

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/11/2018

Reviewed on 01/11/2018

## 1 Identification

- **Product identifier**
- **Trade name:** Benzene Std. 2.0 ppm  
w/w in Methanol
- **Article number:** THE381
- **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 sherman@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

STOT SE 1 H370 Causes damage to organs.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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



GHS02



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Methanol (Methyl Alcohol)
- **Hazard statements**  
Highly flammable liquid and vapor.  
Harmful if swallowed.

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*Causes damage to organs.*

· **Precautionary statements**

*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 swallowed: Call a poison center/doctor if you feel unwell.*

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

*Specific treatment (see on this label).*

*Rinse mouth.*

*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 = 2

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

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: 67-56-1	Methanol (Methyl Alcohol)	100.0%
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· **Table of Nonhazardous Ingredients**

CAS: 71-43-2	Benzene	0.0003%
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## 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Immediately call a 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:**  
CO<sub>2</sub>, 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 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: 67-56-1	Methanol (Methyl Alcohol)	530 ppm
CAS: 71-43-2	Benzene	52 ppm

- **PAC-2:**

CAS: 67-56-1	Methanol (Methyl Alcohol)	2,100 ppm
CAS: 71-43-2	Benzene	800 ppm

- **PAC-3:**

CAS: 67-56-1	Methanol (Methyl Alcohol)	7200* ppm
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CAS: 71-43-2 Benzene

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4000\* ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **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 item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

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

<i>PEL</i>	<i>Long-term value: 260 mg/m<sup>3</sup>, 200 ppm</i>
<i>REL</i>	<i>Short-term value: 325 mg/m<sup>3</sup>, 250 ppm</i>
	<i>Long-term value: 260 mg/m<sup>3</sup>, 200 ppm</i>
	<i>Skin</i>
<i>TLV</i>	<i>Short-term value: 328 mg/m<sup>3</sup>, 250 ppm</i>
	<i>Long-term value: 262 mg/m<sup>3</sup>, 200 ppm</i>
	<i>Skin; BEI</i>

· **Ingredients with biological limit values:**

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

<i>BEI</i>	<i>15 mg/L</i>
	<i>LD50 Intraperitoneal: urine</i>
	<i>Time: end of shift</i>
	<i>LD50: Methanol (background, nonspecific)</i>

- **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.  
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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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.

· **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:**

<b>Form:</b>	Liquid
<b>Color:</b>	Clear
<b>Odor:</b>	Methanol
<b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

<b>Melting point/Melting range:</b>	-97.8 °C (-144 °F)
<b>Boiling point/Boiling range:</b>	64 °C (147.2 °F)

· **Flash point:** 11 °C (51.8 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 455 °C (851 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

<b>Lower:</b>	5.5 Vol %
<b>Upper:</b>	44 Vol %

· **Vapor pressure at 20 °C (68 °F):** 128 hPa (96 mm Hg)

· **Density at 20 °C (68 °F):** 0.7915 g/cm<sup>3</sup> (6.60507 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

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- |   |  |
|---|--|
| <b>· Solubility in / Miscibility with Water:</b>  | Not miscible or difficult to mix.          |
| <b>· Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| <b>· Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | Not determined.                            |
| <b>Kinematic:</b>                                 | Not determined.                            |
| <b>· Solvent content:</b>                         |  |
| <b>Organic solvents:</b>                          | 100.0 %                                    |
| <b>VOC content:</b>                               | 100.00 %                                   |
|   | 791.5 g/l / 6.61 lb/gl                     |
| <b>Solids content:</b>                            | 0.0 %                                      |
| <b>· Other information</b>                        | 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	1,187-2,769 mg/kg (rat)
Inhalative	LC50/4 h	128 mg/l (rat)

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

Oral	LD50	100 mg/kg (ATE)
Dermal	LD50	300 mg/kg (ATE)
Inhalative	LC50/4 h	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:  
Harmful

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· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

CAS: 71-43-2 Benzene	I
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· **NTP (National Toxicology Program)**

CAS: 71-43-2 Benzene	K
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· **OSHA-Ca (Occupational Safety & Health Administration)**

CAS: 71-43-2 Benzene	
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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.

## 14 Transport information

- |                                  |                                      |
|----------------------------------|--------------------------------------|
| · <b>UN-Number</b>               |                                      |
| · <b>DOT, IMDG, IATA</b>         | UN1993                               |
| · <b>UN proper shipping name</b> |                                      |
| · <b>DOT</b>                     | Flammable liquids, n.o.s. (Methanol) |
| · <b>IMDG, IATA</b>              | FLAMMABLE LIQUID, N.O.S. (METHANOL)  |

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· **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

· **Environmental hazards:**  
 · **Marine pollutant:** No

· **Special precautions for user** Warning: Flammable liquids  
 · **Danger code (Kemler):** 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 LIQUIDS, N.O.S. (METHANOL), 3, II

## 15 Regulatory information

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

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

None of the ingredients is listed.

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

All ingredients are listed.

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

Methanol (Methyl Alcohol)

Benzene

· **Proposition 65**

· **Chemicals known to cause cancer:**

CAS: 71-43-2 Benzene

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

None of the ingredients is listed.

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

CAS: 71-43-2 Benzene

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

All ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

CAS: 71-43-2 Benzene

A, K/L

· **TLV (Threshold Limit Value established by ACGIH)**

CAS: 71-43-2 Benzene

AI

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

CAS: 71-43-2 Benzene

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

· **Hazard pictograms**



GHS02

GHS07

GHS08

· **Signal word** Danger

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

Methanol (Methyl Alcohol)

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Causes damage to organs.

· **Precautionary statements**

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.

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*If swallowed: Call a poison center/doctor if you feel unwell.*

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

*Specific treatment (see on this label).*

*Rinse mouth.*

*In case of fire: Use for extinction: CO<sub>2</sub>, 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**

*01-11-2018: review SDS for accuracy. STN*

*Creation date for SDS 06-08-2015. STN*

*01/11/2018 / -*

· **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*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*

*Acute Tox. 4: Acute toxicity – Category 4*

*STOT SE 1: Specific target organ toxicity (single exposure) – Category 1*