



**1. PRODUCT AND COMPANY IDENTIFICATION**

Product Name: CS-440

Description: Closed System Treatment  
Suggested Use: Industrial Water Treatment  
Restrictions on Use: Do not mix with other industrial chemicals.

Supplier: Advanced Chemical Technology, Inc.  
8728 Utica Avenue  
Rancho Cucamonga, CA 91730

Telephone: 1-909-980-4556 or 1-800-527-9607  
Fax: 1-909-980-9366

Emergency Phone: 1-800-255-3924 (CHEMTEL)

**2. HAZARDS IDENTIFICATION**

**Classification**

GHS Classification: Serious Eye Irritation (Category 2A)

**GHS Label Elements**

Pictogram:



Signal Word: Warning

Hazard Statements: H316: Causes mild skin irritation  
H319: Causes serious eye irritation

Precautionary Statements: P264: Wash hands thoroughly after handling.  
P 273: Avoid release to the environment.  
P280: Wear protective gloves/ protective clothing/ eye 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 attention/advice.  
P332+P313: If skin irritation occurs: Get medical advice/attention.  
P501 - Dispose of contents/container to comply with local, state and federal regulations.

HMIS Classification: Health Hazard: 1  
Flammability: 0  
Physical Hazards: 0

NFPA Rating: Health Hazard: 1  
Fire: 0  
Reactivity Hazard: 0

**Potential Health Effects**



Inhalation: May be harmful if inhaled.  
Skin: May cause skin irritation.  
Eyes: Causes eye irritation.  
Ingestion: May cause gastrointestinal irritation. Do not ingest.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Component</u>	<u>CAS Number</u>	<u>Concentration</u>
Sodium nitrite	7632-00-0	5 %
Sodium hydroxide	1310-07-2	< 1 %
Benzotriazole	95-14-7	1 %
Sodium molybdate	7631-95-0	12
Synonyms:	N/A	

**4. FIRST AID MEASURES**

If Inhaled: If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.  
Skin Contact: Take off contaminated clothing and shoes immediately. Flush skin with plenty of water for at least fifteen minutes.  
Eye Contact: Flush eyes with plenty of water for at least 15 minutes and consult a physician. Remove contact lenses if able to do so.  
If Ingested: Do NOT induce vomiting unless instructed to do so by a physician. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIREFIGHTING MEASURES**

Flammability Overview: Considered a non-flammable water solution  
Flash Point: Not Applicable  
Extinguishing Media: Use water-spray, alcohol-resistant foam, dry chemical, or carbon dioxide. Tailor extinguishing media to surrounding fire.  
Special Protective Equipment for Firefighters: Wear a self-contained breathing apparatus (SCBA) for firefighting if necessary.  
Hazardous Combustion Products: Carbon monoxide, carbon dioxide, ammonia, and oxides of nitrogen. Leaves caustic residue.

**6. ACCIDENTAL RELEASE MEASURES**

Personal Precautions: Use personal protective equipment. Avoid breathing vapors, mist, or gas. Always ensure adequate ventilation. Evacuate personnel to safe areas.  
Environmental Precautions: Prevent further leakage or spillage if safe to do so. Prevent from entering drains and waterways. Discharge into the environment must be avoided.  
Containment and Clean Up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. If assistance is needed call



CHEMTEL or emergency services.

**7. HANDLING AND STORAGE**

**Safe Handling:** Use personal protective equipment. Avoid breathing vapors, mist, or gas. Always ensure adequate ventilation.

**Safe Storage:** Keep containers tightly closed in a dry well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store away from incompatible materials.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Limits**

Component	CAS Number	Exposure Limit	Basis
Sodium nitrite	7632-00-0	Not Established	ACGIH Threshold Value (TWA) (mg/m <sup>3</sup> )
		Not Established	OSHA PEL (TWA) (mg/m <sup>3</sup> )
Sodium hydroxide	1310-07-2	2 mg/M <sup>3</sup>	ACGIH Threshold Value (TWA) (mg/m <sup>3</sup> )
		2 mg/M <sup>3</sup>	OSHA PEL (TWA) (mg/m <sup>3</sup> )
Benzotriazole	95-14-7	Not Established	ACGIH Threshold Value (TWA) (mg/m <sup>3</sup> )
		Not Established	OSHA PEL (TWA) (mg/m <sup>3</sup> )
Sodium molybdate	7631-95-0	5 mg/M <sup>3</sup> TWA	ACGIH Threshold Value (TWA) (mg/m <sup>3</sup> )
		5 mg/M <sup>3</sup> TWA	OSHA PEL (TWA) (mg/m <sup>3</sup> )

**Personal Protective Equipment**

**Eye Protection:** Wear tightly fitting safety goggles or safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH. Have eye-wash stations available where eye contact can occur.

**Hand Protection:** Handle with chemical-resistant gloves. Gloves must be inspected prior to use. Dispose of contaminated gloves. Wash and dry hands after use.

**Skin Protection:** Protect skin by wearing pants, close toe shoes and long sleeves. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Safety showers should be located in the work area where skin contact can occur.

**Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate, use a NIOSH-approved full-face respirator with appropriate cartridges. For oxygen deficient atmospheres, use a NIOSH approved air-supplied respirator. Respiratory protection may be needed for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA 29 CFR 1910.134.

**General Controls:** Always ensure adequate ventilation and that working areas contain safety showers and eye wash stations. Handle material in accordance with good industrial hygiene and safety practices.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical State:** Liquid  
**Color:** Colorless



Odor:	Sweet mild odor
Odor Threshold:	Not Applicable
pH:	12.7
Melting/Freezing Point:	Not Established
Boiling Point:	>212 °F
Flash Point:	Not Established
Evaporation Rate:	1
Flammability (solid, gas):	Not Established
Flammability/Explosion Limits:	Not Established
Vapor Pressure @ 20°C:	Not Established
Vapor Density:	Not Established
Specific Gravity:	1.127
Density:	Not Established
Solubility in Water:	Soluble
Partition Coefficient:	Not Established
Autoignition Temperature:	Not Established
Decomposition Temperature:	Not Established
Viscosity:	Not Established

**10. STABILITY AND REACTIVITY**

Chemical Stability:	Stable under recommended storage conditions. Do not store under 50 °F.
Conditions and Materials to Avoid:	Strong oxidizers, metals, acids, alkalis, amines, halogen compounds, anhydrides, and aldehydes.
Hazardous Decomposition Products:	Carbon monoxide, carbon dioxide, ammonia, and oxides of nitrogen. Leaves caustic residue.

**11. TOXICOLOGICAL INFORMATION**

**Acute Toxicity**

Component	CAS Number	Test	Toxicity
Sodium nitrite	7632-00-0	Oral LD50 (Rat)	180 mg/kg for sodium nitrite
		Skin	Not Established
		Inhalation LC50-1H (Rat)	Not Established
Sodium hydroxide	1310-07-2	Oral LD50 (Rat)	Not Established
		Skin	Not Established
		Inhalation LC50-1H (Rat)	Not Established
Benzotriazole	95-14-7	Oral LD50 (Rat)	Not Established
		Skin	Not Established
		Inhalation LC50-1H (Rat)	Not Established
Sodium molybdate	7631-95-0	Oral LD50 (Rat)	Not Established
		Skin	Not Established
		Inhalation LC50-1H (Rat)	Not Established

**Potential Health Effects**

Inhalation:	Do not inhale. Vaporized product may cause respiratory irritation.
Skin:	May cause skin irritation.
Eyes:	May cause eye irritation.



Ingestion: Can be harmful if swallowed. Do not ingest.

Signs and Symptoms of Exposure: Blood system problems, bone joint, or tooth and respiratory problems.

Chronic Effects of Long-term Exposure: Not Established

Carcinogenicity: No component of this product at levels greater than 0.1% is identified as carcinogenic by IARC, ACGIH, or OSHA.

**12. ECOLOGICAL INFORMATION**

**Acute Ecotoxicity**

Component	CAS Number	Organism	Ecotoxicity
Sodium nitrite	7632-00-0	Aquatic organisms	Toxic
Sodium hydroxide	1310-07-2	Not Established	Not Established
Benzotriazole	95-14-7	Not Established	Not Established
Sodium molybdate	7631-95-0	Not Established	Not Established

**Ecological Effects**

Persistence and Degradability: Sodium nitrite will degrade in waste treatment plants. Sodium metaborate will decompose to natural borate. Sodium nitrite is toxic to aquatic organisms.

Bioaccumulation Potential: Not expected to bio-accumulate

Mobility in Soil: Sodium nitrite will degrade in waste treatment plants.

Other Adverse Effects: Not Established

**13. DISPOSAL CONSIDERATIONS**

Disposal: Surplus and non-recyclable material should be treated as hazardous waste and be disposed of by a licensed disposal company. Material should be disposed in accordance with all local, state, and federal regulations. Regulations vary by region. Do not release into sewers or waterways.

Contaminated Packaging: Dispose of as unused product.

**14. TRANSPORT INFORMATION**

**DOT Information**

Proper Shipping Name: Nitrites, inorganic, aqueous solution, n.o.s. (sodium nitrite, sodium hydroxide)  
UN Number: 3219  
Hazard Class: 5.1  
Packing Group: II



# Advanced Chemical Technology, Inc.

# CS-440

## SAFETY DATA SHEET

Version 1.0  
Effective Date: 06/01/2015

Reportable Quantity (RQ):

Marine Pollutant: Not Established

Note:

### 15. REGULATORY INFORMATION

#### US Federal

SARA 302 Components: This product does not contain a Section 302 substance subject to Emergency Planning Notification/Threshold Planning Quantities  
SARA 311/312 Hazards: Reactive, Acute Health Hazard  
SARA 313 Components: This product does contain a Section 313 listed toxic chemical subject to release reporting requirements. (Sodium nitrite, 10,000 lbs.)

TSCA Inventory: All chemical components are listed on TSCA Inventory.

#### European Union

EC Inventory: None Listed

#### State Regulations

CA Prop 65: This product does not contain chemicals currently on the California list of known carcinogens and/or reproductive toxins

### 16. OTHER INFORMATION

SDS Version: 1.0  
Revision Date: 06/01/2015  
Disclaimer: The information contained in this document was carefully compiled and is believed to be accurate. The information represents the present state of our knowledge and is applicable to the product with the regard to appropriate safety precautions. However, it does not represent any guarantee of the properties of the product. Advanced Chemical Technology, Inc. shall not be held liable for any damages resulting from handling or from contact with the above product. It is the responsibility of the purchaser to determine the suitability of the product for their particular purposes. Nothing contained herein shall be construed to be a recommendation to use, or as a license to operate under, or to infringe any existing patents. For product information call Advanced Chemical Technology, Inc., 1-909-980-4556.