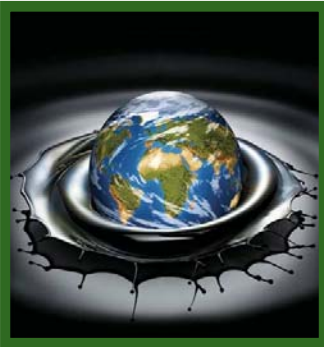




## SPILL RESPONSE AT KAIZEN...



Spill Response is one of the three specific service areas of the **WASTEservices** Division of which the **Kaizen** Spill Section is a part.

The spill section has responded to several major spills throughout Trinidad and our responders have been trained in the following: Hazwoper, Level II IMO, Emergency Response and Crisis Management.

Every response or emergency situation is led by one or more of these trained professionals. The Spill Section operates a 24 Hr. dispatching service which will coordinate **Kaizen's** response to any of the following:



Training of Team Leaders at Toco

- Oil Spill Clean Up (On shore, Waterways, Shoreline and Nearshore)
- Chemical Spills – Acids, Alkalis, Methanol etc.
- Basic Response Training
- Spill Response Equipment Maintenance

The **Kaizen** Spill Section is currently the contracted spill responders for several multinational companies and to date have completed over five (5) full deployment drills.

We also possess several Spill Equipment Maintenance contracts and have Trained over 200 persons in Trinidad and Tobago in shoreline clean up techniques.



Supervisor of the Kaizen Spill Response Section conducting a Spill Drill at Toco

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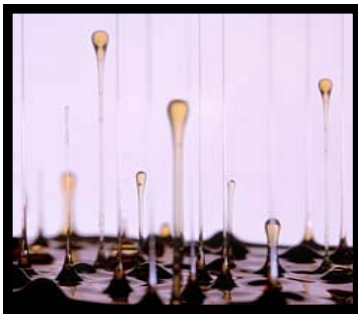
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## WHAT IS A SPILL?

A **spill** is the accidental release of any material, this may include petroleum hydrocarbons, its products (diesel etc.), chemicals and other hazardous substances into the environment due to human activity, which can result in pollution. The term oil spill refers to marine spills, where oil is released into the ocean or coastal waters. The oil may be a variety of materials, including crude oil, refined petroleum products (such as gasoline or diesel fuel) or by-products, oily refuse or oil mixed in waste. Different oil products react differently when they come into contact with water. Diesel and gasoline for instance, create a rainbow sheen on the surface of the water and spreads quickly. A heavy crude oil product will spread and be dark or black in color. Heavier oil products may not float, and sink to the bottom.



## HOW DO SPILLS HAPPEN?



Oil spills are caused by accidents involving tankers, barges, pipelines, refineries, and storage facilities. Spills can be caused by:

- People making mistakes or being careless.
- Equipment breaking down.
- Natural disasters such as hurricanes.
- Deliberate acts or illegal dumping.

## THEN WHAT HAPPENS?

Oil floats on salt water (the ocean) and usually floats on fresh water (rivers and lakes). Very heavy oil can sometimes sink in fresh water, but this happens very rarely. Oil usually spreads out rapidly across the water surface to form a thin layer that we call an oil slick. As the spreading process continues, the layer becomes thinner and thinner, finally becoming a very thin layer called a sheen, which often looks like a rainbow. Depending on the circumstances, oil spills can be very harmful to marine birds and mammals, and also can harm fish and shellfish. Oil destroys the insulating ability of fur-bearing mammals,



such as sea otters, and the water-repelling abilities of a bird's feathers, thus exposing these creatures to the harsh elements. Many birds and animals also ingest (swallow) oil when they try to clean themselves.

## WHAT CAN WE DO?

Because oil and oil products can cause harm, we need to prevent problems when we can. For example, by avoiding dumping oil or oily waste into the sewer or garbage, we avoid polluting the environment we live in. We can find ways to avoid using oil in the first place: for example, we can bicycle, walk, or take the bus rather than taking a car to some places we need to go.

**When we use less oil, less needs to be transported, and there's a lower risk of future oil spills.**

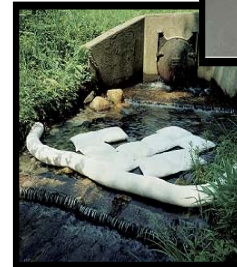
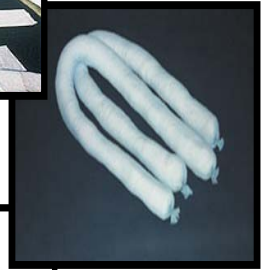
## KAIZEN EnviroPRODUCTS DIVISION

The **EnviroPRODUCTS** Division at **Kaizen** Environmental Services (Trinidad) Limited provides Oil Spill & Emergency Response Equipment and Supplies as well as Specialty Products (Oil Skimmers etc.) as well as a wide range of spill kits for both oil and chemical spills which are built to the clients' specifications. These include but are not limited to the following:

- First Response Kits
- Marine Spill Control
- Emergency Response
- Sorbents
- Secondary Containment
- Drum Accessories

Once oil has spilled, one or more of the following equipment may be used to clean up spilled oil, these are readily available at the **EnviroPRODUCTS** Division along with a variety of other supplies:

- **Booms**, which are floating barriers to oil (for example, a big boom may be placed around a tanker that is leaking oil, to collect the oil).
- **Skimmers**, a machine that separates a liquid or particles floating on another liquid. A common application is removing oil floating on water. Skimmers are commonly found in three types - weir, oleophilic, and drum.
- **Sorbents** come in various types and may be in the form of pads, pillows, socks rolls etc. They soak up petroleum products but will not soak up water or water-based fluids. They float on the water, attract the oil and leave the clean water behind. These are a perfect solution for the marine and boating industry, environmental, industrial and automotive applications. Melt blown oil absorbents are the quickest to absorb and are the most absorbent of all the different types.
- **Chemical Dispersants** and biological agents, which break down the oil into its chemical constituents.



**OTHER METHODS OF CLEANING...**

- In-situ burning, which is a method of burning freshly-spilled oil, usually while it's floating on the water.
- Washing oil off beaches with either high-pressure or low-pressure hoses.
- Vacuum trucks, which can vacuum spilled oil off of beaches or the water surface.
- Shovels and road equipment, which are sometimes used to pick up oil or move oiled beach sand and gravel down to where it can be cleaned by being tumbled around in the waves.



Which methods and tools people choose depend on the circumstances of each event: the weather, the type and amount of oil spilled, how far away from shore the oil has spilled, whether or not people live in the area, what kinds of bird and animal habitats are in the area, and other factors. Different cleanup methods work on different types of beaches and with different kinds of oil.

**DID YOU KNOW??**

- Algae in the ocean produce more of the earth's vital oxygen than all of the forests and land plants combined.
- The single greatest source of ocean pollution is runoff from yards, pavement, and farms. Every year, oily road runoff from a single large city contains as much oil as one tanker spill.
- Improperly disposed motor oil from a single car can contaminate a million gallons of water.

**WASTEservices Division****NEW ADMINISTRATION LOCATION!!!**

Please be advised that our **WASTEservices** division has been re-located to:

LP # 47,  
Brighton Industrial Estate,  
La Brea.

**CONTACT NOS.: (868) 397-3144- 47, FAX NO.: (868) 648-8357**



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