Printing date 06/03/2021 Reviewed on 06/03/2021

1 Identification

· Product identifier

· Trade name: Ethyl Alcohol Denatured 95%

· Article number: CH077

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier: Aqua Solutions, Inc. 6913 Highway 225 DEER PARK, TX 77536 USA 800-256-2586

· Information department:

Technical Coordinator

Sherman Nelson shermann@aquasolutions.org

· Emergency telephone number: Chemtrec: 800-424-9300 Canutec: 613-996-6666



2 Hazard(s) identification

· Classification of the substance or mixture



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

STOT SE 2 H371 May cause damage to the central nervous system and the visual organs.

- · Label elements
- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms





GHS02

GHS08

- · Signal word Danger
- · Hazard-determining components of labeling:

Methyl Isobutyl Ketone (4-Methyl-2-pentanone)

Methanol (Methyl Alcohol)

Ethyl Acetate

· Hazard statements

 ${\it Highly flammable\ liquid\ and\ vapor.}$

Suspected of causing cancer.

May cause damage to the central nervous system and the visual organs.

· Precautionary statements

Obtain special instructions before use.

(Contd. on page 2)

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(Contd. of page 1)

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/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF exposed or concerned: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 0Fire = 3

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



3 Health = 3

Fire = 3

- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:		
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	92.904%
CAS: 67-56-1	Methanol (Methyl Alcohol)	4.05%
CAS: 141-78-6	Ethyl Acetate	1.151%
CAS: 108-10-1	Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	1.025%

· Table of Nonhazardous Ingredients

CAS: 142-82-5	n-Heptane		

4 First-aid measures

- · Description of first aid measures
- · General information: Immediately remove any clothing soiled by the product.

(Contd. on page 3)

0.87%

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(Contd. of page 2)

- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Immediately rinse with water.
- · After eye contact: Rinse opened eye for several minutes under running water.
- · After swallowing: If symptoms persist consult doctor.
- · Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · Special hazards arising from the substance or mixture
- During heating or in case of fire poisonous gases are produced.
- · Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals

· PAC-1:		
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	1,800 ppm
CAS: 67-56-1	Methanol (Methyl Alcohol)	530 ppm
CAS: 141-78-6	Ethyl Acetate	1,200 ppm
CAS: 108-10-1	Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	75 ppm
CAS: 142-82-5	n-Heptane	500 ppm
· PAC-2:		
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	3300* ppm
CAS: 67-56-1	Methanol (Methyl Alcohol)	2,100 ppm
CAS: 141-78-6	Ethyl Acetate	1,700 ppm
CAS: 108-10-1	Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	500 ppm
CAS: 142-82-5	n-Heptane	830 ppm
		(Contd. on page 4)

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		(Contd. of page 3)
· PAC-3:		
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	15000* ppm
CAS: 67-56-1	Methanol (Methyl Alcohol)	7200* ppm
CAS: 141-78-6	Ethyl Acetate	10000** ppm
	Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	3000* ppm
CAS: 142-82-5	n-Heptane	5000* ppm

7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:

Keep receptacle tightly sealed.

 $Store\ in\ cool,\ dry\ conditions\ in\ well\ sealed\ receptacles.$

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters

· Com	ponents with limit values that require monitoring at the workplace:
CAS:	64-17-5 Ethyl Alcohol, Absolute 200 Proof
PEL	Long-term value: 1900 mg/m³, 1000 ppm
REL	Long-term value: 1900 mg/m³, 1000 ppm
TLV	Short-term value: 1880 mg/m³, 1000 ppm
CAS:	67-56-1 Methanol (Methyl Alcohol)
PEL	Long-term value: 260 mg/m³, 200 ppm
REL	Short-term value: 325 mg/m³, 250 ppm
	Long-term value: 260 mg/m³, 200 ppm
	Skin
TLV	Short-term value: 328 mg/m³, 250 ppm
	Long-term value: 262 mg/m³, 200 ppm
	Skin; BEI
CAS.	· 141-78-6 Ethyl Acetate
PEL	Long-term value: 1400 mg/m³, 400 ppm
	(Contd. on page 5)

on page 3

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REL Long-term value: 1400 mg/m³, 400 ppm

TLV Long-term value: 1440 mg/m³, 400 ppm

CAS: 108-10-1 Methyl Isobutyl Ketone (4-Methyl-2-pentanone)

PEL Long-term value: 410 mg/m³, 100 ppm

REL Short-term value: 300 mg/m³, 75 ppm
Long-term value: 205 mg/m³, 50 ppm

TLV Short-term value: 307 mg/m³, 75 ppm
Long-term value: 82 mg/m³, 20 ppm

BEI

· Ingredients with biological limit values:

CAS: 67-56-1 Methanol (Methyl Alcohol)

BEI 15 mg/L

LD50 Intraperitoneal: urine

Time: end of shift

LD50: Methanol (background, nonspecific)

CAS: 108-10-1 Methyl Isobutyl Ketone (4-Methyl-2-pentanone)

BEI 1 mg/L

LD50 Intraperitoneal: urine

Time: end of shift LD50: MIBK

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:

(Contd. of page 5)



Tightly sealed goggles

· Body protection: Protective work clothing

Physical and chemical proper	ties	
· Information on basic physical and chemical properties		
· General Information		
· Appearance:		
Form:	Liquid	
Color:	Clear	
· Odor:	Acidic	
· Odor threshold:	Not determined.	
· pH-value:	Not determined.	
· Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	78 °C (172.4 °F)	
· Flash point:	13 °C (55.4 °F)	
· Flammability (solid, gaseous):	Not applicable.	
· Ignition temperature:	425 °C (797 °F)	
· Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vape mixtures are possible.	
· Explosion limits:		
Lower:	3.5 Vol %	
Upper:	19 Vol %	
· Vapor pressure at 20 °C (68 °F):	59 hPa (44.3 mm Hg)	
· Density at 20 °C (68 °F):	0.78166 g/cm³ (6.52295 lbs/gal)	
· Relative density	Not determined.	
· Vapor density	Not determined.	
· Evaporation rate	Not determined.	
· Solubility in / Miscibility with		
Water:	Fully miscible.	
· Partition coefficient (n-octanol/wat	er): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	100.0 %	

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Trade name: Ethyl Alcohol Denatured 95%

		(Contd. of page 6)
VOC content:	100.00 %	
	781.7 g/l / 6.52 lb/gal	
Solids content:	0.0 %	
· Other information	No further relevant information available.	

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

· <i>LD/LC50</i> 1	· LD/LC50 values that are relevant for classification:		
ATE (Acut	ATE (Acute Toxicity Estimate)		
Oral	LD50	29,306-68,364 mg/kg (rat)	
Inhalative	LC50/4h	645-1,072 mg/l (rat)	

CAS: 67-56-1 Methanol (Methyl Alcohol		
Oral	LD50	100 mg/kg (ATE)
		300 mg/kg (ATE)
Inhalative	LC50/4h	3 mg/l (ATE)

- · Primary irritant effect:
- · on the skin: No irritant effect.
- · on the eye: No irritating effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)		
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	1
CAS: 108-10-1	Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	2 <i>B</i>
· NTP (National Toxicology Program)		
None of the ingredients is listed.		
· OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients is listed.		

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12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

· **DOT**, **IMDG**, **IATA** UN1170

· UN proper shipping name

• DOT Ethanol solutions

· IMDG ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

· IATA ETHANOL SOLUTION

- · Transport hazard class(es)
- $\cdot DOT$



· Class 3 Flammable liquids

· Label

(Contd. on page 9)

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Trade name: Ethyl Alcohol Denatured 95%

	(Contd. of page
IMDG, IATA	
3	
Class	3 Flammable liquids
Label	3 Frammable tiquias
	<u> </u>
Packing group DOT, IMDG, IATA	II
· · · · · · · · · · · · · · · · · · ·	11
Environmental hazards:	No
Marine pollutant:	
Special precautions for user	Warning: Flammable liquids
Hazard identification number (Kemler cod EMS Number:	te): 33 F-E,S-D
Stowage Category	A
Transport in bulk according to Annex II o	f
MARPOL73/78 and the IBC Code) Not applicable.
	The application
Transport/Additional information:	
DOT	On a service of six and for it. 5 I
Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
	on curgo uncruji oniy. 00 L
IMDG	IL
Limited quantities (LQ) Excepted quantities (EQ)	Code: E2
Excepted quantutes (EQ)	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation":	UN 1170 ETHANOL SOLUTION (ETHYL ALCOHO
- · · · · · · · · · · · · · · · · · · ·	GOV 1777 O.V.) 2 VV

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.

· Sara		
· Section 355 (extr	remely hazardous substances):	
None of the ingre	edients is listed.	
· Section 313 (Spe	cific toxic chemical listings):	
CAS: 67-56-1	Methanol (Methyl Alcohol)	
CAS: 108-10-1 A	Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	
· TSCA (Toxic Suc	bstances Control Act):	
Ethyl Alcohol, Absolute 200 Proof		ACTIVE
Methanol (Methyl Alcohol)		ACTIVE
Ethyl Acetate		ACTIVE
Methyl Isobutyl Ketone (4-Methyl-2-pentanone)		ACTIVE

SOLUTION), 3, II

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Trade name: Ethyl Alcohol Denatured 95%

77 .		Contd. of page 9)
n-Heptane		ACTIVE
· Hazardous Air	Pollutants	
CAS: 67-56-1	Methanol (Methyl Alcohol)	
CAS: 108-10-1	Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	
· Proposition 65		
· Chemicals kno	wn to cause cancer:	
CAS: 108-10-1	Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	
· Chemicals kno	wn to cause reproductive toxicity for females:	
None of the ing	redients is listed.	
· Chemicals kno	wn to cause reproductive toxicity for males:	
None of the ing	redients is listed.	
· Chemicals kno	wn to cause developmental toxicity:	
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	
CAS: 67-56-1	Methanol (Methyl Alcohol)	
CAS: 108-10-1	Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	
· Carcinogenic c	ategories	
· EPA (Environn	nental Protection Agency)	
CAS: 108-10-1	Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	I
CAS: 142-82-5	n-Heptane	D

- · NIOSH-Ca (National Institute for Occupational Safety and Health)
- None of the ingredients is listed.

· TLV (Threshold Limit Value)

- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms





GHS02

· Signal word Danger

Hazard-determining components of labeling:

Methyl Isobutyl Ketone (4-Methyl-2-pentanone)

CAS: 64-17-5 Ethyl Alcohol, Absolute 200 Proof

Methanol (Methyl Alcohol)

Ethyl Acetate

· Hazard statements

Highly flammable liquid and vapor.

Suspected of causing cancer.

May cause damage to the central nervous system and the visual organs.

· Precautionary statements

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.

 $Use\ explosion-proof\ electrical/ventilating/lighting/equipment.$

(Contd. on page 11)

A3

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Trade name: Ethyl Alcohol Denatured 95%

(Contd. of page 10)

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF exposed or concerned: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environment protection department.
- · Contact:
- · Date of preparation / last revision

Revision 0.1 09-26-2018: reviewed and updated SDS. STN Revision 1.0 05-07-2021: updated hazard information. STN

06/03/2021 / 1.0

· Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Carc. 2: Carcinogenicity – Category 2

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

* Data compared to the previous version altered.