

1. Identification

Product identifier: HYDREX 4102

Other means of identification: None.

Recommended use of the chemical and restrictions on use

Recommended use: Reverse Osmosis Antiscalant. PROFESSIONAL USE ONLY

Recommended restrictions: No other uses are advised.

Manufacturer/Importer/Supplier/Distributor information

SupplierAddress: Veolia Water Technologies (SEA) PTE LTD
6 Serangoon North Avenue 5, #05-05 Singapore 554910

Contact Person: Hydrex Product Manager

Telephone / Fax: + 65 67155200 / + 65 67155205

E-mail: hydrex.asia@veolia.com

Local Emergency PhoneNumber: +65 3158 6734 (Code: 333239)

Global EmergencyContact: +1-760-476-3960 (Code: 333239)

2. Hazards identification

GHS classification

Physical hazards: Not classified.

Health hazards: Not classified.

Environmental hazards: Not classified.

GHS label elements, including precautionary statements

Pictograms:



Signal word: WARNING

Hazard statements: The mixture does not meet the criteria for classification.

Precautionary statement

Prevention: Not available

Response: Not available

Storage: Not available

Disposal: Not available

Other hazards which do not result in classification:

None known.

Supplemental information

EUH210 - Safety data sheet available on request.

3. Composition/information on ingredients

Substance or mixture Mixture

Chemical name	Common name and synonyms	CAS Number	Concentration (%)
Sodium salt, Amino-trimethylenesulphonate		20592-85-2	35 - 40
Ammonium hydroxide		1336-21-6	< 0.3
Other components below reportable levels			> 60

4. First-aid measures

Inhalation:	Move to fresh air. Call a physician if symptoms develop or persist
Skin contact:	Wash off with soap and water. Get medical attention if irritation develops and persists
Eye contact:	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion:	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed:	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed:	Treat symptomatically.
General information:	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media:	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media:	Not available.
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed. Carbon monoxide and carbon dioxide. Nitrogen Oxides (NO _x). Phosphorus Oxides (P _x O _y).
Fire fighting equipment/instructions:	Move containers from fire area if you can do so without risk.
Special protective equipment and precautions for firefighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Specific methods:	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards:	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Environmental precautions:	Avoid discharge into drains, water courses or onto the ground.
Methods and materials for containment and cleaning up:	<p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>

7. Handling and storage

Precautions for safe handling:	Avoid forming spray/aerosol mists. Avoid prolonged exposure.
Conditions for safe storage, including any incompatibilities:	Protect from sunlight. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in cool, dry place.

8. Exposure controls/personal protection

Occupational exposure limits

Singapore. PELs. (Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order)

Components	Type	Value
Ammonium hydroxide (CAS1336-21-6)	STEL	35 ppm
	TWA	25 ppm

Control parameters/Occupational exposure limits**US. ACGIH Threshold Limit Values**

Components	Type	Value
Ammonium hydroxide (CAS1336-21-6)	STEL	35 ppm
	TWA	25 ppm

Appropriate engineering control measures: Not available.

Individual protection measures, such as personal protective equipment

Eye/face protection: Avoid contact with eyes. Wear safety glasses with side shields (or goggles). Use face shield in case of splash risk.

Skin protection:

Hand protection: Wear appropriate chemical resistant gloves. Use protective gloves made of: Latex gloves. Nitrilerubber. Polyvinyl chloride (PVC). Butyl rubber. Neoprene.

Other: Wear suitable protective clothing. In case of splashing, wear chemical liquid-tight clothing complying with ISO EN14605 to avoid skin contact.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Avoid forming spray/aerosol mists.

Thermal hazards: Not applicable.

General hygiene considerations: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear
Physical state:	Liquid
Form:	Liquid
Color:	Clear to pale yellow
Odor:	Ammonia like
Odor threshold:	Not available.
pH (as supplied) @ 25 °C:	10.0 – 11.5
Melting point/freezing point:	3.2 °F (-16 °C)
Initial boiling point:	Not available.
Flash point:	Not available.
Evaporation rate:	Not available.
Flammability:	Not available.
Flammability limit - lower(%):	Not available.
Flammability limit - upper(%):	Not available.
Explosive limit - lower (%):	Not available.
Explosive limit - upper (%):	Not available.
Vapor pressure:	Not available.

Vapor density:	Not available.
Relative density:	Not available.
Solubility (Water):	Miscible (100%, soluble in all proportion)
Explosive property:	Not explosive
Kinematic viscosity:	17.4 mm ² /s (40 °C)
Oxidizing property:	Not oxidizing
Specific gravity (@20 °C):	1.40 – 1.44

10. Stability and reactivity

Reactivity:	The product is stable and non-reactive under normal conditions of use, storage and transport
Chemical stability:	Material is stable under normal conditions
Possibility of hazardous reactions:	No dangerous reaction known under conditions of normal use
Conditions to avoid:	Contact with incompatible materials
Incompatible materials:	Acids. Combustible material. Metals
Hazardous decomposition products:	Thermal decomposition can emit : Carbon Dioxide. Carbon monoxide. Nitrogen oxides (NOx). Phosphine. Phosphorus Oxides (PxOy).

11. Toxicological information

Information on likely routes of exposure

Inhalation:	Prolonged inhalation may be harmful
Skin contact:	No adverse effects due to skin contact are expected
Eye contact:	Direct contact with eyes may cause temporary irritation
Ingestion:	Expected to be a low ingestion hazard

Acute toxicity

Product	Acute		Species	Test Results
Hydrex 4102	Dermal	LD50	Rat	> 2000 mg/kg
	Inhalation	LC50	Rat	16000 mg/l, 0.5 Hours
	Oral (liquid)	LD50	Rat	> 2000 mg/kg

Symptoms:	Direct contact with eyes may cause temporary irritation
Skin corrosion/irritation:	Prolonged skin contact may cause temporary irritation

Respiratory or skin sensitization

Respiratory sensitization:	Not a respiratory sensitizer
Skin sensitization:	This product is not expected to cause skin sensitization
Reproductive toxicity:	
Specific target organ toxicity single exposure:	Not available.
Specific target organ toxicity repeated exposure:	Not available.
Aspiration hazard:	Not available.
Chronic effects:	Prolonged inhalation may be harmful

12. Ecological information

Ecotoxicity:	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability:	No data is available on the degradability of any ingredients in the mixture
Bioaccumulative potential:	No data available.
Mobility in soil:	No data available.
Other adverse effects:	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal methods/information:	Collect and reclaim or dispose in sealed containers at licensed waste disposal site
Special precautions:	Dispose in accordance with all applicable regulations

14. Transport information

ADR:	Not regulated as dangerous goods.
RID:	Not regulated as dangerous goods.
ADN:	Not regulated as dangerous goods.
IATA:	Not regulated as dangerous goods.
IMDG:	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	Not established.

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

Prior Informed Consent (PIC) Substances (Environment Protection and Management Act, 2nd Schedule, Part 1, Jul. 1, 2013):	Not regulated.
Chemical Weapons Prohibition (Act):	Not applicable.
Environmental Protection and Management (Hazardous Substances) Regulations:	Ammonium hydroxide (CAS 1336-21-6) - 1000 KG
Environmental Public Health Act:	Not applicable
Misuse of Drugs Act:	
Controlled Narcotic Drugs (Misuse of Drugs Act, First Schedule, Part I, II & III, as amended)	Not regulated.
Drug Precursors (Misuse of Drugs Act, Third Schedule, Parts I & II, as amended)	Not regulated.
Controlled Specified Drugs (Misuse of Drugs Act, Fourth Schedule, as amended)	Not regulated.
Temporarily Listed Drugs (Misuse of Drugs Act, Fifth Schedule, as amended)	Not regulated.

International regulations

Montreal Protocol:	Not applicable.
Stockholm Convention:	Not applicable.
Rotterdam Convention:	Not applicable.
Kyoto protocol:	Not applicable
Basel Convention:	Not applicable

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances(EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances(PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

References:	Not available
Issued by:	VEOLIA WATER Technologies (SEA) Pte Ltd
Prepared by:	Veolia Hydrex Team
Disclaimer:	<p>Veolia Water Technologies is not able to anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used.</p> <p>It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use and or nonrespect of Veolia Water Technologies' requirement.</p>
Issue date:	01-AUG-2017
Revision date:	07-MAR-2024
Key/legend:	Not applicable
Revision information:	This document has undergone significant changes and should be reviewed in its entirety