



MATERIAL SAFETY DATA SHEET

NFPA	HMIS	Personal Protective Equipment						
	<table border="1"> <tr> <td>Health Hazard</td> <td>2</td> </tr> <tr> <td>Fire Hazard</td> <td>3</td> </tr> <tr> <td>Reactivity</td> <td>0</td> </tr> </table>	Health Hazard	2	Fire Hazard	3	Reactivity	0	
Health Hazard	2							
Fire Hazard	3							
Reactivity	0							
See Section 8.								

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product code:	I1258
Product Name:	ISOPROPYL ALCOHOL, 10 PERCENT
Chemical Name:	No information available
Synonyms:	2-Propanol, 10% Isopropanol, 10% Alcool isopropylique, 10% (French) Alcohol isopropilo (Spanish)
Recommended use:	No information available.
CAS #:	Mixture
Formula:	No information available
RTECS #	NT8050000 (Isopropyl alcohol) ZC0110000 (Water)
CI#:	Not available
Supplier:	Spectrum Chemicals and Laboratory Products, Inc. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000
Emergency Telephone Number:	CHEMTREC: 1-800-424-9300
Contact Person:	Martin LaBenz (West Coast)
Contact Person:	Chris Terpak (East Coast)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! FLAMMABLE. Can burn with an invisible flame. WARNING! IRRITANT. Irritating to eyes. May cause skin irritation.

Odor:
Pleasant. Odor resembling that of a mixture of ethanol and acetone.

Physical state:
Liquid.

Appearance:
No information available

Color:
Clear. Colorless.

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Principal Routes of Exposure:

Ingestion. Skin. Eyes. Inhalation.

Acute Potential Health Effects:**Skin Contact:**

May cause skin irritation. It may be absorbed through the skin. If absorbed through skin it may cause systemic effects.

Eye Contact:

Causes eye irritation.

Inhalation:

May cause irritation of respiratory tract. May affect respiration. Inhalation of vapors may cause dizziness or suffocation. May affect the nervous system. May cause central nervous system effects. It may affect the brain. May cause cardiovascular effects. It may affect the blood. May affect the urinary system. May affect the liver.

Ingestion:

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhoea. May cause abdominal pain. May cause central nervous system effects. May affect respiration. It may affect the kidneys. May affect the cardiovascular system. May affect the liver.

Chronic Potential Health Effects:**Component**

Water
7732-18-5 (100)
Isopropyl Alcohol
67-63-0 (100)

Carcinogen Status:

No information available

Group 3 - Not classifiable as to its carcinogenicity to humans by IARC; A4 - Not classifiable as a Human Carcinogen by ACGIH

Target Organs:

Skin. Central nervous system. Nervous system. Liver. Kidneys.

Teratogenic Effects:

Causes birth defects (teratogenic effects)

Mutagenic Effects:

May affect genetic material
Experiments with bacteria and/or yeast have shown mutagenic effects

Aggravated Medical Conditions: No information available

See Section 11 for additional Toxicological Information

POTENTIAL ENVIRONMENTAL EFFECTS

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Water	7732-18-5	100
Isopropyl Alcohol	67-63-0	100

4. FIRST AID MEASURES

General Advice:	Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126).
Skin Contact:	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops.
Eye Contact:	Flush eye with water for 15 minutes. Get medical attention.
Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.
Notes to Physician:	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties

Flashpoint (°C/°F):	36-37 °C/96.8-98.6°F
Tested according to: Closed cup	
Lower Explosion Limit (%):	2% (Isopropyl alcohol)
Upper Explosion Limit (%):	12.7% (Isopropyl alcohol)
Autoignition Temperature (°C/°F):	399 °C/750.2 °F (Isopropyl alcohol)

Suitable Extinguishing Media:	Carbon dioxide (CO ₂). Dry chemical. Alcohol-resistant foam. Water spray.
Unsuitable Extinguishing Media:	Do not use a solid (straight) water stream as it may scatter and spread fire.
Hazardous Combustion Products:	Carbon monoxide; Carbon dioxide
Specific hazards:	Flammable. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. Material can burn with invisible flame. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Fire may produce irritating, corrosive and/or toxic gases.
Special Protective Equipment for Firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
Specific Methods:	Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for Cleaning Up:

Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Storage

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Products:

Oxidizing agents. Acids. Bases. isocyanates. Amines. Ammonia. Halogenated compounds. Halogens. Chlorine. Phosgene. Ethylene oxide. Acetaldehyde. chromium trioxide . Potassium t-butoxide. Aluminum. Oleum.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Personal Protective Equipment

Eye protection: Goggles. Safety glasses with side-shields.

Skin and body protection: Chemical resistant apron. Long sleeved clothing. Gloves.

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke.
Wash hands before breaks and immediately after handling the product.

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Water - 7732-18-5	None	None	None	None
Isopropyl Alcohol - 67-63-0	400 ppm TWA 980 mg/m ³ TWA	400 ppm TWA 980 mg/m ³ TWA 500 ppm STEL 1225 mg/m ³ STEL	400 ppm STEL 200 ppm TWA	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Water 7732-18-5	None	None	None	None
Isopropyl Alcohol 67-63-0	200 ppm TWA 492 mg/m ³ TWA 400 ppm STEL 984 mg/m ³ STEL	200 ppm TWA 400 ppm STEL	200 ppm TWA	400 ppm TWAEV 985 mg/m ³ TWAEV

Australia and Mexico

Components	Australia	Mexico
Water 7732-18-5	None	None
Isopropyl Alcohol 67-63-0	500 ppm STEL 1230 mg/m ³ STEL 400 ppm TWA 983 mg/m ³ TWA	400 ppm TWA 980 mg/m ³ TWA 500 ppm STEL 1225 mg/m ³ STEL

9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical state: Liquid.	Appearance: No information available	Color: Clear. Colorless.
Odor: Pleasant. Odor resembling that of a mixture of ethanol and acetone.	Taste No information available	Molecular/Formula weight: No information available
Flash point (°C): 36	Lower Explosion Limit (%): 2% (Isopropyl alcohol)	Upper Explosion Limit (%): 12.7% (Isopropyl alcohol)
Autoignition Temperature (°C/°F): 399 °C/750.2 °F (Isopropyl alcohol)	pH: No information available	Boiling point/range(°C/°F): 78.3 °C/173 °F
Melting point/range(°C/°F): No information available	Decomposition temperature(°C/°F): No information available	Specific gravity: 0.9829-0.9840
Density (g/cm3): No information available	Bulk density: No information available	Vapor pressure @ 20°C (kPa): No information available
Vapor density: No information available	Evaporation rate: No information available	VOC content (g/L): 78.5
Odor threshold (ppm): 22 ppm (Isopropyl Alcohol)	Partition coefficient (n-octanol/water): No information available	Miscibility: Miscible with water Miscible with alcohol
Solubility: Completely soluble		

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions
Conditions to avoid:	Heat. Ignition sources. Incompatible materials.
Materials to avoid:	Oxidising agents. Chromium trioxide. Potassium t-butoxide. isocyanates. Bases. Acids. Aluminum. Amines. Ammonia. Halogens. Halogenated compounds. Chlorine. Phosgene. Ethylene oxide. Acetaldehyde. Oleum.
Hazardous decomposition products:	Carbon monoxide. Carbon dioxide. When heated to decomposition it emits acid smoke and irritating fumes.
Possibility of Hazardous Reactions:	It can react vigorously, violently or explosively with oxidizers Contact with strong oxidizers may cause fire Vigorous reaction when mixed with sodium dichromate + sulfuric acid Explosive reaction can occur when it is mixed with nitroform Contact with potassium-tert-butoxide can cause ignition It forms explosive mixtures with trinitromethane, hydrogen peroxide, barium perchlorate Hydrogen peroxide sharply reduces the autoignition temperature of isopropyl alcohol After a delay, isopropyl alcohol ignites on contact with dioxgenyl tetrafluoroborate, chromium trioxide, potassium tert-butoxide It reacts violently with hydrogen-palladium combination, oleum, aluminum triisopropoxide, COCl ₂ In the presence of iron salts, thermal decomposition can occur, which in some cases can become explosive
Polymerization:	Hazardous polymerisation does not occur

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Water - 7732-18-5

LD50/oral/rat = > 90 mL/kg Oral LD50 Rat

LD50/oral/mouse = No information available

LD50/dermal/rabbit = No information available

LD50/dermal/rat = No information available

LC50/inhalation/rat = No information available

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information =

No information available

Isopropyl Alcohol - 67-63-0

LD50/oral/rat = 4396 mg/kg Oral LD50 Rat

LD50/oral/mouse = No information available

LD50/dermal/rabbit = 12870 mg/kg Dermal LD50 Rabbit

LD50/dermal/rat = 12800 mg/kg Dermal LD50 Rat

LC50/inhalation/rat = 72.6 mg/L Inhalation LC50 Rat 4 h

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information =

No information available

Product Information

LC50/inhalation/rat = No information available

LC50/inhalation/mouse = No information available

LD50/dermal/rabbit = No information available

LD50/dermal/rat = No information available

LD50/oral/rat = No information available

LD50/oral/mouse = No information available

Local Effects

Skin irritation: May cause skin irritation. Mild skin irritation.

Eye irritation: Causes eye irritation. Moderate eye irritation.

Inhalation: May cause irritation of respiratory tract. It may affect the cardiovascular system (change in pulse rate). May affect respiration (respiratory depression). Inhalation of high concentrations of vapor may cause anesthetic effects. Inhalation of high concentrations of vapors may cause dizziness or suffocation. May affect behavior/central nervous system (dizziness, loss of coordination, coma). May affect behavior/central nervous system (headache, fatigue, lack of concentration, reduced memory, hallucinations, stupor, unconsciousness). May affect behavior/central nervous system (somnolence).

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May cause abdominal pain. May affect the cardiovascular system (change in heart rate). May affect cardiovascular system (hypotension, cardiac arrhythmias). May affect respiration (dyspnea, respiratory depression). May affect urinary system (kidneys). May affect peripheral nervous system (peripheral nerve and sensation - spastic paralysis with or without sensory change). It may affect behavior/central nervous system (central nervous system depression, ataxia, general anesthetic). May affect behavior/central nervous system (dizziness, headache). May affect behavior/central nervous system (somnolence). May affect behavior central nervous system (irritability, hallucinations, coma).

Sensitization: No information available

Chronic Toxicity

Chronic Toxicity Prolonged or repeated skin contact may cause dermatitis and defatting, dryness, and cracking of the skin. Chronic exposure may cause central nervous system effects. Prolonged or repeated inhalation may affect the peripheral nervous system (weakness, paresthesia - a tingling, pricking, or numbness of the skin (known as the feeling of "pins and needles) generally of the hands and feet (extremities)). Prolonged or repeated ingestion may affect the liver. Prolonged or repeated inhalation may affect the liver. Prolonged or repeated inhalation may affect the kidneys. Prolonged or repeated inhalation may affect the brain. Prolonged or repeated inhalation may affect the blood (changes in serum composition, pigmented or nucleated red blood cells).

Carcinogenic effects: Not classifiable as a human carcinogen. Not classifiable as to its carcinogenicity to humans.

Components	NTP	IARC	OSHA HCS - Carcinogens	ACGIH - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Water	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Isopropyl Alcohol	Not listed	Group 3 - Monograph 71 [1999] Supplement 7 [1987] Monograph 15 [1977]	Not listed	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed

Mutagenic Effects: May affect genetic material
Experiments with bacteria and/or yeast have shown mutagenic effects

Reproductive Effects: No information available

Teratogenic Effects: Causes birth defects (teratogenic effects).

Target Organs: Skin. Central nervous system. Nervous system. Liver. Kidneys.

12. ECOLOGICAL INFORMATION

ECOTOXICITY

Toxicity to terrestrial and aquatic plants and animals: Information given is based on data on the components and the ecotoxicology of similar products

Ecotoxicity effects: Aquatic environment.

Aquatic toxicity:*Isopropyl Alcohol - 67-63-0*

Freshwater Algae Data:	1000 mg/L EC50 Desmodesmus subspicatus 72 h 1000 mg/L EC50 Desmodesmus subspicatus 96 h
Freshwater Fish Species Data:	11130 mg/L LC50 Pimephales promelas 96 h static 1 9640 mg/L LC50 Pimephales promelas 96 h flow-through 1 1400000 µg/L LC50 Lepomis macrochirus 96 h 1
Water Flea Data:	13299 mg/L EC50 Daphnia magna 48 h
Mobility:	No information available
Persistence and degradability:	No information available
Bioaccumulative potential:	No information available

13. DISPOSAL CONSIDERATIONS**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Water	None	None	None	None
Isopropyl Alcohol	None	None	None	None

14. TRANSPORT INFORMATION**DOT**

UN-No:	UN1993
Proper Shipping Name:	Flammable liquids, n.o.s. (Isopropyl alcohol, solution)
Hazard Class:	3
Packing Group:	III
Subsidiary Risk:	Not applicable
Marine Pollutant	No data available
ERG No:	128
DOT RQ (lbs):	No information available
Symbol(s):	G

TDG (Canada)

UN-No:	UN1993
Proper Shipping Name:	Flammable liquid, n.o.s. (Isopropyl alcohol, solution)
Hazard Class:	3
Packing Group:	III
Subsidiary Risk:	No information available
Description:	No information available

ADR

UN-No:	UN1993
Proper Shipping Name:	Flammable liquid, n.o.s. (Isopropyl alcohol, solution)
Hazard Class:	3
Packing Group:	III
Subsidiary Risk:	No information available
Classification Code:	No information available
Description:	No information available

CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN1993
Proper Shipping Name: Flammable liquid, n.o.s. (Isopropyl alcohol, solution)
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: III
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
EMS: F-E
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: UN1993
Proper Shipping Name: Flammable liquid, n.o.s. (Isopropyl alcohol, solution)
Hazard Class: 3
Packing Group: III
Subsidiary Risk: 3
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN1993
Proper Shipping Name: Flammable liquid, n.o.s. (Isopropyl alcohol, solution)
Hazard Class: 3
Packing Group: III
Subsidiary Risk: No information available
Description: No information available

IATA

UN-No: UN1993
Proper Shipping Name: Flammable liquid, n.o.s. (Isopropyl alcohol, solution)
Hazard Class: 3
Packing Group: III
Subsidiary Risk: No information available
ERG Code: 3L
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	Philippines (PICCS)	KOREA KECL	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Water	Present	Present	KE-35400	Not present	Present	Present	231-791-2
Isopropyl Alcohol	Present	Present	KE-29363	2-207	Present	Present	200-661-7

U.S. Regulations

Isopropyl Alcohol

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: Present
New Jersey (EHS) List: Present
New Jersey - Discharge Prevention - List of Hazardous Substances Present
Pennsylvania RTK: Environmental hazard

Isopropyl Alcohol

Pennsylvania RTK - Environmental Hazard List Present
RI RTK - Hazardous Substances List: Present
Minnesota - Hazardous Substance List: Present
California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Water	Not Listed	Not Listed	Not Listed	Not Listed
Isopropyl Alcohol	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Water	None	None	None	None	None
Isopropyl Alcohol	None	None	None	None	1.0 % de minimis concentration

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Water	Not Applicable	Not Applicable
Isopropyl Alcohol	Not Applicable	12/15/1986 12/15/1996

Canada

WHMIS hazard class:

B2 Flammable liquid
D2B Toxic materials

Water

Uncontrolled product according to WHMIS classification criteria

Isopropyl Alcohol

B2 D2B including 70%

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Isopropyl Alcohol	1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Water	Present	Not Listed
Isopropyl Alcohol	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Water	Not listed	Not listed
Isopropyl Alcohol	Not listed	Not listed

EU Classification

R -phrase(s)

R10 - Flammable.

R36 - Irritating to eyes.

S -phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Components	Classification	Safety Phrases
Isopropyl Alcohol	F; R11 Xi; R36 R67	S2 S7 S16 S24/25 S26

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xi - Irritant.

Xi



16. OTHER INFORMATION

The MSDS format complies with ANSI Z400.1-2004 standards.

Preparation Date 17-Aug-2011

Reason for revision: Not applicable

Prepared by: Sonia Owen

Literature reference: No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.