Safety Data Sheet

According to Hazardous Products Regulation (SOR/2015-17)

Revision date: 03.08.2020	*Version: 6.4*	*Print date: 03.08.2020*

SECTION 1: Identification

Product identifier

Trade name/designation:	Ethyl alcohol, denatured
Product No.:	38344
Synonymes:	none/none
CAS No.:	64-17-5
Other means of identification:	

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use:	For Further Manufacturing Use Only
Uses advised against:	Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet

Supplier

VWR International

Street	2360 Argentia Road
Postal code/City	Mississauga, Ontario Canada L5N 5Z7
Telephone	+1-800-932-5000 toll-free within US/Canada
Telefax:	+1-610-728-2103

Emergency phone number

Telephone +1-613-996-6666 (Canutec, 24 hrs/day, 7 days/week, Canada)

Preparation Information

VWR International - Product Information Compliance

E-mail sds@vwr.com

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Classification according to Hazardous Products Regulation (SOR/2015-17)

Hazard classes and hazard categories	Hazard statements
Flammable liquid, category 2	H225
Acute toxicity, category 4, oral, dermal and inhalation	H302+H312+H332
Specific target organ toxicity (single exposure), category 1	H370

2.2 Label elements

Labelling in accordance with (SOR/2015-17)

Hazard pictograms

Signal word: Danger

Hazard statements	
H225	Highly flammable liquid and vapor.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.
H370	Causes damage to organs.

Precautionary statements	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P308+P310	IF exposed or concerned: Immediately call a POISON CENTER/doctor.

Hazards not otherwise classified (HNOC)

none/none

SECTION 3: Composition / information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

Hazardous ingredients GHS Classification in accordance with (SOR/2015-17)

Substance name	Concentration	Identifier	Hazard classes and hazard categories
Ethanol absolute	> 85%	CAS No.: 64-17-5	Flam. Liq. 2 - H225 Eye Irrit. 2 - H319
Methanol	12 - 14%	CAS No.: 67-56-1	Flam. Liq. 2 - H225 Acute Tox. 3 - H301 Eye Irrit. 2 - H319 Repr. 1B - H360 STOT SE 2 - H371 STOT SE 3 - H336
Ethyl acetate	0.5 - 1%	CAS No.: 141-78-6	Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336

SECTION 4: First aid measures

4.1 General information

IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. If unconscious but breathing normally, place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

In case of inhalation

Call a POISON CENTER/doctor. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting. Give nothing to eat or drink.

Self-protection of the first aider

First aider: Pay attention to self-protection!

4.2 Most important symptoms/effects, acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray
ABC-powder
Carbon dioxide (CO2)
Nitrogen

Extinguishing media which must not be used for safety reasons

no restriction

5.2 Specific hazards arising from the chemical

In case of fire may be liberated:
Pyrolysis products, toxic

5.3 Advice for firefighters

DO NOT fight fire when fire reaches explosives.
Protective equipment and precautions for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Do not allow run-off from fire-fighting to enter drains or water courses.
Do not inhale explosion and combustion gases.
Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen.
Use water spray/stream to protect personnel and to cool endangered containers.
In case of fire: Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

In case of major fire and large quantities: Remove persons to safety.

6.2 Environmental precautions

Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Collect in closed and suitable containers for disposal.

6.4 Additional information

Clear spills immediately.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

All work processes must always be designed so that the following is as low as possible:
Inhalation
skin contact
Eye contact
Use extractor hood (laboratory).
If handled uncovered, arrangements with local exhaust ventilation have to be used.
If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: no data available
Keep container tightly closed and in a well-ventilated place. Keep/Store only in original container.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredient (Designation)	Regulatory information	Country	Limit value type (country of origin)	Limit value
Methanol	CNESST	CA	VECD	328 mg/m³ - 250 ppm
Methanol	CNESST	CA	VEMP	262 mg/m³ - 200 ppm
Ethyl acetate	CNESST	CA	VEMP	1440 mg/m³ - 400 ppm

8.2 Engineering controls

Appropriate engineering controls
Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protection equipment (PPE)
Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

Eye/face protection
Eye glasses with side protection

Skin protection
Wear suitable gloves. When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

<u>By short-term hand contact</u>	
Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	-
Breakthrough time::	240-480 min

<u>By long-term hand contact</u>	
Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,425 mm
Breakthrough time::	> 480 min

Respiratory protection
Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Additional information
Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls
no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a) Appearance	
Physical state:	liquid
Color:	colorless
(b) Odour:	no data available
(c) Odour threshold:	no data available

Safety relevant basic data

(d) pH:	no data available
(e) Melting point/freezing point:	no data available
(f) Initial boiling point and boiling range:	no data available
(g) Flash point:	12 °C (closed cup)
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	Highly flammable liquid and vapor.
(j) Flammability or explosive limits	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
(k) Vapour pressure:	no data available
(l) Vapour density:	no data available
(m) Relative density:	0.7895 g/cm³ (20 °C)
(n) Solubility(ies)	
Water solubility (g/L):	no data available
Soluble (g/L) in Ethanol:	no data available
(o) Partition coefficient: n-octanol/water:	no data available
(p) Auto-ignition temperature:	no data available
(q) Decomposition temperature:	no data available
(r) Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	no data available
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable

9.2 Other information

Bulk density:	no data available
Refraction index:	no data available
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

10.7 Additional information

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity:

Ethanol absolute - LD50: > 6200 mg/kg - Rat - (Merck KGaA)

Methanol - LD50: > 5628 mg/kg - Rat - (IUCLID)

Methanol - LDLo: > 143 mg/kg - Human - (RTECS)

Ethyl acetate - LD50: > 5620 mg/kg - Rat - (RTECS)

Acute dermal toxicity:

Ethanol absolute - LD50: < 20000 mg/kg - Rabbit - (CHP)

Methanol - LD50: > 15800 mg/kg - Rabbit

Ethyl acetate - LD50: < 18000 mg/kg - Rabbit - (Merck KGaA)

Acute inhalation toxicity:

Ethanol absolute - LC50: < 8000 mg/l (4h) - Rat - (CHP)

Methanol - TCLo: > 160 ppm (4h) - Human

Ethyl acetate - LC50: 1500 ppm - Mouse - (New Zealand Chemical Classification and Information Database)

Irritant and corrosive effects
Primary irritation to the skin:
not applicable

Irritation to eyes:
not applicable

Irritation to respiratory tract:
not applicable

Respiratory or skin sensitization
In case of skin contact: not sensitising
In case of inhalation: not sensitising

STOT-single exposure
Causes damage to organs.

STOT-repeated exposure
not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

no data available	ACGIH	IARC	NTP	OSHA

Germ cell mutagenicity
No indications of human germ cell mutagenicity exist.

Reproductive toxicity
No indications of human reproductive toxicity exist.

Aspiration hazard
not applicable

Other adverse effects
no data available

Additional information
no data available

SECTION 12: Ecological information

12.1 Ecotoxicity

Fish toxicity:
Ethanol absolute - LC50: 11000 mg/l (96 h) - Bengtsson, B.E., L. Renberg, and M. Tarkpea 1984. Molecular Structure and Aquatic Toxicity - an Example with C1-C13 Aliphatic Alcohols. Chemosphere 13(5/6):613-622

Methanol - LC50: 24000 mg/l (96 h) - Poirier, S.H., M.L. Knuth, C.D. Anderson-Buchou, L.T. Brooke, A.R. Lima, and P.J. Shubat 1986. Comparative Toxicity of Methanol and N,N-Dimethylformamide to Freshwater Fish and Invertebrates. Bull.Environ.Contam.Toxicol. 37(4):615-621

Ethyl acetate - LC50: 328 mg/l (96 h) - Brooke, L.T., D.J. Call, D.L. Geiger, and C.E. Northcott 1984. Acute Toxicities of Organic Chemicals to Fathead Minnows (Pimephales promelas), Vol. 1. Center for Lake Superior Environmental Stud., Univ.of Wisconsin-Superior, Superior, WI :414

Daphnia toxicity:
Ethanol absolute - LC50: 9280 mg/l (48 h) - Takahashi, I.T., U.M. Cowgill, and P.G. Murphy 1987. Comparison of Ethanol Toxicity to Daphnia magna and Ceriodaphnia dubia Tested at Two Different Temperatures: Static Acute Toxicity Test Results. Bull.Environ.Contam.Toxicol. 39(2):229-236

Ethanol absolute - EC50: 9950 mg/l (48 h) - Barera, Y., and W.J. Adams 1983. Resolving Some Practical Questions About Daphnia Acute Toxicity Tests. In: W.E.Bishop (Ed.), Aquatic Toxicology and Hazard Assessment, 6th Symposium, ASTM STP 802, Philadelphia, PA :509-518

Methanol - LC50: 3290 mg/l (48 h) - Guilhermino, L., T. Diamantino, M.C. Silva, and A.M.V.M. Soares 2000. Acute Toxicity Test with Daphnia magna: An Alternative to Mammals in the Prescreening of Chemical Toxicity?. Ecotoxicol.Environ.Saf. 46(3):357-362

Methanol - EC50: 24500 mg/l (48 h) - Randall, T.L., and P.V. Knopp 1980. Detoxification of Specific Organic Substances by Wet Oxidation. J.Water Pollut.Control Fed. 52(8):2117-2130

Ethyl acetate - LC50: 679 mg/l (48 h) - Canton, J.H., and D.M.M. Adema 1978. Reproducibility of Short-Term and Reproduction Toxicity Experiments with Daphnia magna. Hydrobiologia 59(2):135-140 (Used Reference 2018)

Algae toxicity:
Ethyl acetate - EC50: 2500 mg/l (96 h) - Slooff, W. 1982. A Comparative Study on the Short-Term Effects of 15 Chemicals on Fresh Water Organisms of Different Tropic Levels. Natl.Tech.Inf.Serv., Springfield, VA :25 p. (DUT) (ENG ABS) (NTIS/PB83-200386)

Bacteria toxicity:
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
Partition coefficient: n-octanol/water: no data available

12.4 Mobility in soil:

no data available

12.5 Results of PBT/vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: no data available

Appropriate disposal / Package

Dispose according to legislation. Handle contaminated packages in the same way as the substance itself.

Additional information

no data available

SECTION 14: Transport information

Land transport (TDG)

UN-No.:	1987
Proper Shipping Name:	ALCOHOLS, N.O.S. (ETHANOL/METHANOL SOLUTION)
Class(es):	3
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	

Sea transport (IMDG)

UN-No.:	1987
Proper Shipping Name:	ALCOHOLS, N.O.S. (ETHANOL/METHANOL SOLUTION)
Class(es):	3
Classification code:	
Hazard label(s):	3
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	
Segregation group:	-
EmS-No.	F-E S-D

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not relevant

Air transport (ICAO-TI / IATA-DGR)

UN-No.:	1987
Proper Shipping Name:	ALCOHOLS, N.O.S. (ETHANOL/METHANOL SOLUTION)
Class(es):	3
Classification code:	
Hazard label(s):	3
Packing group:	II
Special precautions for user:	

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Domestic Substance List:

SECTION 16: Other information

Abbreviations and acronyms

H225 - Highly flammable liquid and vapor.
H301 - Toxic if swallowed.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
H360 - May damage fertility or the unborn child.
H371 - May cause damage to organs.

ACGIH - American Conference of Governmental Industrial Hygiensts
DOT - Department of Transportation
IARC - International Agency for Research on Cancer
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
STV - Short Term Value
SVHC - Substances of Very High Concern
TDG - Transport of Dangerous Goods
TLV - Threshold Limit Value
vPvB - very Persistent, very Bioaccumulative

Training advice: Provide adequate information, instruction and training for operators.

Classification according to Regulation (EC) No 1272/2008 [CLP] - Classification procedure

Hazard statements	Hazard classes and hazard categories	Classification procedure
H225	Flam. Liq. 2	Data obtained by expert judgement.
H302+H312+H332	Acute Tox. 4	Calculation method.
H370	STOT SE 1	Calculation method.

Additional information

Indication of changes: general update

If you need an explanation of the change, contact the supplier. (SDS@avantorsciences.com)

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guidance. The information in this document is based on the present state knowledge and is applicable to the product with regard to appropriate safty precautions. It does not represent any guarantee of the properties of the product. VWR International and his Affiliates shall not be held liable for any damage resulting from handling.