

# 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 : Flammable liquids, Category 2

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:

Ethano

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 (CO2)

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 (CO2)

Formaldehyde

for firefighters

Special protective equipment : 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.

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	Upda	Basis
			parameters	te	



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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) <sub>,</sub>	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	REL:	260 mg/m3	2005	NIOSH/GUIDE:US.
Methanol	07-50-1	Recomm	(200 ppm)	2005	NIOSH: Pocket
		ended	(200 pp///)		Guide to Chemical
	,	exposure	1		Hazards
		limit	]		
		(REL):			
Methanol	07.50.4	LOUIN DE	Camba	TOOOE	TANOGUACHIDE
Methanoi	67-56-1	SKIN_DE S : Skin	Can be absorbed	2005	NIOSH/GUIDE:US. NIOSH: Pocket
		designati	through the		Guide to Chemical
		on:	skin.		Hazards
		011.	John I.		11424143
Methanol	67-56-1	STEL:	325 mg/m3	2005	NIOSH/GUIDE:US.
		Short term	(250 ppm)		NIOSH: Pocket
					Guide to Chemical Hazards
		exposure limit			riazarus
Methanol	67-56-1	PEL:	260 mg/m3	02	OSHA_TRANS:US.
		Permissi	(200 ppm)	2006	OSHA Table Z-1
		ble			Limits for Air
		exposure			Contaminants (29
		limit			CFR 1910.1000)
			1		
Methanol	67-56-1	TWA:	260 mg/m3	1989	Z1A:US. OSHA
		time	(200 ppm)		Table Z-1-A (29
		weighted			CFR 1910.1000)
		average			
Methanol	67-56-1	STEL:	325 mg/m3	1989	Z1A:US. OSHA
		Short	(250 ppm)		Table Z-1-A (29
		term	' ' '		CFR 1910.1000)
		exposure			'
		limit		į	



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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

рН

: Note: Not applicable

Melting point/freezing point

: -114.1 ℃

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

Boiling point/boiling range

: 78.32 ℃

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/cm3 at 20 °C

0.7847 g/cm3 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

: Hazardous polymerisation does not occur.

reactions

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 (CO2) 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: > 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: > 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.

#### **SECTION 14. TRANSPORT INFORMATION**



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DOT

UN/ID No.

: UN 1987

Proper shipping name

: ALCOHOLS, N.O.S.

(Ethanol, Methanol, Isopropanol)

Class

Packing group

Ш

Hazard Labels

3

IATA

UN/ID No.

: UN 1987

Description of the goods

: ALCOHOLS, N.O.S.

(Ethanol, Methanol, Isopropanol)

Class

: 3 : 11

Packaging group Hazard Labels

: 3

Packing instruction (cargo

: 364

aircraft)

Packing instruction

: 353

(passenger aircraft)

Packing instruction .

: Y341

(passenger aircraft)

IMDG

UN/ID No.

: UN 1987

Description of the goods

: ALCOHOLS, N.O.S.

(ETHANOL, METHANOL, ISOPROPANOL)

Class

: 11

Packaging group Hazard Labels

EmS Number

: F-E, S-D

Marine pollutant

: no

#### **SECTION 15. REGULATORY INFORMATION**

#### Inventories

US. Toxic Substances

: On TSCA Inventory

Control Act

Australia. Industrial

: On the inventory, or in compliance with the inventory

Chemical (Notification and

Assessment) Act

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Canada. Canadian **Environmental Protection** Act (CEPA). Domestic Substances List (DSL)

: All components of this product are on the Canadian DSL.

Korea. Toxic Chemical Control Law (TCCL) List

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

: 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

: Isopropanol

67-56-1

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 67-56-1

Methanol

07-00-1

: 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

HMIS III

NFPA

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.

Previous Issue Date: 06/20/2012

Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group