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Technical data sheet

Bioversal® RC

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TDS

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Bioversal® RC

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1.0 DESCRIPTION

Bioversal® RC is a special and world-wide unique biochemical composition, destined to offer a complete range of high performance solutions in case of oil/fuel spills binding and clean-up applications on solid surfaces.

Bioversal® RC is primarily designed to be a high performance oil/fuel binding agent with bioremediation effectiveness. The product application is environment and operator safe and displays the lowest ecotoxicological and best biodegradation profile of its class. Furthermore, it offers the following features:

2.0 STAND ALONE FEATURES AND CHARACTERISTICS

- High performance oil/fuel binding agent
- Enhanced environmental safety with integrated bioremediation effectiveness
- Ready biodegradable
- Extermely low ecotoxicological profile
- Non toxic for humans
- Non irritating for skin and eyes
- Not labeled and classified as hazardeous acc. EC-Directive 1907/2006 EC, Art. 31 (REACH), CLP
- Bioremediation effectiveness renders pollution biodegradable

3.0 APPLICATIONS

3.1 ECOLOGICAL CLEANING

Bioversal® RC is an excellent oil/fuel binding and cleaning agent used at 1 % – 4 %, which does not create oil/water emulsions in the process water and hence can be easily treated with standard oil/water separators or skimmers. Its capacity of fuel pick-up deoils rapidly and in depth and re-establishes grip on solid surfaces (asphalt & concrete). The oil-fuel micelles encapsulating capacities of the product contribute significantly to the mitigation of volatile organic compounds (VOC) and minimize the risk of explosion during applications in explosion hazard areas. Encapsulated oil/fuel micelles are effectively bound in a foam layer through natural agitation during the cleaning process.

Bioversal® RC shows excellence performance in:

- Oil/fuel storage tanks cleaning
- Pipeline cleaning
- Cleaning activities in explosion and fire hazard areas in O&G sector
- Shipping and off-shore
- Cleaning of asphalt, concrete, soil and natural materials

Bioversal® RC is compatible with any material.

3.2 WATER TREATMENT

Bioversal® RC oil/fuel binding agent contains Bioversal's unique BioActivator responsible for bioremediation effectiveness of oil/fuel-water encapsulated micelles. The application of the **Bioversal® RC** on oil polluted water surface or soil has the following positive effects and can favour, stimulate and accelerate natural biodegradation of oil/fuel pollution:

- eliminates adhesive forces of fuel/oil on natural surfaces
- makes treated fuel/oil bioavailable for naturally present microbiology, responsible for aerobic bioremediation processes
- makes treated fuel/oil biocompatible for naturally present microbiology, responsible for aerobic bioremediation processes, without intensifying ecotoxicity
- makes treated fuel/oil biodegradable for naturally present microbiology, responsible for aerobic bioremediation processes, without intensifying ecotoxicity

Please note that bigger quantities of fuel/oil should always be absorbed, skimmed and properly disposed of. Application of **Bioversal® RC** should be used only to treat not recoverable residual oil pollution. For more info, please contact Bioversal International.

4.0 GUIDELINES FOR USE

4.1 MANUAL APPLICATION

Bioversal® RC is diluted with water prior to application. Spray product at oily spots, then scrub intensively. Rinse with clean water and absorb mechanically the wash water. If applied with low pressure and cold water, use **Bioversal® RC** at 3 % for fuel spills. If applied at low pressure and cold water, use **Bioversal® RC** at 4 % when cleaning up hydraulic oils.

4.2 MECHANICAL APPLICATION WITH SWEEPER

Bioversal® RC is applied with Sweepers via its low-medium pressure nozzles, while rotating scrubbing is applied. If applied with low-medium pressure and cold water, use **Bioversal® RC** at 2 % for fuel spills. If applied with low-medium pressure and cold water, use **Bioversal® RC** at 3 % for oils.

4.3 APPLICATION WITH EQUIPMENTS

The oil binding performance is clearly enhanced, if the product is used with warm water > 40 °C and medium to high pressure devices ranging from 180–220 bar. In this case scrubbing is not required. If applied with medium-high pressure and warm water, use **Bioversal® RC** at 1 % for fuel spills. If applied with medium-high pressure and warm water, use **Bioversal® RC** at 2 % for fuel spills.

5.0 PHYSICAL AND CHEMICAL PROPERTIES

Appearance.....liquid
Odor.....typical, pleasant
pH [at 20 °C].....7,0 ± 0,3 acc. EN DIN 19268 (conc.)
Freezing point.....-3,0 °C
Relative density at 20 °C.....1,01 g/cm ^{3} ± 0,010 g/cm^3 acc. DEV C9
Solubility in water.....completely miscible

6.0 ENVIRONMENTAL AND TOXICOLOGICAL INFROMATION

Bioversal® RC is an environment and operator safe liquid foam concentrate.

Bioversal® RC contains no ingredients that meet the criteria for classification in any hazard class according EC No.1272/2008 on classification, labeling and packaging of substances and mixtures EC No. 12.

Bioversal® RC is easily, rapidly and nearly completely biodegradable, not toxic and harmless in contact with skin and eyes. Its extreme low ecotoxicity profile as a concentrate makes it especially eligible for applications in sensible areas, where environmental collateral damage is not acceptable. At effective field dilution rates < 10 % **Bioversal® RC** is harmless for terrestrial as well as for maritime ecosystem.

Bioversal® RC contains a BioActivator, based on extracts produced from natural raw material, ensuring biocompatibility of the product and fuel-water micelles. This unique effect makes treated fuel pollution bioavailable and highly biodegradable for aerobic biodegradation mechanisms naturally present in the environment and in sewage plants.

Bioversal® RC has anti-pollution characteristics. However, as with any substance, care should be taken to prevent intentional or accidental discharge of the concentrate from entering ground water, surface water or storm drains.

Since facilities vary widely by location, disposal or discharge of the concentrate or solution should be made in accordance with federal, state, and local regulations.

For more info, consult Material Safety Data Sheet or contact Bioversal International.

7.0 BIOREMEDIATION EFFECTIVENESS

Bioversal® RC is designed to eliminate oil pollution in sewage plants, solid surfaces, soil, ground-/water by creating optimum conditions intended for stimulation of a biodiversity of autochthon microorganisms naturally present in the environment, responsible for aerobic biodegradation processes of organic pollutants.

8.0 APPROVAL AS OIL/FUEL BINDING AGENT

Bioversal® RC oil/fuel binding capacity has been certified by MPA NRW in Germany (https://www.mpanrw.de/en/home/) via SRT measurement. This German Norm tests the capacity of the product application to reestablish friction after application (See Approval and Test Report attached).

9.0 COMPATIBILITIES

Bioversal® RC is generally compatible with any alloys or material. It is recommended not to mix product with syntetic detergents, enzymes, fertilizers and xenobiotics in order to guarantee original high performance characteristics, storage, shelf life and its unique environmental quality standard and its versatile application mechanisms and features. Do not store diluted premixes more than 14 days.

10.0 STORAGE, HANDLING, SHELF LIFE

If kept in the original unopened and airtight **Bioversal® RC** supplied container and stored within the temperature range of 2 °C to 50 °C, a shelf life of minimum 10 years can be expected. If inadvertently frozen, thawing will render product completely serviceable again. Slight color deviations of the liquid due to light distortion through the container can appear. Through the specific use of natural raw materials slight color deviations can occur, which do not have an impact on quality and performance of the product.

11.0 PRODUCT AND PACKAGING DISPOSAL

Bioversal® RC treated hydrocarbons are sewage plant compatible. Disposal should be in accordance with local, state or national legislation.

- EU waste disposal code = 07-06-01, aqueous surfactant solution
- Discharge at sewage or any other biological water treatment facility
- Cleaned, empty packages are reusable
- Container waste disposal code: 20-01-39

12.0 REFERENCES AND INDUSTRIAL PARTNERS

Bioversal® RC is a referenced product in use by the Firebrigades in Germany, Austria and Switzerland. It is primarily used to bind oil/fuel spills caused by accidents on motorhighways and asphalt surfaces. The product is also used to bind hydrocarbons on concrete surfaces (See Document ARF in attachment). **Bioversal® RC** is also applied by industrial partners in France. The product finds also widespread application in different airports in Europe.

13.0 ORDERING INFORMATION

Part No:	Container Size	Concentrate Weight	Shipping Wight
FE 713 J	20 l/HDPE Jerry Can	20 kg	20,95 kg
FE 712 C	210 l/HDPE Barrel/Drum	210 kg	219,5 kg
FE 711 G	1000 l/IBC	1.000 kg	1.080 kg

This information is only a general guideline. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.

water bioremediation

soil bioremediation

shipping

O&G

anti-pollution

airoport

road safety

100 % grip

sweeper

DQS certification
ISO 9001:2015

°C/bar

Vegan certification
No.: 022071

manual cleaning

operational safety

anti-pollution agent

dermatologically tested

sewage plant compatibility

100 % biodegradable

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