1. IDENTIFICATION

Product identifier
Product Name
Reagent for Amtax sc Analyzer

Other means of identification
Product Code(s)
2894452

Safety data sheet number
M02432

UN/ID no
UN1824

Recommended use of the chemical and restrictions on use
Recommended Use
Laboratory reagent.

Uses advised against
None.

Restrictions on use
None.

Details of the supplier of the safety data sheet

Manufacturer Address
Hach Company
P.O.Box 389 Loveland, CO 80539 USA
(970) 669-3050

Emergency telephone number
(303) 523-5716 - 24 Hour Service (515)232-2533 - 8am - 4pm CST

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Skin corrosion/irritation</th>
<th>Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Hazard not otherwise classified (HNOC)
Not applicable

Label elements

Signal word - Danger
Hazard statements
H314 - Causes severe skin burns and eye damage

Precautionary statements.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower
P363 - Wash contaminated clothing before reuse
P301 + P330 + P311 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P310 - Immediately call a POISON CENTER or doctor/physician
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant

Other Information
May be harmful if swallowed
Toxic to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Not applicable

Mixture

Percent ranges are used where confidential product information is applicable.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Percent Range</th>
<th>HMREIC #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>10 - 20%</td>
<td>-</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

Description of first aid measures

General advice
See section 8 for PPE that may be required during handling. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If no local exhaust use approved fume hood and/or respirator. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. Remove from exposure, lie down. Immediate medical attention is required. IF IN EYES: Flush eyes for at least 15 minutes. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

Skin contact
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a physician immediately.

Ingestion
IF SWALLOWED: Rinse Mouth. Do NOT induce vomiting. Call a physician immediately.

Self-protection of the first aider
First aider: Pay attention to self-protection. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not use mouth-to-mouth method if victim ingested or inhaled the substance, give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms and effects, both acute and delayed

Symptoms
See Section 11: TOXICOLOGICAL INFORMATION.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
No information available.

Flammable properties
Substance does not burn.

Specific hazards arising from the chemical
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products
No information available.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES
Product Code(s)  2894452
Issue Date    14-Jun-2016
Version 2

Product Name  Reagent for Amtax sc Analyzer
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U.S. Notice
Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company’s emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

EC Notice
Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

WHMIS Notice
Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

Personal precautions, protective equipment and emergency procedures

Personal precautions
Evacuate personnel to safe areas. Do not touch or walk through spilled material. Ventilate affected area. Use personal protective equipment as required.

For emergency responders
Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions
Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up
Neutralize spill if necessary. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local, state and federal regulations or laws.

Emergency Response Guide Number 154

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Flammability class
Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines
### Chemical Name

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>Ceiling: 2 mg/m³</td>
<td>TWA: 2 mg/m³</td>
<td>IDLH: 10 mg/m³</td>
</tr>
<tr>
<td>10 - 20%</td>
<td></td>
<td>(vacated) Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
</tr>
</tbody>
</table>

### Alberta OEL

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Alberta OEL</th>
<th>British Columbia OEL</th>
<th>Manitoba OEL</th>
<th>New Brunswick OEL</th>
<th>New Foundland &amp; Labrador OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
</tr>
<tr>
<td>10 - 20%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Northwest Territories OEL

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Northwest Territories OEL</th>
<th>Nova Scotia OEL</th>
<th>Nunavut OEL</th>
<th>Ontario TWA</th>
<th>Prince Edward Island OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
</tr>
<tr>
<td>10 - 20%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Quebec OEL

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Quebec OEL</th>
<th>Saskatchewan OEL</th>
<th>Yukon OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
</tr>
<tr>
<td>10 - 20%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Other Information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

### Legend

See section 16 for terms and abbreviations.

### Appropriate engineering controls

**Engineering Controls**

- If no local exhaust use approved fume hood or self-contained breathing apparatus
- If no local exhaust use approved fume hood and/or respirator
- Showers
- Eyewash stations

### Individual protection measures, such as personal protective equipment

**Eye/face protection**

Wear tight sealing safety goggles and/or face protection shield. Avoid contact with eyes.

**Skin and body protection**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Respiratory protection**

Do not breathe gas/fumes/vapor/spray. If no local exhaust use approved fume hood and/or respirator. In case of inadequate ventilation wear respiratory protection.

**General Hygiene Considerations**

Avoid breathing (dust, vapor, mist, gas). Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs. Regular cleaning of equipment, work area and clothing is recommended. Handle in accordance with good industrial hygiene and safety practice. Avoid prolonged or repeated contact with skin. Take off all contaminated clothing and wash it before reuse.

### Environmental exposure controls

Do not allow into any sewer, on the ground or into any body of water. Local authorities should be advised if significant spillages cannot be contained.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

**Physical state**

Liquid

**Gas Under Pressure**

Not classified according to GHS criteria
Appearance: aqueous solution  
Color: colorless  
Odor threshold: No data available

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>~ -40 °C / -40 °F</td>
<td>Estimation based on theoretical calculation</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>~ 111 °C / 232 °F</td>
<td>Estimation based on theoretical calculation</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>0.84 (water = 1)</td>
<td>Estimation based on theoretical calculation</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>15.827 mm Hg / 2.11 kPa at 25 °C / 77 °F</td>
<td></td>
</tr>
<tr>
<td>Vapor density (air = 1)</td>
<td>0.62</td>
<td></td>
</tr>
<tr>
<td>Specific gravity (water = 1 / air = 1)</td>
<td>1.2</td>
<td>Estimation based on theoretical calculation</td>
</tr>
<tr>
<td>Partition Coefficient (n-octanol/water)</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Soil Organic Carbon-Water Partition Coefficient</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>

**Solubility(ies)**

**Water solubility**

<table>
<thead>
<tr>
<th>Water solubility classification</th>
<th>Water solubility</th>
<th>Water Solubility Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble</td>
<td>&gt; 1000 mg/L</td>
<td>25 °C / 77 °F</td>
</tr>
</tbody>
</table>

**Solubility in other solvents**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Solubility classification</th>
<th>Solubility</th>
<th>Solubility Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid</td>
<td>Soluble</td>
<td>&gt; 1000 mg/L</td>
<td>25 °C / 77 °F</td>
</tr>
</tbody>
</table>

**Other Information**

**Metal Corrosivity**  
Classified as corrosive to metal according to GHS criteria

**GHS Metal Corrosivity Classification**  
Category 1, H290

**Steel Corrosion Rate**  
No data available

**Aluminum Corrosion Rate**  
No data available
Product Code(s) 2894452
 Issue Date 14-Jun-2016
 Version 2

Product Name Reagent for Amtax sc Analyzer
 Revision Date 16-Nov-2016
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Bulk density
Not applicable

Explosive properties
Not classified according to GHS criteria.

Explosion data
No data available

Upper explosion limit
No data available

Lower explosion limit
No data available

Flammable properties
Not classified as flammable according to GHS criteria.

Flammability Limit in Air
Upper flammability limit:
No data available

Lower flammability limit:
No data available

Flash point
No data available

Method
No information available

Oxidizing properties
Not classified according to GHS criteria.

Reactivity properties
Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

10. STABILITY AND REACTIVITY

Reactivity properties
Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria

Chemical stability
Stable under recommended storage conditions.

Special dangers of the product
None reported

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Extremes of temperature and direct sunlight. Incompatible materials.

Incompatible materials

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosive properties
Not classified according to GHS criteria.
Upper explosion limit  No data available
Lower explosion limit  No data available

Autoignition temperature  No data available

Sensitivity to Static Discharge  None reported

Sensitivity to Mechanical Impact  None reported

11. TOXICOLOGICAL INFORMATION

NIOSH (RTECS) Number  None reported

Information on Likely Routes of Exposure

<table>
<thead>
<tr>
<th>Product Information</th>
<th>Corrosive to skin. Corrosive to eyes. May be harmful if swallowed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Causes burns. Corrosive by inhalation.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Corrosive to the eyes and may cause severe damage including blindness. Causes burns. Corrosive to eyes.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Cause severe skin burns and eye damage. Causes burns.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Ingestion causes burns of the upper digestive and respiratory tracts. May be harmful if swallowed. Causes burns.</td>
</tr>
<tr>
<td>Aggravated Medical Conditions</td>
<td>Eye disorders. Skin disorders. Respiratory disorders.</td>
</tr>
<tr>
<td>Toxicologically synergistic products</td>
<td>None known.</td>
</tr>
<tr>
<td>Toxicokinetics, metabolism and distribution</td>
<td>See ingredients information below.</td>
</tr>
</tbody>
</table>

Product Acute Toxicity Data

Oral Exposure Route  No data available
Dermal Exposure Route  No data available
Inhalation (Dust/Mist) Exposure Route  No data available
Inhalation (Vapor) Exposure Route  No data available
Inhalation (Gas) Exposure Route  No data available

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)  3,141.00 mg/kg

Ingredient Acute Toxicity Data

Oral Exposure Route  If available, see data below

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Toxicological effects</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide (10 - 20%)</td>
<td>Rabbit LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>500 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>No information available</td>
</tr>
<tr>
<td>CAS#: 1310-73-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dermal Exposure Route  If available, see data below

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Toxicological effects</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sodium hydroxide (10 - 20%)  
CAS#: 1310-73-2

Rabbit LD50  
1350 mg/kg  
None reported

<table>
<thead>
<tr>
<th>Exposure Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation (Dust/Mist)</td>
<td>No data available</td>
</tr>
<tr>
<td>Inhalation (Vapor)</td>
<td>If available, see data below</td>
</tr>
<tr>
<td>Inhalation (Gas)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**Product Skin Corrosion/Irritation Data**
No data available.

**Ingredient Skin Corrosion/Irritation Data**
If available, see data below

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Test method</th>
<th>Species</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Results</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
</table>
| Sodium hydroxide (10 - 20%)  
CAS#: 1310-73-2 | Patch test | Human | 20 mg | 24 hours | Corrosive to skin | RTECS (Registry of Toxic Effects of Chemical Substances) |

**Product Serious Eye Damage/Eye Irritation Data**
No data available.

**Ingredient Eye Damage/Eye Irritation Data**
If available, see data below

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Test method</th>
<th>Species</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Results</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
</table>
| Sodium hydroxide (10 - 20%)  
CAS#: 1310-73-2 | Standard Draize Test | Rabbit | 0.05 mg | 24 hours | Corrosive to eyes | RTECS (Registry of Toxic Effects of Chemical Substances) |

**Sensitization Information**

**Product Sensitization Data**

Skin Sensitization Exposure Route  
No data available.

Respiratory Sensitization Exposure Route  
No data available.

**Ingredient Sensitization Data**

Skin Sensitization Exposure Route  
No data available.

Respiratory Sensitization Exposure Route  
No data available.

**Chronic Toxicity Information**

**Product Repeat Dose Toxicity Data**

Oral Exposure Route  
No data available.

Dermal Exposure Route  
No data available.

Inhalation (Dust/Mist) Exposure Route  
No data available.
Product Code(s) 2894452  
Product Name Reagent for Amtax sc Analyzer
Issue Date 14-Jun-2016  
Revision Date 16-Nov-2016
Version 2  
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Inhalation (Vapor) Exposure Route  
No data available.

Inhalation (Gas) Exposure Route  
No data available.

Ingredient Repeat Dose Toxicity Data

Oral Exposure Route  
No data available

Dermal Exposure Route  
No data available

Inhalation (Dust/Mist) Exposure Route  
No data available

Inhalation (Vapor) Exposure Route  
No data available

Inhalation (Gas) Exposure Route  
No data available

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)  
Does not apply

IARC (International Agency for Research on Cancer)  
Does not apply

NTP (National Toxicology Program)  
Does not apply

OSHA (Occupational Safety and Health Administration of the US Department of Labor)  
Does not apply

Product Carcinogenicity Data

Oral Exposure Route  
No data available

Dermal Exposure Route  
No data available

Inhalation (Dust/Mist) Exposure Route  
No data available

Inhalation (Vapor) Exposure Route  
No data available

Inhalation (Gas) Exposure Route  
No data available

Ingredient Carcinogenicity Data

Oral Exposure Route  
No data available

Dermal Exposure Route  
No data available

Inhalation (Dust/Mist) Exposure Route  
No data available

Inhalation (Vapor) Exposure Route  
No data available

Inhalation (Gas) Exposure Route  
No data available

Product Germ Cell Mutagenicity invitroData

No data available.

Ingredient Germ Cell Mutagenicity invitroData  
If available, see data below

Oral Exposure Route  
No data available
12. ECOLOGICAL INFORMATION

Ecotoxicity

Product Ecological Data

Aquatic toxicity

Fish
No data available

Crustacea
No data available

Algae
No data available

Terrestrial toxicity

Soil
No data available

Vertebrates
No data available
Invertebrates

**Ingredient Ecological Data**

**Aquatic toxicity**

**Fish**

If available, see ingredient data below

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Exposure time</th>
<th>Species</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide (10 - 20%)</td>
<td>96 hours</td>
<td><em>Oncorhynchus mykiss</em></td>
<td>LC₅₀</td>
<td>45.4 mg/L</td>
<td>IUCLID (The International Uniform Chemical Information Database)</td>
</tr>
</tbody>
</table>

**Crustacea**

If available, see ingredient data below

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Exposure time</th>
<th>Species</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide (10 - 20%)</td>
<td>48 Hours</td>
<td><em>Daphnia sp.</em></td>
<td>EC₅₀</td>
<td>40.4 mg/L</td>
<td>IUCLID (The International Uniform Chemical Information Database)</td>
</tr>
</tbody>
</table>

**Algae**

If available, see ingredient data below

**Terrestrial toxicity**

**Soil**

No data available

**Vertebrates**

No data available

**Invertebrates**

No data available

**Other Information**

**Persistence and degradability**

None known.

**Product Biodegradability Data**

If available, see ingredient data below.

**Ingredient Biodegradability Data**

Test data reported below

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Test method</th>
<th>Biodegradation</th>
<th>Exposure time</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide (10 - 20%)</td>
<td>None reported</td>
<td>None reported</td>
<td>None reported</td>
<td>Readily biodegradable</td>
</tr>
<tr>
<td>CAS#: 1310-73-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bioaccumulation**

None known.

**Product Bioaccumulation Data**

No data available.

**Ingredient Bioaccumulation Data**

No data available

**Additional information**

**Product Information**
Partition Coefficient (n-octanol/water) Not applicable

Mobility
Mobility in soil: High mobility. If available, see ingredient data below.

Product Information

Soil Organic Carbon-Water Partition Coefficient Not applicable

Additional information

Water solubility

Product Information

<table>
<thead>
<tr>
<th>Water solubility classification</th>
<th>Water solubility</th>
<th>Water Solubility Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble</td>
<td>&gt; 1000 mg/L</td>
<td>25 °C / 77 °F</td>
</tr>
</tbody>
</table>

Ingredient Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Water solubility classification</th>
<th>Water solubility</th>
<th>Water solubility temperature °C</th>
<th>Water solubility temperature °F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide CAS#: 1310-73-2</td>
<td>Completely soluble</td>
<td>420000 mg/L</td>
<td>0 °C</td>
<td>32 °F</td>
</tr>
</tbody>
</table>

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes
Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Contaminated packaging
Do not reuse container.

US EPA Waste Number
D002

Special instructions for disposal
Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. If permitted by regulation. Open cold water tap completely, slowly pour the reacted material to the drain. Flush system with plenty of water. Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

14. TRANSPORT INFORMATION

DOT
UN/ID no
UN1824
Proper shipping name: Sodium Hydroxide Solution
Hazard Class: 8
Packing Group: II
Emergency Response Guide Number: 154

TDG
UN/ID no: UN1824
Proper shipping name: Sodium Hydroxide Solution
Hazard Class: 8
Packing Group: II

IATA
UN/ID no: UN1824
Proper shipping name: Sodium Hydroxide Solution
Hazard Class: 8
Packing Group: II
ERG Code: 154

IMDG
UN/ID no: UN1824
Proper shipping name: Sodium Hydroxide Solution
Hazard Class: 8
Packing Group: II

Note: No special precautions necessary.

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following: UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories
TSCA: Complies
DSL/INDSL: Complies

TSCA- United States Toxic Substances Control Act Section 8(b) Inventory
DSL/INDSL- Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories
EINECS/ELINCS: Complies
ENCS: Complies
IECSC: Complies
KECL: Complies
PICCS: Complies
TC SI: Complies
AICS: Complies
NZIoC: Complies

EINECS/ELINCS- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS- Japan Existing and New Chemical Substances
IECSC- China Inventory of Existing Chemical Substances
KECL- Korean Existing and Evaluated Chemical Substances
PICCS- Philippines Inventory of Chemicals and Chemical Substances
TC SI- Taiwan Chemical Substances Inventory
AICS- Australian Inventory of Chemical Substances
NZIoC- New Zealand Inventory of Chemicals
US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Yes</th>
<th>No</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire hazard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1000 lb</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>1310-73-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1000 lb</td>
<td>-</td>
<td>RQ 1000 lb final RQ</td>
</tr>
<tr>
<td>1310-73-2</td>
<td></td>
<td></td>
<td>RQ 454 kg final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1310-73-2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA and HMIS Classifications

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards - 3</th>
<th>Flammability - 0</th>
<th>Instability - 0</th>
<th>Physical and Chemical Properties -</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS</td>
<td>Health hazards - 3</td>
<td>Flammability - 0</td>
<td>Physical hazards - 0</td>
<td>Personal protection - X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- See section 8 for more</td>
</tr>
</tbody>
</table>
Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH  Immediately Dangerous to Life or Health
ACGIH  ACGIH (American Conference of Governmental Industrial Hygienists)
NDF  no data

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA  TWA (time-weighted average)
MAC  Maximum Allowable Concentration
X  Listed

STEL  STEL (Short Term Exposure Limit)
Ceiling  Ceiling Limit Value
Vacated  Vacated

Skin designation
Respiratory sensitization
Carcinogen
mutagen

SKN+  Skin sensitization
RSP+  Respiratory sensitization
C  Carcinogen
M  mutagen

Prepared By  Hach Product Compliance Department
Issue Date  14-Jun-2016
Revision Date  16-Nov-2016
Revision Note  None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet