Isopropyl Alcohol 70% (BDH1131-1LP, BDH1131-4LP, BDH1131-5GL, BDH1131-204L)

Version 1 | Revision Date 03/27/2009 | Print Date 01/07/2011

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Isopropyl Alcohol 70% (BDH1131-1LP, BDH1131-4LP, BDH1131-5GL, BDH1131-204L)
MSDS Number	:	000000011699
Product Use Description	:	Solvent
Manufacturer	:	Honeywell 1953 South Harvey Street Muskegon, MI 49442
Manufactured for	:	VWR International LLC 1310 Goshen Parkway West Chester, PA 19380
For more information call	:	(Monday-Friday,8.00am-5:00pm) 1-800-932-5000
In case of emergency call	:	(24 hours/day, 7 days/week) 1-800-424-9300(USA Only) **For Transportation Emergencies:** 1-800-424-9300 (CHEMTREC - Domestic) 1-613-966-6666 (CANUTEC - Canada)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Form	:	liquid, clear
Color	:	colourless
Odor	:	slight alcoholic
Hazard Summary	:	Flammable. In use, may form flammable/explosive vapour-air mixture. May be harmful if swallowed. Irritating to eyes. May cause skin irritation. May cause respiratory tract irritation. May cause irritation of the gastrointestinal tract. Can be absorbed through skin. Repeated exposure may cause skin dryness or cracking.

Potential Health Effects

Skin	:	May irritate skin.

May cause systemic poisoning with symptoms paralleling those of inhalation.
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

Eyes	:	Irritating to eyes. Causes itching, burning, redness and tearing. May cause irreversible eye damage.
Ingestion	:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May cause systemic poisoning with symptoms paralleling those of inhalation.
Inhalation	:	May cause respiratory tract irritation. Causes headache, drowsiness or other effects to the central nervous system. Vapours may cause drowsiness and dizziness. Inhalation of high vapour concentrations can cause CNS-depression and narcosis.
Chronic Exposure	:	Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering. Repeated or prolonged exposure to the substance can produce liver damage. Repeated or prolonged exposure to the substance can produce kidney damage.
Aggravated Medical Condition	:	Cardiac irregularities Liver disorders Kidney disorders Neurological disorders Respiratory disorders Skin disorders
Target Organs	:	Eyes Central nervous system Gastrointestinal tract Heart Skin Respiratory system Kidney Liver

Carcinogenicity

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No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Weight %
Propan-2-ol	67-63-0	70.00
Water	7732-18-5	30.00

SECTION 4. FIRST AID MEASURES

Inhalation : Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.

Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician if irritation develops or persists.

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician.

Ingestion : Do not induce vomiting without medical advice. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Call a physician.

Notes to physician

Treatment : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Flash point : 11.7 °C (53.1 °F)
closed cup

Ignition temperature : 399 °C (750 °F)

Lower explosion limit : 2.0 %(V)

Upper explosion limit : 12.0 %(V)

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical Cool closed containers exposed to fire with water spray.
Extinguishing media which shall not be used for safety reasons	:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during fire fighting	:	Flammable. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO2)
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Wear personal protective equipment. Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Remove all sources of ignition. Do not swallow. Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Methods for cleaning up	:	Ventilate the area. No sparking tools should be used. Use explosion-proof equipment. Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

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SECTION 7. HANDLING AND STORAGE

Handling

Handling	:	Wear personal protective equipment. Use only in well-ventilated areas. Keep container tightly closed. Do not smoke. Do not swallow. Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing.
Advice on protection against fire and explosion	:	Keep away from fire, sparks and heated surfaces. Take precautionary measures against static discharges. Ensure all equipment is electrically grounded before beginning transfer operations. Use explosion-proof equipment. Keep product and empty container away from heat and sources of ignition. No sparking tools should be used. No smoking.

Storage

Requirements for storage areas and containers	:	Store in area designed for storage of flammable liquids. Protect from physical damage. Keep containers tightly closed in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from heat and sources of ignition. Keep away from direct sunlight. Store away from incompatible substances. Container hazardous when empty. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures	:	Ensure that eyewash stations and safety showers are close to the workstation location.

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Engineering measures	:	Use with local exhaust ventilation. Prevent vapor buildup by providing adequate ventilation during and after use.
Eye protection	:	Do not wear contact lenses. Wear as appropriate: Safety glasses with side-shields If splashes are likely to occur, wear: Goggles or face shield, giving complete protection to eyes
Hand protection	:	Solvent-resistant gloves Gloves must be inspected prior to use. Replace when worn.
Skin and body protection	:	Wear as appropriate: Solvent-resistant apron Flame retardant antistatic protective clothing If splashes are likely to occur, wear: Protective suit
Respiratory protection	:	In case of insufficient ventilation wear suitable respiratory equipment. For rescue and maintenance work in storage tanks use self-contained breathing apparatus. Use NIOSH approved respiratory protection.
Hygiene measures	:	When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Keep working clothes separately. Remove and wash contaminated clothing before re-use. Do not swallow. Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing.

Exposure Guidelines

Isopropanol	67-63-0	NIOSH	REL	400 ppm	980 mg/m3
		NIOSH	STEL	500 ppm	1,225 mg/m3
		OSHA Z1	PEL	400 ppm	980 mg/m3
		OSHA Z1A	TWA	400 ppm	980 mg/m3
		OSHA Z1A	STEL	500 ppm	1,225 mg/m3
		US CA OEL	TWA PEL	400 ppm	980 mg/m3

US CA OEL	STEL	500 ppm	1,225 mg/m3
ACGIH	TWA		200 ppm
ACGIH	STEL		400 ppm

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	liquid, clear
Color	:	colourless
Odor	:	slight alcoholic
Molecular Weight	:	60.11 g/mol
pH	:	not applicable
Freezing point	:	-62.1 °C (-79.8 °F)
Boiling point/boiling range	:	87.7 °C (189.9 °F)
Vapor pressure	:	no data available
Relative vapour density	:	2.1 (Air = 1.0)
Density	:	0.785 g/cm3 at 25 °C (77 °F)The information regarding the density is that of the pure substance.
Water solubility	:	completely soluble

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	:	Heat, flames and sparks. Keep away from direct sunlight.
Materials to avoid	:	Strong acids Strong oxidizing agents Keep away from metals. Acetaldehyde

Aluminium
Chlorine
Ethylene oxide
Isocyanates
Oxygen
May attack many plastics, rubbers and coatings.

Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO_2)

Hazardous reactions : Hazardous polymerisation does not occur.
Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50 rat
Dose: 5,045 mg/kg
Test substance: Isopropanol

Acute dermal toxicity : LD50 rabbit
Dose: 12,800 mg/kg
Test substance: Isopropanol

Acute inhalation toxicity : LC50 rat
Dose: 16000 ppm
Exposure time: 8 h
Test substance: Isopropanol

Skin irritation : rabbit
Mild skin irritation
Test substance:Isopropanol

Eye irritation : rabbit
Test substance: Isopropanol
Severe eye irritation

SECTION 12. ECOLOGICAL INFORMATION

Biodegradability : Biochemical Oxygen Demand (BOD) Biochemical oxygen demand within 5 days

Biodegradation: 58 %
Test substance: Isopropanol

Toxicity to fish : LC50
Species: goldfish
Dose: > 5 g/l
Exposure time: 24 h
Test substance: Isopropanol

Toxicity to fish : LC50
Species: Leuciscus idus (Golden orfe)
Dose: 8,970 mg/l
Exposure time: 48 h
Test substance: Isopropanol

Toxicity to fish : LC50
Species: Pimephales promelas (fathead minnow)
Dose: 10,400 mg/l
Exposure time: 96 h
Test substance: Isopropanol

Toxicity to daphnia and other aquatic invertebrates. : EC50
Species: Daphnia magna (Water flea)
Dose: > 100 mg/l
Exposure time: 48 h
Test substance: Isopropanol

Toxicity to algae : LC50
Species: Scenedesmus subspicatus
Dose: > 2,000 mg/l
Exposure time: 72 h
Test substance: Isopropanol

Toxicity to bacteria : EC50
Species: Photobacterium phosphoreum
Dose: 35,390 mg/l
Exposure time: 5 min
Test substance: Isopropanol

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Information: Observe all Federal, State, and Local Environmental regulations.

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SECTION 14. TRANSPORT INFORMATION

DOT

UN-Number	: 1219
Proper shipping name	: Isopropanol Solution
Class	3
Packing group	II
Hazard Label	3

IATA

UN Number	: 1219
Description of the goods	: Isopropanol Solution
Class	: 3
Packaging group	: II
Hazard Label	: 3
Packing instruction (cargo aircraft)	: 307
Packing instruction (passenger aircraft)	: 305
Packing instruction (passenger aircraft)	: Y305

IMDG

Substance No.	: UN 1219
Description of the goods	: Isopropanol Solution
Class	: 3
Packaging group	: II
Hazard Label	: 3
EmS Number	: F-E
Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION

Inventories

EU. EINECS	: On the inventory, or in compliance with the inventory
US. Toxic Substances Control Act	: On TSCA Inventory
Australia. Industrial Chemical (Notification and Assessment) Act	: On the inventory, or in compliance with the inventory
Canada. Canadian Environmental Protection	: All components of this product are on the Canadian DSL list.

Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)		
Japan. Kashin-Hou Law List	:	On the inventory, or in compliance with the inventory
Korea. Toxic Chemical Control Law (TCCL) List	:	On the inventory, or in compliance with the inventory
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	:	On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances	:	On the inventory, or in compliance with the inventory
CH INV - Switzerland	:	On the inventory, or in compliance with the inventory
NZIOC - New Zealand	:	On the inventory, or in compliance with the inventory

National regulatory information

SARA 313 Components	:	Isopropanol	67-63-0
SARA 311/312 Hazards	:	Fire Hazard Acute Health Hazard Chronic Health Hazard	
California Prop. 65	:	This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.	

Massachusetts RTK	:	Isopropanol	67-63-0
New Jersey RTK	:	Isopropanol	67-63-0
Pennsylvania RTK	:	Isopropanol	67-63-0

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WHMIS Classification : B2
D2B
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16. OTHER INFORMATION

		HMIS III	NFPA
Health Hazard	:	2*	1
Flammability	:	3	3
Physical Hazard	:	0	
Instability	:		0

Further information

* - Chronic health hazard