

(11092)

# ASHLAND®

**SAFETY DATA SHEET**

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Revision Date: 02/27/2013  
Print Date: 4/23/2013  
MSDS Number: R0001444  
Version: 2.8

ISOPROPANOL 99%  
20286

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

Ashland	Regulatory Information Number	1-800-325-3751
P.O. Box 2219	Telephone	614-790-3333
Columbus, OH 43216	Emergency telephone number	1-800-ASHLAND (1-800-274-5263)

Product name	ISOPROPANOL 99%
Product code	20286

**APPROVED MATERIAL**

OCT 09 2013

MSDS # 11092

APPROVED BY [Signature]

**2. HAZARDS IDENTIFICATION**

Emergency Overview

Appearance: liquid, liquid, colourless

WARNING! FLAMMABLE LIQUID AND VAPOR. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY BE HARMFUL IF INHALED. MAY CAUSE EYE IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY THE SKIN AND CAUSE IRRITATION AND BURNS.

Potential Health Effects

**Exposure routes**

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

**Eye contact**

Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

**Skin contact**

May cause slight skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

**Ingestion**

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Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury. Exposure causes severe irritation of the gastrointestinal tract.

### Inhalation

Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

### Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Skin, lung (for example, asthma-like conditions), kidney

### Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), Lowered blood pressure, mild, temporary changes in the liver, effects on heart rate, respiratory depression (slowing of the breathing rate), Lack of coordination, confusion, lung edema (fluid buildup in the lung tissue), kidney damage, coma

### Target Organs

Exposure to this material (or a component) has been found to cause kidney damage in male rats. The mechanism by which this toxicity occurs is specific to the male rat and the kidney effects are not expected to occur in humans. Breathing isopropanol vapors has caused damage to the lining of the middle ear in experimental animals. The relevance of this finding to humans is uncertain. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: mild, reversible liver effects

### Carcinogenicity

This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

### Reproductive hazard

This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components	CAS-No. / Trade Secret No.	Concentration
ISOPROPANOL	67-63-0	<=100%

### 4. FIRST AID MEASURES

#### Eyes

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

#### Skin

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

#### Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

#### Inhalation

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen. If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

#### Notes to physician

**Hazards:** This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting. Administration of high doses of isopropanol in combination with known hepatotoxic chemicals resulted in enhanced liver toxicity in experimental animals.

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**Treatment:** No information available.

## 5. FIREFIGHTING MEASURES

### Suitable extinguishing media

Dry chemical, Alcohol-resistant foam, Carbon dioxide (CO<sub>2</sub>)

### Hazardous combustion products

carbon dioxide and carbon monoxide

### Precautions for fire-fighting

Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge or other ignition sources at locations near the material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Water may be ineffective for extinguishment unless used under favorable conditions by experienced fire fighters. Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

### NFPA Flammable and Combustible Liquids Classification

Flammable Liquid Class IB

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

For personal protection see section 8. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

### Environmental precautions

No data

### Methods for cleaning up

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Per good environmental management practices, prevent run-off to sewers, streams and other bodies of water. Stop spill at the source. Cover sewer grates and dike the spill. Absorb spilled material on to absorbents. Shovel materials into container. Close container tightly and dispose of properly. Absorb liquid on vermiculite, floor absorbent or other absorbent material.

## 7. HANDLING AND STORAGE

### Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

### Storage

Small quantities of peroxides may form on prolonged storage. Exposure to light and/or air significantly increases the rate of peroxide formation. If evaporated to a residue, the mixture of peroxides and isopropanol may explode when exposed to heat or shock.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

ISOPROPANOL		67-63-0
CAD BC OEL	time weighted average	200 ppm
CAD BC OEL	Short term exposure limit	400 ppm
OEL (QUE)	time weighted average	400 ppm
OEL (QUE)	time weighted average	983 mg/m3
OEL (QUE)	Short term exposure limit	500 ppm
OEL (QUE)	Short term exposure limit	1,230 mg/m3
CAD AB OEL	time weighted average	200 ppm
CAD AB OEL	time weighted average	492 mg/m3
CAD AB OEL	Short term exposure limit	400 ppm
CAD AB OEL	Short term exposure limit	984 mg/m3

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CAD MB OEL	time weighted average	200 ppm
CAD MB OEL	Short term exposure limit	400 ppm
CAD ON OEL	time weighted average	200 ppm
CAD ON OEL	Short term exposure limit	400 ppm

### General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

### Exposure controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

### Eye protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

### Skin and body protection

Wear resistant gloves such as:  
Nitrile rubber  
To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

### Respiratory protection

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH-approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	liquid
<b>Form</b>	liquid
<b>Colour</b>	colourless
<b>Odour</b>	pleasant
<b>Boiling point/boiling range</b>	180.5 °F / 82.5 °C @ 101.32 kPa
<b>Melting point/range</b>	-127.3 °F / -88.5 °C

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pH	not applicable
Flash point	54 °F / 12 °C Closed Cup
Evaporation rate	7.70 Ethyl Ether
Lower explosion limit/Upper explosion limit	2.5 %(V) / 2 %(V) / 12 %(V) 12.7 %(V)
Vapour pressure	6.052 kPa @ 77 °F / 25 °C
Relative vapour density	2.1 AIR=1
Density	0.785 g/cm <sup>3</sup> @ 68 °F / 20 °C 6.65 lb/gal @ 60.1 °F / 15.6 °C
Water solubility	soluble
log Pow	0.05
Auto-ignition temperature	750 °F / 399 °C
Viscosity, dynamic	2.4 mPa.s

### 10. STABILITY AND REACTIVITY

#### Stability

Stable.

#### Conditions to avoid

Heat, flames and sparks.

#### Incompatible products

Acids, Aldehydes, alkalis, Amines, Ethylene oxide, halogenated hydrocarbons, halogens, isocyanates, Strong acids, Strong oxidizing agents, Do not use with aluminum equipment at temperatures above 49C or 120 degrees F.

#### Hazardous decomposition products

carbon dioxide and carbon monoxide

#### Hazardous reactions

Product will not undergo hazardous polymerization.

### 11. TOXICOLOGICAL INFORMATION

#### Acute oral toxicity

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Acute oral toxicity - Product : LD 50: 5.84 g/kg Species: Rat

**Acute oral toxicity - Components**

ISOPROPANOL : LD 50: 5.84 g/kg Species: Rat

**Acute inhalation toxicity**

Acute inhalation toxicity - Product : LC 50: 16000 ppm Exposure time: 4 h Species: Rat

**Acute inhalation toxicity - Components**

ISOPROPANOL : LC 50: 16000 ppm Exposure time: 4 h Species: Rat

**Acute dermal toxicity**

Acute dermal toxicity - Product : no data available

**Acute toxicity (other routes of administration)**

Acute toxicity (other routes of administration) : no data available

## 12. ECOLOGICAL INFORMATION

**Biodegradability**

Biodegradability - Product : no data available

**Bioaccumulation**

Bioaccumulation - Product : no data available

**Ecotoxicity effects**

**Toxicity to fish**

Toxicity to fish - Product : no data available

**Toxicity to fish - Components**

ISOPROPANOL : LC 50: 5,770 - 7,450 mg/l



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Exposure time: 96 h  
Species: Fathead minnow (*Pimephales promelas*)  
Method: Flow through  
Remarks: Mortality

#### Toxicity to daphnia and other aquatic invertebrates

Toxicity to daphnia and other aquatic invertebrates : no data available  
- Product

#### Toxicity to daphnia and other aquatic invertebrates - Components

ISOPROPANOL : LC 50: > 10,000 mg/l  
Exposure time: 24 h  
Species: Water flea (*Daphnia magna*)  
Method: Static  
Test Type: static test  
Remarks: Mortality

#### Toxicity to algae

Toxicity to algae - Product : no data available

#### Toxicity to bacteria

Toxicity to bacteria - Product : no data available

### 13. DISPOSAL CONSIDERATIONS

#### Waste disposal methods

Dispose of in accordance with all applicable local, state and federal regulations.

### 14. TRANSPORT INFORMATION

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### REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
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#### U.S. DOT - ROAD

UN 1219	Isopropanol	3		II	
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#### U.S. DOT - RAIL

UN 1219	Isopropanol	3		II	
---------	-------------	---	--	----	--

#### U.S. DOT - INLAND WATERWAYS

UN 1219	Isopropanol	3		II	
---------	-------------	---	--	----	--

#### TRANSPORT CANADA - ROAD

UN 1219	ISOPROPANOL	3		II	
---------	-------------	---	--	----	--

#### TRANSPORT CANADA - RAIL

UN 1219	ISOPROPANOL	3		II	
---------	-------------	---	--	----	--

#### TRANSPORT CANADA - INLAND WATERWAYS

UN 1219	ISOPROPANOL	3		II	
---------	-------------	---	--	----	--

#### INTERNATIONAL MARITIME DANGEROUS GOODS

UN 1219	ISOPROPANOL	3		II	
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#### INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN 1219	Isopropanol	3		II	
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#### INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN 1219	Isopropanol	3		II	
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#### MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN 1219	ISOPROPANOL	3		II	
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\*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

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**15. REGULATORY INFORMATION**

**WHMIS Classification**

B2 Flammable liquid  
D2B Toxic Material Causing Other Toxic Effects

Listed.

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

**Canadian National Pollutant Release Inventory (NPRI)**

ISOPROPANOL

0.00

Listed. See the regulation for additional information. See the regulation for additional information.

**Notification status**

Australia. Industrial Chemical (Notification and Assessment) Act	y (positive listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	y (positive listing)
China. Inventory of Existing Chemical Substances	y (positive listing)
Japan. Kashin-Hou Law List	y (positive listing)
Japan. Industrial Safety & Health Law (ISHL) List	y (positive listing)
US. Toxic Substances Control Act	y (positive listing)
Korea. Toxic Chemical Control Law (TCCL) List	y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	y (positive listing)
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	y (positive listing)
Japan. Industrial Safety & Health Law (ISHL) List	y (positive listing)
EU. EINECS	y (positive listing)

	HMIS	NFPA
Health	1	--
Flammability	3	--

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Physical hazards	0	
Instability		--
Specific Hazard	--	--

### 16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).