

Isopropyl Alcohol (323, 324)

Version 1

Revision Date 04/18/2011

Print Date 11/22/2011

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Isopropyl Alcohol (323, 324)
MSDS Number : 000000011380
Product Use Description : Solvent

Company : Honeywell International, Inc.
101 Columbia Road
Morristown, NJ 07962-1057

For more information call : 1-800-368-0050
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : Medical: 1-800-498-5701 or +1-651-523-0309
: **Transportation: 1-800-424-9300 or +1-703-527-3887**
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid, clear

Color : colourless

Odor : slight alcohol-like

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.

Isopropyl Alcohol (323, 324)

Version 1

Revision Date 04/18/2011

Print Date 11/22/2011

- 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

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

Chemical nature : Substance

Chemical Name	CAS-No.	Concentration

Isopropyl Alcohol (323, 324)

Version 1

Revision Date 04/18/2011

Print Date 11/22/2011

Isopropanol

67-63-0

100.00%

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 : 12 °C (54 °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 : Flammable.

Isopropyl Alcohol (323, 324)

Version 1

Revision Date 04/18/2011

Print Date 11/22/2011

fighting

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.
Prevent product from entering drains.
Discharge into the environment must be avoided.
Do not flush into surface water or sanitary sewer system.
Do not allow run-off from fire fighting to enter drains or water courses.

Methods for cleaning up : Ventilate the area.
No sparking tools should be used.
Use explosion-proof equipment.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

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.

Isopropyl Alcohol (323, 324)

Version 1

Revision Date 04/18/2011

Print Date 11/22/2011

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.

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.

Isopropyl Alcohol (323, 324)

Version 1

Revision Date 04/18/2011

Print Date 11/22/2011

- 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	ACGIH	STEL	400 ppm	
		ACGIH	TWA	200 ppm	
		NIOSH	STEL	500 ppm	1,225 mg/m ³
		NIOSH	REL	400 ppm	980 mg/m ³
		OSHA Z1	PEL	400 ppm	980 mg/m ³
		OSHA Z1A	STEL	500 ppm	1,225 mg/m ³
		OSHA Z1A	TWA	400 ppm	980 mg/m ³

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Form : liquid, clear
- Color : colourless
- Odor : slight alcohol-like
- Molecular Weight : 60.11 g/mol

Isopropyl Alcohol (323, 324)

Version 1

Revision Date 04/18/2011

Print Date 11/22/2011

pH	: not applicable
Melting point/range	: -88 °C (-126 °F)
Boiling point/boiling range	: 82.3 °C (180.1 °F)
Vapor pressure	: 44 hPa at 20 °C (68 °F)
Relative vapour density	: 2.1 (Air = 1.0)
Density	: 0.785 g/cm ³ at 20 °C (68 °F)
Water solubility	: completely soluble
Viscosity, dynamic	: 2.1 mPa.s at 25 °C (77 °F)

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.

Isopropyl Alcohol (323, 324)

Version 1

Revision Date 04/18/2011

Print Date 11/22/2011

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	: LD50: 5,045 mg/kg Species: rat
Acute inhalation toxicity	: LC50: 16000 ppm Exposure time: 8 h Species: rat
Acute dermal toxicity	: LD50: 12,800 mg/kg Species: rabbit
Skin irritation	: Species: rabbit Result: slight irritation
Eye irritation	: Species: rabbit Result: Severe eye irritation

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity effects**

Toxicity to fish	: LC50: > 5 g/l Exposure time: 24 h Species: Carassius auratus (goldfish)
	: LC50: 8,970 mg/l Exposure time: 48 h Species: Leuciscus idus (Golden orfe)
	: LC50: 10,400 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates.	: EC50: > 100 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)

Isopropyl Alcohol (323, 324)

Version 1

Revision Date 04/18/2011

Print Date 11/22/2011

Toxicity to algae : LC50: > 2,000 mg/l
 Exposure time: 72 h
 Species: Desmodesmus subspicatus (green algae)

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

Elimination information (persistence and degradability)

Biodegradability : Biochemical Oxygen Demand (BOD)
 Biochemical oxygen demand within 5 days
 Value: 58 %

Further information on ecology

Additional ecological information : Accumulation in aquatic organisms is unlikely.

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

DOT UN/ID No. : UN 1219
 Proper shipping name : ISOPROPANOL
 Class : 3
 Packing group : II
 Hazard Labels : 3

IATA UN/ID No. : UN 1219
 Description of the goods : ISOPROPANOL
 Class : 3
 Packaging group : II
 Hazard Labels : 3
 Packing instruction (cargo aircraft) : 364
 Packing instruction (passenger aircraft) : 353
 Packing instruction (passenger aircraft) : Y341

Isopropyl Alcohol (323, 324)

Version 1

Revision Date 04/18/2011

Print Date 11/22/2011

IMDG	UN/ID No.	: UN 1219
	Description of the goods	: ISOPROPANOL
	Class	: 3
	Packaging group	: II
	Hazard Labels	: 3
	EmS Number	: F-E
	Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION**Inventories**

1907/2006 (EU) : This mixture contains only ingredients which have been subject to a pre-registration according to Regulation (EC) No. 1907/2006 (REACH).

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 Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 144) : All components of this product are on the Canadian DSL list.

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI) : 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

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : On the inventory, or in compliance with the inventory

Isopropyl Alcohol (323, 324)

Version 1

Revision Date 04/18/2011

Print Date 11/22/2011

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 defects, or any other reproductive harm.

Massachusetts RTK : Isopropanol 67-63-0

New Jersey RTK : Isopropanol 67-63-0

Pennsylvania RTK : Isopropanol 67-63-0

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

* - Chronic health hazard