Printing date 06/06/2014

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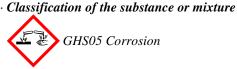
1 Identification

- · Product identifier
- Trade name: <u>Sodium Hydroxide</u> <u>20% w/v Solution</u>
- · Article number: 8600
- 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 Product safety department
- *Emergency telephone number: Chemtrec:* 800-424-9300 *Canutec:* 613-996-6666

2 Hazard(s) identification



Skin Corr. 1A H314 Causes severe skin burns and eye damage.

· Label elements

• *GHS label elements* The product is classified and labeled according to the Globally Harmonized System (GHS). • *Hazard pictograms*



- · Signal word Danger
- *Hazard-determining components of labeling:* Sodium Hydroxide
- · Hazard statements
- Causes severe skin burns and eye damage.
- · Precautionary statements
- *If medical advice is needed, have product container or label at hand. Keep out of reach of children.*
- Read label before use.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see on this label).
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

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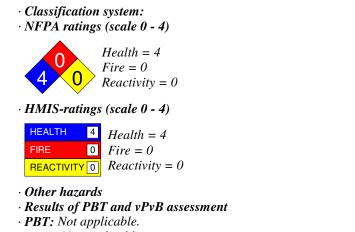


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· vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

1310-73-2 Sodium Hydroxide

18.082%

81.919%

· Table of Nonhazardous Ingredients

7732-18-5 Water, Deionized, ASTM Type II

4 First-aid measures

- · Description of first aid measures
- · General information: Immediately remove any clothing soiled by the product.
- After inhalation: 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: Drink copious amounts of water and provide fresh air. Immediately call a 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

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: No special measures required.

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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.

7 Handling and storage

· Handling:

- Precautions for safe handling Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols.
- · 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: Keep receptacle tightly sealed.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Control parameters

· Components with limit values that require monitoring at the workplace:

1310-73-2 Sodium Hydroxide

PEL Long-term value: 2 mg/m³

REL Ceiling limit value: 2 mg/m³

TLV Ceiling limit value: 2 mg/m³

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

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[•] Additional information about design of technical systems: No further data; see item 7.

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• 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 \cdot **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

Information on basic physical and General Information	chemical properties	
Appearance:		
Form:	Liquid	
Color:	Clear	
Odor:	Odorless	
Odour threshold:	Not determined.	
pH-value at 20 °C (68 °F):	>12	
Change in condition Melting point/Melting range: Boiling point/Boiling range:	Undetermined. 100 °C (212 °F)	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Not applicable.	
Ignition temperature:		
Decomposition temperature:	Not determined.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	Not determined.	

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Upper:	Not determined.	
· Vapor pressure at 20 °C (68 °F):	23 hPa (17 mm Hg)	
· Density at 20 °C (68 °F):	1.1061 g/cm ³ (9.23 lbs/gal)	
· Relative density	Not determined.	
· Vapour density	Not determined.	
· Evaporation rate	Not determined.	
· Solubility in / Miscibility with		
Water:	Fully miscible.	
· Partition coefficient (n-octanol/wate	r): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	0.0~%	
Water:	81.9 %	
Solids content:	18.1 %	
• Other information	No further relevant information available.	

10 Stability and reactivity

- · Reactivity
- · 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:
- 1310-73-2 Sodium Hydroxide

Oral LD50 2000 mg/kg (rat)

- · Primary irritant effect:
- on the skin: Strong caustic effect on skin and mucous membranes.
- on the eye: Strong caustic effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:
- *The product shows the following dangers according to internally approved calculation methods for preparations: Corrosive*

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

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. Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

· 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:

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

UN1824

- · UN proper shipping name
- $\cdot DOT$

· IMDG, IATA

Sodium hydroxide solution

SODIUM HYDROXIDE SOLUTION

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USA

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	(Contd. of page 6
· Transport hazard class(es)	
·DOT	
CORROSIVE 8	
· Class	8 Corrosive substances.
· Label	8
· IMDG, IATA	
· Class	8 Corrosive substances.
· Label	8
· Packing group · DOT, IMDG, IATA	II
· Environmental hazards:	
Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F- A , S - B
· Segregation groups	Alkalis
• Transport in bulk according to Annex I MARPOL73/78 and the IBC Code	I of Not applicable.
	**

15 Regulatory information

 \cdot Safety, health and environmental regulations/legislation specific for the substance or mixture \cdot Sara

Section 355 (extremely hazardous substances):	
None of the ingredients is listed.	
Section 313 (Specific toxic chemical listings):	
None of the ingredients is listed.	
TSCA (Toxic Substances Control Act):	
1310-73-2 Sodium Hydroxide	
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.	
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· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

• TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

• *GHS label elements* The product is classified and labeled according to the Globally Harmonized System (GHS). • *Hazard pictograms*



- · Signal word Danger
- · Hazard-determining components of labeling:
- Sodium Hydroxide
- · Hazard statements
- Causes severe skin burns and eye damage.
- · Precautionary statements

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Do not breathe dust/fume/gas/mist/vapours/spray.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see on this label).

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.

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 MSDS: Environment protection department.
- · Contact: Mr. Nelson
- Date of preparation / last revision Creation date for SDS 06-06-2014. STN 06/06/2014 / -

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\cdot 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) LC50: Lethal concentration, 50 percent Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A USA-