



**Oppenheimer**  
Biotechnology Inc.

# Oppenheimer Formula I Product Datasheet

Degrades fossil fuel hydrocarbons in soil, hard surfaces, and water environments.

## Products Facts

- ✓ Concentrated gray powder
- ✓ Naturally occurring
- ✓ Archaea bacteria blend
- ✓ Organic and non-toxic
- ✓ Five year+ shelf life
- ✓ Hydrophobic
- ✓ Aerobic/Facultative
- ✓ Certified pathogen FREE
- ✓ Activated by
  - fresh, salt or brackish water.
- ✓ Salinity tolerance
  - up to 24%
- ✓ Temperature range
  - 32F-120F
- ✓ pH tolerance
  - 5.5-10.0
- ✓ Not freeze dried or GMO

## Works on

- Gasoline
- Herbicides
- Pesticides
- Chlorinated solvents
- Marine Fuel
- Diesel
- Motor Oils
- Kerosene
- Heating Oils
- Hydraulic Fluids
- Waste Drill Cuttings
- Wastewater

## Product /Technical Support

As the manufacturer of this product we take pride in producing a quality product.

The Oppenheimer Formula essentially consists of a multitude of natural communities of aerobic and microaerophilic microbes that have been selected from worldwide sources. The microbes have been selected for their affinity for hydrocarbons, both biochemically and physically.



These communities of microbes have the ability to effectively recycle a wide range of compounds and hydrocarbons by converting them into non-toxic compounds.

Our microbes are selected by their ability to stay with hydrocarbons. As the hydrocarbons move in soil and water, the product will move as well.

## Recommended Product Application Rate

### In soil

3 oz. (100 grams) of product per cubic yard or 27 square yards.

### In water (enclosed systems)

3 oz. (100 grams) of product per 200 gallons.

### Open water oil spills

11lb (454gram) per 42 gal barrel - if treated immediately at source.

10lbs (4.5kg) per acre of surface spill – if treated after spills has spread

## Recommended Application Method

**Step One:** Apply the product onto the spill to completely cover the contaminated area. This product can be applied dry or wet, as long as some point water is added to activate the oil eating microbes. The newer or fresher the spilled material the faster the remediation time.

**Step Two:** In soil applications add water - approximately 10%. The water used can be fresh non chlorinated, sea, or brackish. Water activates the microbes in the product. If it rains after application it's not a problem. The product will stay locked into the spilled material and will continue to work.

**Step Three:** Unless the spill is less than 6 inches deep, you will need to dig up or rake to mix the product and the spilled materials together. This is to ensure that the microbes come into contact with the material they are degrading. For this product to work it needs to come into direct contact with the spilled material. This is a key point to achieve successful results

### Note

Heavy metals will not be degraded, however, the microbes can chelate them into non-reactive forms. Chlorine is toxic to all microbes in concentrations of more than .5 ppm. Levels should be kept to less than .2ppm. Typically if you can smell the chlorine, its level is toxic.

Acceptable levels of hydrocarbon concentration (TPH) for best results

Standard hydrocarbons up to 60,000 ppm (6% by volume)

Chemicals / pesticides / herbicides – up to 1,000ppm (.1% by volume)

PCB's up to 100 ppm (.01% by volume)

Supplemental nutrients and oxygen may be necessary depending upon the project.

Depending upon the starting level of total petroleum hydrocarbons you may need to reapply the product in a couple of weeks to achieve the best results.

*The Oppenheimer Formula which is listed on the U.S. E.P.A.'s NCP Product Schedule. This listing does NOT mean the EPA approves, recommends, licenses, certifies, or authorizes the use of The Oppenheimer Formula on an oil discharge. This listing means only that data have been submitted to EPA as required by subpart J of the National Contingency Plan, Sec 300.915.*

