



## ESMS – MICRO NUTRIENT BIO-STIMULANT

**ESMS** is a non bacterial, concentrated formulation derived from natural plant extracts, and designed to stimulate microbial activity in both aerobic and anaerobic environments. **ESMS** is an environmentally safe, broad spectrum product for use in waste water treatment plants, manure lagoons, oil spill cleanup sites, sewage treatment plants, sewage lagoons, municipal landfills, hydrocarbon bioremediation projects, composting facilities, etc. In waste treatment environments, biological activity is a function of the micronutrients and bio-stimulants available to sustain and develop healthy biomass.

### **BENEFITS OF ESMS:**

- Environmentally Safe
- Non-toxic, non-caustic, non-corrosive, non-flammable
- Derived from natural plant extracts, no chemicals, dyes or perfumes
- Effective & easy to apply
- Requires only common sense safety equipment
- Unlike bacterial treatments, **ESMS** is not adversely affected by low temperatures

### **HYDROCARBON BIO-REMEDIATION & OIL SPILL CLEANUP:**

**ESMS** can be used alone to stimulate indigenous bacteria or together with **ESH** – **Hydrocarbon Degrad**er to stimulate both indigenous and inoculated bacteria in insitu and exsitu clean-up applications.

Application rates and intervals will depend upon the type of treatment environment, environmental conditions, TPH levels and the type and level of biomass present in the treatment site. Each treatment environment is site-specific and operators may need to experiment with application rates and dilution rates to ensure optimum performance.

Earth Smart Solutions can provide advice on technical matters to ensure clean up operations meet customer expectations.

Typical dilution rates: 1:20 to 1:100

ESMS – Stand Alone Application Rates	
Spill Area	Diluted Solution Application Amount
Small spill	5 Litres / 100 sq. feet
Large Spills up to 1 ft. deep	1200 Litres / acre
Large Spills up to 18 in. deep	1600 Litres / acre

**Application Rates When Used in Conjunction With ESHD – Hydrocarbon Degradar**

<b>Spill Area</b>	<b>Amount of ESHD – Hydrocarbon Degradar to add to Solution</b>	<b>Diluted Solution Application Amount</b>
Small spill	0.4 kg. / 100 sq. feet	5 Litres / 100 sq. feet
Large Spills up to 1 ft. deep	135 to 155 kgs. / acre	1200 Litres / acre
Large Spills up to 18 in. deep	135 to 185 kgs. / acre	1600 Litres / acre

**SAFETY:**

**ESMS** is produced in accordance with NOSB (National Organic Standards Board) guidelines. The materials used in the production process are derived from naturally occurring and sustainable sources and are consistent with organic principals and the National List of Allowed Substances. **ESMS** does NOT contain synthetic chemicals, animal components, and animal by products, manure or manure by-products. **ESMS** is environmentally safe and is not harmful to animals, plants and humans.

**COMPLIANCE:**

Fully complies with EPA Toxic Substance Control Act (TSCA) and the rules, orders and regulations promulgated there under including:

- a) Sections 4, 5, 6 & 7; Title 40 Chapter 1, 707.20 thru 707.75;
- b) 40 CFR Sections 704.3. 710.2(e) and 720.3(c); and
- c) Sections 5 and 13, reference 42FR64583
- d) Does not contain marine pollutants as defined in 49 CFR 171.8.

**STORAGE & HANDLING:**

Do **NOT** freeze. Store in a cool location away from direct sunlight - No special handling required

**PACKAGING:**

2 Litre Jug  
20 Litre (5 gallon) HDPE Pail  
205 Litre (45 gallon) Barrel  
1000 Litre Tote