Section 1. Identification

Product name: BP Turbo Oil 2380
SDS #: 452219
Code: 452219-BE02 CA01 GB20 US31 US39

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

Product use: Turbine Oil
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Supplier: Castrol Offshore
Division of BP Products North America
200 Westlake Blvd.
Houston, Texas 77079
Tel: 800-339-7157

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 not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture: Not classified.

GHS label elements
Signal word: No signal word.

Hazard statements: No known significant effects or critical hazards.

Precautionary statements
Prevention: Not applicable.
Response: Not applicable.
Storage: Not applicable.
Disposal: Not applicable.

Hazards not otherwise classified: Defatting to the skin.
Experimental data on one or more of the components has been used to determine all or part of the hazard classification of this product.
Section 3. Composition/information on ingredients


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

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tricresyl phosphate</td>
<td>1330-78-5</td>
<td>1-5</td>
</tr>
<tr>
<td>n-phenyl-1-naphthylamine</td>
<td>90-30-2</td>
<td>1-5</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.

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 | Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur. |
| Inhalation | In case of inhalation of decomposition products in a fire, symptoms may be delayed. If inhaled, remove to fresh air. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur. |
| Ingestion | Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |

**Protection of first-aiders**

No action shall be taken involving any personal risk or without suitable training.

**Notes to physician**

In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Treatment should in general be symptomatic and directed to relieving any effects.

**Most important symptoms/effects, acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

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

**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**

| Hazardous combustion products | In a fire or if heated, a pressure increase will occur and the container may burst. Combustion products may include the following: carbon dioxide, carbon monoxide, nitrogen oxides, phosphorus oxides |

**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.
Section 5. Fire-fighting measures

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

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. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

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. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. 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. 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).

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 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. 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.

Not suitable

Prolonged exposure to elevated temperature

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

This product does not have any assigned OELs.
### Section 8. Exposure controls/personal protection

#### 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.

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

#### 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.

#### Eye/face protection

Safety glasses with side shields.

#### Skin protection

- **Hand protection**
  
  Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

  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. 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**
  
  In case of insufficient ventilation, wear suitable respiratory equipment. 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.
Section 9. Physical and chemical properties

**Appearance**

**Physical state**  Liquid.  
**Color**  Amber [Light]  
**Odor**  Not available.  
**Odor threshold**  Not available.  
**pH**  Not available.  
**Melting point**  Not available.  
**Boiling point**  Not available.  
**Flash point**  Open cup: 246°C (474.8°F) [Cleveland]  
**Evaporation rate**  Not available.  
**Flammability (solid, gas)**  Not applicable. Based on - Physical state  
**Lower and upper explosive (flammable) limits**  Not available.  
**Vapor pressure**  Not available.  
**Vapor density**  Not available.  
**Density**  980 kg/m³ (0.98 g/cm³) at 15.6°C  
**Solubility**  Insoluble in water.  
**Partition coefficient: n-octanol/water**  Not available.  
**Auto-ignition temperature**  Not available.  
**Decomposition temperature**  Not available.  
**Viscosity**  Kinematic: 23 to 30 mm²/s (23 to 30 cSt) at 40°C  
Kinematic: 4.9 to 5.4 mm²/s (4.9 to 5.4 cSt) at 100°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**  Avoid all possible sources of ignition (spark or flame).  
**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**

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-phenyl-1-naphthylamine</td>
<td>Category 2</td>
<td>Oral</td>
<td>blood system</td>
</tr>
</tbody>
</table>

**Information on the likely routes of exposure**

Routes of entry anticipated: Dermal, Inhalation.

**Potential acute health effects**
Section 11. Toxicological information

Eye contact  No known significant effects or critical hazards.
Skin contact  No known significant effects or critical hazards.
Inhalation  Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion  No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact  No specific data.
Skin contact  Adverse symptoms may include the following:
  - irritation
  - dryness
  - cracking
Inhalation  May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs.
Ingestion  No specific data.

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

Short term exposure
  Potential immediate effects  Not available.
  Potential delayed effects  Not available.

Long term exposure
  Potential immediate effects  Not available.
  Potential delayed effects  Not available.

Potential chronic health effects
  General  No known significant effects or critical hazards.
  Carcinogenicity  No known significant effects or critical hazards.
  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

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>9124.1 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>36789.3 mg/kg</td>
</tr>
</tbody>
</table>

Section 12. Ecological information

Toxicity
No toxic effects occur at the range of solubility.

Persistence and degradability
Expected to be biodegradable.

Bioaccumulative potential
This product is not expected to bioaccumulate through food chains in the environment.
Section 12. Ecological information

Mobility in soil

- **Mobility**
  - This product is not likely to move rapidly with surface or groundwater flows.

**Soil/water partition coefficient (K_{OC})**
- Not available.

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

Other ecological information
- No toxic effects occur at the range of solubility.
- Based on data available for this or related materials. 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. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

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

Special precautions for user
- Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- Not available.
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 Immediate (acute) health hazard
SARA 313
Form R - Reporting requirements This product does not contain any hazardous ingredients at or above regulated thresholds.
Supplier notification This product does not contain any hazardous ingredients at or above regulated thresholds.
State regulations
Massachusetts None of the components are listed.
New Jersey The following components are listed: TRICRESYLPHOSPHATE (mixed isomers); PHOSPHORIC ACID, TRIS(METHYLPHENYL) ESTER
Pennsylvania None of the components are listed.
California Prop. 65 WARNING: This product contains a chemical known to the State of California to cause cancer. Aniline
Other regulations
Australia inventory (AICS) All components are listed or exempted.
Canada inventory All components are listed or exempted.
China inventory (IECSC) All components are listed or exempted.
Japan inventory (ENCS) All components are listed or exempted.
Korea inventory (KECI) All components are listed or exempted.
Philippines inventory (PICCS) All components are listed or exempted.
REACH Status The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

Section 16. Other information

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

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.)

History
08/07/2014.
Section 16. Other information

Date of issue/Date of revision 08/07/2014.

Date of previous issue

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.

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