

BIO CLEANING SOLUTIONS

Microzyme™ 50 Surf Clean Conc 10X FF

A unique bio-enzymatic formulation for cleaning hydrocarbons (oil, petrol, diesel and grease) form all surfaces

Green Worx Cleaning Solutions offers new ground breaking patented environmentally friendly pre-treat water technology to replace and outperform any wetting agent. This environmentally friendly additive is a solvent, ammonia and glycol free replacement product where powerful wetting performance is required for cleaning and dispersion of particles into solutions or suspensions; it prevents flocking and agglomeration; The additive product performs extremely well and is a replacement for conventional wetting agents to increase environmental acceptance; This new water technology is primarily used in the pre-treatment of water. The quality of water and its properties are manipulated in an entirely natural way. This natural product neutralizes the magnetic charges of particles in water thus reducing surface and interfacial tension resulting in:

Increased adhesion of the liquid to a solid particle thus resulting in a powerful wetting agent.

Allows for water and oil-based droplets to break down into finer globules and to stay in suspension for longer, resulting in powerful emulsification.

The addition of this new technology allows for the transfer of our microbes / probiotics into nooks and crannies resulting in a more effective distribution of probiotics for better degradation of organics ensuring more visible cleaning and deodorising power.

How does Microzyme 50 Surf Clean work?

A biodegradable and biologically active product that is used for the bio- augmentation of oil contaminated areas. This includes landfill, water and waste treatment applications. The super concentrate is also used as biological ingredients in various cleaning and treatment products (Car washes and degreasers) by re-formulators. The products decrease total petroleum hydrocarbon (TPH) which makes up grease and oils.

Oily stains on any surfaces are often complex mixtures of automotive or maintenance products. **Microzyme 50 Surf Clean** contains a blend of microbes developed to break down these oily compounds. By combining the residual effects of patented bio-enzymatic technology with patent pending surfactant technology, **Microzyme 50 Surf Clean** is a product that is both safe and powerful. It sets a new standard for cleaning concrete and other surfaces and is truly unique among cleaning and maintenance products, and is a safe alternative for effectively cleaning problematic oil stains left by or on cars, trucks, surfaces and equipment because it contains an optimized surfactant for water based degreasing with an excellent environmental profile. Plus an additional compound that solubilizes hydrophobic compounds in aqueous solutions by means other than micellar solubilization.

DATA SHEET

Benefits	Features
<ul style="list-style-type: none"> • A visually cleaner garage floor and driveway with less effort • Enhance the office, factory and your home’s curb appeal with a fresh, clean sidewalk • Deep-clean tough stains in the workshop, factory garage and basement with a product that is safer for family and pet than the chemical alternatives • More effective than a solvent-based product, yet is safe to use and friendly to the environment • Use one product for a wide range of cleaning applications including garage floors, basements, outdoor furniture, tools and equipment • For the application of degradation of hydrocarbons in particular soil remediation and degradation of hydrocarbons in wastewater 	<ul style="list-style-type: none"> • Non-toxic, non-flammable biodegradable cleaner • Contains virtually no volatile organic compounds (no toxic odours) • Effectively cleans a variety of hard surfaces • Safer alternative to harsh chemical (caustic or acidic) cleaners • Non-corrosive and non-irritating formulation means it’s safer for users and the environment • Easy to use • Eco-friendly certified

PRODUCT CHARACTERISTICS

- **Bacteria Counts** : 1 x 10⁹ cfu/ml (100 million/ml)
- **Bacteria Type** : Consortium of *Bacillus*, including *Bacillus mythylootropicus* and *Paenibacillus* spores,
 - : GPA 6.2-Bacillus mythylootropicus
 - : GPA 7.1-Bacillus subtilus
 - : GPA 11.2-Bacillus subtilus
- **Packaging** : 5 and 25 litre containers
- **pH** : 7.0 – 9.0
- **Salmonella** : Not detected
- **Appearance** : Tan brown liquid
- **Fragrance** : Mild chemical odour
- **Shelf-life** : Two years; maximum loss of 1.0 log at recommended storage condition

Designed to produce enzymes on demand: Active natural bacteria incorporated into the product produce waste degrading enzymes:

Protease	✓
Lipase	✓
Cellulase	✓
α-amylase	✓
Urease	✓
Xylanase	✓

Safety:

- Non-hazardous.
- Non-carcinogenic.
- Non-genetically modified.
- Non-pathogenic

Key Features:

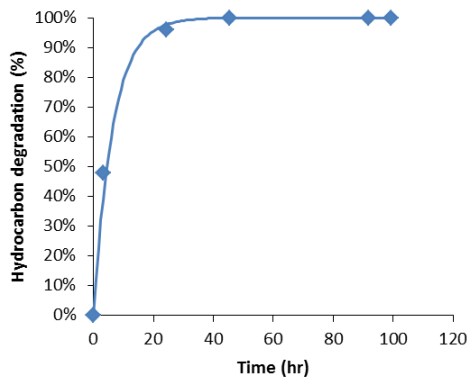
- Ingredients Readily Biodegradable (OECD 301)
- Biological active (contains active natural bacteria)
- Compatible and enhances water treatment and water re-use systems
- Packaging minimized, re-useable and recyclable
- Global Green Tag Certified

Storage and handling:

- Store closed containers at room temperature
- Wash hands thoroughly with warm, soapy water after contact
- Avoid eye contact.

Main Application:

Total petroleum hydrocarbons is a term used for any mixture of hydrocarbons that are found in crude oil or derived therefrom. The bacteria in the product breaks down TPH.



This figure shows the complete hydrocarbon degradation in TPH contaminated water using FBB technology.

The powder derivatives of this product incorporate activation nutrients which aids in growth of the bacteria under nutrient deficient or nutrient imbalanced conditions.

Concentrated product applications include:

- Use as a biological ingredient in proprietary formulations by re- formulators.
- For heavily contaminated systems as a seeding or booster treatment.

Ongoing use of the product correctly will have the following benefits: -

- Bioremediation of the oil waste
- Lowers tendency for oil waste to leach to ground water and cause contamination
- Reduces unpleasant odour
- Less growth and transfer of pathogenic disease causing organisms
- Reduced environmental pollution

Dilution guidelines:

- **Microzyme 50 Surf Clean Conc. 10 X FF** is a 10 X concentrate
- This is diluted 1:9 with water and stirred well for 30 minutes to produce a Ready To Use Product
- Pack under agitation to ensure spore dispersion in the product

Directions for use of RTU product:

- Use full strength for heavily soiled and or stained areas
- Spray or pour on area to be cleaned and scrub with broom or brush
- Allow product to stand 10-20 minutes, longer for tough stains
- For best results always scrub before rinsing
- For the more stubborn stains, since oily stains penetrate deep into porous concrete, and for those that have been there for a long period of time it may be necessary to repeat the application
- For general cleaning, use 200 – 400 ml per liter of water
- For more soiled areas you may have to vary the level of concentrate
- Due to product's ability to remove hydrocarbon oils, use on asphalt surfaces more than twice yearly is not recommended (however, the removal of asphalt from surfaces is recommended more frequently)

Usage considerations:

- Control pH ~ 7.00
- Ensure that treatment system is properly mixed.
- Ensure sufficient air supply
- In solids applications maintain moisture around 30%.
- Do not use non-biodegradable detergents
- Do not use anti-bacterial or biocidal (kill the good bacteria) products, as this will prevent the treatment from working.
- Do not use any harsh chemicals such as strong acids or bases as this will kill the bacteria. All the ingredients for effective bioremediation are included in the product.

Bio Cleaning Solutions, means Green Technology:

This unique formulation meets the criteria for a bio cleaning solutions programme for green technology. The bio cleaning solutions designation is used for formulations that utilise surfactants at a neutral pH, contain no phosphates, no solvents, and low concentrations of volatile organic compounds (VOC). Therefore, it is safe for the user and the environment.

Applications:

- Basement floors
- Driveways
- Garage floors
- Outdoor furniture
- Patios
- Sidewalks
- Tools and outdoor equipment
- Workshops
- Water mass – dams and ponds
- Wastewater Treatment

Application	Directions for Use
Clean petrol, diesel/oil from water	<ul style="list-style-type: none">• Blend Microzyme 50 Surf Clean with warm water 3:1 (3 parts water: 1 part Microzyme 50 Surf Clean)• Spray onto the rainbow floating on the water• Notice how the rainbow immediately disappears
Cleaning grease and fuel grime on equipment, i.e.: fuel pumps, tractors, farm equipment, etc.	<ul style="list-style-type: none">• Blend Microzyme 50 Surf Clean 3:1 with warm water• Spray on equipment you wish to clean grease from• Depending on the extent of grease you may wish to brush it on so as to create agitation and a better opportunity for the bacteria to work• Wipe off after letting stand for 30 seconds – 30 minutes or high-pressure wash
Motor oil stains on concrete and other hard surfaces	<ul style="list-style-type: none">• Blend Microzyme 50 Surf Clean 3:1 with warm water• Spray onto the stain on the concrete• <i>Note:</i> motor oil stains have dirt on top and product cleans oil from dirt but dirt needs to be washed off or nothing visible will happen• Wash stain with rag or brush on and you will notice it seems like mud and will smear concrete• Wash concrete until smear is gone• Re-apply blend of Microzyme 50 Surf Clean to concrete surface• Scrub with brush or broom• Wash with power washer or hose if possible after at least one hour or let sit indefinitely• Motor oil stains are quite muddy and require some effort to remove and will not disappear like lighter hydrocarbons will
Cleaning soot and oily stains from fabrics, concrete, etc.	<ul style="list-style-type: none">• Blend Microzyme 50 Surf Clean 5:1 with warm water• Spray on carpet and work around with wet cloth or sponge• Once black marks are reduced to slight darkened area on carpet, squeeze water out of clean sponge onto carpet and reabsorb from carpet and all black stain will be lifted from the material• Rinse sponge and repeat until completely clean
Cleaning soot from oil furnace on concrete	<ul style="list-style-type: none">• Blend Microzyme 50 Surf Clean 5:1 with warm water• Spray onto concrete area affected by stain• Work area with brush• Wash out with water until clean
Cleaning furnace oil, diesel and gasoline stains and spills in concrete, asphalt, brick, siding etc.	<ul style="list-style-type: none">• Blend Microzyme 50 Surf Clean 4:1 with warm water• Spray on surface and scrub with brush/broom till lather develops• Let sit indefinitely if in someone's house, i.e.: basement, the stain will go away over time• Power wash or wash with hose if outside after letting sit for at least one hour
Cleaning furnace oil, oil, diesel or petrol on the ground and on grass	<ul style="list-style-type: none">• Blend Microzyme 50 Surf Clean 3:1 with warm water• Use equal volume of concentrate to spill• Pour mixture on ground• Let sit indefinitely

Degradation of hydrocarbons in oil spills on soil	<ul style="list-style-type: none"> • Blend Microzyme 50 Surf Clean 1:14 with water • Use equal volume of concentrate to spill • Pour mixture on ground • Let sit indefinitely
Degradation of hydrocarbons in waste water	<ul style="list-style-type: none"> • Blend Microzyme 50 Surf Clean 1:14 with water • Use equal volume of concentrate to spill • Pour mixture on water mass • Agitate and aerate for best results

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