

1. Identification

Product identifier: HYDREX 2250

Other means of identification: None.

Recommended use of the chemical and restrictions on use

Recommended use: Cooling Water Treatment. 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

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

2. Hazards identification

GHS classification

Physical hazards: Corrosive to metal Category 1

Health hazards: Acute toxicity, oral Category 4

Skin corrosion/irritation Category 1

Serious eye damage/eye irritation Category 1

Environmental hazards: Not classified.

GHS label elements, including precautionary statements

Pictograms:



Signal word: DANGER

Hazard statements:
H290 - May be corrosive to metals.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.

Precautionary statement

Prevention:
P234 - Keep only in original container.
P260 - Do not breathe mist/vapors.
P264 - Wash thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER/doctor.
P363 - Wash contaminated clothing before reuse.
P390 - Absorb spillage to prevent material damage.

Storage: P406 - Store in corrosive resistant container with a resistant inner liner.
Disposal: P501 - Dispose of contents/container in accordance with local / regional / national / international regulations.
Other hazards which do not result in classification: None known.
Supplemental information None

3. Composition/information on ingredients

Substance or mixture	Mixture		
Chemical name	Common name and synonyms	CAS Number	Concentration (%)
2-phosphonobutane-1,2,4-tricarboxylic acid, Potassium Salt		93858-78-7	22 - 28
Potassium Hydroxide		1310-58-3	< 2
1-H-Benzotriazole		95-14-7	< 5
Other components below reportable levels			> 71

4. First-aid measures

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion: Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed: Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Indication of immediate medical attention and special treatment needed: Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance

5. Fire-fighting measures

Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media: Not available.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

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. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. 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. Do not taste or swallow. Avoid contact with eyes. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
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	No exposure limits noted for ingredient(s)
Singapore. PELs. (Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order)	

Components	Type	Value
Potassium hydroxide (CAS 1310-58-3)	STEL	2 mg/ m3

Control parameters/Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/ m3

Appropriate engineering control measures:	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product
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Individual protection measures, such as personal protective equipment

Eye/face protection:	Chemical goggles and face shield are recommended. Wear safety glasses with side shields (or goggles).
Skin protection:	
Hand protection	Chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing. Chemical resistant gloves.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment. Avoid forming spray/aerosol mists.
Thermal hazards:	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations:	Keep away from food and drink. 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:	Colorless to pale yellow
Odor:	Not significal
Odor threshold:	Not available.
pH (as is) @ 25 °C:	13.0 – 14.0
Melting point/freezing point:	< 32 °F (< 0 °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%, solube in all propotion)
Explosive property:	Not explosive
Percent volatile (%):	16.13 (astimated).
Oxidizing property:	Not oxidizing
Specific gravity (@20 °C):	1.14 – 1.20

10. Stability and reactivity

Reactivity:	Not available.
Chemical stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.

Conditions to avoid:	Heat, flames and sparks.
Incompatible materials:	Acids.
Hazardous decomposition products:	At thermal decomposition temperatures, carbon monoxide and carbon dioxide

11. Toxicological information

Information on likely routes of exposure

Inhalation:	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact:	Causes severe skin burns.
Eye contact:	Causes serious eye damage.
Ingestion:	Causes digestive tract burns. Harmful if swallowed

Acute toxicity Harmful if swallowed

Product	Acute	Species	Test Results
Hydrex 2250	Dermal	LD50	Rabbit
	Inhalation	LD50	Rat
	Oral	LD50	Rat

Symptoms: Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/eye irritation: Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization:	Not a respiratory sensitizer
Skin sensitization:	This product is not expected to cause skin sensitization
Germ cell mutagenicity:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic
Reproductive toxicity:	
Specific target organ toxicity single exposure:	Not clasified.
Specific target organ toxicity repeated exposure:	Not clasified.
Aspiration hazard:	Not an aspiration hazard.
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.

Product	Acute	Species	Test Results
Hydrex 2250	Crustacea	EC50	Daphnia
	Fish	LC50	Fish

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; IATA; IMDG; RID



ADR:

UN Nuber:	UN 3266
UN proper shipping name:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium hydroxide)
Transport hazard class(es):	
Class	8
Subsidiary risk	-
Label(s)	8
Hazard No. (ADR)	80
Tunnel restriction code	E
Packing group	II
Environmental hazards	No
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling

RID:

UN Nuber:	UN 3266
UN proper shipping name:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium hydroxide)
Transport hazard class(es):	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	No
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling

IATA:

UN Nuber:	UN 3266
UN proper shipping name:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium hydroxide)
Transport hazard class(es):	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling
Other information:	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG:

UN Nuber:	UN 3266
UN proper shipping name:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium hydroxide)
Transport hazard class(es):	
Class	8

Subsidiary risk	-
Packing group:	II
Environmental hazards:	No
EmS:	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling
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

Controlled Narcotic Drugs (Misuse of Drugs Act, First Schedule, Part I, II & III)	Not regulated.
Controlled Specified Drugs (Misuse of Drugs Act, Fourth Schedule)	Not regulated.
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:	
Potassium hydroxide (CAS 1310-58-3)	1000 KG
Environmental Public Health Act:	Not applicable.

International regulations

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

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)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances(PICCS)	No
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
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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>
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