1. IDENTIFICATION

Product identifier
Product Name: Cleaning Solution for Phosphex sc Analyzer

Other means of identification
Product Code(s): 2825352
Safety data sheet number: M02014
UN/ID no: UN1824

Recommended use of the chemical and restrictions on use
Recommended Use: Analytical 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) 623-5716 - 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>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrosive to metals</td>
<td>1</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>1</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>1</td>
</tr>
</tbody>
</table>

Hazards not otherwise classified (HNOC)
Not applicable

Label elements
Signal word - Danger
Hazard statements
H290 - May be corrosive to metals
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
P234 - Keep only in original container
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 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P310 - Immediately call a POISON CENTER or doctor/physician
P390 - Absorb spillage to prevent material damage
P405 - Store locked up
P406 - Store in corrosive resistant stainless steel container with a resistant inliner
P501 - Dispose of contents/container to an approved waste disposal plant

Other Information
Harmful 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>HMRIC #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>1 - 5%</td>
<td>-</td>
</tr>
<tr>
<td>Octylphenol ethoxylate</td>
<td>9036-19-5</td>
<td>&lt;0.01%</td>
<td>-</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

Description of first aid measures

General advice
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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
Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

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
Caution: Use of water spray when fighting fire may be inefficient.

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
This material will not burn.

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

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. Remove all sources of ignition. 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

Avoid release to the environment. 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

Take necessary precautions in observance of pertinent physical hazards. 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. Keep/store only in original container.

Flammability class

Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

<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 1 - 5%</td>
<td>Ceiling: 2 mg/m³</td>
<td>TWA: 2 mg/m³ (vacated) Ceiling: 2 mg/m³</td>
<td>IDLH: 10 mg/m³ Ceiling: 2 mg/m³</td>
</tr>
</tbody>
</table>

<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 Newfoundland &amp; Labrador OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide 1 - 5%</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>
</tbody>
</table>
**Product Code(s):** 2825352  
**Issue Date:** 23-May-2016  
**Product Name:** Cleaning Solution for Phosphax sc Analyzer  
**Revision Date:** 07-Dec-2016  
**Version:** 2  
**Page:** 5 / 17

<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>1 - 5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<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>1 - 5%</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**

Showers  
Eyewash stations  
Ventilation systems

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

**Eye/face protection**

Wear tight sealing safety goggles and/or face protection shield.

**Skin and body protection**

Wear protective gloves and protective clothing.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment.

**General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off all contaminated clothing and wash it before reuse. Wash hands thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended.

**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  
clear

**Color**

colorless

**Odor**

None

**Odor threshold**

No data available

**Property**

**Values**  
**Remarks • Method**

**Molecular weight**

No data available

**pH**

13

**Melting point/freezing point**

No data available

**Boiling point / boiling range**

No data available
Evaporation rate
Vapor pressure
Vapor density (air = 1)
Specific gravity (water = 1 / air = 1)
Partition Coefficient (n-octanol/water)
Soil Organic Carbon-Water Partition Coefficient
Autoignition temperature
Decomposition temperature
Dynamic viscosity
Kinematic viscosity

**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>No information available</td>
<td>No data available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**Other Information**

Metal Corrosivity

GHS Metal Corrosivity Classification

Steel Corrosion Rate

Aluminum Corrosion Rate

Bulk density

Explosive properties

Explosion data

Upper explosion limit

Lower explosion limit

Flammable properties

Flammability Limit in Air

Upper flammability limit:

Lower flammability limit:
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
Evaporation. Exposure to air or moisture over prolonged periods.

Incompatible materials
Incompatible with strong acids and bases. Incompatible with oxidizing agents.

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
**Product Code(s)** 2825352  
**Product Name** Cleaning Solution for Phospha x sc Analyzer  
**Issue Date** 23-May-2016  
**Revision Date** 07-Dec-2016  
**Version** 2  
**Page** 8/17

**Product Information**  
Corrosive to skin. Corrosive to eyes.

**Inhalation**  
 Causes burns. Corrosive by inhalation.

**Eye contact**  
 Corrosive to the eyes and may cause severe damage including blindness. Causes burns. Corrosive to eyes.

**Skin contact**  
 Cause severe skin burns and eye damage. Causes burns.

**Ingestion**  
 Ingestion causes burns of the upper digestive and respiratory tracts. Causes burns.

**Aggravated Medical Conditions**  
Eye disorders. Skin disorders. Respiratory disorders.

**Toxicologically synergistic products**  
None known.

**Toxicokinetics, metabolism and distribution**  
See ingredients information below.

**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) | 67,024.00 mg/kg |

**Ingredient Acute Toxicity Data**

**Oral Exposure Route**

<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>Octylphenol ethoxylate (&lt;0.01%) CAS#: 9036-19-5</td>
<td>Rat LD₅₀</td>
<td>1700 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>Vendor SDS</td>
</tr>
</tbody>
</table>

<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 (1 - 5%) CAS#: 1310-73-2</td>
<td>Rabbit LD₅₀</td>
<td>500 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>Vendor SDS</td>
</tr>
</tbody>
</table>

<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>Octylphenol ethoxylate (&lt;0.01%) CAS#: 9036-19-5</td>
<td>Rat LD₅₀</td>
<td>4190 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
</tbody>
</table>

**Dermal Exposure Route**  
Toxicological data for ingredients is not indicative of likely harm

<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 (1 - 5%) CAS#: 1310-73-2</td>
<td>Rabbit LD₅₀</td>
<td>1350 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>IUCLID (The International Uniform Chemical Information Database)</td>
</tr>
</tbody>
</table>

<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>Octylphenol ethoxylate (&lt;0.01%) CAS#: 9036-19-5</td>
<td>Rabbit LD₅₀</td>
<td>&gt; 3000 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>Vendor SDS</td>
</tr>
</tbody>
</table>

**Inhalation (Dust/Mist) Exposure Route**  
No data available
Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

No data available

No data available

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

**Ingredient Skin Corrosion/Irritation Data**

<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>
<tbody>
<tr>
<td>Sodium hydroxide (1 - 5%)</td>
<td>Patch test</td>
<td>Human</td>
<td>20 mg</td>
<td>24 hours</td>
<td>Corrosive to skin</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>CAS#: 1310-73-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Octylphenol ethoxylate (&lt;0.01%)</td>
<td>Existing human experience</td>
<td>Human</td>
<td>None reported</td>
<td>None reported</td>
<td>Not corrosive or irritating to skin</td>
<td>Vendor SDS</td>
</tr>
<tr>
<td>CAS#: 9036-19-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**Ingredient Eye Damage/Eye Irritation Data**

<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>
<tbody>
<tr>
<td>Sodium hydroxide (1 - 5%)</td>
<td>Standard Draize Test</td>
<td>Rabbit</td>
<td>0.05 mg</td>
<td>24 hours</td>
<td>Corrosive to eyes</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>CAS#: 1310-73-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Octylphenol ethoxylate (&lt;0.01%)</td>
<td>Standard Draize Test</td>
<td>Rabbit</td>
<td>100 mg</td>
<td>None reported</td>
<td>Corrosive to eyes</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>CAS#: 9036-19-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route
Ingredient Repeat Dose Toxicity Data
Oral Exposure Route
Dermal Exposure Route
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route

<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>
<tr>
<td>Octylphenol ethoxylate</td>
<td>9036-19-5</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
Dermal Exposure Route
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route

Ingredient Carcinogenicity Data
Oral Exposure Route
Dermal Exposure Route
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route

Product Germ Cell Mutagenicity *invitro* Data
No data available.

Ingredient Germ Cell Mutagenicity *invitro* Data
Toxicological data for ingredients is not indicative of likely harm.
### Chemical Name

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Test</th>
<th>Cell Strain</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Results</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octylphenol ethoxylate (&lt;0.01%) CAS#: 9036-19-5</td>
<td>DNA inhibition</td>
<td>Human lymphocyte</td>
<td>5 mg/L</td>
<td>None reported</td>
<td>Positive test result for mutagenicity</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>Octylphenol ethoxylate (&lt;0.01%) CAS#: 9036-19-5</td>
<td>DNA inhibition</td>
<td>Mouse cells - not specified</td>
<td>10 mg/L</td>
<td>None reported</td>
<td>Positive test result for mutagenicity</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
</tbody>
</table>

### 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 Germ Cell Mutagenicity/In Vivo Data

- Toxicological data for ingredients is not indicative of likely harm.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Test</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>
<tbody>
<tr>
<td>Octylphenol ethoxylate (&lt;0.01%) CAS#: 9036-19-5</td>
<td>None reported</td>
<td>Rat</td>
<td>10200 mg/kg</td>
<td>None reported</td>
<td>Positive test result for mutagenicity</td>
<td>Vendor SDS</td>
</tr>
</tbody>
</table>

### 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

### 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 Reproductive Toxicity Data

- No data available

### Oral Exposure Route

- No data available

### Dermal Exposure Route

- No data available

### Inhalation (Dust/Mist) Exposure Route

- No data available
### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity
Harmful to aquatic life.

#### Product Ecological Data

#### Aquatic toxicity

<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 (1 - 5%)</td>
<td>96 hours</td>
<td>Oncorhynchus mykiss</td>
<td>LC50</td>
<td>45.4 mg/L</td>
<td>IUCLID (The International Uniform Chemical Information Database)</td>
</tr>
<tr>
<td>Octylphenol ethoxylate (&lt;0.01%)</td>
<td>96 hours</td>
<td>Lepomis macrochirus</td>
<td>LC50</td>
<td>&gt; 10 mg/L</td>
<td>Vendor SDS</td>
</tr>
<tr>
<td><strong>Chemical Name</strong></td>
<td><strong>Exposure time</strong></td>
<td><strong>Species</strong></td>
<td><strong>Endpoint type</strong></td>
<td><strong>Reported dose</strong></td>
<td><strong>Key literature references and sources for data</strong></td>
</tr>
<tr>
<td>Octylphenol ethoxylate (&lt;0.01%)</td>
<td>96 hours</td>
<td>Pimephales promelas</td>
<td>LC50</td>
<td>&gt;= 4 mg/L</td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Chemical Name</strong></td>
<td><strong>Exposure time</strong></td>
<td><strong>Species</strong></td>
<td><strong>Endpoint type</strong></td>
<td><strong>Reported dose</strong></td>
<td><strong>Key literature references and sources for data</strong></td>
</tr>
<tr>
<td>Octylphenol ethoxylate (&lt;0.01%)</td>
<td>7 days</td>
<td>Oncorhynchus mykiss</td>
<td>NOEC</td>
<td>0.004 mg/L</td>
<td>EPA (United States Environmental Protection Agency)</td>
</tr>
</tbody>
</table>

#### Fish

<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 (1 - 5%)</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>
<tr>
<td>Octylphenol ethoxylate</td>
<td>48 Hours</td>
<td><em>Daphnia magna</em></td>
<td>EC50</td>
<td>&gt;= 18 mg/L</td>
<td>ERMA (New Zealand Environmental Risk Management)</td>
</tr>
</tbody>
</table>

#### Crustacea

<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>
</table>
Product Code(s) 2825352
Issue Date 23-May-2016
Version 2

Product Name Cleaning Solution for Phosphex sc Analyzer
Revision Date 07-Dec-2016
Page 13 / 17

(<0.01%)
CAS#: 9036-19-5

Algae

<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>Octylphenol ethoxylate (&lt;0.01%) CAS#: 9036-19-5</td>
<td>96 hours</td>
<td>Selenastrum sp.</td>
<td>EC₅₀</td>
<td>0.21 mg/L</td>
<td>Vendor SDS</td>
</tr>
</tbody>
</table>

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 (1 - 5%) CAS#: 1310-73-2</td>
<td>None reported</td>
<td>None reported</td>
<td>None reported</td>
<td>Readily biodegradable</td>
</tr>
</tbody>
</table>

Bioaccumulation
None known.

Product Bioaccumulation Data
Test data reported below.

Ingredient Bioaccumulation Data
No data available

Additional information

Product Information

Partition Coefficient (n-octanol/water) Not applicable

Ingredient Information

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

Product Information
Soil Organic Carbon-Water Partition Coefficient

Ingredient Information

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</td>
<td>Completely soluble</td>
<td>420000 mg/L</td>
<td>0 °C</td>
<td>32 °F</td>
</tr>
<tr>
<td>CAS#: 1310-73-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Octylphenol ethoxylate</td>
<td>Soluble</td>
<td>&gt; 1000 mg/L</td>
<td>25 °C</td>
<td>77 °F</td>
</tr>
<tr>
<td>CAS#: 9036-19-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other adverse effects

No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EU - Endocrine Disrupters Candidat List</th>
<th>EU - Endocrine Disrupters - Evaluated Substances</th>
<th>Endocrine disrupting potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octylphenol ethoxylate</td>
<td>Group III Chemical</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(&lt;0.01%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS#: 9036-19-5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Open cold water tap completely, slowly pour the reacted material to the drain.

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
Product Code(s) 2825352  
Issue Date 23-May-2016  
Version 2  

Product Name  Cleaning Solution for Phosphax sc Analyzer  
Revision Date 07-Dec-2016  
Page 15 / 17

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/NDSL Complies

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

International Inventories  
EINECS/ELINCS Does not comply  
ENCS Does not comply  
IECSC Complies  
KECL Does not comply  
PICCS Complies  
TCSI 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  
TCSI- 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
Product Code(s) 2825352
Issue Date 23-May-2016
Version 2

Product Name Cleaning Solution for Phosphax sc Analyzer
Revision Date 07-Dec-2016
Page 16 / 17

**SARA 311/312 Hazard Categories**
- Acute health hazard: Yes
- Chronic Health Hazard: Yes
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

**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**

**Additional information**

Global Automotive Declarable Substance List (GADSL) Not applicable

Special Comments None

**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>
<th>HMIS</th>
<th>Health hazards - 3</th>
<th>Flammability - 0</th>
<th>Physical hazards - 0</th>
<th>Personal protection - X</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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: These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.

SKN*: Skin designation
RSP+: Respiratory sensitization
C: Carcinogen
M: mutagen

SKN+: Skin sensitization
**
R: Hazard Designation
Reproductive toxicant

Prepared By: Hach Product Compliance Department

Issue Date: 23-May-2016
Revision Date: 07-Dec-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 HEREFIN 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.

HACH COMPANY©2016

End of Safety Data Sheet