

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/08/2017

Reviewed on 12/08/2017

## 1 Identification

- **Product identifier**
- **Trade name:** Benzene Standard  
100 ug/ml in Methanol
- **Article number:** MOT148
- **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.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/08/2017

Reviewed on 12/08/2017

**Trade name: Benzene Standard**  
**100 ug/ml in Methanol**

(Contd. of page 1)

*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 = 1

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = \*1

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) | 99.99% |
|--------------|---------------------------|--------|

· **Table of Nonhazardous Ingredients**

|              |         |       |
|--------------|---------|-------|
| CAS: 71-43-2 | Benzene | 0.01% |
|--------------|---------|-------|

US

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/08/2017

Reviewed on 12/08/2017

**Trade name: Benzene Standard**  
**100 ug/ml in Methanol**

(Contd. of page 2)

## 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.
- **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:**  
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: 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 |
|--------------|---------------------------|-----------|

(Contd. on page 4)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/08/2017

Reviewed on 12/08/2017

**Trade name: Benzene Standard**  
**100 ug/ml in Methanol**

(Contd. of page 3)

CAS: 71-43-2 Benzene

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)

PEL Long-term value: 260 mg/m<sup>3</sup>, 200 ppmREL Short-term value: 325 mg/m<sup>3</sup>, 250 ppmLong-term value: 260 mg/m<sup>3</sup>, 200 ppm

Skin

TLV Short-term value: 328 mg/m<sup>3</sup>, 250 ppmLong-term value: 262 mg/m<sup>3</sup>, 200 ppm

Skin; 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)

- **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.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/08/2017

Reviewed on 12/08/2017

**Trade name: Benzene Standard**  
**100 ug/ml in Methanol**

(Contd. of page 4)

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:**

|                 |                   |
|-----------------|-------------------|
| Form:           | Liquid            |
| Color:          | Clear water white |
| Odor:           | Alcohol           |
| Odor threshold: | Not determined.   |

· **pH-value:** Not determined.

· **Change in condition**

|                              |                    |
|------------------------------|--------------------|
| Melting point/Melting range: | -97.8 °C (-144 °F) |
| Boiling point/Boiling range: | 65 °C (149 °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:**

|        |           |
|--------|-----------|
| Lower: | 5.5 Vol % |
| Upper: | 44 Vol %  |

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

· **Density at 20 °C (68 °F):** 0.79 g/cm<sup>3</sup> (6.59255 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/08/2017

Reviewed on 12/08/2017

**Trade name: Benzene Standard**  
**100 ug/ml in Methanol**

(Contd. of page 5)

- |   |  |
|---|--|
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.                            |
| · <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 %                                   |
|   | 790.0 g/l / 6.59 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     | 1,187-2,769 mg/kg (rat) |
| Dermal     | LD50     | 17,100 mg/kg (rabbit)   |
| Inhalative | LC50/4 h | 128.2 mg/l (rat)        |

- **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

(Contd. on page 7)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/08/2017

Reviewed on 12/08/2017

**Trade name: Benzene Standard**  
**100 ug/ml in Methanol**

(Contd. of page 6)

· **Carcinogenic categories**

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

|                      |   |
|----------------------|---|
| CAS: 71-43-2 Benzene | I |
|----------------------|---|

· **NTP (National Toxicology Program)**

|                      |   |
|----------------------|---|
| CAS: 71-43-2 Benzene | K |
|----------------------|---|

· **OSHA-Ca (Occupational Safety & Health Administration)**

|                      |  |
|----------------------|--|
| CAS: 71-43-2 Benzene |  |
|----------------------|--|

### 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

· **UN-Number**

· **DOT, IMDG, IATA** UN1993

· **UN proper shipping name**

· **DOT** Flammable liquids, n.o.s. (Methanol)

· **IMDG, IATA** FLAMMABLE LIQUID, N.O.S. (METHANOL)

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/08/2017

Reviewed on 12/08/2017

**Trade name: Benzene Standard**  
**100 ug/ml in Methanol**

(Contd. of page 7)

· **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):**

336

· **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.

(Contd. on page 9)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/08/2017

Reviewed on 12/08/2017

**Trade name: Benzene Standard**  
**100 ug/ml in Methanol**

(Contd. of page 8)

· **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.

(Contd. on page 10)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/08/2017

Reviewed on 12/08/2017

**Trade name: Benzene Standard**  
**100 ug/ml in Methanol**

(Contd. of page 9)

*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**

12-08-2017: review SDS for accuracy. STN

Creation date for SDS 03-31-2014. STN

12/08/2017 / -

· **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