Safety Data Sheet
acc. to OSHA HCS

Printing date 11/03/2017 Reviewed on 11/03/2017

1 Identification

· **Product identifier**

· **Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1**

· **Article number:** DC998-247

· **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 2 H371 May cause damage to organs.

GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.

GHS07

Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

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

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/03/2017 *Reviewed on 11/03/2017*

Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1

(Contd. of page 1)

· ***Hazard pictograms***

GHS02 GHS05 GHS07 GHS08

· ***Signal word*** *Danger*

· ***Hazard-determining components of labeling:***
Xylene (Xylol)
n-Butyl Alcohol
Methanol (Methyl Alcohol)
Tetrabutylammonium Hydroxide 30-Hydrate

· ***Hazard statements***
Highly flammable liquid and vapor.
Harmful if inhaled.
Causes skin irritation.
Causes serious eye damage.
May cause damage to organs.
May cause respiratory irritation. May cause drowsiness or dizziness.

· ***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.
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.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Call a poison center/doctor.
Immediately call a poison center/doctor.
Specific treatment (see on this label).
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
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 = 3
Fire = 3
Reactivity = 0

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/03/2017 *Reviewed on 11/03/2017*

Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1

(Contd. of page 2)

· **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: 1330-20-7	Xylene (Xylol)	67.5%
CAS: 71-36-3	n-Butyl Alcohol	22.5%
CAS: 67-56-1	Methanol (Methyl Alcohol)	6.924%
CAS: 2052-49-5	Tetrabutylammonium Hydroxide 30-Hydrate	3.076%

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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **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** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/03/2017 Reviewed on 11/03/2017

Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1

(Contd. of page 3)

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).
Use neutralizing agent.
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: 1330-20-7	Xylene (Xylol)	130 ppm
CAS: 71-36-3	n-Butyl Alcohol	60 ppm
CAS: 67-56-1	Methanol (Methyl Alcohol)	530 ppm
CAS: 2052-49-5	Tetrabutylammonium Hydroxide 30-Hydrate	1.2 mg/m³

· **PAC-2:**		
CAS: 1330-20-7	Xylene (Xylol)	920* ppm
CAS: 71-36-3	n-Butyl Alcohol	800 ppm
CAS: 67-56-1	Methanol (Methyl Alcohol)	2,100 ppm
CAS: 2052-49-5	Tetrabutylammonium Hydroxide 30-Hydrate	13 mg/m³

· **PAC-3:**		
CAS: 1330-20-7	Xylene (Xylol)	2500* ppm
CAS: 71-36-3	n-Butyl Alcohol	8000** ppm
CAS: 67-56-1	Methanol (Methyl Alcohol)	7200* ppm
CAS: 2052-49-5	Tetrabutylammonium Hydroxide 30-Hydrate	79 mg/m³

7 Handling and storage

· **Handling:**
· **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
· **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.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1

(Contd. of page 4)

· **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:**
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: 1330-20-7 Xylene (Xylol)	
PEL	Long-term value: 435 mg/m³, 100 ppm
REL	Short-term value: 655 mg/m³, 150 ppm Long-term value: 435 mg/m³, 100 ppm
TLV	Short-term value: 651 mg/m³, 150 ppm Long-term value: 434 mg/m³, 100 ppm BEI

CAS: 71-36-3 n-Butyl Alcohol	
PEL	Long-term value: 300 mg/m³, 100 ppm
REL	Ceiling limit value: 150 mg/m³, 50 ppm Skin
TLV	Long-term value: 61 mg/m³, 20 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

· **Ingredients with biological limit values:**

CAS: 1330-20-7 Xylene (Xylol)	
BEI	1.5 g/g creatinine LD50 Intraperitoneal: urine Time: end of shift LD50: Methylhippuric acids

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.
Immediately remove all soiled and contaminated clothing.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/03/2017 *Reviewed on 11/03/2017*

Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1

(Contd. of page 5)

Wash hands before breaks and at the end of work.
Avoid contact with the skin.
Avoid contact with the eyes and skin.

· **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.

· **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*
· **Odor:**	*Characteristic*
· **Odor threshold:**	*Not determined.*
· **pH-value:**	*Not determined.*
· **Change in condition**	
Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*64 °C (147.2 °F)*
· **Flash point:**	*11 °C (51.8 °F)*
· **Flammability (solid, gaseous):**	*Not applicable.*
· **Ignition temperature:**	*340 °C (644 °F)*
· **Decomposition temperature:**	*Not determined.*

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/03/2017 Reviewed on 11/03/2017

Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1

(Contd. of page 6)

· **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:	1.1 Vol %
Upper:	9.4 Vol %
· **Vapor pressure at 20 °C (68 °F):**	6.7 hPa (5 mm Hg)
· **Density at 20 °C (68 °F):**	0.85385 g/cm³ (7.12538 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/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	96.9 %
VOC content:	96.92 % 827.6 g/l / 6.91 lb/gl
Solids content:	3.1 %
· **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	2,264 mg/kg (rat)
Dermal	LD50	2,477 mg/kg (rabbit)
Inhalative	LC50/4 h	11.8 mg/l

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1

(Contd. of page 7)

CAS: 1330-20-7 Xylene (Xylol)		
Oral	LD50	4,300 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	11 mg/l (ATE)
CAS: 71-36-3 n-Butyl Alcohol		
Oral	LD50	790 mg/kg (rat)
Dermal	LD50	3,400 mg/kg (rabbit)
Inhalative	LC50/4 h	8,000 mg/l (rat)
CAS: 67-56-1 Methanol (Methyl Alcohol)		
Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)
Inhalative	LC50/4 h	3 mg/l (ATE)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Strong irritant with the danger of severe eye injury.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
CAS: 1330-20-7	Xylene (Xylol)	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.
· **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 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even small quantities leak into the ground.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/03/2017 Reviewed on 11/03/2017

Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1

(Contd. of page 8)

· **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. (Xylenes, Methanol, Butanols)
· **IMDG, IATA**	FLAMMABLE LIQUID, N.O.S. (XYLENES, METHANOL, BUTANOLS)
· **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:**	Not applicable.
· **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.

(Contd. on page 10)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/03/2017 Reviewed on 11/03/2017

Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1

(Contd. of page 9)

· **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. (XYLENES, METHANOL, BUTANOLS), 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.

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

CAS: 1330-20-7	Xylene (Xylol)
CAS: 71-36-3	n-Butyl Alcohol
CAS: 67-56-1	Methanol (Methyl Alcohol)

· **TSCA (Toxic Substances Control Act):**
Xylene (Xylol)
n-Butyl Alcohol
Methanol (Methyl Alcohol)
Tetrabutylammonium Hydroxide 30-Hydrate

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

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

CAS: 1330-20-7	Xylene (Xylol)	I
CAS: 71-36-3	n-Butyl Alcohol	D

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

CAS: 1330-20-7	Xylene (Xylol)	A4

(Contd. on page 11)

Safety Data Sheet
acc. to OSHA HCS

Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1

(Contd. of page 10)

· **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 GHS05 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Xylene (Xylol)
n-Butyl Alcohol
Methanol (Methyl Alcohol)
Tetrabutylammonium Hydroxide 30-Hydrate

· **Hazard statements**
Highly flammable liquid and vapor.
Harmful if inhaled.
Causes skin irritation.
Causes serious eye damage.
May cause damage to organs.
May cause respiratory irritation. May cause drowsiness or dizziness.

· **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.
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.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Call a poison center/doctor.
Immediately call a poison center/doctor.
Specific treatment (see on this label).
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
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.

(Contd. on page 12)

Safety Data Sheet
acc. to OSHA HCS

Trade name: TBAOH 0.1 Normal in Xylene/Butanol 3:1

(Contd. of page 11)

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**
11-03-2017: review SDS for accuracy. STN
Revision 0.0, 08-30-2016 Creation date for SDS. STN
11/03/2017 / -
· **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
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 2: Specific target organ toxicity (single exposure) – Category 2