MARICHEM WORLDWIDE MARIGASES SERVICES

# OIL SPILL EMULSIFIER™

## DESCRIPTION

**OIL SPILL EMULSIFIER** is a product of superior quality, specifically designed for oil dispersion at sea, at shore and in port, either on–board or off–board. High standards and specifications have been incorporated in engineering this environmentally safe product.

## ADVANTAGES AND CHARACTERISTICS

- Non–toxic to marine life.
- Highly effective for oil spills at sea, on seashores and on solid surfaces such as docks, decks, piers, wharfs, ship hulls etc.
- Actively promotes oil–dispersion into microscopic droplets, so that the maximum surface area can be treated with rapid bacterial degradation.
- Has been tested and approved by the various regulatory agencies.
- Cost effective and economical.
- Applicable to all mineral oils, crude oils, fuel oils, kerosene, white spirit and lubricant oils.

## PHYSICAL PROPERTIES

**OIL SPILL EMULSIFIER** is a low viscosity liquid product containing surface active wetting agents and hydrocarbon solvents of very low toxicity, combined with a biodegradable oil–soluble, non–ionic emulsifying agent.

| | |
|---|---|
| Appearance / Color | : Clear, colorless liquid |
| Odor | : Odorless |
| Density | : 0.81 g/ml at 20°C |
| Flash point | : 85°C |
| Aromatics | : < 0.4% |

## PACKAGING

| | |
|---|---|
| Order Number | : 832523 (25 ltrs), 832123 (210 ltrs) |
| Container | : Steel drum |

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## APPLICATION AND USE

### A. Dosing Procedure

**At Sea:** The quantity of **OIL SPILL EMULSIFIER** to be used depends on three main factors: the quantity of oil spilled, the type of oil spilled and the weather conditions (prevailing and forthcoming). However, experience and expertise have proved that an adequate volume of **OIL SPILL EMULSIFIER** to be used is 1 litre per 15–20 square meters (1 gallon per 75–100 square yards) as tested on a spillage of Kuwait crude oil.

**At Shore:** The quantity of **OIL SPILL EMULSIFIER** demanded in this case, depends on the size of contamination in the affected area. Repetition of the cleaning process may be necessary, until oil–spill elimination is complete.

**On Ship:** The quantity of **OIL SPILL EMULSIFIER** required here, is analogous to the case of shore contamination. That is, the application of the cleaning process should be carried out on the contaminated surface, as many times, as is required.

### B. Cleaning Procedure

**At Sea:**

1. Determine the size and kind of oil–spillage.
2. Prepare the tools necessary to apply the product, undiluted, as specified using the **MARICHEM OIL CLEAN KIT** equipment.
3. Spray the desired quantity of the product with the appropriate spraying equipment, over the oil spill.
4. Wait for a few minutes until oil spill has emulsified.
5. Is important to keep in mind that emulsification occurs when the **OIL SPILL EMULSIFIER**, the spilled oil and seawater are mixed.
6. In the case of a persistent/stubborn oil spill, repeat cleaning process until oil spill elimination is complete.

**At Shore:**

1. Follow steps 1,2,3 as described in part **At Sea**.
2. Let it soak for a few minutes and remove from the treated area.
3. Rinse thoroughly by applying high pressure water source.
4. Repeat cleaning of contaminated area if

necessary.

**On Ship:**

1. Follow steps 1,2,3, as described in part **At Sea**.
2. After spraying and/or pouring, mix thoroughly using a brush, mop, sponge or any other stirring device feasible to move with rapid and irregular action.
3. Pour water over the treated surface and mix vigorously.
4. Rinse thoroughly by applying high pressure water source.
5. Repeat cleaning if necessary.

**IMPORTANT NOTICE:** The crew that will perform the oil spill dispersion must take all the precautionary measurements required before the beginning of the process.

## IMPORTANT INFORMATION

### A. Toxicity

The following test results justify the **OIL SPILL EMULSIFIER** to be of low toxicity to marine life.

| Test Object | Exposure Time | LC 50 (mg/l) |
|---|---|---|
| Brown Shrimp A (Crangon Crangon) | 48 hrs | 3,300 |
| Brown Shrimp B (Crangon Crangon) | 96 hrs | 3,300–10,000 |
| Limpet (C) | 24 hrs | 75,000 |

### B. Tests and Licenses

**OIL SPILL EMULSIFIER** has been tested by **EFFEH and Associates Research Analysis Consultation** (Houston, Texas) and has been found to be non–toxic to microbes.

**OIL SPILL EMULSIFIER** has been tested and licensed by the official agencies of Greece and Hong Kong, which are the **Greek Institute of Oceanographic and Fishing Research of the Ministry of Research and Technology and the Environmental Protection Department of Hong Kong**, respectively.

Furthermore, it has been tested and approved for use by China's regulatory agencies; The **Tsing Tao City Analytical and Testing Society** and **Tsing Tao University of Oceanography**, while it is officially licensed by the **Tsing Tao Safety Supervision Bureau.**

## SAFETY AND HANDLING

| HANDLING | Handle with care. Store in a dry, cool and well ventilated environment. |
|---|---|
| SAFETY | IMMEDIATE ACTIONS |
| Eye Contact | Avoid Eye contact. Otherwise, flush with plenty of water for a few minutes.<br>Seek medical attention. |
| Skin Contact | Avoid Skin contact. Otherwise, wash contaminated area thoroughly with water.<br>Seek medical attention. |
| Inhalation | Avoid inhalation of vapors. Otherwise, seek fresh air source at once.<br>Seek medical attention. |
| If Swallowed | Avoid ingestion. Otherwise, consume a considerable quantity of water.<br>Seek medical attention. |
| GENERAL INSTRUCTIONS | Avoid spillage, splashing and mishandling. Precautionary measures for body protection are strongly recommended before use. |

**Read the Material Safety Data Sheet before using this product.**

*For detailed information on safety and health, please refer to Material Safety Data Sheet and/or Product Label.*

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## Marichem Marigases Worldwide Services

for a highly commended contribution to

## Countering Marine Pollution

introduced during 1999

at the Seatrade Awards Ceremony Dinner
in Guildhall, City of London
15 May 2000

Signed W. N. O'Neil Date 15th May 2000

William O'Neil, Chairman of the panel of judges

*The 2000 panel of judges comprised:*

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