Safety Data Sheet

SECTION 1: IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Name</th>
<th>ACS-CLL-166</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifier Uses</td>
<td>Closed Loop Treatment</td>
</tr>
</tbody>
</table>
| Supplier             | Advanced Chemical Service Inc.  
3410 La Sierra Ave.,#F271  
Riverside, CA  92503  
Tel: 800-319-9227       |
| Contact Person       | 800-319-9227 / www.advancedchemicalservice.com |
| Emergency Telephone  | 24-HOUR EMERGENCY TELEPHONE: INFOTRAC: 1-800-535-5053 INTERNATIONAL#: 1-352-323-3500 |

SECTION 2: HAZARDS IDENTIFICATION

Appearance: Liquid.
Color: Clear, faint yellow liquid.
Odor: Sweet.

Signal Word: Danger

Hazard Statements:
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage

Precautionary Statements:
- P280 Wear protective gloves/ protective clothing/eye protection/face protection.
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER or doctor/physician

Contains:
- sodium hydroxide
- sodium nitrite
- sodium 4(or 5)-methyl-1H-benzotriazolide

GHS Classification:
- Physical and Chemical Hazards: Not classified
- Human Health: Acute Tox 4 - H302, Skin Corr. 1C - H314
- Environment: Not classified

OSHA Regulatory Status: This product is Hazardous under the OSHA Hazard communication Standard.

Inhalation: No specific symptoms noted. Inhalation is not believed to be a likely route of exposure.

Ingestion: May cause chemical burns in mouth and throat. Harmful if swallowed.

Skin contact: Corrosive! Can cause redness, pain, and severe skin burns.

Eye contact: Causes severe eye burns.

Routes of Exposure: Unknown
SECTION 3: Composition/Information on Ingredients

Composition Comments: Confidential business information has been removed without affecting the overall safety information on the safety data sheet.

SECTION 4: FIRST AID MEASURES

Description of first aid measures
- General Information
- Inhalation: If this product is inhaled, move the exposed person to fresh air promptly. Get medical attention if any discomfort continues.
- Ingestion: If the product is ingested, seek medical attention immediately.
- Skin contact: Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention promptly if symptoms occur after washing.
- Eye contact: If the product contacts the eyes, immediately flush eyes with plenty of clean running water for at least fifteen (15) minutes, lifting the upper and lower eyelids occasionally. Remove contact lenses if worn.

Most important symptoms and effects, both acute and delayed
- General Information: The severity of the symptoms described will vary dependent of the concentration and the length of exposure.
- Inhalation: No specific symptoms noted, inhalation is not believed to be a likely route of exposure.
- Ingestion: May cause chemical burns in mouth and throat. Harmful if swallowed.
- Skin contact: Corrosive! Can cause redness, pain, and severe skin burns.
- Eye contact: Causes severe eye burns.
- Routes of Exposure: Unknown

Most important symptoms and effects, both acute and delayed
- Notes To The Physician: Treat Symptomatically.

SECTION 5: Firefighting Measures

Auto Ignition Temperature (°C): Not known.
Flammability Limit - Lower (%): No Information available.
Flammability Limit - Upper (%): No Information available.
Flash point: No Information available.

Extinguishing Media: Use fire-extinguishing media appropriate for surrounding materials. Water, foam, dry chemical or carbon dioxide.


Unusual Fire & Explosion Hazards: Dried residue can stimulate the combustion of organic materials. Use water to cool containers exposed to a fire. Avoid breathing fire vapors.

Special Fire Fighting Procedures: Wear full protective clothing and self-contained breathing apparatus, suitable gloves and boots.

SECTION 6: Accidental Release Measures

Personal Precautions: For personal protection, see section 8. In case of inadequate ventilation, use respiratory protection. Do not smoke, use open fire or other sources of ignition. In case of spills, beware of slippery floors and surfaces.

Environmental Precautions: Keep out of drains, municipal sewers, open bodies of water and water course.

Spill Clean Up Methods: Restrict non-essential personnel from the area. Stop leak if possible without risk. Absorb in vermiculite, dry sand or earth and place into containers. Flush with plenty of water to clean spillage area. Do not contaminate water sources or sewer. Place into chemical waste container for disposal according to local, state or federal regulations. Neutralize residue with lime or soda ash and flush spill area. DO NOT TOUCH SPILLED MATERIAL! Wash thoroughly after dealing with a spillage.

SECTION 7: Handling and Storage

Handling: Use proper personal protection when handling. Provide good ventilation. Avoid contact with...
skin and eyes and clothing. Do not use contact lenses. Avoid inhalation of vapors and mists. Avoid prolonged or repeated contact. Do NOT ingest. Wash thoroughly after handling. Rinse container before disposal.

### Usage Description

Store in a cool, dry, and well-ventilated place away from incompatible materials. Vent containers frequently, and more often in warm weather to relieve pressure. Keep container tightly closed when not in use. Do not get in eyes, on skin, or on clothing.

### Storage Precautions

Store closed containers in a cool, dry, well-ventilated area away from incompatible materials. This product is stable under normal conditions of handling and storage. Avoid cold temperatures. The recommended storage temperature is above 32°F, preferably at room temperature (70°F). The recommended shelf life is two (2) years. It is recommended that products be retested if stored for more than two (2) years. Under ideal storage conditions, the shelf life is almost indefinite. Strong acids, strong reducing agents, ammonia salts, amines, phthalic acid and cyanides.

### Specific End Use(s)

The identified uses are in section 1 of this Safety Data Sheet.

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### SECTION 8: Exposure Controls/Personal Protection

### Protective Equipment

![Protective Equipment Image]

<table>
<thead>
<tr>
<th>Component</th>
<th>STD</th>
<th>TWA (8 Hrs.)</th>
<th>STEL (15mins)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium hydroxide</td>
<td></td>
<td>OSHA</td>
<td>2mg/m3</td>
<td></td>
</tr>
</tbody>
</table>

**Ingredient Comments**

OSHA

**Process Conditions**

Provide eyewash, quick drench.

**Engineering Measures**

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

**Respiratory Equipment**

Use of respirator protection is not generally required. However, if exposure is above the stated limits or ventilation is inadequate, use a NIOSH approved acid gas/organic vapor respirator to reduce potential for inhalation exposure. When using respirator cartridges, they must be changed frequently to assure breakthrough exposure does not occur.

**Hand Protection**

When handling this product, it is recommended to wear chemical resistant gloves. The choice of suitable protective gloves depends on work conditions and what chemicals are handled, but we have positive experience with gloves made of Rubber.

**Eye Protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Hygiene Measures**

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

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### SECTION 9: Physical and Chemical Properties

### Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Clear, faint yellow liquid.</td>
</tr>
<tr>
<td>Odor</td>
<td>Sweet.</td>
</tr>
<tr>
<td>Odor Threshold - Lower</td>
<td>No Information available.</td>
</tr>
<tr>
<td>Odor Threshold - Upper</td>
<td>No Information available.</td>
</tr>
<tr>
<td>pH-Value, Conc. Solution</td>
<td>12.7</td>
</tr>
<tr>
<td>Melting point</td>
<td>32.0 °F</td>
</tr>
<tr>
<td>Initial boiling point and boiling</td>
<td>212.0 °F</td>
</tr>
</tbody>
</table>
range

Flashpoint  No Information available.
Evaporation rate  No Information available.
Flammability State  No Information available.
Flammability Limit - Lower (%)  No Information available.
Flammability Limit - Upper (%)  No Information available.
Vapor pressure  23.8 mm Hg 0.0
Vapor Density (air=1)  Not determined.
Relative density  1.13 @ 68.0°F
Bulk Density  No Information available.
Solubility  Completely soluble in water.
Decomposition temperature  No Information available.
Partition coefficient; n-octanol/water  No Information available.
Auto Ignition Temperature (°C)  Not known.
Viscosity  No Information available.
Explosive Properties  No information available.
Oxidizing properties  No Information available.
Molecular Weight  No Information available.
Volatile Organic Compound  No Information available.

SECTION 10: Stability and Reactivity

Reactivity  Strong acids, strong reducing agents, ammonia salts, amines, phthalic acid and cyanides.
Stability  This product is stable at ambient temperatures and atmospheric pressures.
Hazardous Polymerization  Hazardous polymerization is not expected to occur under normal temperatures and pressures.
Hazardous Decomposition Products  Oxides of nitrogen. May leave a caustic residue.
Conditions to Avoid  Avoid extreme temperatures and storing in large quantities and for long periods of time.
Materials to Avoid  Do not mix with other chemicals unless listed on directions.

SECTION 11: Toxicological Information

Toxicological Information  No Information available.
Acute Toxicity (Oral LD50)  >1270.00mg/kg  Rat
Acute Toxicity (Dermal LD50)  >589.00mg/kg  Rabbit
Acute Toxicity (Inhalation LC50)  Not determined.
Skin Corrosion/Irritation  No Information available.
Respiratory Sensitization  No Information available.
Skin Sensitization  No Information available.
Reproductive Toxicity:  No Information available.
Germ Cell Mutagenicity:  No Information available.
Genotoxicity - In Vitro
Genotoxicity - In Vivo

Carcinogenicity:
- NTP - Carcinogenicity: The product and its components are not listed.
- OSHA - Carcinogenicity: The product and its components are not listed.
- IARC Carcinogenicity: The product and its components are not listed.

Specific Target Organ Toxicity - Single Exposure:
- STOT - Single Exposure: No Information available.

Specific Target Organ Toxicity - Repeated Exposure:
- STOT - Repeated Exposure: No Information available.

<table>
<thead>
<tr>
<th>Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium nitrite</td>
<td>157.9mg/kg Rat 175mg/kg Mouse 186mg/kg Rabbit 85mg/kg Rat</td>
<td></td>
<td>5.5mg/l (vapours) Rat 4 Hours</td>
</tr>
<tr>
<td>sodium 4(or 5)-methyl-1H-benzotriazolide</td>
<td>920mg/kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 12: Ecological Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Acute Toxicity (Fish)</th>
<th>Acute Toxicity (Aquatic Invertebrates)</th>
<th>Acute Toxicity (Aquatic Plants)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LC50 96 Hours &gt;7600.00ppm Onchorhynchus mykiss (Rainbow Trout)</td>
<td>E50 72 Hours &gt;185.00ppm</td>
<td></td>
</tr>
<tr>
<td>Acute Toxicity - Fish</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute Toxicity - Aquatic Invertebrates</td>
<td>LC50 48 Hours &gt;945.00ppm Daphnia magna</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute Toxicity - Aquatic Plants</td>
<td>EC50 48 Hours &gt;945.00ppm Daphnia magna</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Eco toxicity: No Information available.
Acute Toxicity - Fish: LC50 96 Hours >7600.00ppm
Acute Toxicity - Aquatic Invertebrates: LC50 48 Hours >945.00ppm
Acute Toxicity - Aquatic Plants: EC50 72 Hours >185.00ppm

Degradability: No information available.
Bio accumulative Potential: No Information available.
Mobility: Completely soluble in water.

Results of PBT and vPvB Assessment: The product does not contain any PBT or vPvB Substances.

Other Adverse Effects: None known.

SECTION 13: Disposal Considerations

Waste Management: When handling waste, consideration should be made to the safety precautions applying to handling of the product.
Disposal Methods: Dispose of waste and residues in accordance with local authority requirements. Do NOT dump into any sewers, on the ground or into any body of water. Rinse containers before disposal. Since emptied containers contain product residue, follow label warnings even after container is emptied.

SECTION 14: Transport Information

UN No. (DOT/TDG): 3266 - CORROSIVE LIQUID, BASIC, INORGANIC, (SODIUM NITRITE SOLUTION)
UN No. (IMDG) 3266 - CORROSIVE LIQUID, BASIC, INORGANIC, (Sodium Nitrite Solution)
UN No. (ICAO) 3266 - Corrosive liquid, basic, inorganic (Sodium Nitrite Solution)
DOT Proper Shipping Name 3266 - CORROSIVE LIQUID, BASIC, INORGANIC, (SODIUM NITRITE SOLUTION)
TDG Proper Shipping Name 3266 - CORROSIVE LIQUID, BASIC, INORGANIC, (SODIUM NITRITE SOLUTION)
DOT Hazard Class 8
DOT Hazard Label Class 8 - Corrosive
TDG Class 8
TDG Label(s) 8
IMDG Class 8
ICAO Class 8
Transport Labels

![Transport Labels](image)

DOT Pack Group II
IMDG Pack Group II
Air Pack Group II
EMS F-A, S-B
Environmentally Hazardous Substance/Marine Pollutant No

**SECTION 15: Regulatory Information**

**US Federal Regulations**

**SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities**
The Following ingredients are listed

**CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)**
The Following ingredients are listed  sodium hydroxide

**SARA Extremely Hazardous Substances EPCRA Reportable Quantities**
The Following ingredients are listed

**SARA 313 Emission Reporting**
The Following ingredients are listed

**CAA Accidental Release Prevention**
The Following ingredients are listed  sodium nitrite

**OSHA Highly Hazardous Chemicals**
The Following ingredients are listed

**US State Regulations**

**California Proposition 65 Carcinogens and Reproductive Toxins**
The Following ingredients are listed

**California Air Toxics “Hot Spots” (A-I)**
The Following ingredients are listed  sodium hydroxide

**California Air Toxics “Hot Spots” (A-II)**
The Following ingredients are listed

**Massachusetts “Right To Know” List**
The Following ingredients are listed
- sodium hydroxide
- sodium nitrite

**Rhode Island “Right To Know” List**
The Following ingredients are listed
- sodium hydroxide

**Minnesota “Right To Know” List**
The Following ingredients are listed
- sodium hydroxide

**New Jersey “Right To Know” List**
The Following ingredients are listed
- sodium hydroxide
- sodium nitrite

**Pennsylvania “Right To Know” List**
The Following ingredients are listed
- sodium hydroxide
- sodium nitrite
SECTION 16: Other Information

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>3</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>0</td>
</tr>
<tr>
<td>Personal Protection</td>
<td>D</td>
</tr>
</tbody>
</table>

Revision Comments
Revision Date 5/15/2015
Revision 1

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