 SAFETY DATA SHEET  

Slurry Oil  

Section 1. Identification  

**Product name**: Slurry Oil  
**Synonyms**: Carbon Black Oil (CBO), Cat Slurry Oil, Decant Oil, FCC Slurry Oil, Fuel Oil, HAGO, Syn Twr Btms  

**Product use**: Industrial: Intermediate.  
**Manufacturer**: HollyFrontier Refining & Marketing LLC  
2828 North Harwood  
Suite 1300  
Dallas, Texas 75201  
USA  
Customer Service: (888) 286-8836  

**Emergency telephone number**: CHEMTREC® (800) 424-9300  
CCN 201319  

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  
- ACUTE TOXICITY (inhalation) - Category 4  
- CARCINOGENICITY - Category 1B  
- TOXIC TO REPRODUCTION (Unborn child) - Category 2  
- SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (blood system, liver and thymus) (dermal) - Category 2  
- ASPIRATION HAZARD - Category 1  

**GHS label elements**: 
**Signal word**: Danger  
**Hazard pictograms**:  

**Precautionary statements** 

**Prevention**: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from flames and hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Do not breathe vapor.  
**Response**: Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.  
**Storage**: Store in a well-ventilated place. Keep cool.  

(Date of issue/Date of revision) : 5/8/2014.  
(Date of previous issue) : No previous validation.  
(Version) : 1
### Disposal
Dispose of contents and container in accordance with all local, regional, national and international regulations.

### Supplemental label elements
Avoid contact with skin and clothing. Wash thoroughly after handling.

### Hazards not otherwise classified
Prolonged or repeated contact may dry skin and cause irritation. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

## Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Substance</th>
</tr>
</thead>
</table>

**CAS number/other identifiers**

<table>
<thead>
<tr>
<th>CAS number</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarified oils (petroleum), catalytic cracked</td>
<td>100</td>
<td>64741-62-4</td>
</tr>
<tr>
<td>hydrogen sulfide</td>
<td>0.0001</td>
<td>7783-06-4</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

## 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. Check for and remove any contact lenses. Get medical attention. Continue to rinse for at least 15 minutes.

**Inhalation**
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact**
Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 15 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion**
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. Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Potential acute health effects

**Eye contact**
Slightly irritating to the eyes. Possible tearing, burning sensation and redness.

**Inhalation**
Harmful if inhaled. Mist/high concentrations: Inhalation may cause irritation to the nose, throat, upper respiratory tract and lungs.

**Skin contact**
Defatting to the skin. May cause skin dryness and irritation.

**Ingestion**
May be fatal if swallowed and enters airways.

### Over-exposure signs/symptoms

**Eye contact**
No specific data.

**Inhalation**
respiratory tract irritation; coughing

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**Date of issue/Date of revision**: 5/8/2014.  **Date of previous issue**: No previous validation.  **Version**: 1 2/11
Skin contact: irritation; dryness; cracking
Ingestion: nausea or vomiting

Protection of medical responders:
No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician:
Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments:
No specific treatment.

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. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

Hazardous thermal decomposition products:
Decomposition products may include the following materials:
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. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

For emergency responders:
If specialised 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. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. 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. High pressure skin injections are serious medical emergencies. Injury will not appear serious at first. Within a few hours, tissue will become swollen, discolored and extremely painful. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

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. 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>ACGIH TLV (United States, 6/2013). TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes.</td>
<td></td>
</tr>
<tr>
<td>NIOSH REL (United States, 10/2013). CEIL: 10 ppm 10 minutes. CEIL: 15 mg/m³ 10 minutes.</td>
<td></td>
</tr>
</tbody>
</table>

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. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

Date of issue/Date of revision: 5/8/2014. Date of previous issue: No previous validation. Version: 1.
Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Viscous]
Color : Black.
Odor : Asphalt
Odor threshold : Not available.
\(pH\) : Not applicable.
Melting point : Not available.
Boiling point : 94 to 221°C (201 to 430°F)
Flash point : Closed cup: 73 to 140°C (164 to 284°F)
Evaporation rate : Not available.
Flammability (solid, gas) : Not available.
Lower and upper explosive (flammable) limits : Not applicable.
Vapor pressure : Not available.
Vapor density : Not available.
Specific gravity : 0.94 to 1.1
Solubility : Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water : 4 to >6
Auto-ignition temperature : Not applicable.
Decomposition temperature : Not available.
**Slurry Oil**

**Viscosity**: Kinematic (40°C (104°F)): 0.113 to 0.321 cm²/s (11.3 to 32.1 cSt)

**Molecular weight**: Not applicable.

### 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.

**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**: Reactive or incompatible with the following materials: oxidizing materials

**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**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarified oils (petroleum), catalytic cracked</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>4 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

Based on CONCAWE assessment of heavy fuel oil components.

**Irritation/Corrosion**

Not available.

**Conclusion/Summary**

- **Skin**: Based on CONCAWE assessment of heavy fuel oil components. Slight irritant.
- **Eyes**: Based on CONCAWE assessment of heavy fuel oil components. May cause slight transient irritation.

**Sensitization**

**Conclusion/Summary**

- **Skin**: Based on CONCAWE assessment of heavy fuel oil components. Not sensitizing.
- **Respiratory**: Based on CONCAWE assessment of heavy fuel oil components. No data available.

**Mutagenicity**

**Conclusion/Summary**

Based on CONCAWE assessment of heavy fuel oil components. No mutagenic effect.

**Carcinogenicity**

**Conclusion/Summary**

Based on CONCAWE assessment of heavy fuel oil components. Carcinogenic.

**Reproductive toxicity**

**Conclusion/Summary**

Based on CONCAWE assessment of heavy fuel oil components. Not considered to be toxic to the reproductive system.

**Teratogenicity**

**Conclusion/Summary**

Based on CONCAWE assessment of heavy fuel oil components. Developmental effects.

**Specific target organ toxicity (single exposure)**

Date of issue/Date revision: 5/8/2014
Date of previous issue: No previous validation
Version: 1
**Conclusion/Summary**: Based on CONCAWE assessment of heavy fuel oil components.

### Information on the likely routes of exposure

- May cause damage to organs through prolonged or repeated exposure in contact with skin. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

### General

- May cause cancer. Risk of cancer depends on duration and level of exposure.

### Carcinogenicity

- May cause cancer. Risk of cancer depends on duration and level of exposure.

### Mutagenicity

- No known significant effects or critical hazards.

### Teratogenicity

- Suspected of damaging the unborn child.

### Developmental effects

- No known significant effects or critical hazards.

### Fertility effects

- No known significant effects or critical hazards.

### Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrogen sulfide</td>
<td>Category 1</td>
<td>Not determined</td>
<td>cardiovascular system and lungs</td>
</tr>
<tr>
<td></td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation and Narcotic effects</td>
</tr>
</tbody>
</table>

### Aspiration hazard

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarified oils (petroleum), catalytic cracked</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>

### Numerical measures of toxicity

#### Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation (dusts and mists)</td>
<td>4 mg/l</td>
</tr>
</tbody>
</table>
Section 12. Ecological information

**Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarified oils (petroleum), catalytic cracked</td>
<td>Acute EC50 1 mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEL 0.1 mg/l</td>
<td>Daphnia</td>
<td>21 days</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**: Based on CONCAWE assessment of heavy fuel oil components.

**Persistence and degradability**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarified oils (petroleum), catalytic cracked</td>
<td>-</td>
<td>-</td>
<td>Inherent</td>
</tr>
</tbody>
</table>

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarified oils (petroleum), catalytic cracked</td>
<td>4 to &gt;6</td>
<td>-</td>
<td>high</td>
</tr>
</tbody>
</table>

**Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)**: Not available.

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

Section 13. Disposal considerations

**Disposal methods**: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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. Empty containers or liners may retain some product residues. 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>UN number</th>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>Mexico Classification</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA1993</td>
<td>Not regulated.</td>
<td></td>
<td>UN3082</td>
<td>UN3082</td>
<td>UN3082</td>
<td>UN3082</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UN proper shipping name</th>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>Mexico Classification</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combustible liquid, n.o.s. (Clarified oils (petroleum), catalytic cracked)</td>
<td>SUBSTANCIA LIQUIDA POTENCIALMENETE PELIGROSAS PARA EL MEDIO AMBIENTE, N. E.P. (Clarified oils (petroleum), catalytic cracked)</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Clarified oils (petroleum), catalytic cracked)</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Clarified oils (petroleum), catalytic cracked)</td>
<td>Environmentally hazardous substance, liquid, n.o.s. (Clarified oils (petroleum), catalytic cracked)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 5/8/2014. Date of previous issue: No previous validation. Version: 1.
### Transport hazard class(es)
- Combustible liquid.

### Packing group
- III
- III
- III
- III
- III

### Environmental hazards
- Yes.
- Yes.
- Yes.
- Yes.
- Yes.

### Additional information
- Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.
- Limited quantity
  - Yes.
- **Packaging instruction**
  - **Passenger aircraft**
    - Quantity limitation: 60 L
  - **Cargo aircraft**
    - Quantity limitation: 220 L
- **Special provisions**
  - IB3, T4, TP1
- **Special provisions**
  - 274, 331, 335

### Transport within user’s premises
- 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.
Section 15. Regulatory information

U.S. Federal regulations

- United States inventory (TSCA 8b): All components are listed or exempted.
- Clean Water Act (CWA) 311: hydrogen sulfide

**SARA 302/304**

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>EHS (lbs)</th>
<th>SARA 302 TPQ (gallons)</th>
<th>SARA 304 RQ (gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrogen sulfide</td>
<td>0.0001</td>
<td>Yes.</td>
<td>500</td>
<td>100</td>
</tr>
</tbody>
</table>

**SARA 304 RQ**

- 100000000 lbs / 45400000 kg [11758246.2 gal / 44509803.9 L]

**SARA 311/312**

Classification

- Fire hazard
- Immediate (acute) health hazard
- Delayed (chronic) health hazard

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarified oils (petroleum), catalytic cracked hydrogen sulfide</td>
<td>100</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>Yes.</td>
</tr>
<tr>
<td></td>
<td>0.0001</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
</tbody>
</table>

State regulations

- Massachusetts: None of the components are listed.
- New York: None of the components are listed.
- New Jersey: None of the components are listed.
- Pennsylvania: None of the components are listed.
- California Prop. 65
  - None of the components are listed.

Canada inventory: All components are listed or exempted.

International regulations

International lists

- Australia inventory (AICS): All components are listed or exempted.
- China inventory (IECSC): All components are listed or exempted.
- Japan inventory: Not determined.
- Korea inventory: All components are listed or exempted.
- Malaysia Inventory (EHS Register): Not determined.
- New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
- Philippines inventory (PICCS): Not determined.
- Taiwan inventory (CSNN): All components are listed or exempted.

Section 16. Other information

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

Flammability: 1
Health: 1
Instability/Reactivity: 0
Special: 0

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Date of issue/Date of revision : 5/8/2014.
Date of previous issue : No previous validation.
Version : 1

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named manufacturer, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.