

## Safety Data Sheet

### EB-Clean\* J479 LT Encapsulated Breaker

#### 1. Identification of the substance/mixture and of the company/undertaking

##### 1.1 Product identifier

**Product name** EB-Clean\* J479 LT Encapsulated Breaker  
**Product code** J479

##### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a fracturing additive in oilfield applications

**Uses advised against** Consumer use

##### 1.3 Details of the supplier of the safety data sheet

###### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

##### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

#### 2. Hazards Identification

##### 2.1 Classification of the substance or mixture

###### **GHS Classification**

###### **Health hazards**

|  |            |
|--|------------|
| Acute toxicity - Oral                            | Category 4 |
| Skin corrosion/irritation                        | Category 2 |
| Serious eye damage/eye irritation                | Category 2 |
| Respiratory sensitization                        | Category 1 |
| Skin sensitization                               | Category 1 |
| Specific target organ toxicity - Single exposure | Category 3 |

**Environmental hazards** Not classified

###### **Physical Hazards**

|                  |            |
|------------------|------------|
| Oxidizing Solids | Category 3 |
|------------------|------------|

## 2.2 Label elements



### Signal word

DANGER

### Hazard Statements

H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H335 - May cause respiratory irritation  
H272 - May intensify fire; oxidizer

### Precautionary statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P370 + P378 - In case of fire: Use water spray to extinguish

### Supplementary precautionary statements

P220 - Keep away from clothing and other combustible materials  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P280 - Wear protective gloves/protective clothing and eye/face protection  
P284 - In case of inadequate ventilation wear respiratory protection  
P312 - Call a POISON CENTER or doctor/physician if you feel unwell  
P330 - Rinse mouth  
P332 + P313 - If skin irritation occurs: Get medical advice/attention  
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention  
P337 + P313 - If eye irritation persists: Get medical advice/attention  
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician  
P362 + P364 - Take off contaminated clothing and wash it before reuse  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
P410 - Protect from sunlight  
P411 - Store at temperatures not exceeding 38 °C/ 100 °F  
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

### Contains

Diammonium peroxodisulphate

## 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature

Classified as Hazardous according to the criteria of NOHSC.  
HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

### 3. Composition/information on Ingredients

#### 3.1 Substances

Not applicable

#### 3.2 Mixtures

| Chemical Name               | EC No     | CAS No    | Weight-% |
|-----------------------------|-----------|-----------|----------|
| Diammonium peroxodisulphate | 231-786-5 | 7727-54-0 | 60-100   |

#### Comments

The product contains other ingredients which do not contribute to the overall classification.

### 4. First Aid Measures

#### 4.1 First aid measures

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.   |
| <b>Ingestion</b>    | Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.   |
| <b>Skin contact</b> | Wash off immediately with soap and plenty of water. Remove contaminated clothing and shoes. Seek medical attention if irritation occurs.   |
| <b>Eye Contact</b>  | Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Get medical attention if any discomfort continues. |

#### 4.2. Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

#### Symptoms

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | Please see Section 11. Toxicological Information for further information. |
| <b>Ingestion</b>    | Please see Section 11. Toxicological Information for further information. |
| <b>Skin contact</b> | Please see Section 11. Toxicological Information for further information. |
| <b>Eye contact</b>  | Please see Section 11. Toxicological Information for further information. |

#### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

### 5. Fire-Fighting Measures

#### 5.1 Extinguishing media

**Suitable extinguishing media**

Deluge with water. Other methods not effective.

**Extinguishing media which must not be used for safety reasons**

Dry chemical, carbon dioxide and other gas-filled extinguishers.

**5.2. Special hazards arising from the substance or mixture****Unusual fire and explosion hazards**

May intensify fire; oxidizer.

**Hazardous combustion products**

Thermal decomposition can lead to release of irritating gases and vapors Sulfur oxides, Oxygen, Nitrogen.

**5.3 Advice for firefighters****Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

Hazchem code ADG

1Z

**6. Accidental Release Measures****6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8. Do not breathe dust. Avoid contact with the skin and the eyes.

**6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and material for containment and cleaning up****Methods for containment**

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading.

**Methods for cleaning up**

Spilled oxidizer must be removed immediately and isolated for disposal. Isolated material must be monitored for signs of decomposition (fuming/smoking). If spilled material is wet, dissolve with large quantity of water. All disposals must be carried out at the earliest opportunity and in accordance with local /regional /national /international regulations. Take up mechanically and collect in suitable container for disposal. Use non-sparking tools and equipment. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

See section 13 for more information.

**7. Handling and Storage****7.1 Precautions for safe handling****Handling**

Do not handle until all safety precautions have been read and understood. Handle in accordance with good industrial hygiene and safety practice. Follow procedures for safe handling of oxidizers. Do not expose materials or their containers to moisture. Keep away from open flames, hot surfaces and sources of ignition. Avoid handling causing generation of dust. Avoid contact with skin and eyes. May produce an allergic reaction. Persons susceptible to allergic reactions should not handle this product.

### Hygiene Measures

Use good work and personal hygiene practices to avoid exposure. Do not eat, drink or smoke when using this product Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

|  |  |
|--|--|
| <b>Technical measures/precautions</b>    | Ensure adequate ventilation. Keep airborne concentrations below exposure limits.   |
| <b>Storage precautions</b>               | Oxidizers must be stored separately from all other materials. Keep containers tightly closed in a dry, cool and well-ventilated place Protect from moisture Keep away from direct sunlight. Keep at a temperature not exceeding 100 °F /38 °C Keep away from open flames, hot surfaces and sources of ignition Oxidizing material - Keep away from flammable and combustible materials. Store away from incompatible materials Acids Bases Powdered metal Oxidizing agents Reducing Agents |
| <b>Storage class</b>                     | Oxidiser storage.  |
| <b>Packaging materials</b>               | Use specially constructed containers only. Coated (epoxy phenolic) steel drum or high density polyethylene (HDPE) can  |
| <b>Packaging materials to be avoided</b> | Containers made of MONEL, copper, brass, or iron.  |

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m<sup>3</sup> Respirable Dust, 10mg/m<sup>3</sup> Total Dust.

### Component Information

| Chemical Name               | Arabic                    | Australia                 | Egypt          |
|-----------------------------|---------------------------|---------------------------|----------------|
| Diammonium peroxidisulphate | Not determined            | Not determined            | Not determined |
| Chemical Name               | India                     | Indonesian                | Japan          |
| Diammonium peroxidisulphate | Not determined            | 0.1 mg/m <sup>3</sup> TWA | Not determined |
| Chemical Name               | Kazakhstan                | Kuwait                    | New Zealand    |
| Diammonium peroxidisulphate | Not determined            | Not determined            | Not determined |
| Chemical Name               | Malaysia                  | Philippines               | Russia         |
| Diammonium peroxidisulphate | 0.1 mg/m <sup>3</sup> TWA | Not determined            | Not determined |
| Chemical Name               | Thailand                  | Vietnam                   | Turkey         |
| Diammonium peroxidisulphate | Not determined            | Not determined            | Not determined |

### Notes

No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

### Engineering Controls

Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment****Eye protection**

Use eye protection according to EN 166, designed to protect against powders and dusts  
Safety glasses with side-shields Tightly fitting safety goggles

**Hand protection**

Wear gloves according to EN 374 to protect against skin effects from powders Do not wear rings, watches or anything similar which can retain the product and may give rise to skin conditions. Impervious gloves made of: Neoprene Nitrile Butyl Rubber  
Break through time >480 minutes  
Glove thickness  $\geq 2$  mm  
Frequent change is advisable

**Respiratory protection**

Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust) Effective dust mask. Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection**

Wear appropriate personal protective clothing to prevent skin contact Eye wash and emergency shower must be available at the work place.

**Hygiene Measures**

Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use

**8.2.3 Environmental exposure controls****Environmental exposure**

Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

|                       |                |
|-----------------------|----------------|
| <b>Physical state</b> | Solid          |
| <b>Appearance</b>     | Granules       |
| <b>Odor</b>           | Sweet          |
| <b>Color</b>          | White          |
| <b>Odor threshold</b> | Not applicable |

| <u>Property</u>                     | <u>Values</u>            | <u>Remarks</u> |
|-------------------------------------|--------------------------|----------------|
| <b>pH</b>                           | Not applicable           |                |
| <b>pH @ dilution</b>                | 6.5 - 8                  | @ 10 g/l       |
| <b>Melting / freezing point</b>     | No information available |                |
| <b>Boiling point/range</b>          | No information available |                |
| <b>Flash point</b>                  | No information available |                |
| <b>Evaporation rate (BuAc =1)</b>   | No information available |                |
| <b>Flammability (solid, gas)</b>    | Not applicable           |                |
| <b>Flammability Limit in Air</b>    |                          |                |
| <b>Upper flammability limit</b>     | Not applicable           |                |
| <b>Lower flammability limit</b>     | Not applicable           |                |
| <b>Vapor pressure</b>               | No information available |                |
| <b>Vapor density</b>                | No information available |                |
| <b>Specific gravity</b>             | 1.8 g/cm <sup>3</sup>    |                |
| <b>Bulk density</b>                 | 1150 kg/m <sup>3</sup>   |                |
| <b>Relative density</b>             | 1.26 g/cm <sup>3</sup>   | @ 20°C.        |
| <b>Water solubility</b>             | Partially dispersible    |                |
| <b>Solubility in other solvents</b> | No information available |                |
| <b>Autoignition temperature</b>     | No information available |                |

|                                  |  |
|----------------------------------|--|
| <b>Decomposition temperature</b> | No information available                           |
| <b>Kinematic viscosity</b>       | No information available                           |
| <b>Dynamic viscosity</b>         | No information available                           |
| <b>log Pow</b>                   | No information available                           |
| <b>Explosive properties</b>      | Suspended dust may present a dust explosion hazard |
| <b>Oxidizing properties</b>      | May intensify fire; oxidizer                       |

## **9.2 Other information**

|                         |                          |
|-------------------------|--------------------------|
| <b>Pour point</b>       | No information available |
| <b>Molecular weight</b> | No information available |
| <b>VOC content(%)</b>   | No information available |
| <b>Density</b>          | No information available |

### **Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## **10. Stability and Reactivity**

### **10.1 Reactivity**

This product is a strong oxidizer and reacts violently with combustibles and reducing agents.

### **10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

### **10.3 Possibility of Hazardous Reactions**

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### **10.4 Conditions to avoid**

Protect from moisture. Keep away from direct sunlight. Avoid dust formation. Keep at a temperature not exceeding 100 °F /38 °C.  
Keep away from open flames, hot surfaces and sources of ignition.

### **10.5 Incompatible materials**

Do not mix oxidizers of any concentration with other oxidizing agents, reducing agents, flammable or combustible liquids or solids, acids, most metals and heavy metals, oxygen scavengers, corrosion inhibitors, surfactants, gelling agents, fluid-loss additives, cross linkers, solvents, foaming agents, clay control agents, or any chemical not specifically mentioned as being compatible with the specific oxidizer.

### **10.6 Hazardous decomposition products**

See Section 5.2.

## **11. Toxicological Information**

### **11.1 Information on toxicological effects**

#### **Acute toxicity**

**Inhalation** May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause irritation of respiratory tract.

**Eye contact** Causes serious eye irritation.

|                               |  |
|-------------------------------|--|
| <b>Skin contact</b>           | Causes skin irritation. May cause an allergic skin reaction. |
| <b>Ingestion</b>              | Harmful if swallowed.  |
| <b>Unknown acute toxicity</b> | Not applicable.  |

**Toxicology data for the components**

| Chemical Name               | LD50 Oral           | LD50 Dermal              | LC50 Inhalation        |
|-----------------------------|---------------------|--------------------------|------------------------|
| Diammonium peroxidisulphate | = 495 mg/kg ( Rat ) | > 10000 mg/kg ( Rabbit ) | = 520 mg/L ( Rat ) 1 h |

|   |  |
|---|--|
| <b>Sensitization</b>                                      | May cause allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| <b>Mutagenic effects</b>                                  | This product does not contain any known or suspected mutagens.   |
| <b>Carcinogenicity</b>                                    | This product does not contain any known or suspected carcinogens.  |
| <b>Reproductive toxicity</b>                              | This product does not contain any known or suspected reproductive hazards.                                   |
| <b>Routes of Exposure</b>                                 | Inhalation. Skin contact. Eye contact.   |
| <b>Routes of entry</b>                                    | Inhalation. Ingestion. Skin contact. Eye contact.  |
| <b>Specific target organ toxicity - Single exposure</b>   | Category 3   |
| <b>Specific target organ toxicity - Repeated exposure</b> | Not classified.  |
| <b>Target organ effects</b>                               | Respiratory system.  |
| <b>Aspiration hazard</b>                                  | Not applicable.  |
| <b>Other information</b>                                  | Key literature references and sources for data. See Section 16 for more information.                         |

## 12. Ecological Information

**12.1 Toxicity**

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**

See component information below.

**Toxicity to fish**

See component information below.

**Toxicity to daphnia and other aquatic invertebrates**

See component information below.

**Toxicology data for the components**

| Chemical Name               | Toxicity to fish                    | Toxicity to algae        | Toxicity to daphnia and other aquatic invertebrates |
|-----------------------------|-------------------------------------|--------------------------|---|
| Diammonium peroxidisulphate | = 323 mg/L LC50 Poecilia reticulata | No information available | = 120 mg/L EC50 Daphnia magna                       |



|  |  |  |      |
|--|--|--|------|
|  | 96 h = 76.3 mg/L LC50<br>Oncorhynchus mykiss 96 h = 103<br>mg/L LC50 Lepomis macrochirus 96<br>h |  | 48 h |
|--|--|--|------|

**12.2 Persistence and degradability**

Not Applicable - Inorganic chemical.

| Chemical Name               | Persistence and degradability        |
|-----------------------------|--------------------------------------|
| Diammonium peroxodisulphate | Not Applicable - Inorganic chemical. |

**12.3 Bioaccumulative potential**

Not Applicable - Inorganic chemical.

| Chemical Name               | Bioaccumulation                      |
|-----------------------------|--------------------------------------|
| Diammonium peroxodisulphate | Not Applicable - Inorganic chemical. |

**12.4 Mobility****Mobility**

Partially dispersible.

**Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods****Waste from residues/unused products**

Dispose of in accordance with local regulations.

**Contaminated packaging**

Do not re-use empty containers. Dispose of contents/container to an approved waste disposal plant.

**14. Transport information****14.1. UN number**

|                             |        |
|-----------------------------|--------|
| UN/ID No. (ADR/RID/ADN/ADG) | UN1444 |
| UN No. (IMDG/ANTAQ)         | UN1444 |
| UN No. (ICAO/ANAC)          | UN1444 |

**14.2. UN proper shipping name**

AMMONIUM PERSULFATE,

**14.3 Hazard class(es)**

|                                 |     |
|---------------------------------|-----|
| ADR/RID/ADN/ADG Hazard class    | 5.1 |
| IMDG/ANTAQ Hazard class         | 5.1 |
| ICAO/ANAC Hazard class/division | 5.1 |

**14.4 Packing group**

|                               |     |
|-------------------------------|-----|
| ADR/RID/ADN/ADG Packing group | III |
| IMDG/ANTAQ Packing group      | III |
| ICAO/ANAC Packing group       | III |

**14.5 Environmental hazard**

No

**14.6 Special precautions**

|                                |          |
|--------------------------------|----------|
| Hazard identification no (ADR) | 50       |
| EmS (IMDG)                     | F-A, S-Q |
| Emergency Action Code (EAC)    | 1Z       |
| Tunnel restriction code        | (E)      |
| Hazchem code ADG               | 1Z       |

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory Information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of:  
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Australian Standard for the Uniform Scheduling of Drugs and Poisons

Diammonium peroxodisulphate  
Schedule 6

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

ADG Code – Australian Dangerous Goods Code

#### International inventories

|                     |          |
|---------------------|----------|
| USA (TSCA)          | Complies |
| Canada (DSL)        | Complies |
| Philippines (PICCS) | Complies |
| Japan (ENCS)        | Complies |
| China (IECSC)       | Complies |
| Australia (AICS)    | Complies |
| Korean (KECL)       | Complies |
| New Zealand (NZIoC) | Complies |

## 16. Other Information

|                         |   |
|-------------------------|---|
| <b>Prepared by</b>      | Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel |
| <b>Supersedes Date:</b> | 26-May-2014   |
| <b>Revision date</b>    | 12-Jul-2019   |
| <b>Version</b>          | 3   |

**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.

#### **Key literature references and sources for data**

www.ChemADVISOR.com  
Supplier  
National Chemical Inventories  
National regulatory information  
National occupational exposure limits

#### **HMIS classification**

|                 |   |
|-----------------|---|
| Health          | 2 |
| Flammability    | 1 |
| Physical hazard | 1 |
| PPE             | X |

#### **Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS

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