

MATERIAL SAFETY DATA SHEET

Isopropyl Alcohol (2-propanol)

SECTION 1 . Product and Company Identification

Product Name and Synonym: Isopropyl Alcohol (2-propanol)
Product Code: I7600
Material Uses:
Manufacturer: Science Stuff
1104 Newport Ave
Austin, TX 78753
(512) 837-6020
Entry Date : 6/7/2013
Print Date: 6/10/2013
24 Hour Emergency Assistance : Chemtrec 800-424-9300
Canutec 613-996-6666

Health:	2
Flammability:	3
Reactivity:	0
Hazard Rating: Least Slight Moderate High Extreme 0 1 2 3 4 NA=Not Applicable NE=Not Established	

SECTION 2 HAZARD IDENTIFICATION

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

Physical state: Liquid (Colorless)

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview:

WARNING!

HARMFUL IF INHALED OR SWALLOWED
CAUSES SEVERE EYE IRRITATION
FLAMMABLE LIQUID AND VAPOR
VAPOR MAY CAUSE FLASH FIRE MAY BE HARMFUL IF ABSORBED THROUGH SKIN
MAY CAUSE SKIN IRRITATION
MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: RESPIRATORY TRACT, SKIN,
EYES, CENTRAL NERVOUS SYSTEM
ASPIRATION HAZARD

Keep away from heat, sparks and flame. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Avoid contact with skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry: Dermal contact. Eye contact. Inhalation. Ingestion

Potential acute health effects:

Inhalation: Toxic by inhalation. Vapors may cause drowsiness and dizziness
Ingestion: Toxic if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
Skin: May be harmful in contact with skin. May cause skin irritation.
Eyes: Severely irritating to eyes. Risk of serious damage to eyes.

Potential chronic health effects

Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.

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Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.
Target organs: May cause damage to the following organs: upper respiratory tract, skin, eyes, central nervous system (CNS).

Medical conditions aggravated by over-exposure: Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11).

SECTION 3 MIXTURE COMPONENTS

SARA 313	Component	CAS Number	Percent Comp.	Dimension	Exposure Limits
<input checked="" type="checkbox"/>	Isopropyl Alcohol (2-propanol)	CAS# 67-63-0	100%	V/V	OSHA TWA 400 ppm, STEL 500 ppm

Name	CAS number	% by weight
Isopropyl Alcohol	67-63-0	100

SECTION 4 FIRST AID MEASURES

Keep away from heat and ignition sources. Harmful if swallowed. Avoid breathing vapors. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: SKIN: Remove contaminated clothing. Wash exposed area with soap and water. If irritation persists, seek medical attention.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: Give several glasses of milk or water. Vomiting may occur spontaneously, but DO NOT INDUCE! Never give anything by mouth to an unconscious person.

Eye contact: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact: In case of contact flush contaminated skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

SECTION 5 FIRE FIGHTING MEASURES

Fire Extinguisher Type:	Water spray, dry chemical, carbon dioxide, alcohol foam
Fire / Explosion Hazards:	FLAMMABLE! Vapor air mixtures are explosive within flammable limits noted. Vapors may travel

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to distant ignition source and flash back.

Fire Fighting Procedure: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

Flammability of the product: Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Not suitable: Do not use water jet.

Special exposure hazards: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous thermal decomposition products: Decomposition products may include the following materials: carbon dioxide, carbon monoxide

Special protective equipment for firefighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special remarks on explosion hazards: Vapor may travel a considerable distance to source of ignition and flash back.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Eliminate Ignition Sources. Neutralize with: Soda lime, soda ash. Absorb with vermiculite or other inert material. Place in container.

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local

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regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container.

SECTION 7 HANDLING AND STORAGE

Keep away from heat and flame. Do not get in eyes, on skin, on clothing. Use with adequate ventilation.

Handling: Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible mater, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical sparks, (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container, protected from direct sunlight. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: Organic Vapor Cartridge

Ventilation

Local Exhaust

Mechanical

Protective Gloves: NIOSH Approved Gloves

Eye Protection: Splash Goggles

Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

Product name - United States – Isopropyl Alcohol

Exposure limits

ACGIH TLV (United States, 1/2008)

TWA: 200 ppm 8 hour(s)

STEL: 400 ppm 15 minute(s)

OSHA PEL (1989 (United States, 3/1989)

TWA: 400 ppm 8 hour(s)

TWA: 980 mg/m3 8 hour(s)

STEL: 500 ppm 15 Minutes(s)

STEL: 1225 mg/m3 15 minute(s)

NIOSH REL (United States, 6/2008)

TWA: 400 ppm 10 hour(s)

TWA: 980 mg/m³ 10 hour(s)

STEL: 500 ppm 15 minute(s)

STEL: 1225 mg/m³ 15 minute(s)

OSHA PEL (United States, 11/2006)

TWA: 400 ppm 8 hour(s)

TWA: 980 mg/m³ 8 hour(s)

Consult local authorities for acceptable exposure limits.

Engineering measures: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protection

Eyes: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Recommended: face shield

Skin: Personal protective equipment for the body should be selected based on the task being performed and risks involved and should be approved by a specialist before handling this product.

Body recommended: full suit and gloves

Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Recommended: Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Vapor respirator or self-contained breathing apparatus (SCBA).

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Recommended: neoprene

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

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Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Melting Point:	-89°C	Percent Volatile by Volume:	>99
Boiling Point:	82°C	Evaporation Rate	1.7
Vapor Pressure:	33 @ 25°C	Evaporation Standard	Butylacetate =1
Vapor Density:	2.1 (air=1)	Auto Ignition Temp	399°C
Solubility in Water:	Soluble	Lower Flamm. Limit in Air	2.0%
Appearance /Odors:	Clear, colorless liquid with mild odor	Upper Flamm. Limit in Air	12.0%
Flash Point:	12°C closed up		
Specific Gravity:	~0.785		

SECTION 10 STABILITY AND REACTIVITY INFORMATION

Stability:	Stable
Conditions to Avoid:	Avoid heat and ignition sources
Materials to Avoid:	Strong oxidizers, metals, strong bases, amines
Hazardous Decomposition Products:	Carbon Oxides
Hazardous polymerization:	Will Not Occur

Conditions to Avoid: None known

Conditions of reactivity: Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and oxidizing materials. Vapor may travel a considerable distance to source of ignition and flash back.

Highly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and oxidizing materials.

SECTION 11 Toxicological Information

Toxicity data

United States

Product/ingredient name – Isopropyl Alcohol

Test	Result	Route	Species
LD50	12800 mg/kg	Dermal	Rabbit
LD50	2735 mg/kg	Dermal	Rat
Intraperitoneal			
LD50	1088 mg/kg	Intravenous	Rat
LD50	5045 mg/kg	Oral	Rat
LD50	5000 mg/kg	Oral	Rat
LD50	6410 mg/kg	Oral	Rabbit
LDLo	1537 mg/kg	Oral	Dog
LDLo	3570 mg/kg	Oral	Human

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LDLo	5272 mg/kg	Oral	Man
TDL0	800 mg/kg	Oral	Rat
Intraperitoneal			
LC50	16000 ppm	Inhalation Gas	Rat

Carcinogenicity Classification

Product/ingredient name: Isopropyl Alcohol

ACGIH: A4

IARC: 3

EPA: -

NIOSH: -

NTP: -

OSHA: -

Specific effects

Carcinogenic effects: No known significant effects or critical hazards

Mutagenic effects: No known significant effects or critical hazards

Teratogenicity/Reproductive toxicity: No known significant effects or critical hazards

SECTION 12 Ecological Information

Ecotoxicity data - United States

Product/ingredient name: Isopropyl Alcohol

Result	Species	Exposure
Acute EC50 10000 mg/L	Fish	48 hours
Acute LC50 10400 mg/L	Fish	96 hours
Acute LC50 11130 mg/L	Fish	96 hours
Acute LC50 9640 mg/L	Fish	96 hours
Acute LC50 6550 mg/L	Fish	96 hours
Acute LC50 <1400 mg/L	Fish	96 hours

Result: Acute LC50<1400000 ug/L

Species: Fish – Western mosquitofish–Gambusia affinis – 20 to 30 mm

Exposure: 96 hours

Result: Acute LC50 1400000 to 1950000ug/L Marine water

Species: Crustaceans – Common shrimp, sand shrimp – Crangon crangon

Exposure: 48 hours

Result: Acute LC50 11130000ug/L Fresh water

Species: Pimephales promelas – Juvenile (Fledgling, Hatchling, Weanling) 4 to 8 weeks
1.1 to 3.1 cm

Exposure: 96 hours

Result: Acute LC50 10400000 to 1060000000 ug/L Fresh water

Species: Fish – Fathead minnow-Pimephales promelas 29 days – 20 mm-0.103 g

Exposure: 96 hours

Result: Acute LC 50 6550000to 7450000 ug/L

Species: Fish – Fathead minnow – Pimephales promelas – 31 days – 17.4 mm – 0.082 g

Exposure: 96 hours

Result: Acute LC50 4200000 ug/L Fresh water

Species: Fish – Harlequinfish, red rasbora – Rasbora – heteromorpha – 1 to 3 cm

Exposure: 96 hours

Environmental effects: No known significant effects or critical hazards.

Other adverse effects: No known significant effects or critical hazards.

SECTION 13 Disposal Considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14 Transport Information

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DOT Classification: Isopropanol, 3, UN1219, PG II

DOT Regulations may change from time to time. Please consult the most recent D.O.T. regulations.

SECTION 15 Regulatory Information

-----\Chemical Inventory Status - Part 1\-----
 Ingredient TSCA EC Japan Australia

 Isopropyl Alcohol (67-63-0) Yes Yes Yes Yes
 Water (7732-18-5) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----
 --Canada--
 Ingredient Korea DSL NDSL Phil.

 Isopropyl Alcohol (67-63-0) Yes Yes No Yes
 Water (7732-18-5) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----
 -SARA 302- -----SARA 313-----
 Ingredient RQ TPQ List Chemical Catg.

 Isopropyl Alcohol (67-63-0) No No Yes No
 Water (7732-18-5) No No No No

-----\Federal, State & International Regulations - Part 2\-----
 -RCRA- -TSCA-
 Ingredient CERCLA 261.33 8(d)

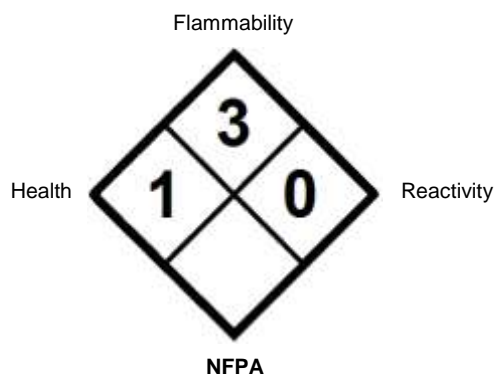
 Isopropyl Alcohol (67-63-0) No No No
 Water (7732-18-5) No No
 No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
Reactivity: No (Mixture / Liquid)

Australian Hazchem Code: 2[S]2
Poison Schedule: None allocated.
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

SECTION 16 Additional Information

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Revisions

1/13/2010	0.1	Change to 16 part MSDS blh
2/8/2011	0	Creation date LS

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