Section 1. Identification

Product name: Fuels, diesel
Other means of identification: DMA LS, Marine Distillate Fuels, Ultra Low Sulfur No. 2 Diesel Fuel
SDS #: SMF2115
Code: SMF2115

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

Product use: Fuel for marine engines.
Supplier: BP Products North America Inc.
150 West Warrenville Road
Naperville, Illinois 60563-8460
USA

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735
Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION: 1 (800) 424-9300 CHEMTREC (USA)

OTHER PRODUCT INFORMATION
1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America)
email: bpcares@bp.com

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
- SKIN IRRITATION - Category 2
- CARCINOGENICITY - Category 2
- SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
- ASPIRATION HAZARD - Category 1

GHS label elements
- Hazard pictograms

Signal word: Danger
Hazard statements:
- Combustible liquid.
- Harmful if inhaled.
- Causes skin irritation.
- Suspected of causing cancer.
- May be fatal if swallowed and enters airways.
- May cause damage to organs through prolonged or repeated exposure.

Precautionary statements
Section 2. Hazards identification

**Prevention**
- Obtain special instructions before use.
- Wear protective gloves and eye protection.
- Do not breathe vapor.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Use explosion-proof electrical/ventilating/lighting/material-handling equipment.
- Avoid release to the environment.

**Response**
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- Do NOT induce vomiting.
- IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.

**Storage**
- Keep cool.

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

**Hazards not otherwise classified**
- This material may contain significant quantities of polycyclic aromatic hydrocarbons (PAHs), some of which have been shown by experimental studies to induce skin cancer. Note: High Pressure Applications
- Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency.
- See 'Notes to physician' under First-Aid Measures, Section 4 of this Safety Data Sheet.

Section 3. Composition/information on ingredients

May also contain small quantities of proprietary performance additives.

**Substance/mixture**
- Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuels, diesel, No 2 Contains: naphthalene</td>
<td>68476-34-6</td>
<td>&gt; 99</td>
</tr>
<tr>
<td></td>
<td>91-20-3</td>
<td>1 - 3</td>
</tr>
</tbody>
</table>

There are no 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. Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

**Description of necessary first aid measures**

- **Eye contact**
  - In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

- **Skin contact**
  - In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.

- **Inhalation**
  - If inhaled, remove to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.

- **Ingestion**
  - Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention immediately.

- **Protection of first-aiders**
  - 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.

**Most important symptoms/effects, acute and delayed**
- See Section 11 for more detailed information on health effects and symptoms.
Section 4. First aid measures

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

Notes to physician
Treatment should in general be symptomatic and directed to relieving any effects. Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrythmias.

Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discolored and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimize tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

Specific treatments
No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media
Do not use water jet.

Specific hazards arising from the chemical
Combustible liquid. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. 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 combustion products
Combustion products may include the following:
carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide)
other hazardous substances.

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. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Special protective equipment for fire-fighters
Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
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. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Eliminate all ignition sources.

For emergency responders
Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".
Section 6. Accidental release measures

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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill
Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres.

Large spill
Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Dike spill area and do not allow product to reach sewage system and surface or ground water. 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. Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres. 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). Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Avoid contact of spilled material and runoff with soil and surface waterways. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. 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. Do not breathe vapor or mist. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth.

Advice on general occupational hygiene
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. 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. Store and use only in equipment/containers designed for use with this product. 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.

Light hydrocarbon vapors can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapor in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks. Do not enter storage tanks. If entry to vessels is necessary, follow permit to work procedures. Entry to any tanks or other confined space requires a full risk assessment and appropriate control measures to be put in place in conformance with appropriate regulations and industry practice on confined space entry. When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure
Section 7. Handling and storage

Equipment used is properly earthed or bonded to the tank structure. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks). Explosive air/vapor mixtures may form at ambient temperature. If product comes into contact with hot surfaces, or leaks occur from pressurized fuel pipes, the vapor or mists generated will create a flammability or explosion hazard. Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

Section 8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuels, diesel, No 2</td>
<td>ACGIH TLV (United States). Absorbed through skin. TWA: 100 mg/m³, (measured as total hydrocarbons) 8 hours. Issued/Revised: 1/2007 Form: Inhalable fraction and vapor</td>
</tr>
<tr>
<td>naphthalene</td>
<td>ACGIH TLV (United States). Absorbed through skin. TWA: 52 mg/m³ 8 hours. Issued/Revised: 5/1996</td>
</tr>
<tr>
<td>naphthalene</td>
<td>OSHA PEL (United States). TWA: 10 ppm 8 hours. Issued/Revised: 6/1993</td>
</tr>
</tbody>
</table>

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

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

Chemical splash goggles.

Skin protection

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.

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.
Section 8. Exposure controls/personal protection

**Hand protection**

Wear chemical resistant gloves. Recommended: Nitrile gloves.

Do not re-use gloves. Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade cut and puncture). Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis. The frequency of replacement will depend upon the circumstances of use.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

**Body protection**

Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. Wear suitable protective clothing. Footwear highly resistant to chemicals. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For greatest effectiveness against static electricity, overalls, boots and gloves should all be anti-static. When there is a risk of ignition wear inherently fire resistant protective clothes and gloves. Work clothing / overalls should be laundered on a regular basis. Laundering of contaminated work clothing should only be done by professional cleaners who have been told about the hazards of the contamination. Always keep contaminated work clothing away from uncontaminated work clothing and uncontaminated personal clothes. When the risk of skin exposure is high (from experience this could apply to the following tasks: cleaning work, maintenance and service, filling and transfer, taking samples and cleaning up spillages) then a chemical protective suit and boots will be required. 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 only with adequate ventilation. Do not breathe vapor or mist. If ventilation is inadequate, use a NIOSH certified respirator with an organic vapor cartridge and P95 particulate filter. If operating conditions cause high vapor concentrations or the TLV is exceeded, use supplied-air respirator.

CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of air-purifying respirator.

Use with adequate ventilation.

In case of insufficient ventilation, wear suitable respiratory equipment.

If there is a requirement for the use of a respiratory protective device, but the use of breathing apparatus (independent of ambient atmosphere) is not required, then a suitable filtering device must be worn.

The filter class must be suitable for the maximum contaminant concentration (gas/vapor/ aerosol/particulates) that may arise when handling the product.

The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

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Section 9. Physical and chemical properties

**Appearance**

**Physical state** Liquid.

**Color** Yellow. [Light]

**Odor** Kerosene

**Odor threshold** Not available.

**pH** Not available.

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**Product name** Fuels, diesel

**Product code** SMF2115

**Version** 1

**Date of issue** 10/07/2014.
Section 9. Physical and chemical properties

Melting point: Not available.
Boiling point: 162.78°C (325°F)
Flash point: Closed cup: >60°C (>140°F)
Evaporation rate: Not available.
Flammability (solid, gas): Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits:
  Lower: 0.7%
  Upper: 5%
Vapor pressure: <0.266 kPa (<2 mm Hg) at 20°C
Vapor density: Not available.
Density: 860 kg/m³ (0.86 g/cm³)
Solubility: negligible <0.1%
Partition coefficient: n-octanol/water: Not available.
Auto-ignition temperature: 257°C (494.6°F)
Decomposition temperature: Not available.
Viscosity:
  Dynamic: 0.003 Pa·s (3 cP) at 37.778°C
  Kinematic: 2 to 11 mm²/s (2 to 11 cSt) at 40°C

Section 10. Stability and reactivity

Reactivity: No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid: Keep away from heat, sparks and flame. Avoid all possible sources of ignition (spark or flame).

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis, halogenated compounds.

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>Test</th>
<th>Species</th>
<th>Result</th>
<th>Exposure</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuels, diesel, No 2</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>4.1 mg/l</td>
<td>4 hours</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;4300 mg/kg</td>
<td>-</td>
<td>Based on No. 2 Heating Oil.</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;4300 mg/kg</td>
<td>-</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>17900 mg/kg</td>
<td>-</td>
<td>Based on No. 2 Heating Oil.</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>7600 mg/kg</td>
<td>-</td>
<td>Based on Diesel fuel</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Species</th>
<th>Result</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
<th>Conc.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuels, diesel, No 2</td>
<td>Rabbit</td>
<td>Skin - Irritation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Based on No. 2 Heating Oil.</td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>Skin - Irritation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>Eyes - Non-irritating to the eyes.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>Based on No. 2 Heating Oil.</td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>Eyes - Non-irritating to the eyes.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td>Based on Diesel fuel</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuels, diesel, No 2</td>
<td>skin</td>
<td>Guinea pig</td>
<td>Not sensitizing</td>
<td>Based on No. 2 Heating Oil.</td>
</tr>
<tr>
<td></td>
<td>skin</td>
<td>Guinea pig</td>
<td>Not sensitizing</td>
<td>Based on Diesel fuel</td>
</tr>
</tbody>
</table>

**Mutagenicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Experiment</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuels, diesel, No 2</td>
<td>OECD 471</td>
<td>Experiment: In vitro</td>
<td>Positive</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Subject: Non-mammalian species</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equivalent to OECD 476</td>
<td>Experiment: In vitro</td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Subject: Mammalian-Animal Cell: Germ</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>not guideline</td>
<td>Experiment: In vivo</td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Subject: Unspecified Cell: Somatic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

**Carcinogenicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Species</th>
<th>Route</th>
<th>Exposure</th>
<th>Test</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuels, diesel, No 2</td>
<td>Mouse</td>
<td>Dermal</td>
<td>Positive - Dermal - Unspecified</td>
<td>2 years</td>
<td>-</td>
<td>Based on Heating Oil.</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

**Classification**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>naphthalene</td>
<td>-</td>
<td>2B</td>
<td></td>
</tr>
</tbody>
</table>

IARC : 2B - Possible carcinogen to human.

NTP : Reasonably anticipated to be human carcinogens.

Reproductive toxicity
Section 11. Toxicological information

Information on the likely routes of exposure

Inhalation

Harmful if inhaled.

Ingestion

Adverse symptoms may include the following:
- nausea or vomiting
- headache
- drowsiness/fatigue
- dizziness/vertigo
- unconsciousness

Aspiration hazard

Name: Fuels, diesel, No 2

Result: ASPIRATION HAZARD - Category 1

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>Fuels, diesel, No 2</td>
<td>Category 2</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Conclusion/Summary

Development: Not classified. Based on available data, the classification criteria are not met.

Fertility: Not classified. Based on available data, the classification criteria are not met.

Effects on or via lactation: Not classified. Based on available data, the classification criteria are not met.

Potential acute health effects

Eye contact

No known significant effects or critical hazards.

Skin contact

Causes skin irritation.

Inhalation

Harmful if inhaled.

Ingestion

Irritating to mouth, throat and stomach. Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

Adverse symptoms may include the following:
- pain or irritation
- watering
- redness

Skin contact

Adverse symptoms may include the following:
- irritation
- redness

Inhalation

Adverse symptoms may include the following:
- nausea or vomiting
- headache
- drowsiness/fatigue
- dizziness/vertigo
- unconsciousness

Ingestion

Adverse symptoms may include the following:
- nausea or vomiting

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

Short term exposure

Potential immediate effects

Vapor, mists or fumes may contain polycyclic aromatic hydrocarbons some of which are known to produce skin cancer. May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs. Vapor, mist or fume may irritate the nose, mouth and respiratory tract. Vapor, mist or fume may cause eye irritation. Exposure to vapor, mist or fume may cause stinging, redness and watering of the eyes.

Potential delayed effects

As with all such products containing potentially harmful levels of PCAs, prolonged or repeated skin contact may eventually result in dermatitis or more serious irreversible skin disorders including cancer.
Section 11. Toxicological information

**Long term exposure**
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

**Potential chronic health effects**
- General: May cause damage to organs through prolonged or repeated exposure. Vapor, mists or fumes may contain polycyclic aromatic hydrocarbons some of which are known to produce skin cancer.
- Carcinogenicity: Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- 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.

**Other information**
- Aspiration of this product into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product. Do not siphon by mouth.

**Additional information**
- Middle distillate: From skin-painting studies of petroleum distillates of similar composition and distillate range, it has been shown that these types of materials often possess weak carcinogenic activity in laboratory animals. In these tests, the material is painted on the shaved backs of mice twice a week for their lifetime. The material is not washed off between applications. Therefore, there may be a potential risk of skin cancer from prolonged or repeated skin contact with this product in the absence of good personal hygiene. This particular product has not been tested for carcinogenic activity, but we have chosen to be cautious in light of the findings with other distillate streams.

  - Occasional skin contact with this product is not expected to have serious effects, but good personal hygiene should be practiced and repeated skin contact avoided. This product can also be expected to produce skin irritation upon prolonged or repeated skin contact. Personal hygiene measures taken to prevent skin irritation are expected to be adequate to prevent risk of skin cancer.

  - Diesel exhaust particulates have been classified by the National Toxicological Program (NTP) to be a reasonably anticipated human carcinogen. Exposure should be minimized to reduce potential risk.

  - Naphthalene has been reported to cause developmental toxicity in mice after oral exposure to relatively high dose levels, but developmental toxicity was not observed in NTP (National Toxicology Program) sponsored studies in rats and rabbits. Ingestion or inhalation of naphthalene can result in hemolysis and other blood abnormalities, and individuals (and infants) deficient in glucose-6-phosphate dehydrogenase may be especially susceptible to these effects. Inhalation of naphthalene may cause headache and nausea. Airborne exposure can result in eye irritation. Naphthalene exposure has been associated with cataracts in animals and humans.

Section 12. Ecological information

**Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Species</th>
<th>Test/Result</th>
<th>Exposure</th>
<th>Effects</th>
<th>Remarks</th>
</tr>
</thead>
</table>

**Product name**: Fuels, diesel

**Product code**: SMF2115

**Version**: 1

**Date of issue**: 10/07/2014

**Format**: US

**Language**: ENGLISH

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### Section 12. Ecological information

<table>
<thead>
<tr>
<th>Fuels, diesel, No 2</th>
<th>Micro-organism</th>
<th>Test</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro-organism</td>
<td>EL50 &gt;1000 mg/l Nominal Fresh water</td>
<td>40 hours</td>
<td>growth inhibition</td>
<td>Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel</td>
</tr>
<tr>
<td>Micro-organism</td>
<td>NOELR 3.217 mg/l Nominal Fresh water</td>
<td>40 hours</td>
<td>growth inhibition</td>
<td>Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel</td>
</tr>
<tr>
<td>Algae</td>
<td>Acute EL50 22 mg/l Nominal Fresh water</td>
<td>72 hours</td>
<td>(growth rate)</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td>Daphnia</td>
<td>Acute EL50 210 mg/l Nominal Fresh water</td>
<td>48 hours</td>
<td>Mobility</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td>Daphnia</td>
<td>Acute EL50 68 mg/l Nominal Fresh water</td>
<td>48 hours</td>
<td>Mobility</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td>Algae</td>
<td>Acute ErL50 78 mg/l Nominal Fresh water</td>
<td>72 hours</td>
<td>(growth rate)</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td>Fish</td>
<td>Acute LL50 65 mg/l Nominal Fresh water</td>
<td>96 hours</td>
<td>Mortality</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td>Fish</td>
<td>Acute LL50 21 mg/l Nominal Fresh water</td>
<td>96 hours</td>
<td>Mortality</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td>Algae</td>
<td>Acute NOELR 10 mg/l Nominal Fresh water</td>
<td>72 hours</td>
<td>(growth rate)</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td>Algae</td>
<td>Acute NOELR 1 mg/l Nominal Fresh water</td>
<td>72 hours</td>
<td>(growth rate)</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td>Daphnia</td>
<td>Acute NOELR 46 mg/l Nominal Fresh water</td>
<td>48 hours</td>
<td>Mobility</td>
<td>Based on Diesel fuel</td>
</tr>
<tr>
<td>Fish</td>
<td>Chronic NOEL 0.083 mg/l Nominal Fresh water</td>
<td>14 days</td>
<td>Mortality</td>
<td>Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel</td>
</tr>
<tr>
<td>Daphnia</td>
<td>Chronic NOELR 0.2 mg/l Nominal Fresh water</td>
<td>21 days</td>
<td>Immobilization</td>
<td>Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel</td>
</tr>
</tbody>
</table>

**Conclusion/Summary** Not available.

**Persistence and degradability** Not available.

### Table

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuels, diesel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Section 12. Ecological information

Mobility
Spillages may penetrate the soil causing ground water contamination. This material may accumulate in sediments.

Bioaccumulative potential
This product is not expected to bioaccumulate through food chains in the environment.

Mobility in soil
Soil/water partition coefficient (K_{OC}) Not available.
Mobility Spillages may penetrate the soil causing ground water contamination. This material may accumulate in sediments.

Other adverse effects
No known significant effects or critical hazards.

Other ecological information
Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods
The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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.

United States - RCRA Toxic hazardous waste "U" List

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS #</th>
<th>Status</th>
<th>Reference number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>Listed</td>
<td>U165</td>
</tr>
</tbody>
</table>

Section 14. Transport information

<table>
<thead>
<tr>
<th></th>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>NA 1993</td>
<td>UN 1202</td>
<td>UN1202</td>
<td>UN1202</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>DIESEL FUEL</td>
<td>DIESEL FUEL</td>
<td>DIESEL FUEL MARINE POLLUTANT</td>
<td>DIESEL FUEL</td>
</tr>
</tbody>
</table>
### Section 14. Transport information

<table>
<thead>
<tr>
<th>Transport hazard class(es)</th>
<th>Combustible liquid.</th>
<th>3</th>
<th>3</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>Additional information</td>
<td>Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials in package sizes less than the product reportable quantity.</td>
<td>-</td>
<td>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</td>
<td>The environmentally hazardous substance mark may appear if required by other transportation regulations.</td>
</tr>
</tbody>
</table>

**Reportable quantity**

3333.3 lbs / 1513.3 kg [464.86 gal / 1759.7 L]

Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

**Special precautions for user**

Not available.

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

MARPOL Annex 1 rules apply for bulk shipments by sea.

Category: gas oils, including ship's bunker.

**Proper shipping name**

Fuels, diesel
## Section 15. Regulatory information

### U.S. Federal regulations
- **United States inventory (TSCA 8b)**
  - All components are listed or exempted.

### SARA 302/304
- **Composition/information on ingredients**
  
  No products were found.

### SARA 311/312
- **Classification**
  - Fire hazard
  - Immediate (acute) health hazard
  - Delayed (chronic) health hazard

### SARA 313

<table>
<thead>
<tr>
<th>Form R - Reporting requirements</th>
<th>Product name</th>
<th>CAS number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier notification</td>
<td>naphthalene</td>
<td>91-20-3</td>
<td>1 - 3</td>
</tr>
</tbody>
</table>

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations
- **Massachusetts**
  - The following components are listed: NAPHTHALENE

- **New Jersey**
  - The following components are listed: NAPHTHALENE; MOTH FLAKES

- **Pennsylvania**
  - The following components are listed: NAPHTHALENE

- **California Prop. 65**
  - **WARNING:** This product contains a chemical known to the State of California to cause cancer.
    naphthalene; ethylbenzene; cumene

  - **WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
    toluene

  - **WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.
    Benzene

  Prop 65 chemicals will result under certain conditions from the use of this material. For example, burning fuels produces combustion products including diesel exhaust, a Prop 65 carcinogen, and carbon monoxide, a Prop 65 reproductive toxin.

### Other regulations
- **Australia inventory (AICS)**
  - At least one component is not listed.

- **Canada inventory**
  - All components are listed or exempted.

- **China inventory (IECSC)**
  - All components are listed or exempted.

- **Japan inventory (ENCS)**
  - Not determined.

- **Korea inventory (KECI)**
  - All components are listed or exempted.

- **Philippines inventory (PICCS)**
  - At least one component is not listed.

- **REACH Status**
  - For the REACH status of this product please consult your company contact, as identified in Section 1.
Section 16. Other information

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

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability/Reactivity</th>
<th>Physical hazards</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

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

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Instability/Reactivity</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

History

Date of issue/Date of revision 10/07/2014.
Date of previous issue 10/03/2014.

Key to abbreviations

ACGIH = American Conference of Industrial Hygienists
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS Number = Chemical Abstracts Service Registry Number
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
OEL = Occupational Exposure Limit
SDS = Safety Data Sheet
STEL = Short term exposure limit
TWA = Time weighted average
UN = United Nations
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user’s obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

<table>
<thead>
<tr>
<th>Product name</th>
<th>Product code</th>
<th>Page: 15/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuels, diesel</td>
<td>SMF2115</td>
<td></td>
</tr>
<tr>
<td>Version 1</td>
<td>Date of issue 10/07/2014</td>
<td>Format US (US)</td>
</tr>
</tbody>
</table>