

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/31/2024

Reviewed on 05/31/2024

1 Identification

- **Product identifier**
- **Trade name:** ETBE Gravimetric Standard
- **Article number:** SPX374
- **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

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS07

Specific Target Organ Toxicity - Single Exposure 3 H336 May cause drowsiness or dizziness.

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



GHS02



GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**
tert-Butyl Ethyl Ether
- **Hazard statements**
Highly flammable liquid and vapor.
May cause drowsiness or dizziness.
- **Precautionary statements**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.

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Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area.

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 INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a poison center/doctor if you feel unwell.

In case of fire: Use CO₂, powder or water spray to extinguish.

Store in a well-ventilated place. Keep container tightly closed.

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 = 0

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 3

Fire = 3

Reactivity = 0

· **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: 637-92-3	tert-Butyl Ethyl Ether	96.536%
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	1.09%
CAS: 75-65-0	tert-Butyl Alcohol	1.01%
CAS: 1634-04-4	Methyl Tert-Butyl Ether (MTBE)	0.505%
CAS: 67-56-1	Methanol	0.101%

· **Table of Nonhazardous Ingredients**

CAS: 107-39-1	2,4,4-trimethylpent-1-ene	0.253%
CAS: 67-64-1	Acetone	0.202%
CAS: 78-93-3	Methyl Ethyl Ketone	0.101%
CAS: 107-40-4	2,4,4-trimethylpent-2-ene	0.101%
CAS: 2679-87-0	sec-Butyl Ethyl Ether	0.101%

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4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **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.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** 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 section 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: 75-65-0	tert-Butyl Alcohol	150 ppm
CAS: 1634-04-4	Methyl Tert-Butyl Ether (MTBE)	50 ppm
CAS: 107-39-1	2,4,4-trimethylpent-1-ene	230 ppm
CAS: 67-64-1	Acetone	200 ppm
CAS: 67-56-1	Methanol	530 ppm
CAS: 78-93-3	Methyl Ethyl Ketone	200 ppm

- **PAC-2:**

CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	3300* ppm
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CAS: 75-65-0	<i>tert-Butyl Alcohol</i>	1,300 ppm
CAS: 1634-04-4	<i>Methyl Tert-Butyl Ether (MTBE)</i>	570 ppm
CAS: 107-39-1	<i>2,4,4-trimethylpent-1-ene</i>	2500* ppm
CAS: 67-64-1	<i>Acetone</i>	3200* ppm
CAS: 67-56-1	<i>Methanol</i>	2,100 ppm
CAS: 78-93-3	<i>Methyl Ethyl Ketone</i>	2700* ppm

· **PAC-3:**

CAS: 64-17-5	<i>Ethyl Alcohol, Absolute 200 Proof</i>	15000* ppm
CAS: 75-65-0	<i>tert-Butyl Alcohol</i>	8000* ppm
CAS: 1634-04-4	<i>Methyl Tert-Butyl Ether (MTBE)</i>	5300* ppm
CAS: 107-39-1	<i>2,4,4-trimethylpent-1-ene</i>	15000*** ppm
CAS: 67-64-1	<i>Acetone</i>	5700* ppm
CAS: 67-56-1	<i>Methanol</i>	7200* ppm
CAS: 78-93-3	<i>Methyl Ethyl Ketone</i>	4000* ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **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 section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof
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PEL	Long-term value: 1900 mg/m ³ , 1000 ppm
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REL	Long-term value: 1900 mg/m ³ , 1000 ppm
TLV	Short-term value: 1000 ppm A3
CAS: 75-65-0 tert-Butyl Alcohol	
PEL	Long-term value: 300 mg/m ³ , 100 ppm
REL	Short-term value: 450 mg/m ³ , 150 ppm Long-term value: 300 mg/m ³ , 100 ppm
TLV	Long-term value: 100 ppm A4
CAS: 1634-04-4 Methyl Tert-Butyl Ether (MTBE)	
TLV	Long-term value: 50 ppm A3
CAS: 67-56-1 Methanol	
PEL	Long-term value: 260 mg/m ³ , 200 ppm
REL	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin
TLV	Short-term value: 250 ppm Long-term value: 200 ppm Skin; BEI
· Ingredients with biological limit values:	
CAS: 67-56-1 Methanol	
BEI	15 mg/L LD50 Intraperitoneal: urine Time: end of shift LD50: Methanol (background, nonspecific)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

· **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.

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· **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.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Not determined.
Odor:	Organic
Odor threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	70 °C (158 °F)

· **Flash point:** -19 °C (-2.2 °F)

· **Flammability (solid, gaseous):** Highly flammable.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapor pressure at 25 °C (77 °F):** 17.3 hPa (13 mm Hg)

· **Density at 20 °C (68 °F):** 0.74132 g/cm³ (6.18632 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

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· Solvent content:	
Organic solvents:	2.0 %
VOC content:	1.80 %
	13.3 g/l / 0.11 lb/gal
Solids content:	
	1.1 %
· 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:

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral	LD50	99,010 mg/kg
Dermal	LD50	118,784 mg/kg
Inhalative	LC50/4h	797 mg/l

· Primary irritant effect:

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

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	1
CAS: 1634-04-4	Methyl Tert-Butyl Ether (MTBE)	3

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.

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- **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.

14 Transport information

- | | |
|-------------------------------------|---|
| · UN-Number | |
| · DOT, IMDG, IATA | UN1993 |
| · UN proper shipping name | |
| · DOT | Flammable liquids, n.o.s. (Ethyl butyl ether) |
| · IMDG, IATA | FLAMMABLE LIQUID, N.O.S. (Ethyl butyl ether) |
| · Transport hazard class(es) | |
| · DOT | |
| | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| | |
| · IMDG, IATA | |
| | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · Packing group | |
| · DOT, IMDG, IATA | II |

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· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids
· Hazard identification number (Kemler code):	33
· EMS Number:	F-E,S-E
· Stowage Category	B
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHYL BUTYL ETHER), 3, II

15 Regulatory information

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

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

CAS: 75-65-0	tert-Butyl Alcohol
CAS: 1634-04-4	Methyl Tert-Butyl Ether (MTBE)
CAS: 67-56-1	Methanol

· **TSCA (Toxic Substances Control Act):**

tert-Butyl Ethyl Ether	ACTIVE
Ethyl Alcohol, Absolute 200 Proof	ACTIVE
tert-Butyl Alcohol	ACTIVE
Methyl Tert-Butyl Ether (MTBE)	ACTIVE
2,4,4-trimethylpent-1-ene	ACTIVE
Acetone	ACTIVE
Methanol	ACTIVE
Methyl Ethyl Ketone	ACTIVE
2,4,4-trimethylpent-2-ene	ACTIVE
sec-Butyl Ethyl Ether	ACTIVE

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· **Hazardous Air Pollutants**

CAS: 1634-04-4	Methyl Tert-Butyl Ether (MTBE)
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CAS: 67-56-1	Methanol
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· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof
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CAS: 67-56-1	Methanol
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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

CAS: 637-92-3	tert-Butyl Ethyl Ether	SC
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CAS: 75-65-0	tert-Butyl Alcohol	SC
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CAS: 67-64-1	Acetone	I
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CAS: 78-93-3	Methyl Ethyl Ketone	I
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· **TLV (Threshold Limit Value)**

CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	A3
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CAS: 75-65-0	tert-Butyl Alcohol	A4
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CAS: 1634-04-4	Methyl Tert-Butyl Ether (MTBE)	A3
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CAS: 67-64-1	Acetone	A4
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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

tert-Butyl Ethyl Ether

· **Hazard statements**

Highly flammable liquid and vapor.

May cause drowsiness or dizziness.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

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

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Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area.
 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 INHALED: Remove person to fresh air and keep comfortable for breathing.
 Call a poison center/doctor if you feel unwell.
 In case of fire: Use CO₂, powder or water spray to extinguish.
 Store in a well-ventilated place. Keep container tightly closed.
 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:

• **Date of preparation / last revision**

Revision 1.2, 05/31/2024: Reviewed SDS for accuracy. MH/STN

Revision 0.0 05-31-2024: Creation date for SDS. CMC/STN

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• **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

Flammable Liquids 2: Flammable liquids – Category 2

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

• *** Data compared to the previous version altered.**