

## EMS Marine Wash and Wax

ACID-FREE, MARINE-GRADE CLEANER

- 100% Acid Free
- Non-Butyl
- Non-Fuming
- Non-Corrosive
- Non-D.O.T. Regulated
- Eliminates Mineral Stains
- No Neutralizing Step
- Removes Barnacles
- Safe on Paint
- Safe on Gel Coats
- Safe on Skin

EMS Marine Wash and Wax combines the finest cleaners, degreasers, brighteners and protectants, along with just the right amount of our patented SynTech<sup>®</sup>, the world's only synthetic acid, to offer the finest boat wash available.

Equal in potency to hydrochloric acid, SynTech removes cement from ready mix trucks, and descales lines of off-shore vessels of the U.S. Navy and Coast Guard. Yet it carries a triple zero Hazardous Materials Information System score, is rated as a non-corrosive and non-skin irritant, non-fuming, biodegradable and non-mutagenic to fish and wildlife.

In our patented marine-grade cleaner, SynTech safely removes mineral stains, scaling, hard water spots, even barnacles, while posing no threat to the boat's finish. In fact, Marine Wash and Wax is safe to use on the entire vessel -- inside, outside, bilge, hull and motor. It is 100% safe on all metal, painted, glass, aluminum, chrome, stainless and gel-coated surfaces. We are proud to be recommended by Viking Yachts and Silverton Marine as their only approved boat wash.

We add our patented degreasers to remove diesel soot, dirt and scum lines. Petroleum dispersants rapidly remove spilled or leaking fuel and/or oils from the bilge or surface water. We also add salt-dissolving agents UV ray deterrents, along with rubber and plastic conditioners to keep the boat protected from the elements.

Our newest Alumi-Brite formulation also boasts the benefits of SynGuard, our safe but potent fluorosurfactant. Similar to additives like Dupont's Teflon<sup>®</sup>, SynGuard provides exceptional anti-stick properties making it more difficult for stains to adhere to the boat's surfaces.

Marine Wash and Wax is 100% acid free, so no neutralizing step is required. Simply spray on, brush and rinse.



## Technical Data

NITRATE LEVEL: **0% - None**  
FORM: **Liquid**  
ODOR: **Soapy Odor**  
COLD STABILITY: **15° F**  
DETERGENCY: **Excellent**  
TOXICITY: **Non Toxic**  
WETTING ABILITY: **Excellent**  
STORAGE STABILITY: **3 Years**

SHIPPER REGULATIONS: **None**  
FLASH POINT: **None**  
BOILING POINT: **228° F**  
SOLUBILITY IN WATER: **100%**  
BIODEGRADABLE: **Yes/100%**  
VOLATILE BY VOLUME: **N/A**  
CARCINOGENS: **None**  
VISCOSITY: **Thin**



## Dilution Specifications

New, reconditioned or well kept vessels:  
**Dilute 20:1**

Moderate buildup and regularly washed vessels:  
**Dilute 10:1**

Heavy buildup and seldomly washed vessels:  
**Dilute 5:1**

Barnacle removal:  
**Dilute 1:1**

Spray or brush on, agitate, rinse. Re-apply and allow to remain on surface for 5-10 minutes to remove stain from the hull. Repeat as needed.

## Toxicity Studies

### Toxicity Limits: Test Procedure OECD 202, 48 hr.

LC 50 and LD 50 (rat oral) scores found Marine WW to be NON-TOXIC.

### Mutagenicity Limits: OECD Guidelines Sec. 471 Chemicals

Marine Wash and Wax was found NOT TO BE MUTAGENIC

### Dermal Irritation & Corrosion Test

A modified Draize method was used as described in OECD Guidelines for the Testing of Chemicals Sec. 404 and complies with the requirements of OECD Principles of GLP, Annex revised as of July 1992.

Marine Wash and Wax received a Primary Irritation Score of 0.3 +/-0.1 and is classified as a "Non-Skin Irritant"

### Biodegradation & Aquatic Safety

Test Procedure: Hach Reactor Digestion method for Waste Water and Sea Water. Hach Reactor Digestion Method is a semi-micro adaptation of the Standard Methods.

Test Results Conclude Marine Wash and Wax was found to be 100% Biodegradable

COD = **Low Detectable Limits**

BOD = **No Detectable Limits**

## Metal Studies

Dept. of Transportation (D.O.T.) Test Protocols as per Section 173.154 Exceptions for Class 8 (corrosive materials): The material being tested must be proven to be non-destructive or not to cause irreversible alterations in human skin tissue. Testing was conducted on an albino rabbit.

**Conclusion:** Marine Wash and Wax was proven to be NON-DESTRUCTIVE on human skin tissue.

**Metal Test Limits:** D.O.T. Classifies a material to be CORROSIVE if it has a corrosion rate that exceeds 6.25 mmpy on SAE C1020 carbon steel.

Results of Marine Wash and Wax: SAE 1020 carbon steel = 0.00 mmpy

**Conclusion:** Marine Wash and Wax is NON-CORROSIVE

## Classifications & Approvals

**D.O.T., TDG, IMO, IATA, IMDG, SARA 313 311/312, California Prop 65**  
NON-Regulated

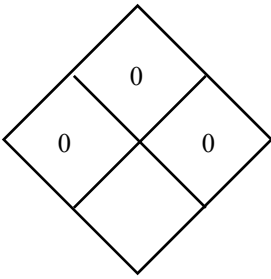
### FDA

Approved as Safe (GRAS)  
(CGMP) CFR 184.1923

### USDA Authorization

A1, A2, A3, A4, A7, A8, C1

Additional Studies & Results: When tested, Marine Wash and Wax showed no potential for the generation of Carbon Dioxide under NIOSH 7903, OSHA & ACGIH testing protocols governing workplace environments.



# Material Safety Data Sheet



This MSDS complies with OSHA's Hazard Communication Standard, 29 CFR 1910.1200 and OSHA FORM 174.  
OMB No. 1218-0072

Identity (Trade Name As Used On Label)

## SECTION 1 - COMPANY/PRODUCT INFORMATION

Manufacturer's Name: Environmental Manufacturing Solutions, L.L.C.

Address: 7705 Progress Circle

Melbourne, Florida 32904

Phone Number (For Information): 321-837-0050

Emergency Phone Number (Chemtrec) 800-424-9300

IDENTITY: Marine Wash & Wax

CAUSE FOR MSDS: 29CFR Regs

MSDS Number: N/A

Date Prepared: REVISED 06/16/04

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

## SECTION 2 - HAZARD INGREDIENTS/IDENTITY INFORMATION

COMPONENTS - Chemical Name & Component Names (Hazardous Components 1% or greater. Carcinogens 1% or greater)	OSHA PEL	ACGIH TLV	OTHER LIMIT RECOMMENDED
100% NON-HAZARDOUS	N/A	N/A	N/A
Non-DOT Regulated, Nitrate-Free Formula			
NOTICE: Under SARA: Section 313 (Toxic Chemical Release Reporting) 40 CFR 372			
<b>NONE</b> of the Components of this product are listed as Toxic Substances under TSCA			

## SECTION 3 - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point 228° F	Specified Gravity (H <sub>2</sub> O = 1) 1.09
Vapor Pressure (mm Hg.) 18	Melting Point N/A
Vapor Density >1	Evaporation Rate (Butyl Acetate = 1) <.01
Solubility In Water 100%	Appearance and Odor Light Yellow in Color, Soapy Odor

## SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used) None	Flammable Limits None	LEL N/A
Extinguisher Media None	Special Fire Fighting Procedures None	UEL N/A
Unusual Fire and Explosion None Known		

## SECTION 5 - REACTIVITY DATA

STABILITY: Unstable No Stable Yes-100%
CONDITIONS TO AVOID: None Known
Incompatibility (Materials to Avoid) Strong Oxidizers
Hazardous Decomposition or Byproducts None Known
HAZARDOUS POLYMERIZATION: May Occur No Will Not Occur Yes
CONDITIONS TO AVOID: None Known
N/A

## SECTION 6 - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY: Inhalation? No Skin? No Ingestion? Yes

HEALTH HAZARDS (*Acute and Chronic*) If Ingested, May cause loose Stools. Drink Plenty of Water and Consult a Physician. Do not Induce Vomiting.

N/A

N/A

CARCINOGENICITY: NTP? No IARC No OSHA Regulated? No

SIGNS AND SYMPTOMS OF EXPOSURE: None Known, See HEALTH HAZARDS

N/A

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None Known

N/A

EMERGENCY AND FIRST AID PROCEDURES: As with any Chemical, Use Caution and Good Safety Measures when in use. Ingestion: Drink Plenty of Water/2-3 Glasses

and Consult Physician Immediately. Eyes: Flush with Plenty of Water for 15 min. Skin: Wash Thoroughly with Soap and Water. Inhalation:

## SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to Be Taken in Case Material is Released or Spilled Spilled Material should be washed away promptly with copious amounts of water.

Product Material instantly Neutralizes with water.

N/A

Waste Disposal Method As with all Chemical Product and Materials, Dispose of Residue in Accordance with Federal, State and Local Guidelines.

Always offer Drums and/or Bulk Containers to be returned to your Supplier or for Recycling to your local Recycler.

Precautions to Be Taken in Handling and Storing None Known. As with all Chemical Products and Materials, take care as to where and how you store them.

N/A

Other Precautions None Known

N/A

N/A

## SECTION 8 - Control Measures

Respiratory Protection (*Specify Type*) N/A

Ventilation No Special Ventilation is Known to be Needed.

Local Exhaust N/A

Special N/A

Other N/A

Mechanical(*General*) N/A

Protective Gloves N/A

Eye Protection As with any Chemical Product or Material, care should be taken as not to get anything in the Eyes. Safety Glasses or Goggles are suggested for use

Other Protective Clothing or Equipment N/A

N/A

Work/Hygienic Practices N/A

N/A