Safety Data Sheet

SECTION 1: IDENTIFICATION

Product Name ACS-CWO-100X
Identifier Uses Cooling Water Treatment.
Supplier Advanced Chemical Service Inc.
3410 La Sierra Ave.#F271
Riverside, CA  92503
Tel: 800-319-9227
Contact Info 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 dark yellow liquid.
Color dark yellow liquid
Odor Slightly aromatic

Pictogram(s)

Signal Word Warning

Hazard Statements
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary Statements
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P350 IF ON SKIN: Gently wash with plenty of soap and water.
P280 Wear protective gloves/ protective clothing/eye protection/face protection. P308 + P313 IF exposed or concerned: Get medical advice/attention.
P202 Do not handle until all safety precautions have been read and understood.

Contains Potassium Hydroxide

GHS Classification Not classified
Physical and Chemical Hazards Not classified
Human Health Skin Irrit. 2 – H315, Eye Irrit. 2 – H319
Environment Not classified

OSHA Regulatory Status This Product is Hazardous under the OSHA Hazard Communication Standard.

Inhalation Move the exposed person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.

Ingestion Rinse mouth thoroughly. Get medical attention if any discomfort continues.

Skin contact Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if any discomfort continues.

Eye contact Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

<table>
<thead>
<tr>
<th>General Information</th>
<th>General first aid, rest, warmth and fresh air. Get medical attention.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Move the exposed person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Rinse mouth thoroughly. Get medical attention if any discomfort continues.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>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.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.</td>
</tr>
</tbody>
</table>

Most important symptoms and effects, both acute and delayed

<table>
<thead>
<tr>
<th>General Information</th>
<th>As a general rule, in case of doubt or if symptoms persist, always call a doctor. NEVER induce swallowing in an unconscious person.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Move the exposed person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.</td>
</tr>
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<td>Ingestion</td>
<td>Rinse mouth thoroughly. Get medical attention if any discomfort continues.</td>
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<td>Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.</td>
</tr>
<tr>
<td>Routes of Exposure</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

Most important symptoms and effects, both acute and delayed

Notes to the Physician | Treat Symptomatically.
SECTION 5: FIREFIGHTING MEASURES

<table>
<thead>
<tr>
<th>Auto Ignition Temperature (°C)</th>
<th>No Information available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability Limit - Lower (%)</td>
<td>No Information available</td>
</tr>
<tr>
<td>Flammability Limit - Upper (%)</td>
<td>No Information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No Information available</td>
</tr>
</tbody>
</table>

**Extinguishing Media**

Use fire-extinguishing media appropriate for surrounding materials. Water spray, foam, dry powder or carbon dioxide.

**Hazardous combustion products**

Oxides of carbon, possibly toxic phosphines.

**Unusual Fire & Explosion Hazards**

Dried residue can thermally decompose, giving off irritating and possibly toxic fumes.

**Special Fire Fighting Procedures**

Ventilate closed spaces before entering them. Water spray should be used to cool containers.

**Protective equipment for fire-fighters**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

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. No Information available.

**Environmental Precautions**

Do not discharge into drains, water courses or onto the ground.

**Spill Clean Up Methods**

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**

Product for external use - do not swallow. Avoid all contact with skin, eyes and clothes. Handle in accordance with user instructions on label do not use contact lenses.

**Usage Description**

Cooling Water Treatment.

**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.

**Specific End Use(s)**

The identified uses for this product are detailed in Section 1

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Protective Equipment

<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>Potassium Hydroxide</td>
<td>OSHA</td>
<td>2mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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
Not applicable in normal conditions of use. In case of insufficient ventilation, with the risk of exceeding the Occupational Exposure Limits, wear suitable breathing apparatus. Particularly breathing apparatus, P2 type.

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 Nitrile. Gloves should be replaced immediately if sign of degradation is observed. Full contact: Material: butyl-rubber Minimum layer thickness: 0.3 mm Breakthrough time: 480 min Splash contact: Nitrile rubber Minimum layer thickness: 0.2 mm Breakthrough time: 38 min

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

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

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>Dark yellow liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Dark yellow liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly aromatic</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>2.3</td>
</tr>
<tr>
<td>Melting point</td>
<td>32 °F</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>212 °F</td>
</tr>
<tr>
<td>Flash point</td>
<td>No Information available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No Information available</td>
</tr>
<tr>
<td>Flammability State</td>
<td>No Information available</td>
</tr>
<tr>
<td>Flammability Limit - Lower (%)</td>
<td>No Information available</td>
</tr>
<tr>
<td>Flammability Limit - Upper (%)</td>
<td>No Information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>23.8 mm Hg</td>
</tr>
<tr>
<td>Vapor Density (air=1)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Relative density</td>
<td>9.296 @ 68 °F</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>No Information available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Completely soluble in water.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No Information available</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No Information available</td>
</tr>
<tr>
<td>Auto Ignition Temperature (°C)</td>
<td>No Information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No Information available</td>
</tr>
</tbody>
</table>
Explosive Properties: No information available.

Oxidizing Properties: No information available.

Molecular Weight: No information available.

Volatile Organic Compound: Not determined.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: There are no known reactivity hazards associated with this product.

Stability: Stable under normal temperature conditions and recommended use.

Hazardous Polymerization: Hazardous polymerization is not expected to occur under normal temperatures and pressures.

Hazardous Decomposition Products: Hazardous decomposition will result in the release of oxides of carbon, possibly toxic phosphines.

Conditions to Avoid: Avoid exposing to heat and contact with strong oxidizing substances.

Materials to Avoid: Do not mix with other chemicals unless listed on directions. Keep away from strong oxidizing materials and strong acids.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological Information: No toxicological information for the overall finished product.

Acute Toxicity (Oral LD50): >5000 mg/kg Rat
Acute Toxicity (Dermal LD50): >2000 mg/kg Rabbit
Acute Toxicity (Inhalation LD50): 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: No information available.

Genotoxicity - In Vivo: No information available.

Carcinogenicity: No information available.

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: No information available.

Specific Target Organ Toxicity - Repeated Exposure: No information available.

STOT - Single Exposure: No information available.

STOT - Repeated Exposure: No information available.

Name | LD50 Oral | LD50 Dermal | LD50 Inhalation
--- | --- | --- | ---
1,3,6,8-Pyrenetetrasulfonic acid, sodium salt |  |  | 
1,3,6,8-Pyrenetetrasulfonic acid, tetrasodium salt hydrate |  |  | 
Tetrasodium pyrene-1,3,6,8-tetrasulphonate |  |  | 
Etidronic acid |  |  | 
nitrolotrimethylenetriss(phosphonic acid) |  |  | 
Phosphoric acid … %, orthophosphoric acid … % |  |  | 
(2R,3R)-2,3-dimethylbutanedic acid 2-Butenedioic acid (2Z), homopolymer 2-Butenedioic acid (2Z), homopolymer 607-861-7 ACIDO POLIMALEICO Hydrolyzed |  |  | 
Polymaleic Anhydride POLY(MALEIC ACID) Poly(maleic acid) Polymaleic acid poly(maleic acid) polymaleic acid |  |  | 

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maleic acid
benzotriazole 675.00mg/kg Rat >2000.00mg/kg Rabbit
propan-2-ol isopropyl alcohol isopropanol 5480.00mg/kg Rat 13000.00mg/kg Rabbit
potassium hydroxide 284.00mg/kg Rat

SECTION 12: ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Name</th>
<th>Eco toxicity</th>
<th>Acute Toxicity (Fish)</th>
<th>Acute Toxicity (Aquatic Invertebrates)</th>
<th>Acute Toxicity (Aquatic Plants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>benzotriazole</td>
<td>No Information available.</td>
<td>LC50 96 Hours 21.40mg/l Onchorhynchus mykiss (Rainbow Trout)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Acute Toxicity - Fish LC50 96 Hours >4200 ppm Onchorhynchus mykiss (Rainbow Trout)
Acute Toxicity - LC50 48 Hours >4500 ppm Daphnia magna
Acute Toxicity - Aquatic Plants EC50 72 Hours >1900 ppm
Degradability No information available.
Bio accumulative Potential No Information available
Mobility No Information available

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 Observe all local, national and international regulations.
Disposal Methods No specific disposal method required.

SECTION 14: TRANSPORT INFORMATION

UN No. (DOT/TDG) Not applicable.
UN No. (IMDG) Not applicable.
UN No. (ICAO) Not applicable.
DOR Proper Shipping Name Not applicable.
TDG Proper Shipping Name Not applicable.
DOT Hazard Class  Not applicable.
DOT Hazard Label  Not applicable.
TDG Class  Not applicable.
TDG Label(s)  Not applicable.
IMDG Class  Not applicable.
ICAO Class  Not applicable.
Transport Labels
DOT Pack Group  Not applicable.
IMDG Pack Group  Not applicable.
Air Pack Group  Not applicable.
EMS  Not applicable.
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  maleic acid

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
The Following ingredients are listed  phosphoric acid ... %, orthophosphoric acid ... % maleic acid potassium hydroxide

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

SARA 313 Emission Reporting
The Following ingredients are listed  maleic acid propan-2-ol isopropyl alcohol isopropanol

CAA Accidental Release Prevention
The Following ingredients are listed  maleic acid

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  phosphoric acid ... %, orthophosphoric acid ... %

California Air Toxics "Hot Spots" (A-ii)
The Following ingredients are listed

Massachusetts "Right To Know" List
The Following ingredients are listed  phosphoric acid ... %, orthophosphoric acid ... % maleic acid benzotriazole propan-2-ol isopropyl alcohol isopropanol potassium hydroxide

Rhode Island "Right To Know" List
The Following ingredients are listed  nitrilotrimethylenetric (phosphonic acid) phosphoric acid ... %, orthophosphoric acid ... %
maleic acid
propan-2-ol isopropyl alcohol isopropanol
potassium hydroxide

Minnesota "Right To Know" List
The Following ingredients are listed
nitrilotrimethylenetris(phosphonic acid)
phosphoric acid ... %, orthophosphoric acid ... %
propan-2-ol isopropyl alcohol isopropanol
potassium hydroxide

New Jersey "Right To Know" List
The Following ingredients are listed
phosphonic acid
nitrilotrimethylenetris(phosphonic acid)
phosphonic acid
phosphoric acid ... %, orthophosphoric acid ... %
maleic acid
benzotriazole
propan-2-ol isopropyl alcohol isopropanol
potassium hydroxide

Pennsylvania "Right To Know" List
The Following ingredients are listed
phosphonic acid
nitrilotrimethylenetris(phosphonic acid)
phosphonic acid
phosphoric acid ... %, orthophosphoric acid ... %
maleic acid
propan-2-ol isopropyl alcohol isopropanol
potassium hydroxide

SECTION 16: OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

HEALTH 1
FLAMMABILITY 0
PHYSICAL HAZARD 0
PERSONAL PROTECTION B

Disclaimer
This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.