NEOS AB3000

TECHNICAL PRODUCT BULLETIN #D-2
USEPA, OIL PROGRAM CENTER

ORIGINAL LISTING DATE: APRIL 22, 1985
REVISED LISTING DATE: JANUARY 26, 1996

"NEOS AB3000"

EPA HAS NOT RECEIVED UPDATED CONTACT INFORMATION FOR THIS PRODUCT AS OF 12/01/08

I. NAME, BRAND, OR TRADEMARK

NEOS AB3000
Type of Product: (Hydrocarbon Solvent Based)

II. NAME, ADDRESS, AND TELEPHONE NUMBER OF MANUFACTURER/CONTACT

NEOS Company Limited
Daisan Kendai Building
1-2, 3-chome Isobedori
Chuo-ku, Kobe, Japan 651-0084
Phone: (81) 78-331-9384
Fax: (81) 78-272-4649
Email: kaigai@neos.co.jp
(Mr. T. Ishii, Manager)

III. NAME, ADDRESS, AND TELEPHONE NUMBER OF PRIMARY DISTRIBUTORS

NEOS Company Limited
Daisan Kendai Building
1-2, 3-chome Isobedori
Chuo-ku, Kobe, Japan 651-0084
Phone: (81) 78-331-9384
Fax: (81) 78-272-4649
Email: kaigai@neos.co.jp
(Mr. T. Ishii, Manager)

IV. SPECIAL HANDLING AND WORKER PRECAUTIONS FOR STORAGE AND FIELD APPLICATION

1. Flammability:
NEOS AB3000 is flammable; keep away from open flame.

2. Ventilation:
Special ventilation is not required; however, natural ventilation is recommended.

3. Skin and eye contact; protective clothing; treatment in case of contact:
Contact may cause skin and eye irritation. Goggles and rubber clothing are recommended during application. In case of contact with skin or eye, flush with copious amounts of fresh water. If severe, consult a doctor.

4.a. Maximum storage temperature: 158°F
4.b. Minimum storage temperature: 32°F
4.c. Optimum storage temperature range: 50 to 140°F
4.d. Temperatures of phase separations and chemical changes:
Phase separation and chemical changes do not appear between the temperature range of 32 to 158°F.
V. SHELF LIFE

The shelf life is five (5) years.

VI. RECOMMENDED APPLICATION PROCEDURE

1. Application Method:
Spray neat concentrate on the oil slick in atomized form by means of a manual pump, or spray with a pump system incorporating an ejector system for drawing concentrate from the drum or stock tank. For aerial application, use a spray boom with pressure nozzles or rotating atomizers mounted on helicopters or airplanes.

2. Concentration/Application Rate:
The application rate is 65 gallons of dispersant per ton of oil. Five (5) to fifteen (15) parts of dispersant to suctioned water is recommended for ejector systems. For aerial application, 75 to 125 gallons per ton of oil is recommended.

3. Conditions for Use:
NEOS AB3000 can be used in salt water. It is effective with crude and residual heavy oil. The dispersant is also effective at controlling volatile emissions from the oil.

VII. TOXICITY AND EFFECTIVENESS

a. Toxicity:

<table>
<thead>
<tr>
<th>Material Tested</th>
<th>Species</th>
<th>LC50 (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEOS AB3000</td>
<td>Menidia beryllina</td>
<td>91.1 96-hr</td>
</tr>
<tr>
<td></td>
<td>Mysidopsis bahia</td>
<td>33.0 48-hr</td>
</tr>
<tr>
<td>No. 2 Fuel Oil</td>
<td>Menidia beryllina</td>
<td>201.8 96-hr</td>
</tr>
<tr>
<td></td>
<td>Mysidopsis bahia</td>
<td>11.5 48-hr</td>
</tr>
<tr>
<td>NEOS AB3000 &amp; No. 2 Fuel Oil (1:10)</td>
<td>Menidia beryllina</td>
<td>57.96-hr</td>
</tr>
<tr>
<td></td>
<td>Mysidopsis bahia</td>
<td>25.0 48-hr</td>
</tr>
<tr>
<td>Reference Toxicant (DSS)</td>
<td>Menidia beryllina</td>
<td>1.5 96-hr</td>
</tr>
<tr>
<td></td>
<td>Mysidopsis bahia</td>
<td>9.3 48-hr</td>
</tr>
</tbody>
</table>

NOTE: This toxicity data was derived using the concentrated product. See Section VI of this bulletin for information regarding the manufacturer’s recommendations for concentrations and application rates for field use.

b. Effectiveness:

<table>
<thead>
<tr>
<th>SWIRLING FLASK DISPERSANT EFFECTIVENESS TEST WITH SOUTH LOUISIANA (S/L) AND PRUDHOE BAY (P/B) CRUDE OIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
</tr>
<tr>
<td>Prudhoe Bay Crude</td>
</tr>
<tr>
<td>South Louisiana Crude</td>
</tr>
<tr>
<td>Average of Prudhoe Bay and South Louisiana Crudes</td>
</tr>
</tbody>
</table>

VIII. MICROBIOLOGICAL ANALYSIS

NA

IX. PHYSICAL PROPERTIES

1. Flash Point: No flash point to 212ºF
2. Pour Point: Less than 32ºF
3. Viscosity: 30.7 cSt at 104ºF
4. Specific Gravity: 0.924 at 59°F
5. pH: 8.0 (5wt % aq., at 77°F)
6. Surface Active Agents: Nonionic and Cationic surfactants
7. Solvents: Paraffins
8. Additives: None
9. Solubility: NA

X. ANALYSIS FOR HEAVY METALS, CYANIDE, AND CHLORINATED HYDROCARBONS

<table>
<thead>
<tr>
<th>Compound</th>
<th>Concentration (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>&lt; 0.1</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt; 0.1</td>
</tr>
<tr>
<td>Chromium</td>
<td>0.26</td>
</tr>
<tr>
<td>Copper</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>Lead</td>
<td>0.21</td>
</tr>
<tr>
<td>Mercury</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Nickel</td>
<td>0.076</td>
</tr>
<tr>
<td>Zinc</td>
<td>1.1</td>
</tr>
<tr>
<td>Cyanide</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>Chlorinated Hydrocarbons</td>
<td>&lt; 0.10</td>
</tr>
</tbody>
</table>