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CLEANUP PROCEDURES



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OIL SPILL EATER II PROCEDURE FOR OIL SPILL CLEANUP

GENERAL INFORMATION

It takes approximately 2 to 24 hours for OIL SPILL EATER II to penetrate the molecular wall of fresh crude oil. It takes OIL SPILL EATER II approximately 3 to 15 minutes to penetrate the molecular wall of light end petroleum or gasoline.

However, once you spray OIL SPILL EATER II on the oil, it attaches itself and will eventually engulf the oil regardless of where the oil or light petroleum may spread on ocean waters or on rivers and streams.

Additionally, once sprayed with OIL SPILL EATER II, the oil cannot attach itself to the shoreline, to rocks or to any equipment in its path.

If OIL SPILL EATER II is to be used on ocean spills or on Intertidal Zones, mix product with ocean water.

If OIL SPILL EATER II is to be used on lakes, rivers, streams, ponds or on land, mix with water from a lake, river, stream or pond.

If you are performing a cleanup, **MAKE SURE** that the water used to mix with OSEII and the water used to keep area saturated is the type of water normally associated with that area. If you use fresh water in an area normally contacted with salt water or vice versa, these are different types of bacteria and competition could occur. Competition will slow the bioremediation until the area re-stabilizes.

NOTE: *Never mix tap (faucet) water and OIL SPILL EATER II (IF POSSIBLE).
The chlorine in the tap (faucet) water slows bacterial enhancement.*

These *Procedures and Application Instructions* cover Heavy End and Light End Hydrocarbons. The OSEI Corporation defines Light End Hydrocarbons as: BETX, gasoline and light solvents. Heavy End Hydrocarbons are crude oil, halogenated hydrocarbons, heavy



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OIL SPILL EATER II (OSE II)

PROCEDURE FOR CLEANUP OF HEAVY END HYDROCARBONS - ON WATER

1. To determine quantity of *Oil Spill Eater II* concentrate needed:

A. On a Spill:

1. Use one (1) gallon of OSE II concentrate for every fifty (50) gallons of oil.
2. Use one (1) barrel of OSE II concentrate for every 2,750 gallons of oil.

B. If you know how many gallons of oil:

Multiply Gallons of oil (A) x .02 = OSE II concentrate needed

-Or-

If you know how many barrels of oil:

Multiply Barrels of oil (A) x .015 = Barrels of OSE II concentrate needed

C. If you do not know how many gallons or barrels of oil:

Multiply: $\frac{A () \text{ Yds}}{\text{Length of Oil Slick}} \times \frac{B () \text{ Yds}}{\text{Width of Oil Slick}} \times \frac{C () \text{ Inches}}{\text{Thickness of Oil}}$

x (.0023) = Barrels of OSE II Concentrate Needed

-Or-

x (.12) = Gallons of OSE II Concentrate Needed

II. Application Procedure:

A. Water temperature above 40° F

1. Dilute each gallon of OSE II concentrate with fifty gallons of fresh or sea water - depending on the area that is contaminated.

2. Using a helicopter or a barge with spray booms, eductor system or hand sprayer, spray the mixed OSE II onto the perimeter of the oil spill and work toward the center.
 3. Next - spray OSE II over the entire surface of the spill. If the oil spill is very heavy (more than two or three inches deep), you may have to reapply OSE II to gain the one (1) part mixed OSE II to one (1) part heavy end hydrocarbon.
- B. Water temperature lower than 40° F
1. Cold water reduces the rate at which OSE II enhances biodegradation of crude oil. However, biodegradation will continue to 28° F in salt water and 32.5° F in fresh water.

III. If Testing is Required:

- A. Items needed:
1. An extraction device that will hold 100 ml or 3 ounces of liquid and can be pushed 6 inches or 60 cm below the water's surface.
 2. 20 brown 100 ml bottles with teflon sealed caps.
 3. Ice chest and ice to transport samples to the lab.
- B. Pre OSE II Application Procedures:
1. Keep a daily log of observations.
 2. Decide on 3 areas of the spill forming a triangle (Δ) to extract 3 samples.
 3. Extract the 3 samples with the extraction device, pushing the collection vessel just under the surface.
 4. Place each extraction in a brown jar and seal with teflon cap.
 5. Mark jars (*Initial Untreated Samples*).
 6. Place samples in the ice chest.
- C. Perform the same steps above except pull 1 sample proximal to the spill but from an area not contaminated, affected, or impacted in any way by the spill. This is to determine what the background level or pre spill conditions are. Note the time and date of extraction.

- D. 10 minutes after applying OSE II, perform the next extractions.
1. If possible, using the same triangle extraction points, push extraction device approximately 2 to 3 inches below the surface and pull extraction.
 2. Decant extracted sample into a brown jar and mark initial sample 3 minutes after applying OSE II, and note the time and date of extraction.
 3. Place brown jar samples in the ice chest and transport to the lab.
- E. Sampling Times
1. Using procedures in D above, extract samples on day 7, day 15, day 30 and every 15 days thereafter until the acceptable level of cleanup is accomplished. Obviously, testing should cease once the acceptable levels are met.
 2. In most cases, within 30 days the acceptable levels will have been accomplished.
- F. Lab Tests
1. If the spill is light end hydrocarbons, then either EPA method 8015 or 8030 should be performed.
 2. If the spill is heavy end hydrocarbons, then either EPA method 8030 or 8100 should be utilized.

IV. If Toxicity Testing is required:

- A. Items Needed
1. An extraction device that will be capable of extracting 100 ml samples 3 meters or 3 feet below the waters' surface.
 2. 12 - 100 ml brown jars with teflon seals.
 3. Ice chest with ice.
- B. Using instructions for extractions and the extraction time / date in III above to perform sampling
1. The 3 samples, once at the lab, should be homogenized and used for a toxicity test.

Note: In the ocean mysids, or mummichogs are generally acceptable species, and in fresh water minnows or rainbow trout are generally acceptable species.

In most cases, one toxicity test just after application of OSE II is required. However, if toxicity sampling is carried out each time efficacy testing is performed, then toxicity reduction will be proven as well.

Note: If spill is on the ocean, use ocean water to mix "OSE II." If spill is on a lake, river, stream or pond, use lake, river, stream or pond water to mix with "OSE II." To mix ocean water with anything other than ocean water and vice versa may cause adverse competition.

N E V E R mix "Oil Spill Eater II" with tap water - if possible!



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OIL SPILL EATER II

PROCEDURE FOR CLEANUP OF LIGHT END HYDROCARBONS - ON WATER

1. To determine quantity of *Oil Spill Eater II* concentrate needed:

A. On a Spill:

1. One (1) gallon of OSE II concentrate for every one hundred (100) gallons of light end hydrocarbons.
2. One (1) barrel of OSE II concentrate for every 5,500 gallons of light end hydrocarbons.

B. If you know how many gallons of light end hydrocarbons spilled:

Multiply Gallons of spill (A) x .01 = Gallons of OSE II concentrate needed
 -Or-

If you know how many barrels of light end hydrocarbons spilled:

Multiply Barrels of spill (A) x .0075 = Barrels of OSE II concentrate needed

C. If you do not know how many gallons or barrels of light end hydrocarbons:

Multiply: $\frac{A () \text{ Yds}}{\text{Length of Spill}} \times \frac{B () \text{ Yds}}{\text{Width of Spill}} \times \frac{C () \text{ Inches}}{\text{Depth of Spill}} \times$

(.0012) = Barrels of OSE II concentrate needed

(.06) = Gallons of OSE II concentrate needed

II. Application Procedure:

A. Water temperature above 40° F

1. Dilute each gallon of OSE II concentrate with one hundred gallons of fresh or sea water. Do not use fresh water on ocean water or vice versa or adverse competition may occur.

2. Using a helicopter or a barge with spray booms, eductor system set at 1%, or any spray system, spray a heavy coat of Oil Spill Eater II on the outside edges of the spill and work toward the center, if possible. This will help keep the spill from spreading.

As the spray reaches and saturates the light end hydrocarbon molecules, emulsion will start immediately and the fire hazard will be eliminated as quickly as complete emulsion takes place. The light end hydrocarbons will eventually be converted to CO₂ and water.

3. The fire hazard should be eliminated in 4 hours or less, and the hydrocarbons should be eliminated expeditiously also.

B. Water temperature below 40° F

1. Cold water reduces the rate at which OSE II enhances biodegradation of hydrocarbons. However, biodegradation will continue on salt water down to 28° F, and on fresh water down to 32.5° F.

III. If Testing is Required:

A. Items needed:

1. An extraction device that will hold 100 ml or 3 ounces of liquid and can be pushed 6 inches or 60 cm below the water's surface.
2. 20 brown 100 ml bottles with teflon sealed caps.
3. Ice chest and ice to transport samples to the lab.

B. Pre OSE II Application Procedures:

1. Keep a daily log of observations.
2. Decide on 3 areas of the spill forming a triangle (△) to extract 3 samples.
3. Extract the 3 samples with the extraction device, pushing the collection vessel just under the surface.
4. Place each extraction in a brown jar and seal with teflon cap.
5. Mark jars (*Initial Untreated Samples*).
6. Place samples in the ice chest.

- C. Perform the same steps above except pull 1 sample proximal to the spill but from an area not contaminated, affected, or impacted in any way by the spill. This is to determine what the background level or pre spill conditions are. Note the time and date of extraction.
- D. 10 minutes after applying OSE II, perform the next extractions.
1. If possible, using the same triangle extraction points, push extraction device approximately 2 to 3 inches below the surface and pull extraction.
 2. Decant extracted sample into a brown jar and mark initial sample 3 minutes after applying OSE II, and note the time and date of extraction.
 3. Place brown jar samples in the ice chest and transport to the lab.
- E. Sampling Times
1. Using procedures in D above, extract samples on day 7, day 15, day 30 and every 15 days thereafter until the acceptable level of cleanup is accomplished. Obviously, testing should cease once the acceptable levels are met.
 2. In most cases, within 30 days the acceptable levels will have been accomplished.
- F. Lab Tests
1. If the spill is light end hydrocarbons, then either EPA method 8015 or 8030 should be performed.
 2. If the spill is heavy end hydrocarbons, then either EPA method 8030 or 8100 should be utilized.

Note: If spill is on the ocean, mix "OSE II" with ocean water. If spill is on a lake, river, stream or pond, mix "OSE II" with lake, river, stream or pond water.

N E V E R mix "Oil Spill Eater II" with tap water!



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OIL SPILL EATER II

PROCEDURE FOR CLEANUP OF HYDROCARBONS - ON INTERTIDAL ZONES

1. To determine quantity of *Oil Spill Eater II* concentrate needed:

$$\begin{array}{l} \text{Multiply: } \frac{A \text{ () Yds}}{\text{Length of}} \quad \times \quad \frac{B \text{ () Yds}}{\text{Width of}} \quad \times \quad \frac{C \text{ () Inches}}{\text{Thickness of}} \quad \times \quad .12 \\ \text{Oil Slick} \qquad \qquad \qquad \text{Oil Slick} \qquad \qquad \qquad \text{Oil} \\ \\ = \text{ Gallons of OSE II concentrate needed } \end{array}$$

II. Application:

- A. Dilute each gallon of OSE II needed (from I above) with 50 gallons of ocean water or fresh water, or mix 50 gallons of fresh or sea water, depending on area to be cleaned, with 1 gallon of OSE II. Do not use ocean water with fresh water or vice versa because adverse competition may occur.
- B. It is important that you apply enough OSE II mixed 50 to 1 to get 1 part mixed OSE II to 1 part spilled hydrocarbon to ensure mobilization of oil will occur.
- C. In an Intertidal Zone, it may be difficult to obtain the exact application rate, so additional applications may be necessary.
- D. If necessary, Oil Spill Eater II should be applied every 48 hours in water above 40° F and every 72 hours in water below 40° F. Application should continue until oil is completely mobilized from beach area.
- E. If subsurface oil occurs, OSE II will percolate along with the oil and once natural bacteria growth is started, the bacteria with its affinity for hydrocarbons, will follow the food source.

NOTE: If Intertidal Zone is in an ocean setting, mix "OSE II" concentrate with ocean water. If Intertidal Zone is a fresh water setting such as a lake, river, stream or pond, mix "OSE II" with lake, river, stream or pond water.

NEVER mix OSE II with tap water if possible!



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PROCEDURE FOR CLEANUP OF HEAVY END HYDROCARBONS
- ON LAND SURFACE

Surface Spills on Land

1. To determine quantity of *Oil Spill Eater II* concentrate needed:

A. On a Spill:

1. Use one (1) gallon of OSE II for every fifty (50) gallons of oil contamination.
2. Use one (1) barrel of OSE II for every 2,750 gallons of oil contamination.

B. If you know gallons of oil contamination:

Multiply Gallons of oil contamination (A) x .02
= Gallons of OSE II concentrate needed

C. If you know barrels of oil contamination:

Multiply Barrels of oil contamination (A) x .015
= Barrels of OSE II concentrate needed

D. If you do not know gallons or barrels of oil contamination:

Multiply: A () Ft. x B () Ft. x C () Inches x (.0125)
= Gallons of OSE II Concentrate Needed

Example: Oil spill is 120 ft. x 60 ft. and 1" thick

Multiply: 120' x 60' x 1" x .0125 = 90 gal. OSE II

- E. Once the oil has seeped into the soil, then determine cubic yards of contaminated soil:

To determine Cubic Yards:

$$\underline{L \text{ (Ft.)}} \quad \times \quad \underline{W \text{ (Ft.)}} \quad \times \quad \underline{\text{Depth (Ft.)}} \quad \times \quad \underline{.037} = (B)$$

To determine Gallons of OSE II needed for cleanup:

$$\underline{\text{Yd}^3 (B)} \quad \times \quad \underline{.44} \quad = \quad \text{Gallons of OSE II needed}$$

II. Procedure:

- A. Determine logistics and equipment for the particular situation. (Sample jars, mixing tank, application method, tiller, water source etc.).
- B. Mix the required gallons of OSE II at a ratio of 50 gallons of water for every gallon of OSE II required.

Note: If contamination area is in contact with ocean water or spray, then use ocean water; if not, then use fresh water from the area associated with the spill. Do not add ocean water to an area not associated with ocean water or vice versa with fresh water or an adverse competition may occur among indigenous bacteria.

III. Testing:

- A. Determine a grid formation for spill area.
- B. Take a 50 gram extraction from each grid. Mix in a plastic bag and shake to form a composite; then perform EPA 8030 or 8100 TPH test to determine the initial TPH - and note.
- C. Apply product.
- D. On day 7, day 15, day 30, and every 15 days after until an acceptable TPH level is obtained, take a 50 gram extraction from each treated grid. Mix in a plastic bag to form a composite and perform EPA 8030 or 8100 TPH test to determine the extent of bioremediation. Testing should cease once the acceptable level of TPH reduction is obtained.

IV. Application:

- A. Mix the required OSE II at a ratio of 50 to 1.
- B. Apply the entire amount of mixed OSE II to the contamination as evenly as possible.

- C. Maintain a 30% moisture level within the contamination to ensure motility and O₂.
- D. If the contamination is on soil and the soil absorbs the contamination, then disc the area once a week and maintain a moisture level of 30%.
- E. To determine the number of gallons of water to apply per application to maintain a 30% moisture level, take the number of gallons used to mix with OSE II concentrate and apply each time moisture content drops below 30%, and apply enough water to get the moisture level to 30%.

Note: For oil with a TPH of 100,000 and is very weathered, then additional applications of OSE II may be required.

- F. When average temperature remains below 40° F during daylight hours, keep contaminated area covered with a thin translucent plastic. Continually maintain the 30% moisture level.

Note: Unless harsh winter weather persists, the plastic will help hold in the heat from the earth.

PLEASE NOTE:

The more OSE II used, the faster biodegradation will occur - up to a point. Oxygen needed for bioremediation is carried in the water and is helped by discing.

OSE II will eliminate oil spills from adding toxins to underground water systems. OSE II causes hydrocarbons to float on the surface.

These instructions are general to encompass as many situations as possible. Any specific situations should be referred to OSEI Corporation before application.

NEVER mix Oil Spill Eater II with tap water - if possible!

- V. OSEI Corporation will help determine and write complete step-by-step instructions for a cleanup if you present OSEI Corporation with the complete parameters associated with a site.



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PROCEDURE FOR CLEANUP OF LIGHT END HYDROCARBONS
- FOR SURFACE SPILLS ON LAND

1. To determine quantity of *Oil Spill Eater II* concentrate needed:

A. On a Spill:

1. Use one (1) gallon of OSE II concentrate for every one hundred (100) gallons of light end hydrocarbons or gasoline.
2. Use one (1) barrel of OSE II concentrate for every 5,500 gallons of light petroleum or gasoline light end hydrocarbons or gasoline.

B. If you know gallons of light end hydrocarbons or gasoline spilled:

Multiply Gallons of contaminate (A) x .01 = Gallons of OSE II needed

C. Once light end hydrocarbons or gasoline has seeped into the soil, then determine cubic yards of contaminated soil.

To determine cubic yards:

$$\underline{L \text{ (Ft.)}} \quad \times \quad \underline{W \text{ (Ft.)}} \quad \times \quad \underline{\text{Depth (Ft.)}} \quad \times \quad \underline{.037} = \quad \underline{A \text{ (Yd}^3\text{)}}$$

To determine gallons of OSE II needed for cleanup

$$\text{Yd}^3 \text{ (A)} \quad \times \quad \underline{.22} \quad = \quad \text{Gallons of OSE II needed}$$

Note: Once OSE II has been applied to the soil, the fire hazard will start diminishing.

II. Procedure:

- A. Determine logistics and equipment for the particular situation. (Sample jars, mixing tank, application method, tiller, water source etc.).

- B. Mix the required gallons of OSE II at a ratio of 100 gallons of water for every gallon of OSE II required.

Note: If contamination area is in contact with ocean water or spray, then use ocean water from the area associated with the spill. Do not add ocean water to an area not associated with ocean water or vice versa with fresh water or an adverse competition may occur among indigenous bacteria.

III. Testing:

- A. Determine a grid formation for spill area.
- B. Take a 50 gram extraction from each grid. Mix in a plastic bag to form a composite. Then have a laboratory perform an EPA 8015 or 8020 TPH test to determine the initial TPH.
- C. Apply product.
- D. On day 7, day 15, day 30, and every 15 days thereafter until the TPH reaches an acceptable level, take a 50 gram extraction from each treated grid. Mix in a plastic bag to form a composite and have a laboratory perform an EPA 8015 or 8020 TPH test to determine the extent of bioremediation. Testing should cease once the acceptable level of TPH reduction is obtained.

IV. Application:

- A. Mix the required OSE II at a ratio of 100 to 1.
- B. Apply the entire amount of mixed OSE II as evenly as possible to the contamination.
- C. Maintain a 30% moisture level within the contamination to ensure motility and O₂.
- D. If the contamination is on soil and the soil absorbs the contamination, then disc the area once a week and maintain a moisture level of 30%.
- E. To determine the number of gallons to apply per application to maintain a 30% moisture level, take the number of gallons used to mix the OSE II concentrate and apply each time moisture level drops below 30%. Apply enough of the water to get the moisture level to 30% or above.

Note: If light end hydrocarbon is weathered and aged, then additional applications of OSE II may be needed, or additional time for mitigation may be required.

- F. When average temperature remains below 40° F during mitigation time, keep contaminated area covered with a thin translucent plastic and maintain the 30% moisture level with water.

Note: Unless harsh winter weather persists, the plastic will help hold in the heat from the earth.

PLEASE NOTE:

The more OSE II used, the faster the bioremediation will occur - up to a point. Oxygen needed for bioremediation is carried in the water and is helped by discing. OSE II will eliminate light end hydrocarbons spills from adding toxins to underground water systems.

These instructions are general to encompass as many situations as possible. Any special situations should be referred to OSEI Corporation before application.

NEVER mix Oil Spill Eater II with tap water, if possible!

- V. **OSEI Corporation** will help determine and write complete step-by-step instructions for a cleanup if you present OSEI Corporation with the complete parameters associated with a site.



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PROCEDURE FOR CLEANUP OF HEAVY END HYDROCARBONS
- FROM AN EXCAVATED SITE

1. To determine quantity of *Oil Spill Eater II* concentrate needed:

- A. If you know the number of contaminated yards:

Multiply: Number of Yd³ (A) x (.44)
= Total Gallons of OSE II needed for oil cleanup

- B. If you do not know yards of contaminated soil:

Multiply: $\frac{L \text{ in Ft.}}{\text{Length in Feet}} \times \frac{W \text{ in Ft.}}{\text{Width in Feet}} \times \frac{D \text{ in Ft.}}{\text{Depth in Feet}} \times .037 = A(\text{Yd}^3)$

Use formula in A above to determine number of gallons of "*Oil Spill Eater II*" concentrate required.

II. Procedure:

- A. Determine logistics, equipment and site to spread contaminated soil for the particular situation.
- B. If the particular governmental regulating body requires, lay a plastic barrier in place.
- C. Place contaminated soil in 24" lifts or less on the plastic barrier.

III. Application:

- A. Mix the required OSE II at a ratio of 50 to 1 for the oil.
- B. Apply the entire amount of mixed OSE II as evenly as possible to the contaminated soil.

- C. Maintain a 30% moisture level within the contaminated soil to ensure motility and O₂.
- D. To determine the number of gallons of water to apply per application to maintain a 30% moisture level, take the number of gallons used to mix with the OSE II concentrate and apply each time the moisture level drops below 30%.
- E. Disc soil once a week.

Note: If contaminated soil is weather and aged, then additional application of OSE II may be needed, or additional time for mitigation may be required.

- F. When temperature remains below 40° during the cleanup, keep contaminated soil covered with a thin translucent plastic and maintain a 30% moisture level.

PLEASE NOTE:

The more OSE II used, the faster bioremediation will occur - up to a point. Oxygen needed for bioremediation is carried in the water and is helped by discing. OSE II will eliminate contaminated soil from adding toxins to underground water systems. These instructions are general to encompass as many situations as possible. Any special situations should be referred to OSEI Corporation before application.

NEVER mix OSE II with tap water - if possible!

IV. Testing:

- A. Determine a grid formation for contaminated soil once in place to be treated.
- B. Take a 50 gram extraction from each grid and mix in a plastic bag to form a composite. Then have a laboratory perform EPA 8030 or 8100 TPH test to determine the initial TPH.
- C. Apply OSE II.
- D. On day 7, day 15, day 30 and every 15 days thereafter until the acceptable TPH level is obtained, take a 50 gram extraction from each treated grid. Mix in a plastic bag to form a composite and perform EPA 8030 or 8100 TPH test to determine the extent of bioremediation. Testing should cease once the acceptable level of TPH reduction is obtained.

- V. **OSEI Corporation** will help determine and write complete step-by-step instructions for a cleanup if you present OSEI Corporation with the complete parameters associated with a site.

PROCEDURE FOR CLEANUP OF HEAVY END HYDROCARBONS - FROM EXCAVATED SITE



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PROCEDURE FOR CLEANUP OF LIGHT END HYDROCARBONS
- FROM AN EXCAVATED SITE

1. To determine quantity of *Oil Spill Eater II* needed:

- A. If you know the number of contaminated yards:

Multiply: Number of Yd³ (A) x (.22)
= Total Gallons of OSE II needed

- B. If you do not know the yards of contaminated soil:

Multiply: $\frac{L \text{ in Ft.}}{\text{Length in Feet}} \times \frac{W \text{ in Ft.}}{\text{Width in Feet}} \times \frac{D \text{ in Ft.}}{\text{Depth in Feet}} \times .037 = A(\text{Yd}^3)$

Use formula in A above to determine number of gallons of "*Oil Spill Eater II*" concentrate required.

II. Procedure:

- A. Determine logistics, equipment and site to spread contaminated soil for the particular situation.
- B. If the particular governmental regulating body requires, lay a plastic barrier in place.
- C. Place contaminated soil in 24" lifts or less on the plastic barrier.

III. Application:

- A. Mix the required OSE II at a ratio of 100 to 1 for light end hydrocarbons.
- B. Apply the entire amount of mixed OSE II as evenly as possible to the contaminated soil.

- C. Maintain a 30% moisture level within the contaminated soil to ensure motility and O₂.
- D. To determine the number of gallons of water possible to apply per application to maintain a 30% moisture level, take the number of gallons used to mix with the OSE II concentrate and apply each time the moisture level drops below 30%.
- E. Disc soil once a week.

Note: If contaminated soil is weather and aged, then additional application of OSE II may be needed, or additional time for mitigation may be required.

- F. When temperature remains below 40° F during the cleanup, keep contaminated soil covered with a thin translucent plastic, and maintain a 30% moisture level.

IV. Testing:

- A. Determine a grid formation for contaminated soil once in place to be treated.
- B. Take a 50 gram extraction from each grid. Mix in a plastic bag to form a composite; then perform EPA 8015 or 8020 method TPH test to determine the initial TPH - and note.
- C. Apply product.
- D. On day 7, day 15, day 30 and every 15 days thereafter until the acceptable TPH level is obtained, take a 50 gram extraction from each grid and place in a plastic bag. Mix it to form a composite. Perform EPA 8015 or 8020 method test to determine TPH level. Testing should cease once the acceptable level of TPH reduction is obtained.

Note: The more OSE II used, the faster bioremediation will occur - up to a point. Oxygen needed for bioremediation is carried in the water and is helped by discing. OSE II will eliminate contaminated soil from adding toxins to the underground water systems. These instructions are general to encompass as many situations as possible. Any special instructions should be referred to OSEI Corporation before application.

NEVER mix OSE II with tap water (if possible)!

- V. **OSEI Corporation** will help determine and write complete step-by-step instructions for a cleanup if you present OSEI Corporation with the complete parameters associated with a site.

PROCEDURE FOR CLEANUP OF LIGHT END HYDROCARBONS - FROM AN EXCAVATED SITE



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PROCEDURE FOR CLEANUP OF OIL SPILLS ON CONCRETE OR ASPHALT

1. LIGHT END HYDROCARBONS:

- a. Estimate gallons of spilled fuel.
- b. Use 1.5 ounces of OSE II concentrate per spilled gallon.
- c. Use 1 gallon of water per spilled gallon.
- d. Mix OSE II with water.
- e. Spray on spill.
- f. Allow OSE II to react for 20 minutes.
- g. Either (1) wash off with water or (2) simply allow residue to evaporate.

2. HEAVY END HYDROCARBONS:

- a. Follow same procedure as in 1 above, except use 3 ounces of OSE II for spilled gallons of heavy oils.
- b. If possible, use stiff brush to agitate.
- c. Allow OSE II to react for 30 minutes.
- d. Wash off with water.

3. THICK AND OLD OIL STAINS:

- a. Follow procedure in 1 above.
- b. Use 4 ounces of OSE II and 1 gallon of water per every 9 square feet of contaminant.
- c. Brush vigorously with stiff brush.
- d. Allow OSE II to react for 30 minutes.
- e. Wash off with water.
- f. Repeat process, if required.

NOTE: Old oil on concrete may imbed carbon into concrete. OSE II will not remove this black carbon. However, carbon is inert and non-toxic.



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**PROCEDURE AND APPLICATIONS
FOR HYDROCARBON CLEANUP
UNDER BUILDINGS, IMMOVABLE OBJECTS, UNDERGROUND GROUNDWATER**

OSEI Corporation will help determine and write step-by-step procedures for cleaning up these types of sites. You will have to supply OSEI Corporation with all the parameters involving your particular site.

There are so many potential variables associated with these types of cleanups, it is difficult to write general instructions that would encompass all the variables.

Please contact us at:

Phone: (972) 669-3390
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O.A. (George) Lively
Rear Admiral (RET)
President

OAL/eem



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OIL SPILL EATER II

PROCEDURE FOR CLEANUP OF BIRDS AND MAMMALS

Dilution for application to animals or birds should be one (1) part "Oil Spill Eater II" concentrate to sixty (60) parts water. Feathered animals should not be released after cleaning until natural oils have been restored.

NOTE: *It is OKAY to mix with tap water; however, sterile water, ocean water or fresh water is preferable.*

A handwritten signature in cursive script, appearing to read 'Steven R. Pedigo'.

Steven R. Pedigo
Chairman

SRP/eem