Section 1. Identification

Product name: BP-5S PRIMARY IGNITER
Product code: H437440001

Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Not available.

Print date: 4/12/2018
Validation date: 4/12/2018
Version: 3

Supplier's details: Baker Hughes
35372 Betka Rd.
Hempstead, TX 77445

Emergency telephone number (with hours of operation):
Manufacturer: (800) 892-9965
CHEMTREC: (800) 424-9300

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: EXPLOSIVES - Division 1.4

GHS label elements
Hazard pictograms:

Signal word: Warning
Hazard statements: Fire or projection hazard.

Precautionary statements
Prevention: Wear face protection. Do not subject to grinding, shock, friction or any rough handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response: Explosion risk in case of fire. In case of fire: Evacuate area. DO NOT fight fire when fire reaches explosives.

Storage: Store in accordance with all local, regional, national and international regulations.

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>BP-5S PRIMARY IGNITER</td>
<td>90 - 100</td>
<td>-</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 if irritation occurs.

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. Do not induce vomiting unless directed to do so by medical personnel. 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 : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

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.

See toxicological information (Section 11)
Section 5. Fire-fighting measures

**Extinguishing media**
- **Suitable extinguishing media**: Use an extinguishing agent suitable for the surrounding fire.
- **Unsuitable extinguishing media**: None known.

**Specific hazards arising from the chemical**
- **Hazardous thermal decomposition products**: Explosive material with fire or projection hazard. Runoff to sewer may create fire or explosion hazard.
- **Remark**: No specific data.

**Special protective actions for fire-fighters**
- **Special protective equipment for fire-fighters**: First move people out of line-of-sight of the scene and away from windows. 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. Fight fire from protected location or maximum possible distance. Do not fight fire when it reaches the material. Withdraw from fire and let it burn.

**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. Fire-fighters' protective clothing will only provide limited protection.**

**Remark**: Explosive Temperature 427°C (801°F) Explosive material with fire or projection hazard.

Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
- **For non-emergency personnel**: Accidental releases pose a serious fire or explosion hazard. Immediately contact 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. 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**: Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

- **Large spill**: Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. 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 ingest. Avoid contact with eyes, skin and clothing. Avoid shock and friction. Use only with adequate ventilation. 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. 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. 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. See Section 10 for incompatible materials before handling or use.

**Additional information**

Explosive material with fire or projection hazard.

**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>BP-5S PRIMARY IGNITER</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**: Engineering controls may be required to control the primary or secondary risks associated with this product. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory 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.

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

**Hand protection**: Chemical-resistant gloves.

**Skin protection**: Wear long sleeves to prevent repeated or prolonged skin contact.
Section 8. Exposure controls/personal protection

Respiratory protection: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.

Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid. [Silver color case. Overall length of 1.361&quot;, diameter of 0.384&quot; with attached head measuring 0.875&quot;, sealed with red glyptal.]</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid.</td>
</tr>
<tr>
<td>Color</td>
<td>Silver.</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available.</td>
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<tr>
<td>Initial Boiling Point</td>
<td>Not available.</td>
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<tr>
<td>Flash point</td>
<td>Closed cup: Not applicable.</td>
</tr>
<tr>
<td>Burning time</td>
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</tr>
<tr>
<td>Burning rate</td>
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</tr>
<tr>
<td>Evaporation rate</td>
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<tr>
<td>Flammability (solid, gas)</td>
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<tr>
<td>Lower and upper explosive (flammable) limits</td>
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</tr>
<tr>
<td>Vapor pressure</td>
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</tr>
<tr>
<td>Vapor density</td>
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</tr>
<tr>
<td>Relative density</td>
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</tr>
<tr>
<td>Density</td>
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<tr>
<td>Solubility in water</td>
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</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Viscosity</td>
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<tr>
<td>VOC</td>
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</tr>
<tr>
<td>Pour Point</td>
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</tr>
</tbody>
</table>

Section 10. Stability and reactivity

Reactivity: This product presents only a small hazard in the event of ignition or initiation, the effects largely being confined to the package with no expected projection of fragments of appreciable size or range.

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. Avoid shock and friction.

**Incompatible materials**
Extremely reactive or incompatible with the following materials: metals and acids.

**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**
Not available.

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

**Potential acute health effects**

**Eye contact**
No known significant effects or critical hazards.

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

**Skin contact**
No known significant effects or critical hazards.

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

**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.

Section 12. Ecological information

Toxicity
No applicable toxicity data

Persistence and degradability
Not available.

Other adverse effects : No known significant effects or critical hazards.

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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

<table>
<thead>
<tr>
<th>UN number</th>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>IMDG</th>
<th>IATA</th>
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<table>
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<table>
<thead>
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<table>
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<th>TDG Classification</th>
<th>IMDG</th>
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<tbody>
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</table>

<table>
<thead>
<tr>
<th>Environmental hazards</th>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
</table>

Additional information

DOT Classification : (Packaged 20 units max. per box w/dividers separating each unit)

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.9-2.12 (Class 1).
BP-5S PRIMARY IGNITER

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 : 114

Section 15. Regulatory information

U.S. Federal regulations: **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)**: This material is 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**: Sudden release of pressure
  - **Supplier notification**: No products were found.

**Canada**

- **Canada (CEPA DSL)**: Not determined.

**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>Health</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>2</td>
</tr>
<tr>
<td>Physical hazards</td>
<td>0</td>
</tr>
<tr>
<td>Personal protection</td>
<td>C</td>
</tr>
</tbody>
</table>

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

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

- Flammability: 2
- Instability: 0
- Special: C

History

Date of printing: 4/12/2018

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.