



I. Chemical Product and Company Identification

Product Name: OB-2 LT
Identification #: 35-475-1120
Product Use/Class: Gel breaker
Supplier: Nabors Completion and Production Services
515 W. Greens Road, Suite 1100, Houston, TX 77067
Supplier Tracking Code: 1961
Emergency Contact: CHEMTREC 1 (800) 424-9300
Prepared By: LZ
Date Prepared: 08/20/2013

II. Composition/Information on Ingredients

Chemical Name: Ammonium Persulfate
CAS Number: 7727-54-0
Percent by Mass Less Than: 60-85%

Exposure Limits

Threshold Limit Value - Time Weighted Average: NI
Threshold Limit Value - Short Term Exposure Limit: NI
Permissible Exposure Limit - Time Weighted Average: NI
Permissible Exposure Limit - Ceiling: NI
Company Threshold Limit - Time Weighted Average: NI
Skin: NI

Chemical Name: Crystalline Silica (in the form of quartz)
CAS Number: 14808-60-7
Percent by Mass Less Than: >10%

Exposure Limits

Threshold Limit Value - Time Weighted Average: 0.025 mg/m³
Threshold Limit Value - Short Term Exposure Limit: NI
Permissible Exposure Limit - Time Weighted Average: 10 mg/m³ %SiO₂+2
Permissible Exposure Limit - Ceiling: NI
Company Threshold Limit - Time Weighted Average: NI
Skin: NI

III. Hazardous Identification

Emergency Overview:	DANGER -- OXIDIZER Highly toxic.
Eye Contact:	Irritant. This product causes eye burns. Risk of serious damage to eyes. Do not get this material in contact with eyes
Skin Contact:	Irritant. Causes skin burns. Do not get this material in contact with skin. Components of the product may be absorbed into the body by inhalation, ingestion and through the skin.
Inhalation:	Causes burns. Prolonged inhalation may be harmful. May cause cancer by inhalation. Do not breathe dust/fume/gas/mist/vapors/spray. Repeated or prolonged inhalation may cause toxic effects. For additional information on inhalation hazards, see Section 11 of this safety data sheet Over-exposure by inhalation may cause respiratory irritation. Avoid breathing dust. Prolonged exposure may cause chronic effects. If airborne exposure is excessive, wear NIOSH/MSHA approved respirator. This product contains crystalline silica that may cause silicosis and cancer. Components of the product may be absorbed into the body by inhalation, ingestion and through the skin.
Ingestion:	Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract. May cause delayed lung damage. Do not ingest. Components of the product may be absorbed into the body by inhalation, ingestion and through the skin.
Chronic Harards:	Shortness of breath. May cause delayed lung damage. This product has the potential for generation of respirable dust during handling and use. Dust may contain respirable crystalline silica. Overexposure to dust may result in pneumocononiosis, a respiratory disease caused by inhalation of mineral dust, which can lead to fibrotic changes to the lung tissue, or silicosis, a respiratory disease caused by inhalation of silica dust, which can lead to inflammation and fibrosis of the lung tissue. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled

Primary Route(s) of Entry:	■ Skin Contact	■ Eye Contact	■ Ingestion
	■ Skin Absorbtion	■ Inhalation	

IV. First Aid Measures

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention
Skin Contact:	Wash with soap and water. Get medical attention for symptoms.
Inhalation:	Move to fresh air. Get immediate medical attention
Ingestion:	Have victim rinse mouth thoroughly with water. Drink 1-2 glasses of water. Do not induce vomiting. Get immediate medical attention

V. Fire Fighting Measures

Flash Point:	201 F
Auto Ignition Temperature:	ND
Lower Explosive Temp.:	ND
Upper Explosive Temp.:	ND
Extinguishing Media:	Water spray, fog or regular foam. Dry chemical
Unusual Fire and Explosive Harards:	Containers may explode when heated. Some will react explosively with hydrocarbons. Some may decompose explosively when heated or in a fire. Runoff may create fire/explosion hazard. These substances will accelerate burning when involved in fire. Contact with combustible material may cause fire.
Special Fire Fighting Procedures:	Wear full protective clothing, including helmet, SCBA, protective clothing, face mask. Do not move cargo or vehicle if cargo has been exposed to heat. If tank, rail car or tank truck is involved in fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can without risk. For massive fire, use unmanned hose holders or monitor nozzles; if impossible, withdraw from area and let fire burn. Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out

VI. Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled:	Should not be released into the environment. Sweep up or gather material and place in appropriate container for disposal. Avoid dust formation. After removal flush contaminated area thoroughly with water
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VII. Handling and Storage

Handling:	Do not handle or store near an open flame, heat or other sources of ignition. Do not breathe dust/fume/gas/mist/vapors/spray. Use only with adequate ventilation. Avoid release to the environment. Avoid prolonged exposure
Storage:	Store in a cool dry place. Keep in a well-ventilated place

VIII. Exposure Controls/Personal Protection

Engineering Controls:	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits
Respiratory Protection:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators
Skin Protection:	Do not get this material in contact with skin. Do not get this material on clothing. Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Protective gloves. Structural firefighters protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations
Eye Protection:	Do not get this material in contact with eyes. Wear chemical goggles. Face-shield
Other Protective Equipment:	ND
Hygienic Practices:	Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. When using do not eat or drink. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice

IX. Physical and Chemical Properties

Boiling Point:	433.4 F (223 C) estimated	Vapor Density:	ND
Odor:	slightly acrid	Odor Threshold:	ND
Appearance:	White to off-white	Evaporation Rate:	ND
Solubility in H2O:	559 g/L	Specific Gravity:	1.814
Freeze Point:	ND	pH at 50.0%:	4.5 - 5.5
Vapor Pressure:	ND	Viscosity:	ND
Physical State:	Solid		
Coefficient of Water Oil Distribution:	ND		

X. Stability and Reactivity

Conditions to Avoid:	ND
Incompatibility:	Fluoride. Powerful oxidizers
Hazardous Decomposition Products:	ND
Hazardous Polymization:	Hazardous polymerization does not occur
Stability:	ND

XI. Toxicological Properties

Toxicological Properties:	Causes burns
Oral:	Acute LD50: 583 mg/kg estimated, Rat, Oral
Dermal:	ND
Inhalation:	ND

XII. Ecological Information

Ecological Properties:	Components of this product have been identified as having potential environmental concerns
Ecotoxicity:	ND
Chemical Fate Information:	ND

XIII. Disposal Consideration

Disposal Method:	Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations
RCRA Status:	Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations

XIV. Transportation Information

DOT Proper Shipping Name:	Ammonium persulfate
DOT Technical Name:	Ammonium persulfate
DOT Hazard Class:	5.1
DOT Hazard Subclass:	
DOT UN/NA Number:	UN1444
Packing Group:	III
Resp. Guide Page:	

XV. Regulatory Information

OSHA: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

TSCA Status: All components are on the U.S. EPA TSCA Inventory List.

CERCLA SARA: Immediate Hazard - Yes; Delayed Hazard - No; Fire Hazard - No; Pressure Hazard - No; Reactivity Hazard - Yes

SARA Section 313
Required Reporting:

XVI. Other Information

Other Information: NA = Not applicable ND = Not Determined NI = No Information NE = Not Established

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This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, or when used in conjunction with other products, exposures must be evaluated by the user so that appropriate handling practices and training programs can be established to ensure safe workplace operations. This information is confidential to Nabors Completion & Production Services Company (Nabors) and intended solely for the use of the individual or entity to whom they are directly distributed. Distribution or use beyond the individual or entity is strictly prohibited without the consent of Nabors.