Walter Louis
FLUID TECHNOLOGIES
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After Hours: CHEMTREC 1-800-424-9300

SAFETY DATA SHEET (GHS Format)
Also available for download at:
http://www.WalterLouis.com/MSDS/

1. IDENTIFICATION

Trade Name: 593 Oxygen Scavenger
Chemical Name & Synonyms: Proprietary Boiler Water Treatment Product
Recommended Use: Oxygen Scavenger in Boiler Water Treatment
Restrictions on Use: No data available.

2. HAZARD(S) IDENTIFICATION

Signal Word: NONE
GHS Classification
Not Classified as Hazardous
Label Elements:
None Required

Precautionary Statements:

Prevention: Keep only in original container.
Avoid breathing dust, gas, mist, vapors or spray.
Wash thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Wear gloves, eye and face protection and protective clothing.
In case of inadequate ventilation wear respiratory protection.

Response:

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment: (see First Aid section)
If skin irritation or rash occurs: Get medical advice or attention.
If eye irritation persists: Get medical advice or attention.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
Take off contaminated clothing and wash before reuse.
Absorb spillage to prevent material damage.

Storage: Store in corrosive resistant container with a resistant inner liner.

Disposal: Dispose of in accordance with local, regional and international regulations.

Hazards Not Otherwise Classified: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS NUMBER	WEIGHT %
Sodium sulfite	7757-83-7	97
Sodium sulfate	7757-82-6	<3

4. FIRST-AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention.

Skin Contact: Immediately wash skin with plenty of soap and water. Remove contaminated clothing and launder before reuse. Get medical attention if irritation persists.

Inhalation: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion: If conscious, immediately rinse mouth with water and give 1 glass of water to drink. Do not induce vomiting unless directed to do so be medical personnel. Get immediate medical attention.**Note to Physicians:**
Treat symptomatically.
The decision of whether to induce vomiting or not should be made by a physician.

Most Important Symptoms/Effects:
May irritate the skin. May cause irritation to the eyes. Harmful if swallowed or inhaled. May cause severe and possibly fatal allergic reactions if inhaled or swallowed by some asthmatics and other 'sulfite-sensitive' individuals. Reacts with acids to form toxic and irritating sulfur dioxide gas..

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT, IF NEEDED:
Treat symptomatically. Note potential for anaphylactic shock with allergic individuals.

5. FIRE-FIGHTING MEASURES

SUITABLE (AND UNSUITABLE) EXTINGUISHING MEDIA:
Material is not flammable. Use extinguishing media appropriate for material in surrounding fire.
SPECIFIC HAZARDS ARISING FROM THE CHEMICAL:
Releases toxic and irritating sulfur dioxide at fire temperatures.
SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTING:
Wear NIOSH-approved self-contained breathing apparatus. Use water-spray to keep containers cool, and to knock
down vapors or gases.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES: Provide ventilation to clear sulfur dioxide fumes which may be generated by contact with water. Wear appropriate personal protective equipment.
ENVIRONMENTAL PRECAUTIONS: Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Promptly sweep up material with minimum dusting and shovel into an empty container with a cover. Rinse spill area with plenty of water.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling.

Empty containers retain product residues; observe all warnings and precautions listed for the product. Do not handle near an open flame, heat, or other sources of ignition.
Storage: Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Store away from all sources of heat and ignition to prevent decomposition and release of sulfur dioxide gas. Do not freeze. Store above 50 F to avoid crystallization. Protect containers against physical damage. Tanks should be vented into an alkaline fume recovery system or scrubber. Storage tanks should be protected from water ingress, and maintained structurally in a safe and reliable condition. Store in corrosion-resistant container. See Section 10 for incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
OSHA Exposure Guidelines:
Component Limits
No components found.
ACGIH Exposure Guidelines:
Component Limits
None
Note:
Sulfur Dioxide gas may be released. The Exposure Limits for Sulfur Dioxide are: 5 ppm-TWA (OSHA); 2 ppm-TWA, 5 ppm-STEL (ACGIH)(Vacated 1989 OSHA PELs).
Engineering Controls: Local exhaust ventilation, process enclosures, or other engineering controls are imperative when handling or using this product to avoid overexposure. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.
Eye/Face Protection: Wear chemical safety goggles and a full face shield while handling this product. Do not wear contact lenses.
Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Impervious. Neoprene. Rubber. Polyvinyl chloride.
Respiratory Protection: Respiratory protection must be worn when handling this product. If exposure limits are exceeded, wear: NIOSH-Approved respirator for dusts, mists, and/or SO2 vapors as conditions indicate. NIOSHApproved air-purifying respirator with: Acid gas cartridge. NIOSH-Approved self-contained breathing apparatus. NIOSH-Approved positive pressure supplied air respirator. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.
Other Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Chemical safety shoes. Rubber boots. Full body suit. Protective clothing.
General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking.
9. PHYSICAL AND CHEMICAL PROPERTIES
Apperance: Clear light yellow liquid with pungent sulfurous odor.

pH: 4.00
Specific Gravity: SOLID
Water Solubility: Complete
Melt/Freeze Point: 45 °F.
Boiling Point: ~ 220 °F
Flammability: N/A
Flash Point: N/A
Vapor Density (air=1): Not Determined

10. STABILITY AND REACTIVITY
Reactivity: No data available.
Chemical Stability: Stable under normal conditions of use and storage.
Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions. Oxidizing agents may cause exothermic reactions. Both acidification and heating accelerate the release of Sulfur dioxide fumes.
Conditions to Avoid: Avoid contact with heat, sparks, electric arcs, other hot surfaces, and open flames. Avoid other ignition sources. Temperatures at or near boiling point causes evolution of Sulfur Dioxide. Avoid excess exposure to air. On exposure to air, the product will lose some Sulfur dioxide and gradually oxidize to sulfate.
Incompatible Materials: Acids. Mineral acids. Oxidizing agents. Corrosive to some metals.
Hazardous Decomposition Products: Sulfur dioxide gas. Sulfur oxides. Toxic vapors.

11. TOXICOLOGICAL INFORMATION

Component	**Oral LC50**	**Dermal LC50**	**Inhalation LC50**

POTENTIAL HEALTH HAZARDS
ACUTE EFFECTS OF EXPOSURE:
SKIN: Repeated or prolonged contact with dust may cause irritation. Contact with solutions will cause skin irritation.
EYES: Dust or mist may irritate the eyes. Solutions will irritate or burn.
INHALATION: Inhalation of dust or mist can irritate the respiratory tract. May cause severe or deadly allergic reactions in some asthmatics and sulfite sensitive individuals. Possible signs and symptoms of allergic reactions include bronchoconstriction, sweating, flushing, hives, rapid heart rate, decreased blood pressure, and anaphylaxis. Contact with acids releases sulfur dioxide gas which may be harmful or deadly if inhaled.
INGESTION: May irritate the gastrointestinal tract. May cause severe or deadly allergic reactions in some asthmatics and sulfite sensitive individuals Large doses may cause violent colic and diarrhea, circulatory disturbances, central nervous system depression, and even death.
CHRONIC EFFECTS: None known**.**

NUMERICAL MEASURES OF TOXICITY:
Immediate (Acute) Effects:

Sodium sulfite –LD50 (oral, rat) = 2610-6400 mg/kg; LC50 (inhalation, rat) >5.5 mg/L/4 hr.; LC50 (inhalation, rat) >22
mg/L/1 hr.
Sodium sulfate – LD50 (oral, rat) >10,000 mg/kg
Delayed (Subchronic and Chronic) Effects:
Sodium sulfite has been demonstrated to be mutagenic in microbial systems; however, it is not mutagenic in studies involving insects and is not considered to present a mutagenic threat to multi-cell organisms.

Other Data:

None

12Cancer Information:

This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

The following ecotoxicity data is available for Sodium sulfite:
Daphnia magna LC50 48 hrs 440 mg/L
Western Mosquitofish 96hrs LC50 460 mg/L
Biological Oxygen Demand (BOD) 0.12 lb/lb, instantaneous
The following ecotoxicity data is available for Sodium sulfate:
Daphnia magna LC50 48hrs 2,564 mg/L
Western Mosquitofish 96hrs LC50 3,710 mg/L

PERSISTENCE AND DEGRADBILITY:

No data available

BIOACCUMULATIVE POTENTIAL:

No data available

MOBILITY IN SOIL:

No data available

13. DISPOSAL CONSIDERATIONS

Waste from Residues/Unused Products:

P501: Dispose of in accordance with all local, state and federal regulations.
Dilute with large amounts of water, neutralize with calcium carbonate or sodium carbonate (soda ash) before disposal. This product is intended to be used boiler water pre-treatment systems and discharged to sanitary sewer in its diluted state in boiler blowdown water. Concentrated product may be diluted to a similar working concentration and flushed to sewer or soaked up with absorbent material and landfilled in accordance with local, state, and federal regulations.

Contaminated Packaging: Do not reuse container for potable / food contact. Wash and rinse thoroughly before reuse / recycling

14. Transport information (USDOT): Not Regulated

15. Regulatory Information

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS: All components are listed on TSCA Inventory of Chemical Substances.
OTHER TSCA ISSUES: None.
SARA TITLE III/CERCLA
"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.
INGREDIENT NAME SARA/CERCLA RQ (lb) SARA EHS TPQ (lb)
No ingredients listed in this section. ---- ----
Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee. Many states have more stringent regulations. Report all spills in accordance with local, state and federal regulations.
SECTION 311 HAZARD CLASS: Not Hazardous
SARA 313 TOXIC CHEMICALS:
The following ingredients are SARA 313 "Toxic Chemicals" and may be subject to annual reporting requirements.
CAS numbers and weight percents are found in Section 2.
INGREDIENT NAME COMMENT
No ingredients listed in this section. ----
STATE RIGHT-TO-KNOW
In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.
INGREDIENT NAME WEIGHT % COMMENT
No ingredients listed in this section. ---- ----
CALIFORNIA PROPOSITION 65
This product does not contain any ingredients known to the State of California to cause cancer and/or reproductive harm.
ADDITIONAL REGULATORY INFORMATION:
None
WHMIS CLASSIFICATION (CANADA):
D2B
FOREIGN CHEMICAL CONTROL INVENTORY STATUS:
Listed on Canadian DSL, Australian AICS, Philippines PICCS, Chinese IECSC, Japanese MITI, Korean KECL, and EU EINECS.
16. Other Information
OTHER INFORMATION: This product is not for drug use. Only Food Grade material is for use as a food additive.