

# SAFETY DATA SHEET



## Reagent Alcohol

### BDH1156

Version 1.4

Revision Date 03/19/2015

Print Date 05/08/2015

#### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Reagent Alcohol

MSDS Number : 000000011694

Product Use Description : Solvent

Manufactured for : VWR International LLC  
Radnor Corporate Center  
Building One  
Suite 200  
100 Matsonford Road  
Radnor PA 19087

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)  
1-613-996-6666 (CANUTEC - Canada)

#### SECTION 2. HAZARDS IDENTIFICATION

##### Emergency Overview

Form : liquid, clear

Color : colourless

Odor : mild alcohol-like

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**Classification of the substance or mixture**

Classification of the substance or mixture : Flammable liquids, Category 2  
Eye irritation, Category 2A  
Reproductive toxicity, Category 2  
Specific target organ toxicity - single exposure, Category 1,  
Eyes, Nervous system, Systemic toxicity

**GHS Label elements, including precautionary statements**

Symbol(s)



Signal word

: Danger

Hazard statements

: Highly flammable liquid and vapour.  
Causes serious eye irritation.  
Suspected of damaging fertility or the unborn child.  
Causes damage to organs.

Precautionary statements

: **Prevention:**  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
Wash skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves/ eye protection/ face protection.

**Response:**

IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

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IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
IF exposed: Call a POISON CENTER or doctor/ physician.  
If eye irritation persists: Get medical advice/ attention.  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

#### Storage:

Store in a well-ventilated place. Keep cool.  
Store locked up.

#### Disposal:

Dispose of contents/container in accordance with local, state & federal regulations.

#### Carcinogenicity

ACGIH: Ethanol 64-17-5  
A3: Confirmed animal carcinogen

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Chemical Name	CAS-No.	Concentration
Ethanol	64-17-5	90.00 %
Methanol	67-56-1	5.00 %
Isopropanol	67-63-0	5.00 %

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**SECTION 4. FIRST AID MEASURES**

- Inhalation : Call a physician immediately. 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.
- 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.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician.
- Ingestion : Call a physician immediately. Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person.

**Notes to physician**

- Treatment : Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Cool closed containers exposed to fire with water spray.
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during firefighting : 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.

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In case of fire hazardous decomposition products may be produced such as:  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)  
Formaldehyde

Special protective equipment : Wear self-contained breathing apparatus and protective suit.  
for firefighters

**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.  
Do not breathe vapours or spray mist.  
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, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**SECTION 7. HANDLING AND STORAGE****Handling**

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Handling : Wear personal protective equipment.  
Use only in well-ventilated areas.  
Keep container tightly closed.  
Do not smoke.  
Do not swallow.  
Do not breathe vapours or spray mist.  
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 vapour 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.  
Do not breathe vapours or spray mist.  
Avoid contact with skin, eyes and clothing.

**Exposure Guidelines**

Components	CAS-No.	Value	Control parameters	Update	Basis
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Ethanol	64-17-5	STEL : Short term exposure limit	(1,000 ppm)	2009	ACGIH:US. ACGIH Threshold Limit Values
Ethanol	64-17-5	REL : Recomm ended exposure limit (REL):	1,900 mg/m3 (1,000 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Ethanol	64-17-5	PEL : Permissi ble exposure limit	1,900 mg/m3 (1,000 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Ethanol	64-17-5	TWA : time weighted average	1,900 mg/m3 (1,000 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Methanol	67-56-1	TWA : time weighted average	(200 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
Methanol	67-56-1	STEL : Short term exposure limit	(250 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
Methanol	67-56-1	SKIN_DE S : Skin designati on:	Can be absorbed through the skin.	2008	ACGIH:US. ACGIH Threshold Limit Values



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Methanol	67-56-1	SKIN_DE S : Skin designati on:	Can be absorbed through the skin.	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Methanol	67-56-1	STEL : Short term exposure limit	325 mg/m3 (250 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Methanol	67-56-1	PEL : Permissi ble exposure limit	260 mg/m3 (200 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Methanol	67-56-1	TWA : time weighted average	260 mg/m3 (200 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Methanol	67-56-1	STEL : Short term exposure limit	325 mg/m3 (250 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

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Methanol	67-56-1	SKIN_FI NAL : Skin designati on (Final Rule Limit applies):	Can be absorbed through the skin.	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Isopropanol	67-63-0	TWA : time weighted average	(200 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
Isopropanol	67-63-0	STEL : Short term exposure limit	(400 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
Isopropanol	67-63-0	REL : Recomm ended exposure limit (REL):	980 mg/m3 (400 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Isopropanol	67-63-0	STEL : Short term exposure limit	1,225 mg/m3 (500 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Isopropanol	67-63-0	PEL : Permissi ble exposure limit	980 mg/m3 (400 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

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Isopropanol	67-63-0	TWA : time weighted average	980 mg/m3 (400 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Isopropanol	67-63-0	STEL : Short term exposure limit	1,225 mg/m3 (500 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state	: liquid, clear
Color	: colourless
Odor	: mild alcohol-like
pH	: Note: Not applicable
Melting point/freezing point	: -114.1 °C Note: The physical data is that of the main component.
Boiling point/boiling range	: 78.32 °C Note: The physical data is that of the main component.
Flash point	: 59 °F (15 °C) Method: closed cup Note: The physical data is that of the main component.
Evaporation rate	: ca. 3 Method: Compared to Butyl acetate.
Lower explosion limit	: 3 %(V)

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Note: The physical data is that of the main component.

Upper explosion limit : 19 %(V)  
Note: The physical data is that of the main component.

Vapor pressure : 59.5 hPa  
at 20 °C(68 °F)Note: The physical data is that of the main component.

Vapor density : 1.6 Note: (Air = 1.0), The physical data is that of the main component.

Density : 0.7890 g/cm<sup>3</sup> at 20 °C  
0.7847 g/cm<sup>3</sup> at 25 °C

Water solubility : Note: completely soluble

Ignition temperature : Note: not determined

**SECTION 10. STABILITY AND REACTIVITY**

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Heat, flames and sparks.  
Keep away from direct sunlight.

Incompatible materials to : Strong oxidizing agents

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avoid

Potassium superoxide  
Bromine Pentafluoride  
Acetyl bromide  
Acetyl chloride  
Platinum  
Sodium

Hazardous decomposition  
products

: In case of fire hazardous decomposition products may be  
produced such as:  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)  
Formaldehyde

**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute oral toxicity  
Ethanol

: LD50: 7,060 mg/kg  
Species: Rat

Methanol

: LD50: 5,628 mg/kg  
Species: Rat

Isopropanol

: LD50: 5,045 mg/kg  
Species: Rat

Acute inhalation toxicity  
Ethanol

: LC50: 20000 ppm  
Exposure time: 10 h  
Species: Rat

Methanol

: LC50: 64000 ppm  
Exposure time: 4 h  
Species: Rat

Isopropanol

: LC50: 39.36 mg/l 16000 ppm  
Exposure time: 8 h  
Species: Rat

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Acute dermal toxicity	
Methanol	: LD50: 15,800 mg/kg Species: Rabbit
Isopropanol	: LD50: 12,800 mg/kg Species: Rabbit
Skin irritation	
Ethanol	: Species: Rabbit Result: Irritating to skin. Exposure time: 24 h
Methanol	: Species: Rabbit Classification: irritating Exposure time: 24 h
Isopropanol	: Species: Rabbit Result: slight irritation
Eye irritation	
Ethanol	: Species: Rabbit Result: Irritating to eyes. Exposure time: 24 h
Methanol	: Species: rabbit eye Classification: irritating
Isopropanol	: Species: Rabbit Result: Severe eye irritation
Repeated dose toxicity	
Methanol	: Species: Rat Application Route: Inhalation Test substance: Methanol Developmental Toxicity NOAEL (maternal toxicity) 10,000 ppm NOAEL (developmental toxicity)

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5,000 ppm  
Skeletal and visceral malformations.

Genotoxicity in vitro  
Methanol : Note: In vitro tests did not show mutagenic effects

Genotoxicity in vivo  
Methanol : Note: In vivo tests did not show mutagenic effects

Further information : Note: Confirmed animal carcinogen with unknown relevance to humans.

**SECTION 12. ECOLOGICAL INFORMATION**

Toxicity to fish  
Ethanol : LC0: 8,140 mg/l  
Exposure time: 48 h  
Species: Leuciscus idus (Golden orfe)

flow-through test  
LC50: 12,900 mg/l  
Exposure time: 96 h  
Species: Oncorhynchus mykiss (rainbow trout)

LC50: 14,200 mg/l  
Exposure time: 96 h  
Species: Pimephales promelas (fathead minnow)

Methanol : LC50: 29,400 mg/l  
Exposure time: 96 h  
Species: Fathead minnow

Isopropanol : LC50: > 5,000 mg/l  
Exposure time: 24 h

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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

Ethanol

: EC50: 9,268 mg/l

Exposure time: 48 h

Species: *Daphnia magna* (Water flea)

EC50: 10,800 mg/l

Exposure time: 24 h

Species: *Daphnia magna* (Water flea)

Methanol

: LC50: 10,000 mg/l

Exposure time: 24 h

Species: *Daphnia* (water flea)

Isopropanol

: EC50: &gt; 100 mg/l

Exposure time: 48 h

Species: *Daphnia magna* (Water flea)

Toxicity to algae

Ethanol

: LC0: 5,000 mg/l

Species: *Scenedesmus quadricauda* (Green algae)

Isopropanol

: LC50: &gt; 2,000 mg/l

Exposure time: 72 h

Species: *Desmodesmus subspicatus* (green algae)

Toxicity to bacteria

Ethanol

: LC0: 6,500 mg/l

Species: *Pseudomonas putida*



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	EC50: 35,470 mg/l Exposure time: 5 min Species: Photobacterium phosphoreum
	EC50: 34,634 mg/l Exposure time: 30 min Species: Photobacterium phosphoreum
Methanol	: EC50: 43,000 mg/l Exposure time: 5 min Species: Photobacterium phosphoreum
	EC50: 40,000 mg/l Exposure time: 15 min Species: Photobacterium phosphoreum
	EC50: 39,000 mg/l Exposure time: 25 min Species: Photobacterium phosphoreum
Isopropanol	: EC50: 35,390 mg/l Exposure time: 5 min Species: Photobacterium phosphoreum
Biodegradability Isopropanol	: Biochemical Oxygen Demand (BOD) Biochemical oxygen demand within 5 days Value: 58 %

#### Further information on ecology

## SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods	: Dispose of contents/ container in accordance with local, state, and federal regulations.
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## SECTION 14. TRANSPORT INFORMATION

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<b>DOT</b>	UN/ID No.	: UN 1987
	Proper shipping name	: ALCOHOLS, N.O.S. (Ethanol, Methanol, Isopropanol)
	Class	: 3
	Packing group	: II
	Hazard Labels	: 3
<b>IATA</b>	UN/ID No.	: UN 1987
	Description of the goods	: ALCOHOLS, N.O.S. (Ethanol, Methanol, Isopropanol)
	Class	: 3
	Packaging group	: II
	Hazard Labels	: 3
	Packing instruction (cargo aircraft)	: 364
	Packing instruction (passenger aircraft)	: 353
	Packing instruction (passenger aircraft)	: Y341
<b>IMDG</b>	UN/ID No.	: UN 1987
	Description of the goods	: ALCOHOLS, N.O.S. (ETHANOL, METHANOL, ISOPROPANOL)
	Class	: 3
	Packaging group	: II
	Hazard Labels	: 3
	EmS Number	: F-E, S-D
	Marine pollutant	: no

## SECTION 15. REGULATORY INFORMATION

### Inventories

US. Toxic Substances Control Act : On TSCA Inventory

Australia. Industrial Chemical (Notification and Assessment) Act : On the inventory, or in compliance with the inventory

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Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL) : All components of this product are on the Canadian DSL.

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

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

**National regulatory information**

US. EPA CERCLA Hazardous Substances (40 CFR 302) : The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):

Reportable quantity: 5000 lbs  
: Methanol 67-56-1

**SARA 302 Components** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components** : The following components are subject to reporting levels established by SARA Title III, Section 313:  
: Methanol 67-56-1  
: Isopropanol 67-63-0

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**SARA 311/312 Hazards** : Fire Hazard  
Acute Health Hazard  
Chronic Health Hazard

**California Prop. 65** : WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.  
Methanol 67-56-1

**Massachusetts RTK** : Ethanol 64-17-5  
: Methanol 67-56-1  
: Isopropanol 67-63-0

**New Jersey RTK** : Ethanol 64-17-5  
: Methanol 67-56-1  
: Isopropanol 67-63-0

**Pennsylvania RTK** : Ethanol 64-17-5  
: Methanol 67-56-1  
: Isopropanol 67-63-0

**WHMIS Classification** : B2: Flammable liquid  
D1B: Toxic Material Causing Immediate and Serious Toxic Effects  
D2A: Very Toxic Material Causing Other Toxic Effects  
D2B: Toxic Material Causing Other Toxic Effects  
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**

	<b>HMIS III</b>	<b>NFPA</b>
Health hazard	: 2*	1
Flammability	: 3	3

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Physical Hazard : 0  
Instability : 0

\* - Chronic health hazard

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

#### Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group