

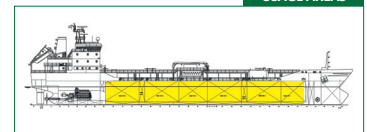
# ECOSOLUT<sup>®</sup> 24

## Technical Guideline

### APPLICATION

**Cleaning of Noxious Liquid Substances (NLS) Cargo Tanks**

### USAGE AREAS



### CHARACTERISTICS

ECOSOLUT 24 is a specialized detergent formulation, particularly effective for the cleaning of

- **Vegetable Oil residues (all grades)**
- **Clean Petroleum Products (CPP)**
- **Ultra Low Sulphur Diesel (ULSD)**
- **Gasoline**
- **Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)**
- **Hydrocracker Bottoms (HCB)**
- **Linear Alpha Olefines (LAO)**
- **Fatty Acids Methyl Ester (from soya-bean oil) (FAME)**
- **Pitch Tall Oil (PTO)**

from cargo tanks by using fixed and portable tank cleaning machines and for manual cleaning through high pressure portable barrel pumps with spray gun attachments. It can also be used for general cleaning of machinery, tools, bilge spaces, galley etc.

ECOSOLUT 24 is a proven product for the cleaning of all aforementioned products and similar materials.

ECOSOLUT 24 is used at very low dilutions from 1:200 (or 0.5%) to 1:100 (or 0.1%), and is effective from ambient temperature to 60°C or in steam cleaning systems, with increased efficacy at higher temperatures.

ECOSOLUT 24 is equally effective in seawater and freshwater.

In its concentrated form, the pH of ECOSOLUT 24 is approximately 7, and is safe to use on all types of coatings and stainless steel.

ECOSOLUT 24 does not contain aggressive cleaning additives (caustic, acids etc.) and is safe to transport by land, sea and air. ECOSOLUT 24 does not contain solvents.

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## TYPICAL APPLICATION

Before the use of any cleaning chemical, it is important to remove as much of the previous cargo as possible from the cargo tanks and transfer lines using water, to prevent the excess use of cleaning chemicals with the obvious environmental and financial implications. ECOSOLUT 24 has been specifically designed for use at very low concentrations and every effort should be taken to take advantage of its performance.

Typically, cargo tanks should be cleaned as following:

Pre-wash with ambient or heated seawater, depending on the chemical characteristics and IMO classification of the previous cargo.

Notes: For chemical cargoes that polymerize or contain drying / semi drying oils, the pre-wash should always be carried out with copious amounts of ambient temperature water in order to prevent the formation of a "polymerized" film on the surface of the cargo tanks.

For all oil based cargoes, if cleaning cannot start immediately after the cargo tanks are certified as empty, keep the tanks moist / wet by flushing with water and keeping the tanks closed, until cleaning can start. Non-drying oils may be steamed at this time.

Continue with seawater washing, using increased temperature (where appropriate), until all previous cargo residues are removed.

Continue with ECOSOLUT 24 diluted to 0.5-1% in sea or fresh water for a minimum of 2 hours or 4 washing cycles. Using elevated washing water temperatures increases the efficacy of the cleaning process.

Note: ECOSOLUT 24 is a neutral pH cleaning chemical that will work equally well on organic or more porous inorganic zinc silicate cargo tank coatings as well as stainless steel. Approvals of ECOSOLUT 24 by coating manufacturers are available on request

## DOSAGE AND APPLICATION PROCEDURE

The following suggestions should only be used as a guide, but are based on first-hand experience of cargo tank cleaning. The product requirement for specific cleaning operations could vary depending on the nature of the previous cargo, the degree of contamination and the temperature of the washing water to name the three most common variables.

For the removal of vegetable oils from the internal surfaces of cargo tanks using tank-cleaning machines, ECOSOLUT 24 may be used as follows:

By recirculation at a dilution rate from 1:200 to 1:100 (0.5-1% by concentration)

By injection directly into the tank cleaning line, typically at a rate of 2 – 5L per MT of washing water

For the manual removal of traces of surface contamination use scrubbing or brushing to produce oil free surfaces, ECOSOLUT 24 is particularly effective at concentrations of between 1 and 10% in fresh water (2 – 20L in freshwater) depending on the extent of the contamination. After cleaning, the cargo tanks should be washed out with hot water.

In extraordinary circumstances, ECOSOLUT 24 may be used for spot cleaning in its undiluted form. The product can be applied to contaminated areas by manual spraying or brushing, left for 15 – 30 minutes (but never allowed to dry out) and then washed away with high pressure either through a barrel pump or tank cleaning machines.

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## REQUIRED EQUIPMENT

For manual removal of surface contamination: High pressure cleaner with heating feature (pressure 30-180 bar), hand-brushes.

## RECOMMENDED DILUTION

Typically very low concentrations can be used. ECOSOLUT 24 concentrate is effective at dilutions of 1 part concentrate to 200-100 parts water (i.e. 5-10 litres of concentrate in 1000 litres of water) depending on the degree of contamination.

## REQUIRED WATER QUALITY

Sweet water (regular, river or lake water) or salt water.

## TEMPERATURE RANGE OF TREATMENT SOLUTION

In general the performance of ECOSOLUT 24 increases with temperature. An application temperature of at least 60°C or in a steam cleaning system is recommended.

## HAZARD CLASSIFICATION (EC)

Refer to the ECOSOLUT 24 Safety Data Sheet.

## PRODUCT STORAGE

ECOSOLUT 24 concentrate has a shelf life of 12 months. The diluted, wash solution should be made immediately prior to application.

## WASTE MANAGEMENT

Materials should be disposed of according to local regulations.

## APPROVALS

ECOSOLUT 24 has been accepted as a cleaning chemical by the International Maritime Organisation and is listed in annex 10 of the MEPC.2/Circular.

## HSE

OTI have carefully developed their products to minimise the safety risks and environmental impact of using their products. However, OTI advises that, prior to using its products, users should read in detail the accompanying MSDS and ensure that its products are applied within the required HSE regulations of the country in which the user operates. Best practice and safety requirements should be followed which will likely include method statements and risk assessments, together with any specific requirements of the user's own company HSE requirements.