Section 1. Identification

- **Product name**: LATIRATE
- **Product code**: 7200DF

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

- **Identified uses**: Rate of Penetration Enhancer and Lubricant.

Print date: 11/28/2017
Validation date: 11/28/2017
Version: 2

Supplier's details: Baker Hughes Oilfield Operations LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478

Emergency telephone number (with hours of operation): CHEMTREC 800-424-9300 (U.S. 24 hour)
(001)713-439-8900
CANUTEC 613-996-6666 (Canada 24 hours)
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

- **OSHA/HCS status**: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- **Classification of the substance or mixture**:
  - FLAMMABLE LIQUIDS - Category 4
  - EYE IRRITATION - Category 2B
  - ASPIRATION HAZARD - Category 1

GHS label elements

- **Hazard pictograms**: 

Signal word: Danger
Hazard statements: Combustible liquid. Causes eye irritation. May be fatal if swallowed and enters airways.

Precautionary statements

- **Prevention**: Wear protective gloves: > 8 hours (breakthrough time): nitrile and neoprene. Wear eye or face protection. Keep away from flames and hot surfaces. - No smoking. Wash hands thoroughly after handling.

- **Response**: IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

- **Storage**: Store locked up. Store in a well-ventilated place. Keep cool.
Section 2. Hazards identification

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified: None known.

Section 3. Composition/information on ingredients

Substance/mixture: Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkanes, C10-24 branched and linear</td>
<td>40 - 50</td>
<td>172343-37-2</td>
</tr>
<tr>
<td>Sulfurized Fatty Oil</td>
<td>20 - 30</td>
<td>61790-49-6</td>
</tr>
</tbody>
</table>

Section 4. First aid measures

Description of necessary first aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Get medical attention.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Causes eye irritation.
Inhalation: No known significant effects or critical hazards.
Skin contact: No known significant effects or critical hazards.
Ingestion: May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact: irritation, watering, redness
Inhalation: No specific data.
Skin contact: No specific data.
Ingestion: nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments: No specific treatment.
Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
## Section 4. First aid measures

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

| Suitable extinguishing media | Use dry chemical, CO₂, water spray (fog) or foam. |
| Unsuitable extinguishing media | Do not use water jet. |

### Specific hazards arising from the chemical

- Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

### Hazardous thermal decomposition products

- carbon dioxide, carbon monoxide

### Special protective actions for fire-fighters

- Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

### Special protective equipment for fire-fighters

- Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

- No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

#### For emergency responders

- If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### Environmental precautions

- Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

#### Small spill

- Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

#### Large spill

- Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Dike spill area and do not allow product to reach sewage system or surface or ground water. Notify any reportable spill to authorities. (See section 12 for environmental risks and 13 for disposal information.) Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.
Section 6. Accidental release measures

Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

**Protective measures**

Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities**

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

**Control parameters**

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkanes, C10-24 branched and linear</td>
<td>None.</td>
</tr>
<tr>
<td>Sulfurized Fatty Oil</td>
<td>None.</td>
</tr>
</tbody>
</table>

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

**Appropriate engineering controls**

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Individual protection measures**

**Hygiene measures**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.
Section 8. Exposure controls/personal protection

Eye/face protection: Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.

Hand protection: Chemical-resistant gloves: nitrile and neoprene

Skin protection: Wear long sleeves to prevent repeated or prolonged skin contact.

Respiratory protection: If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapor (Type A) and particulate filter.

Section 9. Physical and chemical properties

Appearance

Physical state: Liquid.
Color: Brown.
Odor: Mild.
Odor threshold: Not available.
pH: Not applicable.
Melting/freezing point: Not available.
Boiling point: Not available.
Initial Boiling Point: Not available.
Flash point: Closed cup: 87.8°C (190°F) [Tagliabue.] [Product does not sustain combustion.]
 Burning time: Not applicable.
 Burning rate: Not applicable.
Evaporation rate: Not available.
Flammability (solid, gas): Not available.
Lower and upper explosive (flammable) limits: Not available.
Vapor pressure: Not available.
Vapor density: Not available.
Relative density: 0.886
Density: 0.889 (lbs/gal)
Solubility in water: Partially soluble in water.
Partition coefficient: n-octanol/water: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Kinematic (20°C): 52.8911 cSt
Kinematic (40°C): 2.6 cSt
VOC: Not available.
Pour Point: -7°C (19.4°F)

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.
Section 10. Stability and reactivity

**Conditions to avoid**
Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**Incompatible materials**
Not available.

**Hazardous decomposition products**
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**
No applicable toxicity data

**Irritation/Corrosion**
No applicable toxicity data

**Sensitization**
No applicable toxicity data

**Mutagenicity**
No applicable toxicity data

**Carcinogenicity**
No applicable toxicity data

**Reproductive toxicity**
No applicable toxicity data

**Teratogenicity**
No applicable toxicity data

**Specific target organ toxicity (single exposure)**
Not applicable.

**Specific target organ toxicity (repeated exposure)**
Not applicable.

**Aspiration hazard**

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkanes, C10-24 branched and linear</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>

**Information on the likely routes of exposure**
Not available.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects**
Not available.

**Potential delayed effects**
Not available.

**Potential chronic health effects**

**General**
No known significant effects or critical hazards.

**Carcinogenicity**
No known significant effects or critical hazards.
Section 11. Toxicological information

**Mutagenicity**: No known significant effects or critical hazards.

**Teratogenicity**: No known significant effects or critical hazards.

**Developmental effects**: No known significant effects or critical hazards.

**Fertility effects**: No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**
Not available.

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Section 12. Ecological information

**Toxicity**
No applicable toxicity data

**Persistence and degradability**
Not available.

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Section 13. Disposal considerations

**Disposal methods**
Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

---

Section 14. Transport information

<table>
<thead>
<tr>
<th></th>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>IMDG</th>
<th>IATA</th>
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</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Additional information</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Section 14. Transport information

**Special precautions for user:** Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

- **Transport in bulk according to Annex II of MARPOL and the IBC Code:** Not available.
- **DOT Reportable Quantity:** Not applicable.
- **Marine pollutant:** Not available.
- **North-America NAERG:** Not available.

### Section 15. Regulatory information

**U.S. Federal regulations:**
- No products were found.
- **TSCA 12(b) one-time export:** No products were found.
- **TSCA 12(b) annual export notification:** No products were found.
- **United States inventory (TSCA 8b):** All components are listed or exempted.
- **Clean Water Act (CWA) 307:** No products were found.
- **Clean Water Act (CWA) 311:** No products were found.

**United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs):**

<table>
<thead>
<tr>
<th>List name</th>
<th>Status</th>
<th>Ingredient name</th>
<th>Name on list</th>
<th>Conc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the components are listed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **SARA 302/304:** No products were found.
- **SARA 311/312**
  - **Classification:** Fire hazard
  - Immediate (acute) health hazard
- **SARA 313**
  - **Supplier notification:** No products were found.

**Canada**
- **Canada (CEPA DSL):** At least one component is not listed in DSL but all such components are listed in NDSL.

**International regulations**

- **National inventory**
  - **Australia:** Not determined.
  - **China:** Not determined.
  - **Europe:** Not determined.
  - **Japan**
    - **Japan inventory (ENCS):** Not determined.
    - **Japan inventory (ISHL):** Not determined.
  - **Malaysia:** Not determined.
  - **New Zealand:** Not determined.
  - **Philippines:** Not determined.
  - **Republic of Korea:** Not determined.
  - **Taiwan:** Not determined.
Section 16. Other information

Hazardous Material Information System (U.S.A.)

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Physical hazards</td>
<td>0</td>
</tr>
<tr>
<td>Personal protection</td>
<td>D</td>
</tr>
</tbody>
</table>

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
</tr>
<tr>
<td>Instability</td>
<td></td>
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<tr>
<td>Special</td>
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</table>

History

Date of printing: 11/28/2017

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, 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 SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.