1. IDENTIFICATION

Product identifier
Product Name
Molybdenum 1 Reagent

Other means of identification
Product Code(s)
2352449

Safety data sheet number
M00125

Recommended use of the chemical and restrictions on use
Recommended Use
Laboratory reagent. Determination of molybdenum.
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 +1(970) 669-3050

Emergency telephone number
+1(303) 623-5716 - 24 Hour Service

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>Acute toxicity - Dermal</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
</tbody>
</table>

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Signal word
Warning
Hazard statements
H312 - Harmful in contact with skin
H319 - Causes serious eye irritation

Precautionary statements
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P363 - Wash contaminated clothing before reuse
P501 - Dispose of contents/container to an approved waste disposal plant
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention

Other Hazards Known
None

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS No.</th>
<th>Percent Range</th>
<th>HMRIC #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Benzenedicarboxylic acid, monopotassium salt</td>
<td>877-24-7</td>
<td>60 - 70%</td>
<td>-</td>
</tr>
<tr>
<td>L-Ascorbic acid</td>
<td>50-81-7</td>
<td>30 - 40%</td>
<td>-</td>
</tr>
<tr>
<td>1,2-Benzenediol, 4,4-(3H-2,1-benzoxathiol-3-ylidene)bis-, S,S-dioxide</td>
<td>115-41-3</td>
<td>&lt;1%</td>
<td>-</td>
</tr>
<tr>
<td>Sodium hypochlorite</td>
<td>7681-52-9</td>
<td>&lt;0.1%</td>
<td>-</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Description of first aid measures

General advice
Show this safety data sheet to the doctor in attendance.

Inhalation
Remove to fresh air.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

Skin contact
Wash off immediately with plenty of water for at least 15 minutes. If symptoms persist, call a physician.

Ingestion
Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed
Symptoms
Burning sensation.

Indication of any immediate medical attention and special treatment needed
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.

Specific hazards arising from the chemical
No information available.

Hazardous combustion products
Potassium oxides. Carbon monoxide, Carbon dioxide.

Special protective equipment for fire-fighters
Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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.

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.

Other Information
Refer to protective measures listed in Sections 7 and 8.

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

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Pick up and transfer to properly labeled containers.

Prevention of secondary hazards
Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections
See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Do not eat, drink or smoke when using...
this product.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**
Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.

**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.

**Appropriate engineering controls**

**Engineering Controls**
- Showers
- Eyewash stations
- Ventilation systems.

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

**Respiratory protection**
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hand Protection**
Wear suitable gloves.

**Eye/face protection**
Wear safety glasses with side shields (or goggles). If splashes are likely to occur, wear safety glasses with side-shields.

**Skin and body protection**
Wear suitable protective clothing. Long sleeved clothing.

**General Hygiene Considerations**
Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

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

**Thermal hazards**
None under normal processing.

---

**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>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>powder</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>light brown</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>3.6</td>
<td>1.6% Solution</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>146 °C / 295 °F</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>
Vapor pressure Not applicable
Vapor density (air = 1) Not applicable
Specific gravity (water = 1 / air = 1) 1.64
Partition Coefficient (n-octanol/water) log K_{ow} ~ -2.37
Soil Organic Carbon-Water Partition Coefficient log K_{oc} ~ 0.73
Autoignition temperature No data available
Decomposition temperature No data available
Dynamic viscosity Not applicable
Kinematic viscosity Not applicable

**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>Slightly soluble</td>
<td>&gt; 0.1 mg/L</td>
<td>25 °C / 77 °F</td>
</tr>
</tbody>
</table>

**Other Information**

**Metal Corrosivity**

**Steel Corrosion Rate** 2.08 mm/yr / 0.08 in/yr
**Aluminum Corrosion Rate** 0.05 mm/yr / 0 in/yr

**Volatile Organic Compounds (VOC) Content**
Not applicable

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Volatile organic compounds (VOC) content</th>
<th>CAA (Clean Air Act)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Benzenedicarboxylic acid, monopotassium salt</td>
<td>877-24-7</td>
<td>No data available</td>
<td>-</td>
</tr>
<tr>
<td>L-Ascorbic acid</td>
<td>50-81-7</td>
<td>No data available</td>
<td>-</td>
</tr>
<tr>
<td>1,2-Benzenediol, 4,4-(3H-2,1-benzoxathiol-3-ylidine)bis -, S,S-dioxide</td>
<td>115-41-3</td>
<td>No data available</td>
<td>-</td>
</tr>
<tr>
<td>Sodium hypochlorite</td>
<td>7681-52-9</td>
<td>Not applicable</td>
<td>-</td>
</tr>
</tbody>
</table>

**Explosive properties**

Upper explosion limit No data available
Lower explosion limit No data available

**Flammable properties**

Flash point Not applicable
10. STABILITY AND REACTIVITY

Reactivity
Not applicable.

Chemical stability
Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization
None under normal processing.

Conditions to avoid
None known based on information supplied.

Incompatible materials
Strong oxidizing agents, strong acids, and strong bases.

Hazardous Decomposition Products

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information

Inhalation
May cause irritation of respiratory tract.

Eye contact
Causes serious eye irritation. May cause redness, itching, and pain.

Skin contact
May cause irritation. Prolonged contact may cause redness and irritation. May be absorbed through the skin in harmful amounts. Harmful in contact with skin.

Ingestion
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms
May cause redness and tearing of the eyes.

Acute toxicity
Based on available data, the classification criteria are not met

Product Acute Toxicity Data
No data available.

**Ingredient Acute Toxicity Data**
No data available.

<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>1,2-Benzenedicarboxylic acid, monopotassium salt</td>
<td>Rat</td>
<td>LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>&gt; 3200 mg/kg</td>
<td>None reported</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>(60 - 70%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS#: 877-24-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>11900 mg/kg</td>
<td>None reported</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>L-Ascorbic acid (30 - 40%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS#: 50-81-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guinea pig</td>
<td>LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>&gt; 1000 mg/kg</td>
<td>None reported</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, monopotassium salt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(60 - 70%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS#: 877-24-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Unknown Acute Toxicity**
0.005% of the mixture consists of ingredient(s) of unknown toxicity.

**Acute Toxicity Estimations (ATE)**
The following values are calculated based on chapter 3.1 of the GHS document

<table>
<thead>
<tr>
<th>ATEmix (oral)</th>
<th>5,096.00 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEmix (dermal)</td>
<td>1,752.00 mg/kg</td>
</tr>
<tr>
<td>ATEmix (inhalation-dust/mist)</td>
<td>No information available</td>
</tr>
<tr>
<td>ATEmix (inhalation-vapor)</td>
<td>No information available</td>
</tr>
<tr>
<td>ATEmix (inhalation-gas)</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**
May cause skin irritation.

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

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

**Serious eye damage/irritation**
Classification based on data available for ingredients. Irritating to eyes.

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

**Ingredient Eye Damage/Eye Irritation Data**
No data available.

**Respiratory or skin sensitization**
Based on available data, the classification criteria are not met.

**Product Sensitization Data**
No data available.
### Ingredient Sensitization Data
No data available.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Test method</th>
<th>Species</th>
<th>Results</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hypochlorite (&lt;0.1%)</td>
<td>OECD Test No.</td>
<td>Guinea pig</td>
<td>Not confirmed to be a skin sensitizer</td>
<td>ECHA (The European Chemicals Agency)</td>
</tr>
<tr>
<td>CAS#: 7681-52-9</td>
<td>406: Skin Sensitization</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### STOT - single exposure
Based on available data, the classification criteria are not met.

### Product Specific Target Organ Toxicity Single Exposure Data
No data available.

### Ingredient Specific Target Organ Toxicity Single Exposure Data
No data available.

<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 hypochlorite (&lt;0.1%)</td>
<td>Human TDLo</td>
<td>1000 mg/kg</td>
<td>None reported</td>
<td>Behavioral Somnolence (general depressed activity) Vascular BP lowering not characterized in autonomic section Skin and Appendages Corrosive to skin after topical application</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>CAS#: 7681-52-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### STOT - repeated exposure
Based on available data, the classification criteria are not met.

### Product Specific Target Organ Toxicity Repeat Dose Data
No data available.

### Ingredient Specific Target Organ Toxicity Repeat Exposure Data
No data available.

<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 hypochlorite (&lt;0.1%)</td>
<td>Rat TDLo</td>
<td>140 mg/kg</td>
<td>63 days</td>
<td>Endocrine Changes in spleen weight Immunological Including Allergic Decrease in cellular immune response Biochemical Intermediary metabolism (lipids including transport)</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>CAS#: 7681-52-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Carcinogenicity
Based on available data, the classification criteria are not met.

#### Carcinogenicity Data
No data available.

### Ingredient Carcinogenicity Data
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>1,2-Benzenedicarboxylic acid, monopotassium salt</td>
<td>877-24-7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
L-Ascorbic acid 50-81-7 - - - - -
1,2-Benzenediol, 4,4-(3H-2,1-benzoxathiol-3-ylidene)bis-. S,S-dioxide 115-41-3 - - - - -
Sodium hypochlorite 7681-52-9 - Group 3 - - -

Legend

<table>
<thead>
<tr>
<th>Organization</th>
<th>Does not apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>IARC</td>
<td></td>
</tr>
<tr>
<td>NTP</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
</tr>
</tbody>
</table>

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

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

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

<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>L-Ascorbic acid (30 - 40%) CAS#: 50-81-7</td>
<td>DNA damage</td>
<td>Human fibroblast</td>
<td>0.2 mmol/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>Sodium hypochlorite (&lt;0.1%) CAS#: 7681-52-9</td>
<td>Cytogenetic analysis</td>
<td>Human lymphocyte</td>
<td>100 mg/L</td>
<td>24 hours</td>
<td>Positive test result for mutagenicity</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
</tbody>
</table>

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

Ingredient Germ Cell Mutagenicity *invivo* Data
No data available.

Reproductive toxicity
Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data
No data available.

Ingredient Reproductive Toxicity Data
No data available.

<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>L-Ascorbic acid (30 - 40%) CAS#: 50-81-7</td>
<td>Guinea pig TD&lt;sub&gt;L0&lt;/sub&gt;</td>
<td>19500 mg/kg</td>
<td>28 days</td>
<td>None reported</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>Sodium hypochlorite (&lt;0.1%) CAS#: 7681-52-9</td>
<td>Rat NOAEL</td>
<td>&gt;= 5 mg/kg</td>
<td>Single generation</td>
<td>No reproductive or developmental toxic effects observed</td>
<td>ECHA (The European Chemicals Agency)</td>
</tr>
</tbody>
</table>

Aspiration hazard
Based on available data, the classification criteria are not met.
12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown aquatic toxicity

0.005% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity
No data available.

<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>1,2-Benzenedicarboxylic acid, monopotassium salt (60 - 70%) CAS#: 877-24-7</td>
<td>96 hours</td>
<td>None reported</td>
<td>LC₅₀</td>
<td>9323 mg/L</td>
<td>Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™</td>
</tr>
<tr>
<td>L-Ascorbic acid (30 - 40%) CAS#: 50-81-7</td>
<td>96 hours</td>
<td>None reported</td>
<td>LC₅₀</td>
<td>44200 mg/L</td>
<td>Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™</td>
</tr>
<tr>
<td>1,2-Benzenediol, 4,4-(3H-2,1-benzoaxothiol-3-ylidene)bis-, S,S-dioxide (&lt;1%) CAS#: 115-41-3</td>
<td>96 hours</td>
<td>None reported</td>
<td>LC₅₀</td>
<td>15 mg/L</td>
<td>Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™</td>
</tr>
<tr>
<td>Sodium hypochlorite (&lt;0.1%) CAS#: 7681-52-9</td>
<td>96 hours</td>
<td>Clupea pallasi</td>
<td>LC₅₀</td>
<td>0.065 mg/L</td>
<td>Vendor SDS</td>
</tr>
</tbody>
</table>

<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>1,2-Benzenedicarboxylic acid, monopotassium salt (60 - 70%) CAS#: 877-24-7</td>
<td>48 Hours</td>
<td>None reported</td>
<td>LC₅₀</td>
<td>4859 mg/L</td>
<td>Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™</td>
</tr>
<tr>
<td>L-Ascorbic acid (30 - 40%) CAS#: 50-81-7</td>
<td>48 Hours</td>
<td>None reported</td>
<td>LC₅₀</td>
<td>17500 mg/L</td>
<td>Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™</td>
</tr>
<tr>
<td>1,2-Benzenediol, 4,4-(3H-2,1-benzoaxothiol-3-ylidene)bis-, S,S-dioxide (&lt;1%) CAS#: 115-41-3</td>
<td>48 Hours</td>
<td>None reported</td>
<td>EC₅₀</td>
<td>104 mg/L</td>
<td>Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™</td>
</tr>
<tr>
<td>Sodium hypochlorite (&lt;0.1%) CAS#: 7681-52-9</td>
<td>48 Hours</td>
<td>Daphnia magna</td>
<td>LC₅₀</td>
<td>0.032 mg/L</td>
<td>Vendor SDS</td>
</tr>
</tbody>
</table>
Aquatic Chronic Toxicity
No data available.

<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 hypochlorite (&lt;0.1%) CAS#: 7681-52-9</td>
<td>28 days</td>
<td><em>Menidia peninsularis</em></td>
<td>NOEC</td>
<td>0.04 mg/L</td>
<td>ECHA (The European Chemicals Agency)</td>
</tr>
<tr>
<td>Chemical name</td>
<td>Exposure time</td>
<td>Species</td>
<td>Endpoint type</td>
<td>Reported dose</td>
<td>Key literature references and sources for data</td>
</tr>
<tr>
<td>Sodium hypochlorite (&lt;0.1%) CAS#: 7681-52-9</td>
<td>15 days</td>
<td><em>Crassostrea virginica</em></td>
<td>NOEC</td>
<td>0.007 mg/L</td>
<td>ECHA (The European Chemicals Agency)</td>
</tr>
<tr>
<td>Chemical name</td>
<td>Exposure time</td>
<td>Species</td>
<td>Endpoint type</td>
<td>Reported dose</td>
<td>Key literature references and sources for data</td>
</tr>
<tr>
<td>Sodium hypochlorite (&lt;0.1%) CAS#: 7681-52-9</td>
<td>7 days</td>
<td>None reported</td>
<td>NOEC</td>
<td>0.0021 mg/L</td>
<td>ECHA (The European Chemicals Agency)</td>
</tr>
</tbody>
</table>

Persistence and degradability

Product Biodegradability Data
No data available.

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) \( \log K_{ow} \approx -2.37 \)

Mobility

Soil Organic Carbon-Water Partition Coefficient \( \log K_{oc} \approx 0.73 \)

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Waste from residues/unused products
Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging
Do not reuse empty containers.

Special instructions for disposal
Dilute material with excess water making a weaker than 5% solution. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.

14. TRANSPORT INFORMATION

DOT
Not regulated

TDG
Not regulated

IATA
Not regulated

IMDG
Not regulated

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
Complies

ENCS
Does not comply

IECSC
Complies

KECL
Complies

PICCS
Does not comply

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

SARA 311/312 Hazard Categories
- Acute health hazard: Yes
- Chronic Health Hazard: No
- 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 hypochlorite</td>
<td>100 lb</td>
<td>-</td>
<td>-</td>
<td>X</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 hypochlorite</td>
<td>100 lb</td>
<td>-</td>
<td>RQ 100 lb 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
This product does not contain any substances regulated by 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 hypochlorite</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>FIFRA</th>
<th>FDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-Ascorbic acid</td>
<td>180.0950</td>
<td>21 CFR 182.3013,21 CFR 182.8013</td>
</tr>
<tr>
<td>Sodium hypochlorite</td>
<td>180.0940</td>
<td>-</td>
</tr>
</tbody>
</table>

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

Special Comments
None

Additional information

Global Automotive Declarable Substance List (GADSL)
Not applicable

NFPA and HMIS Classifications
### NFPA
<table>
<thead>
<tr>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

### HMIS
<table>
<thead>
<tr>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</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**: 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

**SKN+**: Skin sensitization

**RSP+**: Respiratory sensitization

**C**: Carcinogen

**M**: Mutagen

**R**: Reproductive toxicant

**EN / AGHS**

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### Prepared By
Hach Product Compliance Department

### Issue Date
09-Jul-2019

### Revision Date
27-Sep-2019

### 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**