



Eco-Cure, Inc.

"They treat, we cure"

Role of Enzymes in Rapid Degradation of Petroleum Hydrocarbons

Eco-Cure developed effective
proprietary formula

Rapid degradation of
all forms of organic waste
(including petroleum hydrocarbons)

Enzyme formula is organic and
harmless to all living things

Contains no chemicals and
no ingredient on OSHA's
"Director's List"

Proven effective in reduction of:

- COD
- TSS
- BOD

Municipal sludge reduction (over a 4-day period)

	<u>From</u>	<u>To</u>
COD	15,000 mg/L	4,000 mg/L
TSS	50,000 mg/L	1,000 mg/L

BOD reduced 80%
after 5 hrs.

Solids reduced 20%
within 7 hrs.

On contact, Product eliminates:

- Odor
- Ammonia
- Hydrogen sulfide gas
- Sulfides of waste material

Destroys pathogens:

- E. coli
- Salmonella
- Fecal coliform

Overwhelms/out-competes

Not as function of heat

400 livestock operations

use Product for:

- Odor reduction
- Solids reduction
- Fly reduction
- Mortality decomposition

Same microbes that
degrade animal waste
also degrade
petroleum

20 of Eco-Cure's livestock
customers
have anaerobic digesters

Increases methane (CH_4)

Reduces hydrogen sulfide (H_2S)

Reduce retention time

Enzyme's ability to degrade
petroleum hydrocarbons
was discovered accidentally

1st experiment to degrade
a petroleum product
was with aged smudge pots
from Dole Citrus

Degraded the oil/manure
mixture from 630,000 ppm TPH to
non-detectable levels
within an 11-week period

Our experience in
degrading hydrocarbon
material dates back
to the early '90s

See website

www.eco-cure.com

Russian oil tanker, the Prestige sank in
November 2002

Spilled 63,000 tons of cracked fuel oil

Beaches fouled
in Portugal, Spain and France

Product made oil material
water-soluble in about
20 seconds

Enzyme solution
penetrated the oil

Cosco Busan oil spill in November 2007

Spilled 53,000 gallons of
bunker fuel

SF Bay and ocean beaches
were impacted

5 gallons of Eco-Cure solution

Treated approx.
100 yards of rocks

Recent project in August,
Richmond, CA

Wastewater Treatment Plant

One treatment (1 lb.)
of Eco-Cure Product

Eliminated strong petroleum odor
within 3 hours

Within 14 days:

Liquid became clear

TPH as high as 2.3 million mg/L
to non-detectable (ND)

One gallon of Eco-Cure
will treat
5,000 gallons of liquid waste

Cost = \$2.34 per gallon

Most oil in soil projects
can be remediated
in 6 to 8 weeks

Unique product is an
activation of microbes:

- Aerobic and anaerobic
- Microbes operating $>50^{\circ}\text{F}$.
- Others operating $<49^{\circ}\text{F}$.

Product comes in dry form

Sold by the pound
at \$75/lb.