

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/29/2017

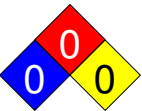
Reviewed on 12/29/2017

1 Identification

- **Product identifier**
- **Trade name:** Synthetic Sea Water
Prepared to ASTM D 665
- **Article number:** SPE091
- **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**
The product is not classified according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** Not Applicable
- **Hazard pictograms** Not Applicable
- **Signal word** Not Applicable
- **Hazard statements** Not Applicable
- **Precautionary statements**
If swallowed: Call a poison center/doctor if you feel unwell.
If on skin: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**


Health = 0
Fire = 0
Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**

HEALTH	1
FIRE	0
REACTIVITY	0

Health = 1
Fire = 0
Reactivity = 0
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- **Dangerous components:** Not Applicable

· Table of Nonhazardous Ingredients

CAS: 7647-14-5	Sodium Chloride	2.559%
CAS: 7791-18-6	Magnesium Chloride Hexahydrate	1.158%
CAS: 7757-82-6	Sodium Sulfate Anhydrous	0.427%
CAS: 10043-52-4	Calcium Chloride	0.121%
CAS: 7447-40-7	Potassium Chloride	0.072%
CAS: 144-55-8	Sodium Bicarbonate	0.0209%
CAS: 7758-02-3	Potassium Bromide	0.0104%
CAS: 10025-70-4	Strontium Chloride Hexahydrate	0.0042%
CAS: 10043-35-3	Boric Acid	0.0031%
CAS: 7681-49-4	Sodium Fluoride	0.0003%
CAS: 7732-18-5	Water	95.625%

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **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. 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:** Use fire fighting measures that suit the environment.
- **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** Not required.
- **Environmental precautions:**
 Dilute with plenty of water.
 Do not allow to enter sewers/ surface or ground water.

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· **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.

· **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: 7791-18-6	Magnesium Chloride Hexahydrate	34 mg/m ³
CAS: 7757-82-6	Sodium Sulfate Anhydrous	9.8 mg/m ³
CAS: 10043-52-4	Calcium Chloride	12 mg/m ³
CAS: 144-55-8	Sodium Bicarbonate	13 mg/m ³
CAS: 7758-02-3	Potassium Bromide	9.2 mg/m ³
CAS: 10043-35-3	Boric Acid	6 mg/m ³
CAS: 7681-49-4	Sodium Fluoride	17 mg/m ³

· **PAC-2:**

CAS: 7791-18-6	Magnesium Chloride Hexahydrate	370 mg/m ³
CAS: 7757-82-6	Sodium Sulfate Anhydrous	110 mg/m ³
CAS: 10043-52-4	Calcium Chloride	130 mg/m ³
CAS: 144-55-8	Sodium Bicarbonate	140 mg/m ³
CAS: 7758-02-3	Potassium Bromide	100 mg/m ³
CAS: 10043-35-3	Boric Acid	23 mg/m ³
CAS: 7681-49-4	Sodium Fluoride	90 mg/m ³

· **PAC-3:**

CAS: 7791-18-6	Magnesium Chloride Hexahydrate	1,600 mg/m ³
CAS: 7757-82-6	Sodium Sulfate Anhydrous	650 mg/m ³
CAS: 10043-52-4	Calcium Chloride	790 mg/m ³
CAS: 144-55-8	Sodium Bicarbonate	840 mg/m ³
CAS: 7758-02-3	Potassium Bromide	610 mg/m ³
CAS: 10043-35-3	Boric Acid	830 mg/m ³
CAS: 7681-49-4	Sodium Fluoride	1,100 mg/m ³

7 Handling and storage

· **Handling:**

· **Precautions for safe handling** No special measures required.

· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** None.

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- **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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **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:** Goggles recommended during refilling.
- **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:	Odorless
Odor threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)

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· Flash point:	<i>Not applicable.</i>
· Flammability (solid, gaseous):	<i>Not applicable.</i>
· Ignition temperature:	
· Decomposition temperature:	<i>Not determined.</i>
· Auto igniting:	<i>Product is not selfigniting.</i>
· Danger of explosion:	<i>Product does not present an explosion hazard.</i>
· Explosion limits:	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
· Vapor pressure at 20 °C (68 °F):	<i>23 hPa (17.3 mm Hg)</i>
· Density at 20 °C (68 °F):	<i>0.95896 g/cm³ (8.00252 lbs/gal)</i>
· Relative density	<i>Not determined.</i>
· Vapor density	<i>Not determined.</i>
· Evaporation rate	<i>Not determined.</i>
· Solubility in / Miscibility with Water:	<i>Fully miscible.</i>
· Partition coefficient (n-octanol/water):	<i>Not determined.</i>
· Viscosity:	
Dynamic:	<i>Not determined.</i>
Kinematic:	<i>Not determined.</i>
· Solvent content:	
Water:	<i>95.6 %</i>
VOC content:	<i>0.00 %</i>
	<i>0.0 g/l / 0.00 lb/gl</i>
· Solids content:	<i>4.4 %</i>
· Other information	<i>No further relevant information available.</i>

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.*

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11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimate)

Oral	LD50	146,542 mg/kg (rat)
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- **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 is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

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

CAS: 7681-49-4	Sodium Fluoride	3
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· **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 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:** Smaller quantities can be disposed of with household waste.

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- **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, ADN, IMDG, IATA	<i>Not regulated</i>
· UN proper shipping name	
· DOT, ADN, IATA	<i>Not regulated</i>
· IMDG	<i>Not Regulated</i>
· Transport hazard class(es)	
· DOT, ADN, IMDG, IATA	
· Class	<i>Not regulated</i>
· Packing group	
· DOT, IMDG, IATA	<i>Not regulated</i>
· Environmental hazards:	
· Marine pollutant:	<i>No</i>
· Special precautions for user	<i>Not applicable.</i>
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	<i>Not applicable.</i>
· UN "Model Regulation":	<i>Not regulated</i>

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
· Sara
· Section 355 (extremely hazardous substances):
<i>None of the ingredients is listed.</i>
· Section 313 (Specific toxic chemical listings):
<i>None of the ingredients is listed.</i>
· TSCA (Toxic Substances Control Act):
<i>Sodium Chloride</i>
<i>Sodium Sulfate Anhydrous</i>
<i>Calcium Chloride</i>
<i>Potassium Chloride</i>
<i>Sodium Bicarbonate</i>
<i>Potassium Bromide</i>
<i>Boric Acid</i>
<i>Sodium Fluoride</i>
<i>Water</i>

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- **TSCA new (21st Century Act) (Substances not listed)**
- **Proposition 65**

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:
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None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:
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None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- **Carcinogenic categories**

· EPA (Environmental Protection Agency)
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CAS: 10043-35-3	Boric Acid	I (oral)
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· TLV (Threshold Limit Value established by ACGIH)

CAS: 10043-35-3	Boric Acid	A4
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CAS: 7681-49-4	Sodium Fluoride	A4
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· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- **GHS label elements** Not Applicable

- **Hazard pictograms** Not Applicable

- **Signal word** Not Applicable

- **Hazard statements** Not Applicable

- **Precautionary statements**

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

If on skin: Wash with plenty of water.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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**

12-29-2017: review SDS for accuracy. STN

Creation date for SDS 02-16-2015. STN

12/29/2017 / -

- **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

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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

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