*Natura Viva Aboutne*
*The Ciastelas - 06830 TOUDON*

# TARWASH SANITATION

## Molecular potentially chain disintegrator
## MPCD

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Natura Viva Environment

The technology of the potential of Molecular Chain Encapsulation (TARWASH) supported by the spirit of developing a new process of processing hydrocarbons.

Surrounded by scientists and technicians specializing in the field of biotechnology, Natura Viva Environnement offers in France a wide range of products of an entirely new generation,
Tarwash is part of all industrial clean-up programmes, more generally oil pollution.

In combination with microorganisms, Tarwash becomes a formidable cleaning and molecular encapsulation product of hydrocarbons, fats and by-products, the essential basis of which is the destruction of a fat molecule.

The studies that have been done have produced extraordinary results with regard to degreasing and cleaning, by creating this new design, TARWASH aims at the complete disintegration of pollutants.
The action of encapsulation and disintegration makes the pollutant absolutely inert and eco-compatible.

# Molecular potentially chain disintegrator (MPCD)

## TARWASH Assembly Products:

COMPOSITION TARWASH ASSAINISSEMENT:

Sodium Metilicats (C.A.S. - 10213-79-3) Pentahydrate 100%
Sodium Carbonate (C.A.S. - 6834- 92 - 0)
Soda silicate (NO. CE 215-687-4) 100%
Tensioactive non-ionic Phenol Ethoxylé (C.A.S. - 9016 - 45 - 9)
Non-Ionic Tensioactive (C.A.S. - 9005-64-5)
Tensioactive non-ion polysorbate (C.A.S. - 9005-64-5)
$NH_3$ / Ammonium hydroxide solution (C.A.S. - 1336-21-6)
Water (C.A.S. #7732 - 18 - 5) Distilled water.

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TARWASH, is not considered irritating to the skin (test done according to OECD regulations 404) Does not produce toxic effects on treated animals, if administered in a single dose Orally (test done according to OECD 401 regulation) Is not considered eye irritant (test done under OECD regulations 401)
Sodium silicates and carbonates are also allowed in organic farming According to Appendix Il B of regulation CEE 2091/91 and the following modifications: - the quality test done by the Chemical Specialties Manufactures Association has shown excellent evidence of cleanliness - TARWASH DOES NOT contain arsenated substances, formaldehydes, iodine, caustic potash compounds, oil, distillates of all types and sodium orthosilicate - TARWASH is characterized by a low phosphatecontent.

TARWASH Mechanism of Action acts on all types of hydrocarbons and fats by degrading them and making molecules available for biological degradation. (Micro-organisms) Here is TARWASH's mechanism of action on hydrocarbons and fats:

Tensioactive degrades the substance at the molecular level, micro sodium metasilicate waterproofs these particles and carbonate stabilizes emulsion molecules. In this way, the oil emulsion will be stable and will no longer be able to compose; it will be degraded more quickly by the action of microorganisms present in the environment.

POLYMER CHAIN SEGMENTATION (MOLECULAR DESAGREGATION) ENCAPSULATION AND STABILIZATION OF THE DESAGREGATION ACTION PARTICLE
(BY MICROORGANISMS PRESENT IN THE ENVIRONMENT)

With the action of microorganisms, we obtain an inert and gelatinous substance.

The molecules thus solubilized will no longer be toxic and can no longer be simply solubilized.
Alkaline silicates allow micro-waterproofing with the formation of a gelatinous film that encompasses the granules of the precipitates that have just formed, while sodium carbonate stabilizes the process of encapsulation and precipitation of the agents The harms of industrial cleaning.

The traditional method of industrial cleaning with a tensio-active base, butyle or solvents of any kind, participate in the harms suffered by microorganisms present in the aquatic natural environment and/or present in the atmosphere.

Why does TARWASH act differently? TARWASH does not contain any solvents or butyles, so it acts in a totally different way. TARWASH confirms the implantation of microorganisms and thus contributes to a definitive degradation of pollutants.

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TARWASH Heavy Metals works effectively on the sedimentation of heavy metals as a chyator:

1) allowing for simpler separation and disposal of heavy metals.

2) Like all alkaline silicates, in contact with a specific amount of heavy metals, TARWASH allows the formation of Metasilicat compounds that are characterized by low solubility:

They are no longer toxic and can no longer be simply solubilized.
Alkaline silicates allow micro-waterproofing with the formation of a gelatinous film that encompasses the granules of the precipitates that have just formed, while sodium carbonate stabilizes the encapsulation and precipitation processes of pollutants. *

Calcium (Ca) and magnesium (Mg), secondary elements, can be formulated in the form of chelates - Chelate is a cylindrical structure resulting from the link between an organic molecule ( kelp agent) and a metal atom (oligo-element or secondary element)

Other NATURA VIVA product families develop a wide range of products for: - the agricultural sector: ARBIO - the fire-fighting sector: Tarwash-Fire - the elimination of graffiti and inks: Eco-Graf - the elimination of hygroscopic water: Tarwash A revolutionary biological sanitation technique.

The combination of TARWASH with bacteria helps to clean up areas polluted by hydrocarbons. (Water, polluted land.) Treatment with TARWASH can treat soils contaminated with several types of pollutants: (Hydrocarbons, heavy metals, chlorinated substances, etc.).
Completely eco-friendly soil washing and water treatment systems:
Costs lower than traditional methods.

The efficiency and simplicity of use with TARWASH guarantee quick and certain results.
These products are eco-compatible because they are characterized by a very low environmental impact (biodegradability - 98%). ATOXIQUES WITHOUT SOLVANTS BIODEGRADABILITE - 98%

The Molecular Chain Encapsulation Potential.
Organicsubstance that has the property of combining with positive metallic ions and forming a soluble complex.

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TARWASH is a specific product to perfectly degrease refineries and contaminated containers, to purify water and clean pipelines.
Simple but effective chemical and physical characteristics and excellent biodegradability make it a very environmentally friendly product particularly suitable for work environments:

RECIPIENTS NETTOYAGE AND LAVAGE (tanks, tanks, etc.)

TARWASH can be used on all surfaces where water use is safe.
If used correctly, this product has demonstrated that the end result replaces it with heavy petroleum-based detergents as well as butyle-based liquids that are harmful to both the user and the environment.

TARWASH Can be used on oil rigs, from the top to the cargo hold. Its use in the drilling plan and control room, as well as in frost rods and laundry, has not only saved its users large sums of money for maintenance, but has also proven to be an extremely safe and reliable product for the environment.

The optimal results of TARWASH depend on a good dilution in water, fresh or seawater, and a good brewing, manual or mechanical that completes the cycle.

Areas that were previously polluted by oil have now returned to their own, with no trace of hazardous deposits. Based on the optimal results in all industrial sectors, we can indicate at least 30 uses.

TARWASH solves many problems with the processing of petroleum products. In the presence of significant oil or tar stains, oil depots and significant dirt, it is necessary to read the instructions carried on the label before using TARWASH this product is excellent for high-pressure washing of bridges, scaffolding, storage tanks, external cleaning in general and the removal of traces of mud, oil , fat, on probes, etc.

TARWASH is the best product that can be used for cleaning the platform as a whole, both indoors and outdoors, considering the extremely restrictive laws currently in force.

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We are currently working on the market launch of a very high quality, non-corrosive, non-toxic, butyle-free and risk-free product.

The end users are: - the oil industry (platforms and production facilities, refineries), - steel mills, - the automobile industry, - shipbuilding, - any industry for which oil pollution is a problem.
We are focusing all our efforts to introduce to the market a product whose appeal lies not only in its cost but also in its respect for the environment.

This is the result of years of research and testing on a large number of alternative formulas, in order to deal with the problems caused by hydrocarbons, by eliminating, as far as we are concerned, the risks caused by hydrocarbons, in a simple and natural way.

The high degree of efficiency of TARWASH is due to its exclusive, biodegradable, biodegradable, water-based formula
specifically designed as a cleaning agent/softener for a wide range of petroleum and hydrocarbon products.

The main principle of TARWASH is emulsion and capsulage, so emulsionized products based on oil, hydrocarbon, fat, heavy fuel so sequence no longer recover definitively.
They are also no longer flammable, and are recycled very quickly in the natural environment.
The TARWASH process, very effectively accelerates the absorption by the natural environment of the effects due to the dispersion of hydrocarbons.
The dispersal of oil or petroleum waste, as well as fire-causing fuels, contains millions of hydrocarbon molecules.
Quickly emulsionized long-chain hydrocarbon molecules, inhibiting the fuel source with a water-soluble matrix.
It is composed of microscopic particles of neutralized fuel, which are not prone to inflammation.

These particles are simultaneously encapsulated by the action of the Molecular Chain Encapsulation Potential and are further protected against any risk of inflammation or re-inflammation, thus preventing the recombination of combustion particles.

They are then subjected to accelerated, natural and bacteriological decomposition, caused by microorganisms already present in the environment or added to the effluent.

TARWASH, contains no bacteria, but allows bacteria present in the air, water and soil to deal with the problem of removing hydrocarbon dispersion, regardless of whether this same dispersion is inflamed or not.

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In the case of flaming fuel dispersion, emulsion and encapsulation allow the flames to be extinguished almost instantaneously at their source by transforming it into a water-soluble, non-flammable matrix; in addition, TARWASH is extremely effective because it encapsulaates hydrocarbons rather than simply scattering them.

In the presence of a fire in or near an oil disperse, there is no risk of re-ignition once brewing and have begun to act.
During the biodegradation process, hydrocarbons will be consumed by pre-existing bacteria as a food source.

Bacteria, as living organisms, need oxygen, nutrients and moisture to survive, develop, act and effectively recreate their natural habitat, allowing extremely rapid hydrocarbon biodegradation.

TARWASH is truly considered a high-performance cleaning agent, especially in the case of a scattering of oil in fresh water or sea, as well as in the context of oil pollution on beaches, rocks,, places difficult to access etc.

Correct use of TARWASH on beaches, TARWASH on beachside cliffs, in the case of oil pollution that resists bad weather: - perform pre-treatment or soaking using a watery solution of u molecular encapsulation potential, for 30 to 45 minutes, in order to soften fatty oil deposits. It's not going
the application can be easily done, by spraying the diluted pre-processing solution, using a portable fire pump with marine water suction and equipped with a chemical ejector or a power pump. - the total capacity of the pump should be between 100 and 150 P.P.M.
On the other hand, the dosage is not dangerous if a fire-fighting stick programmed to direct the cover at a minimum of 150 $m^{2/minute}$ is brought at a reasonable rate.

- in deeply polluted areas, it is possible that a new application is needed, or that watery pre-treatment solutions may need to be corrected to dispersing proportions. It is recommended not to use an oil-based solvent to soften oil that has withstood bad weather.
After a soak of 30-45 minutes, apply a water solution and extra using a high-pressure water handle (160 bars).
Pressure and spray angle tests will indicate which combination is able to perform best.

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HOW TO USE IT:

The clean-up manager will have to assess the specific conditions for each case, such as the composition of the water, the composition of the oil/fuel, the viscosity of the oil/fuel, the temperature of the air and water, the length of time during which the oil/fuel was exposed to the open air, the wind and tide conditions, the degree of brewing, the possible and available application methods.

TARWASH should be applied to oil stains, using fresh water or sea, as a thinner. We recommend as a first choice, the use of a mixture of TARWASH and water.

In any case, the choice of mixtures will be at the discretion of the manager.

In the case of light pollution, the proportion of the mixture should be greater than the proportion used in deep water where reduced mixtures will be required.

With high pressure and steam TARWASH is more efficient and more economical. TARWASH MOTOR NETTOYAGE diluted in water. Allow the solution to work on the surface to be cleaned for 20 minutes. Rinse thoroughly.

LÉGER/MOYEN TARWASH NETTOYAGE diluted in water. Rinse by rubbing. We recommend the use of a brush, a high-pressure or steamed wash.

DISPERSION IN PROFONDE TARWASH diluted in water. Leave on the surface to be cleaned for about 20 minutes.

Brush. Rinse with clean water (also consider high-pressure washing). TARWASH HIGH LAVAGE diluted in water.

It is imperative not to use an air pistol, but to prefer a spray gun without nebulization to avoid excessive foaming. Hot water (55 degrees) increases its effectiveness.

TARWASH PRODUCT CHISEDS its strength is water, biodegradable, bicellular, dispersing hydrocarbon liquids.

It is an alkaline, biodegradable, non-toxic detergent that has very low tensioactives 1-(Hexyne, Name given to three acetylenic carbides of Formula $C_{6\ H10}$) to provide a product that is safe for the environment, and that works in the same way as the natural biodegradation of hydrocarbons and polar solvents.

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In order to improve the efficiency of industrial detergents, many producers, if not the majority of them, use the addition of miscible solvents, such as butyl celiosolve (ethylene, glycol, monobutyl, ether).
If used at a fairly high concentration, 10% or more, the butyle significantly increases the quality of cleaning.
The problem lies in the fact that the butyle is absorbed very quickly by skin contact or
Inhalation.
Exposure to high concentrations can be dangerous for the kidneys and liver.
The instructions on the label should require the wearing of rubber gloves and proper ventilation.
However, it is virtually impossible to guarantee optimal conditions in the workplace and avoid exposure.

TARWASH TECHNICAL INFORMATIONS is excellent for all contamination clean-ups at oil refineries, terminals, wharves, factories, boat bridges, as well as in all oil zones and facilities related to oil contamination and pollution.

Sprayed on oil-contaminated surfaces, diluted in water, and left in action for as long as necessary, TARWASH will immediately reduce the viscosity of dispersed oil, and will continue to act as long as anything visible looks like dirty water.

The key principle is not a major or excessive use of the product, but a good pre-use brewing. The oil will not be at the bottom and will not remain on the surface either, it is hydrolysis.

The application can be done by any person or by a high-pressure mechanical sprayer or steam. For deposits that have weathered or are encrusted, it is advisable to use hot water or steam.

It is certain that a major pressure or PSI made by the mechanical devices used, improves the final result. Then, depending on what we have illustrated in the previous paragraphs, you will be able to see positive results after 15 to 20 minutes.
The most effective and cost-effective applications have been:

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The characteristics of TARWASH, as shown in our MSDS and Product Label, are: Has the following physical properties:

1. The USDA classifies the product as "A" according to the requirements of the "Chemical Components List" standards of the Meat and Poultry Inspection Program.

2. TARWASH has passed the cleansing quality exam as illustrated in the GSA - General Specifications PD - 00220 Tested in a 20-for-1, 2-ounce tarWACH solution will completely emulsion 1/4 teaspoon of automotive motor oil at 77 degrees

3. TARWASH does not contain any of the following products:

Arsenic agents, formaldehydes, iodine, mercurial compounds, phenols, abrasive, free acids, nitrile tri acetate (NTA), butyl Cellosolve or other glycolic ethers, glycol, soap, anionic wetting agents, free sodium or caustic pot, oil, coal or tar, distillates of any kind or

5. TARWASH is diluted from 1 to 5% its PH falls into the scale of 9 to 11.

6. Tests carried out with activated clay and mud classify the organic ingredient as biodegradable at more than 98% 19 O.E.C.D.301- B

7. TARWASH is a product with low phosphate content (less than 2%). In the context of plastic or fiber surfaces, and using the appropriate solution, TARWASH will bring significant antistatic properties to these surfaces.

8. TARWASH is a satisfactory cleaning product in daily maintenance, and its effectiveness is the same as hard, light, hot or cold, sweet or salty water.

9. TARWASH does not damage painted or varnished surfaces, fabrics, mosaics, synthetic floors, if the appropriate solution is used

10. TARWASH is odourless in the usual solution

Oil-Free, Without Butyne Cellosolve, Non-Flammable
Non-combustible, light yellow color - pale or colorless
Relative Density - $H_20$ - 1-1.056, Soluble in Water - Complete
Fresh or sea water