1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier
Product Name: Chlormate Foam Cleaner

Other means of identification
Item#: 4232
Synonyms: None

Recommended use of the chemical and restrictions on use
Recommended use: Chlorinated alkaline detergent, Restricted to professional users
Uses advised against: No information available

Details of the supplier of the safety data sheet
Supplier: DeLaval Cleaning Solutions
11100 N. Congress Ave.
Kansas City, MO 64153

Emergency Telephone Number
Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

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

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 1 Sub-category A</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Corrosive to metals</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Label Elements

Emergency Overview

DANGER

Hazard Statements
Causes severe skin burns and eye damage
May be corrosive to metals
Precautionary Statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other information
• May be harmful if swallowed
• Very toxic to aquatic life with long lasting effects
• Very toxic to aquatic life
Unknown Acute Toxicity 8.6% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium hydroxide</td>
<td>1310-58-3</td>
<td>10 - 20%</td>
<td>*</td>
</tr>
<tr>
<td>Sodium hypochlorite</td>
<td>7681-52-9</td>
<td>0 - 10%</td>
<td>*</td>
</tr>
</tbody>
</table>

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

FIRST AID MEASURES

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician immediately.

Skin contact
Wash off immediately with plenty of water for at least 15 minutes. Call a physician immediately.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.

Ingestion
Do not induce vomiting. Drink 1 or 2 glasses of water. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

According to our experience and to the information provided to us, the product does not have any harmful effects if it is used and handled as specified.

Indication of any immediate medical attention and special treatment needed
Notes to Physician
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.

Specific hazards arising from the chemical
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

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

Personal precautions, protective equipment and emergency procedures
Avoid contact with skin, eyes and clothing. Use personal protective equipment.

Environmental Precautions
Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities
Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials
acids, light metals, organic materials

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Keep out of the reach of children

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium hydroxide</td>
<td>Ceiling: 2 mg/m³</td>
<td>Ceiling: 2 mg/m³</td>
<td></td>
</tr>
<tr>
<td>1310-58-3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls
Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye/face Protection</td>
<td>Goggles.</td>
<td></td>
</tr>
<tr>
<td>Skin and body protection</td>
<td>Wear protective gloves and protective clothing.</td>
<td></td>
</tr>
<tr>
<td>Respiratory Protection</td>
<td>If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved</td>
<td></td>
</tr>
</tbody>
</table>
respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks/ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Light yellow</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>No information available</td>
<td>Oddar</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight chlorine</td>
<td>Odor Threshold</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.16</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>soluble</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Viscosity of Product</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Softening Point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>VOC Content</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>9.7 lb/gal</td>
<td></td>
</tr>
<tr>
<td>Bulk Density</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical Stability
Stable under normal conditions.

Possibility of hazardous reactions
May develop chlorine if mixed with acidic solutions. Gives off hydrogen by reaction with some metals (e.g. aluminum).

Conditions to Avoid
Extremes of temperature and direct sunlight.

Incompatible Materials
acids, light metals, organic materials
Hazardous decomposition products
Chlorine.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

- **Inhalation**: No data available.
- **Eye contact**: No data available.
- **Skin contact**: No data available.
- **Ingestion**: No data available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium hydroxide</td>
<td>= 284 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1310-58-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium hypochlorite</td>
<td>= 8200 mg/kg (Rat)</td>
<td>10000 mg/kg (Rabbit)</td>
<td>-</td>
</tr>
<tr>
<td>7681-52-9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Information on toxicological effects

- **Symptoms**: No information available.
- **Delayed and immediate effects as well as chronic effects from short and long-term exposure**
  - **Sensitization**: No information available.
  - **Mutagenic effects**: No information available.
  - **Carcinogenicity**: No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hypochlorite</td>
<td>-</td>
<td>Group 3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7681-52-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproductive Effects
No information available.

STOT - single exposure
No information available.

STOT-repeated exposure
No information available.

Aspiration Hazard
No information available.

Numerical measures of toxicity - Product Information

- **Unknown Acute Toxicity**: 8.6% of the mixture consists of ingredient(s) of unknown toxicity
- The following values are calculated based on chapter 3.1 of the GHS document

12. ECOLOGICAL INFORMATION

Ecotoxicity
10% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Microtox</th>
<th>Waterflea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium hydroxide</td>
<td>-</td>
<td>80: 96 h Gambusia affinis mg/L LC50 static</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1310-58-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium hypochlorite</td>
<td>0.095: 24 h Skeletonema costatum mg/L EC50</td>
<td>LC50 (96 h) 0.06 mg/l</td>
<td>-</td>
<td>0.033 - 0.044: 48 h Daphnia magna mg/L EC50 Static 2.1: 96 h Daphnia magna mg/L EC50</td>
</tr>
<tr>
<td>7681-52-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability
No information available.

Bioaccumulation/Accumulation
No information available.
### 4232 Chlormate Foam Cleaner

**Chemical Name** | **Partition coefficient**
--- | ---
Potassium hydroxide 1310-58-3 | 0.65

**Other adverse effects**
No information available

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Waste Disposal Method**
Dispose of in accordance with local regulations. Should not be released into the environment.

**Contaminated Packaging**
Empty containers should be taken for local recycling, recovery or waste disposal.

### 14. TRANSPORT INFORMATION

**DOT**
- **UN-No**: 3266
- **Proper Shipping Name**: Corrosive liquid, basic, inorganic, n.o.s (Sodium hypochlorite, Potassium hydroxide)
- **Hazard Class**: 8
- **Packing Group**: II

### 15. REGULATORY INFORMATION

**International Inventories**

<table>
<thead>
<tr>
<th>Inventory</th>
<th>TSCA</th>
<th>DSL/NDSL</th>
<th>EINECS/ELINCS</th>
<th>ENCS</th>
<th>CHINA</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>TSCA</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>DSL/NDSL</td>
<td>Does not Comply</td>
<td>Does not Comply</td>
<td>Does not Comply</td>
<td>Does not Comply</td>
<td>Does not Comply</td>
<td>Does not Comply</td>
<td>Does not Comply</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Does not Comply</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENCS</td>
<td>Does not Comply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHINA</td>
<td>Does not Comply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KECL</td>
<td>Does not Comply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PICCS</td>
<td>Does not Comply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AICS</td>
<td>Does not Comply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Chemical Name** | **CWA - Reportable Quantities** | **CWA - Toxic Pollutants** | **CWA - Priority Pollutants** | **CWA - Hazardous Substances**
--- | --- | --- | --- | ---
Potassium hydroxide 1310-58-3 | 1000 lb | - | - | X
Sodium hypochlorite 7681-52-9 | 100 lb | - | - | X

**Chemical Name** | **RQ** | **CERCLA EHS RQs** | **RQ**
Potassium hydroxide 1310-58-3 1000 - RQ 1000 lb final RQ RQ 454 kg final RQ

Sodium hypochlorite 7681-52-9 100 lb - RQ 100 lb final RQ RQ 45.4 kg final RQ

State Regulations

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

U.S. EPA Label information
EPA Pesticide registration number Not applicable

16. OTHER INFORMATION

NFPA Health 3 Flammability 0 Instability 1 Physical Hazard -

Preparation Date: 09-Jul-2008
Revision Date: 22-May-2015

Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS