

Oxygen Scavenger Powder

Sodium Sulfite

PRODUCT FEATURES

- Rapid Removal of Dissolved Oxygen In Water
- Effective In Fresh Water & Brines
- Dissolves Quickly
- Cost Effective

DESCRIPTION

Oxygen scavenger powder is a formulation of catalyzed sodium sulfite developed for use in the removal of dissolved oxygen from fresh water and brines. The product readily dissolves in the presence of water to provide rapid de-oxygenation of aqueous fluids.

Oxygen Scavenger Powder is designed for diverse application in a wide variety of oilfield fluids ranging from fresh water to heavy brines. The product finds application in water handling, distribution and holding systems, water trucks, drilling, stimulation and work over operations. Down hole areas such as rat holes and annular space above a packer may be reached and more easily treated with **Oxygen scavenger powder**. With a density of 92.3 pounds per cubic foot, **Oxygen Scavenger Powder** will readily fall through heavy brines. The product may also be used for the removal of oxygen from water used in heating and cooling systems.

RECOMMENDED APPLICATION

Oxygen Scavenger Powder quickly dissolves when it comes in contact with water to release the oxygen scavenger. Best results are achieved with periodic treatments of **Oxygen Scavenger Powder**. Typically it requires 6.2 ppm of **Oxygen Scavenger Powder** to remove 1 ppm of dissolved oxygen. When exact

TYPICAL PHYSICAL PROPERTIES

Form, 70°F	White Cylindrical Solid
Size	1 1/4" x 15"
Flash Point, °F	>200
pH, (10% Solution)	9.5 – 10.5
Solubility	
Fresh Water	Soluble
High TDS Brine	Soluble
Hydrocarbon	Dispersible
Ionic Charge	Anionic

dissolved oxygen concentrations of an individual system are not known, **Oxygen Scavenger Powder** should be added at a rate of 1 lb. to 3 lbs. per 100 barrels of fluid.

It should be noted that higher brine concentrations and temperatures greatly reduce the quantity of oxygen that can be dissolved into an aqueous system. Consideration should also be given to the fact that lower fluid temperatures retard the reaction rate of oxygen scavengers.

STORAGE AND HANDLING

Oxygen Scavenger Powder should be stored in a cool, dry location. As with any industrial chemical, keep out of reach of children and avoid prolonged contact with skin and eyes. In case of skin or eye contact, flush the exposed area with copious amounts of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of the product.

SHIPPING INFORMATION

All Containers:
Not D.O.T. Regulated

PDS-0404

The information in this bulletin is believed to be accurate, but all recommendations are made without warranty, since the conditions of use are beyond Bachman Services control. The listed properties are illustrative only and not specifications. Bachman Services disclaims any liability in connection with the use of this information, and does not warrant against infringement by reason of the use of any of its products in combination with other materials or in any process.

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification	
Product Name Oxygen Scavenger Powder	Code
Supplier Bachman Drilling & Production PO Box 508 Fruita, CO 81521	Version 1.0
Material Uses	Effective Date 01/01/09
24 Hour Emergency Numbers (800) 535-5053	Print Date 05/01/09

Section 2. Composition and Information on Ingredients			
Name	CAS #	% by Weight	Exposure Limits
No Hazardous ingredient(s)			

Section 3. Hazards Identification	
Physical State and Appearance	State: White Powder
CERCLA Reportable Quantity	Not Applicable
Hazard Summary	Not regulated to be a health or physical hazard
Routes of Exposure	Skin (contact), eyes
Potential Acute Health Effects	<p>Eyes May be slightly irritating to eyes.</p> <p>Skin May be slightly irritating to skin.</p> <p>Inhalation Not Expected to be harmful if inhaled.</p> <p>Ingestion Not considered a likely route of exposure, however, may be harmful or cause irritation if swallowed.</p>
Medical Conditions	Exposure to this product may aggravate medical conditions involving the following: skin/epithelium, eyes
Aggravated by Exposure	
See Toxicological Information (section 11)	
Additional Hazard Identification Remarks	Not Available

Section 4. First Aid Measures	
Eye contact	Flush eyes with plenty of water for 15 minutes, occasionally lifting upper and lower eyelids. Get medical attention if irritation occurs.
Skin Contact	Remove and launder or clean contaminated clothing and shoes. Wash with soap and water until no evidence of material remains. Get medical attention if irritation occurs.
Inhalation	Remove to fresh air. Oxygen may be administered if breathing is difficult. If not breathing, administer CPR and seek medical attention. Get medical attention if symptoms appear.
Ingestion	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never induce vomiting or give anything by mouth to a victim who is unconscious or having convulsions. Get medical attention if symptoms appear.
Notes to Physician	Not Available
Additional First Aid Remarks	Not available

Section 5. Fire Fighting Measures	
Flammability or the Product	Not regulated as flammable or combustible
OSHA Flammability Class	IIIB
Auto ignition Temperature	Not available
Flash Points	Not applicable
Flammable Limits	L.E.L Not Available. U.E.L. Not available
Products of Combustion	These products are Carbon oxides (CO, CO ₂). Nitrogen oxides (NO, NO ₂).
Fire Hazards in Presence of Various Substances	Open Flames/Sparks/Static. Heat
Fire Fighting Media and Instructions	In case of fire, use foam, dry chemicals, or CO ₂ fire extinguishers. Evacuate area and fight fire from a safe distance. Water spray may be used to keep fire-exposed containers cool. Keep water run off out of sewers and public waterways.
Protective Clothing (Fire)	Do not enter fire area without proper PPE, including NIOSH/MSHA approved self-contained breathing apparatus.
Special Remarks on Fire Hazards	Not available

Section 6. Accidental Release Measures	
Spill	Put on appropriate PPE. Evacuate surrounding areas, if necessary. Scoop up spilled materials and place in an appropriate container for disposal. Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Other Statements	Not applicable
Additional Accidental Release Measures Remarks	Not available

Section 7. Handling and Storage	
Handling and Storage	Use appropriate PPE. Avoid contact with skin, eyes and clothing. Avoid breathing vapors or dusts. Use only with adequate ventilation. Store in dry, cool area. Keep container closed and dry.
Additional Handling and Storage Requirements	Not available

Section 8. Exposure Controls/ Personal Protection	
Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the workstation location.
Personal Protection	
Eyes:	Chemical safety goggles
Body:	Wear long sleeves to prevent repeated or prolonged skin exposure.
Respiratory:	Respirator use is not expected to be necessary under normal conditions of use.
Hands:	Chemical resistant gloves.
Feet	Chemical resistant boots or overshoes.
Other information	Natural rubber gloves
Additional Exposure Control Remarks	Not available

Section 9. Typical Physical and Chemical Properties			
Physical State and Appearance	White Powder	Odor	pungent SO ₂ , odor
pH	6.5-8.0	Color	White
Specific gravity	1.084 -1.96 @ 16 degrees C (60 degrees F)		
Density	9.03 – 9.13 lbs/gal @ 16 degrees C (60 degrees F)		
Vapor Density	Not available		
Vapor Pressure	Not available		
Evaporation Rate	Not available		
VOC	Not Available		
Viscosity	Not Available		
Pour Point	Not Available		
Solubility (water)	Soluble		
Boiling Point	Not Available		
Physical Chemical Comments	Not Available		

Continued on Next Page

Section 10: Stability and Reactivity

Note: The information on this MSDS is based on data, which is considered to be accurate. Bachman Drilling, Inc., however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used for this product. If the product is used as a component in another product, this MSDS information may not be applicable.