

SAFETY DATA SHEET

SYNTHETIC SEA WATER (ASTM D1141-98)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name SYNTHETIC SEA WATER (ASTM D1141-98)
Product number 2813

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses General chemical reagent
Uses advised against Processes involving incompatible materials.

1.3. Details of the supplier of the safety data sheet

Supplier

Reagent Chemical Services
 11b - 13 Aston Fields Road
 Whitehouse Industrial Estate
 Runcorn
 Cheshire WA7 3DL
 T: 01928 716903 (08.30 - 17.00)
 F: 01928 716425
 E: info@reagent.co.uk

1.4. Emergency telephone number

Emergency telephone OHES Environmental Ltd 24-7
 Tel. 0333 333 9939 (24 hour)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified
Health hazards Not Classified
Environmental hazards Not Classified

Human health Not classified for health effects. Contains boric acid and sodium fluoride in very low concentrations. Sodium fluoride has a Workplace Exposure Limit (WEL).

Environmental The product is not expected to be hazardous to the environment.

Physicochemical Exothermic reactions possible.

2.2. Label elements

Hazard statements NC Not Classified

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

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SECTION 3: Composition/information on ingredients

3.2. Mixtures

SODIUM CHLORIDE 1-5%		
CAS number: 7647-14-5	EC number: 231-598-3	REACH registration number: 01-2119489796-13-0000
Classification Not Classified	Classification (67/548/EEC or 1999/45/EC) -	
MAGNESIUM CHLORIDE HEXAHYDRATE 1-5%		
CAS number: 7791-18-6	EC number: 616-575-1	
Classification Not Classified		
SODIUM SULPHATE <1%		
CAS number: 7757-82-6	EC number: 231-820-9	REACH registration number: 01-2119519226-43-0000
Classification Not Classified		
CALCIUM CHLORIDE DIHYDRATE <1%		
CAS number: 10035-04-8	EC number: 233-140-8	REACH registration number: 01-2119494219-28-0000
Classification Eye Irrit. 2 - H319		
POTASSIUM CHLORIDE <1%		
CAS number: 7447-40-7	EC number: 231-211-8	REACH registration number: 01-2119539416-36-0000
Classification Not Classified	Classification (67/548/EEC or 1999/45/EC) -	
SODIUM HYDROGEN CARBONATE <1%		
CAS number: 144-55-8	EC number: 205-633-8	REACH registration number: 01-2119457606-32-XXXX
Classification Not Classified	Classification (67/548/EEC or 1999/45/EC) -	

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POTASSIUM BROMIDE		<1%
CAS number: 7758-02-3	EC number: 231-830-3	REACH registration number: 01-2119962195-33-0000
Classification Not Classified	Classification (67/548/EEC or 1999/45/EC) -	
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STRONTIUM CHLORIDE HEXAHYDRATE		<1%
CAS number: 10025-70-4	EC number: 233-971-6	REACH registration number: 01-2119976354-29-0000
Classification Eye Dam. 1 - H318		
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BORIC ACID		<1%
CAS number: 10043-35-3	EC number: 233-139-2	REACH registration number: 01-2119486683-25-0000
Classification Repr. 1B - H360FD		
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SODIUM FLUORIDE		<1%
CAS number: 7681-49-4	EC number: 231-667-8	REACH registration number: 01-2119539420-47-0000
Classification Acute Tox. 3 - H301 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319	Classification (67/548/EEC or 1999/45/EC) T;R25 Xi;R36/38 R32	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Although not classified as hazardous, any actions should be appropriate to handling incidents involving chemicals. The following information is given as general first aid advice. CAUTION! First aid personnel must be aware of own risk during rescue! Always consider any dangers in the vicinity before approaching to treat the casualty. First aid personnel must protect themselves with all necessary personal protective equipment during the assistance of casualties. When breathing is difficult, properly trained personnel may assist the casualty by administering oxygen. Check airway for any blockages. Place unconscious person on the side in the recovery position and ensure breathing can take place. Never give anything by mouth to an unconscious person. If breathing has stopped perform CPR. If medical assistance is needed take as much detail as possible about the incident and hazardous materials involved with the casualty.

Inhalation

Remove from exposure. Get medical attention if any discomfort continues. Unlikely route of exposure as the product does not contain volatile substances.

Ingestion

Rinse mouth thoroughly with water Get medical attention if any discomfort continues.

Skin contact

Rinse with water. Get medical attention if any discomfort continues.

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Eye contact If any discomfort occurs wash with plenty of water, remove any contact lenses if possible. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

General information The product contains boric acid which is classed as toxic to reproduction and may cause damage to fertility or the unborn child. The concentration is below the threshold limit. Sodium fluoride is in the mixture at very low levels (0.0003%). Although classified as non-hazardous, the following are given as possible effects.

Inhalation May irritate

Ingestion May cause discomfort if swallowed. Nausea

Skin contact Prolonged or repeated skin contact may cause skin irritation.

Eye contact May cause eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire. Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media Do not use water jet as this can spread the fire. Do not use carbon dioxide in enclosed spaces with insufficient ventilation.

5.2. Special hazards arising from the substance or mixture

Specific hazards In case of fire, irritating vapours or mists may be formed. No unusual fire or explosion hazards noted.

Hazardous combustion products The product is not combustible but may decompose in the event of a fire.

5.3. Advice for firefighters

Protective actions during firefighting Evacuate and keep non-emergency personnel away from the fire area until it is properly extinguished with no danger of re-ignition. Prevent run-off from entering drains and watercourses. Plastic containers may melt in the heat of a fire. Be aware of dangers from other hazardous substances in the immediate area.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No special emergency procedures are needed for this product.

6.2. Environmental precautions

Environmental precautions Non-hazardous product. Avoid discharge to freshwater bodies.

6.3. Methods and material for containment and cleaning up

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Methods for cleaning up If disposal to drain is not allowed, absorb spillage with inert material and collect in sealed containers. Dispose through an authorised chemical waste company. Be aware of the potential for surfaces to become slippery. Ventilate area and allow to dry before allowing access.

6.4. Reference to other sections

Reference to other sections Refer to sections 8 and 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling the product. Avoid ingestion of the product, inhalation of any vapours/mists when produced and contact with skin and eyes. Do not eat, drink or smoke when handling. Wash at the end of each work shift, before eating, drinking, smoking and using the toilet. Do not mix with incompatible substances or mixtures.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store away from heat, direct sunlight and moisture. Avoid freezing conditions. It is advisable to store between 15 and 25C.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

SODIUM FLUORIDE

Long-term exposure limit (8-hour TWA): WEL 2.5 (Inorganic, as F) mg/m³

WEL = Workplace Exposure Limit

DNEL No information available for DNEL of the mixture.

PNEC No information available for PNEC of the mixture.

SODIUM CHLORIDE (CAS: 7647-14-5)

DNEL	Workers - Inhalation; Long term systemic effects: 2068.62 mg/m ³ Workers - Inhalation; Short term systemic effects: 2068.62 mg/m ³ Workers - Dermal; Long term systemic effects: 295.52 mg/kg/day Workers - Dermal; Short term systemic effects: 295.52 mg/kg/day General population - Inhalation; Long term systemic effects: 443.28 mg/m ³ General population - Inhalation; Short term systemic effects: 443.28 mg/m ³ General population - Dermal; Long term systemic effects: 126.65 mg/kg/day General population - Dermal; Short term systemic effects: 126.65 mg/kg/day General population - Oral; Long term systemic effects: 126.65 mg/kg/day General population - Oral; Short term systemic effects: 126.65 mg/kg/day
PNEC	- Fresh water; 5 mg/l - STP; 500 mg/l - Soil; 4.86 mg/kg

POTASSIUM CHLORIDE (CAS: 7447-40-7)

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DNEL	Workers - Inhalation; Long term systemic effects: 1064 mg/m ³ Workers - Inhalation; Short term systemic effects: 5320 mg/m ³ Workers - Dermal; Long term systemic effects: 303 mg/kg/day Workers - Dermal; Short term systemic effects: 910 mg/kg/day General population - Inhalation; Long term systemic effects: 273 mg/m ³ General population - Inhalation; Short term systemic effects: 1365 mg/m ³ General population - Dermal; Long term systemic effects: 182 mg/kg/day General population - Dermal; Short term systemic effects: 910 mg/kg/day General population - Oral; Long term systemic effects: 91 mg/kg/day General population - Oral; Short term systemic effects: 455 mg/kg/day
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PNEC	- Fresh water; 0.1 mg/l - Marine water; 0.1 mg/l - STP; 10 mg/l
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SODIUM HYDROGEN CARBONATE (CAS: 144-55-8)

DNEL	No information available for DNEL.
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PNEC	No information available for PNEC.
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BORIC ACID (CAS: 10043-35-3)

DNEL	Workers - Inhalation; Long term systemic effects: 8.3 mg/m ³ Workers - Dermal; Long term systemic effects: 392 mg/kg General population - Inhalation; Long term systemic effects: 4.15 mg/m ³ General population - Dermal; Long term systemic effects: 196 mg/kg General population - Oral; Long term systemic effects: 0.98 mg/kg/day General population - Oral; Short term systemic effects: 0.98 mg/kg/day
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PNEC	- Fresh water; 2.9 mg/l - Marine water; 2.9 mg/l - Intermittent release; 13.7 mg/l - STP; 10 mg/l - Soil; 5.7 mg/kg
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8.2. Exposure controls

Appropriate engineering controls	Provide adequate ventilation.
Eye/face protection	Wear safety glasses. It is recommended that eye protection conforms to EN 166.
Hand protection	Wear protective gloves. Rubber or plastic. Disposable gloves may be adequate for the situation. Be aware that latex gloves can produce an allergic reaction in sensitive individuals. Gloves should carry the CE mark and conform to BS EN 374, chemicals and micro-organisms.
Other skin and body protection	Although classified as non-hazardous it is advisable to wear clothing suitable for handling chemicals. Wear suitable protective clothing during transport, handling and storage operations connected with the product. Wear suitable protective footwear to prevent contamination and to reduce the risk of slipping. Consult with the supplier as to the compatibility of protective clothing and footwear.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes wet or contaminated. When using do not eat, drink or smoke.

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Respiratory protection No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless.
Odour	Odourless.
pH	pH (concentrated solution): pH 8.2 - 8.3 @ 20°C
Melting point	Approx. 0°C
Initial boiling point and range	Approx. 100°C @
Flash point	Not relevant. The mixture is non-flammable.
Relative density	Approx. 1.0 @ °C
Solubility(ies)	Miscible with water.
Auto-ignition temperature	Not relevant. The mixture is non-flammable.

9.2. Other information

Other information All available information has been included in section 9.1.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product. Can react exothermically.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Due to the aqueous portion the product can react exothermically with acids. May react exothermically with alkalis. Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, direct sunlight and moisture. Avoid storage in freezing conditions. Avoid contact with any incompatible materials.

10.5. Incompatible materials

Materials to avoid As a general precaution avoid mixing with other chemical products.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects The mixture contains boric acid at 0.003% and sodium fluoride at 0.0003%. No toxic effects are anticipated from these components.

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General information	The product is classed as non-hazardous, the following information is given as general advice.
Inhalation	Very high concentrations of vapours may cause slight irritation.
Ingestion	Small amounts can cause a feeling of nausea, larger amounts may produce vomiting.
Skin contact	May cause irritation on prolonged or repeated contact.
Eye contact	May cause temporary eye irritation.
Acute and chronic health hazards	Although not classified as hazardous, the product should be treated with the care and attention appropriate to chemicals.

SODIUM CHLORIDE

Toxicological effects	The product is not classified for toxicological properties.
General information	No specific health hazards known. The product is classed as non-hazardous, the following information is given as general advice.
Inhalation	Dust may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing.
Ingestion	Nausea, vomiting.
Skin contact	May cause irritation on prolonged or repeated contact.
Eye contact	Irritating to eyes.
Acute and chronic health hazards	Although not classified as hazardous, the product should be treated with the care and attention appropriate to chemicals.

MAGNESIUM CHLORIDE HEXAHYDRATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

ATE oral (mg/kg) 5,000.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 5,000.0

Species Rabbit

ATE dermal (mg/kg) 5,000.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No specific test data are available.

Skin corrosion/irritation

Skin corrosion/irritation Based on available data the classification criteria are not met.

Serious eye damage/irritation

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Serious eye damage/irritation	Based on available data the classification criteria are not met.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Based on available data the classification criteria are not met.
<u>Skin sensitisation</u>	
Skin sensitisation	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	There is no evidence that the product can cause cancer.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	This substance has no evidence of toxicity to reproduction.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Based on available data the classification criteria are not met.
<u>Aspiration hazard</u>	
Aspiration hazard	Not anticipated to present an aspiration hazard, based on chemical structure.
<u>General information</u>	
General information	No specific health hazards known.
Inhalation	May cause discomfort.
Ingestion	Stomach pain. Nausea, vomiting.
Skin contact	May cause irritation.
Eye contact	May irritate eyes.
Acute and chronic health hazards	No specific long-term effects known.
Route of entry	Not specific
Target organs	No specific target organs known.

POTASSIUM CHLORIDE

Toxicological effects	Not regarded as a health hazard under current legislation.
<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	3,020.0

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Species	Rat
Notes (oral LD₅₀)	Based on available data the classification criteria are not met.
ATE oral (mg/kg)	3,020.0
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	Based on available data the classification criteria are not met.
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	Based on available data the classification criteria are not met.
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Not irritating.
Animal data	Based on available data the classification criteria are not met.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Based on available data the classification criteria are not met.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Based on available data the classification criteria are not met.
<u>Skin sensitisation</u>	
Skin sensitisation	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	Based on available data the classification criteria are not met.
IARC carcinogenicity	None of the ingredients are listed or exempt.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
<u>Aspiration hazard</u>	
Aspiration hazard	Not relevant. Solid.
<u>General information</u>	
General information	No specific health hazards known. Dust may irritate the eyes and the respiratory system. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

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Inhalation	Dust may irritate the respiratory system. Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.
Ingestion	May cause discomfort if swallowed. May cause stomach pain or vomiting.
Skin contact	Prolonged contact may cause dryness of the skin.
Eye contact	Dust may cause slight irritation.
Route of entry	Ingestion Inhalation Skin and/or eye contact
Target organs	No specific target organs known.

SODIUM HYDROGEN CARBONATE

Toxicological effects	The product is not classified for toxicological properties.
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	Actual exposure = 4.5 hours
General information	No specific health hazards known. The product is classed as non-hazardous, the following information is given as general advice.
Inhalation	Dust may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing.
Ingestion	May cause nausea and vomiting.
Skin contact	May cause irritation on prolonged or repeated contact.
Eye contact	May cause temporary eye irritation.

POTASSIUM BROMIDE

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	5,000.0
Species	Rat
ATE oral (mg/kg)	5,000.0
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	5,000.0
Species	Rabbit
ATE dermal (mg/kg)	5,000.0
General information	Known or suspected mutagen.
Acute and chronic health hazards	Pregnant women should not be exposed to this substance. Although not classified as hazardous, the product should be treated with the care and attention appropriate to chemicals.

BORIC ACID

Acute toxicity - oral

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Acute toxicity oral (LD₅₀ mg/kg)	2,660.0
Species	Rat
ATE oral (mg/kg)	2,660.0
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	No specific test data are available.
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	No specific test data are available.
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Based on available data the classification criteria are not met.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Based on available data the classification criteria are not met.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Based on available data the classification criteria are not met.
<u>Skin sensitisation</u>	
Skin sensitisation	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	Based on available data the classification criteria are not met.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Suspected of damaging fertility.
Reproductive toxicity - development	May damage the unborn child.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	No specific test data are available.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	No specific test data are available.
<u>Aspiration hazard</u>	
Aspiration hazard	Not anticipated to present an aspiration hazard, based on chemical structure.

SECTION 12: Ecological Information

Ecotoxicity Although not classified as environmentally hazardous, harmful effects cannot be excluded in the event of improper handling or disposal.

SODIUM CHLORIDE

SYNTHETIC SEA WATER (ASTM D1141-98)

Ecotoxicity Although not classified as environmentally hazardous, harmful effects cannot be excluded in the event of improper handling or disposal.

MAGNESIUM CHLORIDE HEXAHYDRATE

Ecotoxicity The product is not expected to be hazardous to the environment.

POTASSIUM CHLORIDE

Ecotoxicity Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

SODIUM HYDROGEN CARBONATE

Ecotoxicity The product is not expected to be hazardous to the environment.

POTASSIUM BROMIDE

Ecotoxicity Although not classified as environmentally hazardous, harmful effects cannot be excluded in the event of improper handling or disposal.

BORIC ACID

Ecotoxicity The product is not expected to be hazardous to the environment.

12.1. Toxicity

Toxicity Due to the dilute composition of the mixture no harmful effects are anticipated. This is approximately the same as natural sea water.

SODIUM CHLORIDE

Acute toxicity - fish LC₅₀, 96 hours: 5840 mg/l, Lepomis macrochirus (Bluegill)

Acute toxicity - aquatic invertebrates LC₅₀, 48 hours: 874 mg/l, Daphnia magna

Chronic toxicity - fish early life stage LOEC, 33 days: 352 mg/l, Pimephales promelas (Fat-head Minnow)

MAGNESIUM CHLORIDE HEXAHYDRATE

Acute toxicity - fish No specific test data are available.

Acute toxicity - aquatic invertebrates No specific test data are available.

Acute toxicity - aquatic plants Not determined.

POTASSIUM CHLORIDE

Toxicity Based on available data the classification criteria are not met.

Acute toxicity - fish LC₅₀, 96 hours: 880 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: >440 mg/l, Daphnia magna

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Acute toxicity - aquatic plants EC₅₀, 72 hours: 100 mg/l, Desmodosmus subspicatus

SODIUM HYDROGEN CARBONATE

Acute toxicity - fish NOEC, 96 hours: 5200 mg/l, Lepomis macrochirus (Bluegill)
Flow through, freshwater.

Acute toxicity - aquatic invertebrates NOEC, 48 hours: 3100 mg/l, Daphnia magna
Mobility.

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 576 mg/l, Daphnia magna
Freshwater, semi-static.

BORIC ACID

Acute toxicity - fish LC₅₀, 96 hours: 279 mg/l, Freshwater fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 133 mg/l, Daphnia magna

Acute toxicity - aquatic plants Not known.

12.2. Persistence and degradability

Stability (hydrolysis) Not applicable.
The product is an aqueous mixture.

Biodegradation The product contains mainly inorganic substances which are not biodegradable.

SODIUM CHLORIDE

Stability (hydrolysis) Scientifically unjustified.

Biodegradation Technically not feasible.

MAGNESIUM CHLORIDE HEXAHYDRATE

Persistence and degradability There are no data on the degradability of this product.

POTASSIUM CHLORIDE

Persistence and degradability The product contains inorganic substances which are not biodegradable.

SODIUM HYDROGEN CARBONATE

Persistence and degradability The substance is inorganic and not susceptible to hydrolysis or degradability.

Phototransformation Technically not feasible.

Stability (hydrolysis) Scientifically unjustified.

BORIC ACID

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Persistence and degradability There are no data on the degradability of this product.

12.3. Bioaccumulative potential

Bioaccumulative potential Not expected to bioaccumulate.

SODIUM CHLORIDE

Bioaccumulative potential Not relevant.

MAGNESIUM CHLORIDE HEXAHYDRATE

Bioaccumulative potential No specific test data are available.

Partition coefficient Not determined.

POTASSIUM CHLORIDE

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient No specific test data are available.

SODIUM HYDROGEN CARBONATE

Bioaccumulative potential The product is not bioaccumulating.

BORIC ACID

Bioaccumulative potential Boron has a low bioaccumulation potential.

Partition coefficient Not determined.

12.4. Mobility in soil

Mobility Due to the very dilute amounts of constituents these are expected not to travel through soil layers. Product constituents will be absorbed by the soil at different rates.

SODIUM CHLORIDE

Adsorption/desorption coefficient Not relevant.

MAGNESIUM CHLORIDE HEXAHYDRATE

Mobility The product is soluble in water.

POTASSIUM CHLORIDE

Mobility The product is water-soluble and may spread in water systems.

SODIUM HYDROGEN CARBONATE

Mobility Sodium bicarbonate is ionised in water, the sodium ion will be adsorbed onto the soil surface and the bicarbonate will remain in solution.

Adsorption/desorption coefficient Scientifically unjustified.

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BORIC ACID

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

SODIUM CHLORIDE

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

MAGNESIUM CHLORIDE HEXAHYDRATE

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

POTASSIUM CHLORIDE

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

SODIUM HYDROGEN CARBONATE

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

BORIC ACID

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects Will affect drinking water supplies. May affect the composition of freshwater if discharged in large amounts which may have an effect on aquatic organisms.

SODIUM CHLORIDE

Other adverse effects None known.

MAGNESIUM CHLORIDE HEXAHYDRATE

Other adverse effects None known.

POTASSIUM CHLORIDE

Other adverse effects None known.

SODIUM HYDROGEN CARBONATE

Other adverse effects Will affect drinking water supplies.

BORIC ACID

SYNTHETIC SEA WATER (ASTM D1141-98)

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

Dispose in accordance with local regulations.

Disposal methods

Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. If allowed, flush to drain with plenty of water. When dealing with waste always consider the waste management hierarchy of Prevention, Preparation for re-use, Recycling, Recovery and Disposal. It is advisable to minimise waste at source if possible, then re-use, recover or recycle wherever possible before considering waste disposal options.

SECTION 14: Transport information

14.1. UN number

Not classified.

14.2. UN proper shipping name

Not classified.

14.3. Transport hazard class(es)

Not classified.

14.4. Packing group

Not classified.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not classified.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Not applicable.

**Annex II of MARPOL 73/78
and the IBC Code**

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Industry - Dermal; Long term systemic effects 22 mg/kg/day

EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Regulation (EU) 453/2010.

Guidance

Approved Classification and Labelling Guide (CHIP 4)
ECHA Guidance on the compilation of safety data sheets 2014.
Industry - Dermal; Long term systemic effects 22 mg/kg/day

SYNTHETIC SEA WATER (ASTM D1141-98)

15.2. Chemical safety assessment

Information from the manufacturer of the raw material has not been received regarding Chemical Safety Assessments, Exposure Scenarios or a Chemical Safety Report.

SECTION 16: Other information

General information	This datasheet is not intended to be a replacement for a full risk assessment, these should always be carried out by competent persons.
Key literature references and sources for data	Raw material safety data sheets. ECHA website.
Revision comments	Full revision
Revision date	03/02/2015
Revision	2
Supersedes date	17/04/2009
SDS number	11739
Risk phrases in full	Not classified. R25 Toxic if swallowed. R32 Contact with acids liberates very toxic gas. R36/38 Irritating to eyes and skin.
Hazard statements in full	H301 Toxic if swallowed. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H360FD May damage fertility. May damage the unborn child.