Encapsulated Gel Breaker SDS Safety Data Sheet

1. Product Identification

Synonyms: Encapsulated Ammonium Persulfate
CAS No.: Mixture.
Molecular Weight: Not applicable
Chemical Formula: Not applicable

Intended Use: Oil & Gas Exploration. Breaking of Gaur Gum Gel in Oil well drilling fracking or fracturing.

SUPPLIER
Company: Coil Chem LLC
Address: 2103 E. Ladd Rd., Washington, OK 73093
In case of emergency contact: Contract No: 104662
InfoTrac
US: 1-800-535-5053
International: 352-323-3500

2. Hazards Identification

OSHA Hazards: Oxidizer, Harmful by ingestion, Harmful by skin absorption, Skin and respiratory sensitizer, Irritant
Target Organs: None Known

Signal Words: Danger

GHS, Globally Harmonized System Classification in accordance with 29 CFR 1910

GHS Label Elements

<table>
<thead>
<tr>
<th>Oxidizing Solid</th>
<th>Health Hazard</th>
<th>Irritant</th>
</tr>
</thead>
</table>

Signal Word: Oxidizer
Hazard Statements:
H272: May intensify fire; oxidizer
H302: Harmful if swallowed
H312: Harmful in contact with skin
H315: Causes skin irritation
H317: May cause an allergic skin reaction
H320: Causes eye irritation
H335: May cause respiratory irritation

Precautionary Statements
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P220: Keep/Store away from clothing/other combustible materials
P221: Take any precaution to avoid mixing with combustibles.
P260: Do not breathe dust/fume/gas/mist/vapors/spray
P264: Wash ... thoroughly after handling
P270: Do no eat, drink or smoke when using this product
P280-Wear protective gloves/protective clothing/eye protection/face 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.
P314: Get Medical advice/attention if you feel unwell.
P330: If swallowed, rinse mouth
P337+P313: If eye irritation persists: Get medical advice/attention.
P360: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P402: Store in a dry place
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Carcinogenic Effects: Not available.
Mutagenic Effects: Not available.
Teratogenic Effects: Not available.
Developmental Toxicity: Not available.
The substance may be toxic to upper respiratory tract.

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>Content</th>
<th>CAS Number</th>
<th>Hazardous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Persulfate</td>
<td>Less than 90</td>
<td>7727-54-0</td>
<td>Yes</td>
</tr>
<tr>
<td>Other Non-Haz Ingredients</td>
<td>Less than 30%</td>
<td>N/A</td>
<td>No</td>
</tr>
</tbody>
</table>

4. First Aid Measures
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion: If swallowed, Do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing & shoes before reuse. Get medical attention.
Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

5. Fire Fighting Measures

Fire: Ammonium Persulfate and Encapsulated Gel Breaker is not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.
Heating or contact with water releases oxygen which may intensify combustion in an existing fire.
Explosion: An explosion hazard when mixed with finely powdered organic matter, metal powder, or reducing agents.
Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire. Do not use water.
Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Sealed containers may rupture when heated.

6. Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill: It is an oxidizing material.
Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep the substance damp using water spray. Do not touch spilled material. Prevent entry into sewers. Eliminate all ignition sources.

7. Handling and Storage

Keep Encapsulate Gel Breaker in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Separate from combustibles, organic or other readily oxidizable materials. Avoid storage on wood floors. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection
Airborne Exposure Limits: - ACGIH Threshold Limit Value (TLV): 0.1 mg/m³ (TWA) as persulfate

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Respirators (NIOSH Approved): For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerin, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection: Wear protective gloves and clean body-covering clothing.

Eye Protection: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: Encapsulate Gel Breaker is white to off-white crystals
Odor: Mild organic odor
Solubility: Soluble
Specific Gravity: 1.75.
pH: No information found
Boiling Point: Not applicable
Melting Point: Decomposes
Vapor Density (Air=1): No information found
Vapor Pressure (mm Hg): No information found
Evaporation Rate (BuAc=1): No information found

10. Stability and Reactivity

Stability: It is stable under ordinary conditions of use and storage. Stability decreases in the presence of moisture
Hazardous Decomposition Products: Decomposed by moisture to form oxygen and ozone. Burning may produce nitrogen oxides, sulfur oxides, sulfuric acid, chlorine or hydrochloric acid and fumes.
Hazardous Polymerization: Will not occur
Incompatibilities: Reducing agents, organic material, sodium peroxide, water and powdered metals especially aluminum
Conditions to Avoid: Moisture, combustible materials and incompatibles

11. Toxicological Information
Ammonium Persulfate
Oral rat LD50: 689 mg/kg

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\Cancer Lists\------------------------------------------

Ingredient --------------------------  Known  Anticipated  IARC
Category-------------------------------  --------  ---------  -------
--- Ammonium Persulfate (7727-54-0)  No       No        None

12. Ecological Information

Environmental Fate: No information found.
Environmental Toxicity: No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)
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Proper Shipping Name: Ammonium Persulfate
Hazard Class: 5.1
UN/NA: UN1444
Packing Group: III

International (Water, I.M.O.)
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Proper Shipping Name: Ammonium Persulfate
Hazard Class: 5.1
UN/NA: UN1444
Packing Group: III

15. Regulatory Information
The information below is for Ammonium Persulfate:

**TSCA**
CAS# 7727-54-0 is listed on the TSCA inventory.

**Health & Safety Reporting List**
None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**
None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**
None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**
None of the chemicals in this material have a SNUR under TSCA.

**SARA**
**CERCLA Hazardous Substances and corresponding RQs**
None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**
None of the chemicals in this product have a TPQ.

**SARA Codes**
CAS # 7727-54-0: acute, reactive.

**Section 313**
No chemicals are reportable under Section 313.

**Clean Air Act:**
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**
None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

CAS# 7727-54-0 can be found on the following state right to know lists: New Jersey, Pennsylvania. California No Significant Risk Level: None of the chemicals in this product are listed.


**EINECS:** This product is on the European Inventory of Existing Commercial Chemical Substances.

**WHMIS (Canada):**
CLASS C: Oxidizing material
Product Identification Number: 1444
Hazard Classification / Division: Class C (Oxidizer), Class D, Div. 2, Subdiv. B. (Toxic)
Ingredient Disclosure List: Listed

**DSCL (EEC):**
R8- Contact with combustible material may cause fire.
R20/22- Harmful by inhalation and if swallowed.
R36/37/38- Irritating to eyes, respiratory system and skin.
R42/43- May cause sensitization by inhalation and skin contact.
S22- Do not breathe dust.
S24- Avoid contact with skin.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37- Wear suitable gloves.

HMIS (U.S.A.):
Health Hazard: 1
Fire Hazard: 0
Reactivity: 3
Personal Protection: F

National Fire Protection Association (U.S.A.):
Health: 1
Flammability: 0
Reactivity: 3
Specific hazard:
Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Australian Hazchem Code: 2P
Poison Schedule: None allocated.

The polymer component is not classed as hazardous or toxic substance.

16. Other Information

Disclaimer:
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Our company provides this Encapsulated Gel Breaker SDS information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This Encapsulated Gel Breaker SDS is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.
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