg C

Vapor Density: 2.1 (Air = 1)

Evaporation Rate: 2.3 (n-butyl acetate = 1)

Viscosity: 2.27 mPas @ 20C

Boiling Point: Not available

Freezing/Melting Point: -4 deg C

Decomposition Temperature: Not available.

Solubility: Miscible.

Specific Gravity/Density: 0.978 (water = 1)

Molecular Formula: C₃H₈O and H₂O

Molecular Weight: 60.09 and 18.02

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Distillation may lead to the formation of peroxides. This material may be sensitive to peroxide formation.

Conditions to Avoid: Ignition sources, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, acids.

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

CAS# 7732-18-5: ZC0110000

CAS# 67-63-0: NT8050000

LD50/LC50:

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg;

CAS# 67-63-0:

Draize test, rabbit, eye: 100 mg Severe;

Draize test, rabbit, eye: 10 mg Moderate;

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, skin: 500 mg Mild;

Inhalation, mouse: LC50 = 53000 mg/m³;

Inhalation, rat: LC50 = 16000 ppm/8H;

Inhalation, rat: LC50 = 72600 mg/m³;

Oral, mouse: LD50 = 3600 mg/kg;

Oral, mouse: LD50 = 3600 mg/kg;

Oral, rabbit: LD50 = 6410 mg/kg;

Oral, rat: LD50 = 5045 mg/kg;

Oral, rat: LD50 = 5000 mg/kg;

Skin, rabbit: LD50 = 12800

Carcinogenicity:

CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 67-63-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Experimental teratogenic and reproductive effects have been reported for isopropanol. Early epidemiological studies have suggested an association between the strong acid manufacture of isopropyl alcohol and paranasal sinus cancer in workers.

Teratogenicity: Oral, rat: TDLo = 8 gm/kg (female 6-15 day(s) after conception) Effects on Embryo or Fetus - fetotoxicity.; Oral, rat: TDLo = 32400 ug/kg (female 26 week(s) pre-mating) Effects on Embryo or Fetus - fetal death.; Inhalation, rat: TCLo = 7000 ppm/7H (female 1-19 day(s) after conception) Specific Developmental Abnormalities - musculoskeletal system.

Reproductive Effects: Oral, rat: TDLo = 11340 mg/kg (female 45 day(s) pre-mating) Maternal Effects - menstrual cycle changes or disorders.; Oral, rat: TDLo = 5040 mg/kg (female 1-20 day(s) after conception) Fertility - litter size (e.g. # fetuses per litter; measured before birth).

Mutagenicity: Cytogenetic analysis: Inhalation, rat = 1030 ug/m³/16W (Intermittent).

Neurotoxicity: In rats exposed to isopropanol by inhalation, acute neurotoxicity was noted at 1 and 6 hours at 5000 ppm, but only minimal effects were seen at 1500 ppm and the animals recovered within 5 hours. No toxicity was noted at 500 ppm.

Other Studies: Not available.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: Fish: Goldfish: > 5000 mg/L; 24 Hr; Modified ASTM D 1345 bioassay Fish: Fathead Minnow: 11,830 mg/L; 1 Hr; Static bioassay No data available.

Environmental: 2-Propanol is not expected to adsorb to sediment or bioconcentrate in fish. In the atmosphere, it will photodegrade primarily by the reaction with hydroxyl radicals with a half-life of one to several days. Due to its solubility in water, rainout may be significant. 2-Propanol is expected to evaporate quickly from the soil surface and leach into the ground. It is predicted to volatilize in aquatic environments with a half-life of 5.4 days and may biodegrade.

Physical: Log P(oct) = .05 @ 25°C

Other: Dangerous to aquatic life in high concentrations.

SECTION 13 - DISPOSAL CONSIDERATIONS

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

SECTION 14 - TRANSPORT INFORMATION

	US DOT	FedEx
Shipping Name	NOT REGULATED FOR DOMESTIC TRANSPORT	CLASS II FLAMMABLE (OSHA)
Hazard Class	XCP	CLASS II FLAMMABLE (OSHA)

SECTION 15 - REGULATORY INFORMATION

US FEDERAL

TSCA

CAS# 7732-18-5 is listed on the TSCA inventory.

CAS# 67-63-0 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 67-63-0: Effective 12/15/86, Sunset 12/15/96

Chemical Test Rules

CAS# 67-63-0: 40 CFR 799.2325

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 67-63-0: immediate, delayed, fire.

Section 313

This material contains Isopropyl alcohol (CAS# 67-63-0, 10%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 67-63-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XI

Risk Phrases:

R 10 Flammable.

R 36 Irritating to eyes.

R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 24/25 Avoid contact with skin and eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 7 Keep container tightly closed.

WGK (Water Danger/Protection)

CAS# 7732-18-5: No information available.

CAS# 67-63-0: 1

Canada - DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 67-63-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B, B3.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 67-63-0 is listed on the Canadian Ingredient Disclosure List.

SECTION 16 - OTHER INFORMATION

HMIS HAZARD RATINGS	HEALTH	2
	FLAMMABILITY	2
	REACTIVITY	0
	4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

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