SPHAG SORB

ENVIRONMENTAL ORGANIC ABSORBENT

Sphag Sorb®

Encapsulates hydrocarbons and most organic chemicals on contact

Works on Land or Water

- **Easy-to-use**
- **Safe**
- **Lightweight**
- **More absorbent**
- **Non-Toxic**
- **Non-Leaching**
- **Vapor Suppressive**

Sphag-Sorb®

The Solution to Industry's Toughest Cleanup Problems

The finest grade of sphagnum peat moss from the bogs of Canada is the starting point for Sphag-Sorb. The peat fibers are separated from inorganic hard material, then activated into a high-grade product with remarkable abilities to **absorb and encapsulate oils, solvents, heavy metals, pesticides, herbicides and all other organic chemicals.**

The key to Sphag-Sorb's effectiveness is the **natural capillary and porous structure** of the activated peat. This provides a **powerful wicking action, absorbing hydrocarbons, PCB's and solvents quickly.** But even more importantly, these properties allow it to **encapsulate these liquids on contact.** Sphag-Sorb securely takes in the oil, chemical, or solvent, rather than merely allowing it to temporarily "attach" to the surface of the product, as does clay.

Sphag-Sorb is **superabsorbent: Less is required for storage and disposal.** Since it is *oleophilic* **(absorbs oil quickly)** and *hydrophobic* **(resists taking on water),** Sphag Sorb is ideal for a wide range of industrial and specialized uses. **It can absorb on land, on hard surfaces such as asphalt or concrete** and in drums or tanks. On the water it even removes the oil sheen. Sphag-Sorb removes contaminants from spill sites upon extraction because of it's **non-leaching** and **encapsulating** charateristics.

Clean Up is Easy

No "high-tech" application or equipment is required for a successful cleanup: a **broom or shovel** does the job. Sphag-Sorb **leaves behind no messy residue** after extraction, offering easy application to both mechanical and manual cleanup. These properties make Sphag Sorb ideal as a first response tool for emergency ontainment and cleanup as well as routine use in maintaining a clean and safe working environment for manufacturing plants, warehouses and fabrication or repair shops.

Clean up Spills quickly and economically

- *oils and solvents*
- *heavy metals*
- *pesticides/herbicides*
- *other organic chemicals*

Sphag Sorb®

Industry's Clean-Up Solution

Sphagnum peat moss, the only ingredient in all natural Sphag-Sorb

Sphag Sorb® is an all natural product manufactured from sphagnum peat moss,originating in the bogs of Canada. A lab tested, field-proven industrial absorbent, Sphag Sorb outperforms all other types of absorbent materials.

Sphag Sorb solves the toughest clean-up problems with a complete line of environmentally safe, industrial absorbent products. Sphag Sorb meets or exceeds all applicable standards for effective clean-up and disposal of oil, gasoline, fuel, solvents, and nearly every other organic chemical.

Sphag Sorb: one product, one convenient solution for a wide range of clean-up and disposal needs. Sphag Sorb works on land or water. It is economical, efficient and easy-to-use, as well as safe, non-abrasive, non-toxic and non-leaching.

Sphag Sorb is the answer to safe, effective clean-up in an era of environmental sensitivity and increasingly stringent regulations.

Sphag Sorb - Bags

Sphag Sorb Loose Fill 2 C.F.

IBS No SS-2

Description: Two cubic foot loose-filled bag
Absorption: from 8 to 14 gallons
Shipping size: 25" x 16" x 9"
Approx. weight: 17 lbs. per bag
Palletizing: 30 bags

Sphag Sorb Loose Fill 1 C.F.

IBS No SS-1

Description: One cubic foot loose-filled bag
Absorption: from 5 to 7 gallons
Shipping size:
six per case
24" x 15" x 30"
Approx. weight: 55 lbs. per case (8.5 lbs per bag)
Palletizing: 15 cases / 90 bags

Sphag Sorb Loose Fill 3/4 C.F.

IBS No SS-3/4

Description: 3/4 cubic foot loose-filled bag
Absorption: from 3 to 5 gallons
Shipping size:
7 bags per case
24" x 20" x 30"
Approx. weight: 55 lbs. per case (6 lbs per bag)
Palletizing: 15 cases / 105 bags

Sphag Sorb Loose Fill 2 C.F.

*Enhanced with Natural Occurring Microorganisms to Promote Hydrocarbon Digestion**

IBS No SS-2ME

Description: Two cubic foot loose-filled bag
Absorption: from 12 to 15 gallons
Shipping size: 25" x 16" x 9"
Approx. weight: 17 lbs. per bag
Palletizing: 30 bags

** These microorganisms are certified non-toxic, non-pathogenic and non-hazardous*

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Sphag Sorb®

What Is It, and How Does It Work?

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Sphag Sorb - Pails & Drums

Sphag Sorb Loose Fill

3/4 C.F. 5 Gallon Spill Kit with Reusable Lid & Handle

IBS No SS-5EZ

Description: 3/4 c.f. loose-fill in a 5 gallon plastic pail with lid & handle
Absorption: from 4 to 5 gallons
Shipping size: 12" x 10" x 16"
Approx. weight: 8 lbs. per pail
Palletizing: 96 pails per pallet

Sphag Sorb - Pads & Pillows

Sphag Sorb Absorbent Pad

IBS No. SS-PAD

Description: 18" x 18" natural, unbleached knit-cotton pads filled with Sphag Sorb
Absorption: from 1 to 1-1/2 gallons
Shipping size:
30 per case
18.5" x 18.5" x 29"
Approx. weight:
2 lbs. per pad
60 lbs. per case
Palletizing: 12 cases / 360 pads

Sphag Sorb Absorbent Pillow

IBS No. SS-PILLOW

Description: 18" x 18" natural, unbleached knit-cotton pads filled with Sphag Sorb
Absorption: from 1 to 1-1/2 gallons
Shipping size:
10 pads per bundle
18" x 18" x 14"
Approx. weight: 17.5 lbs. per bundle
Palletizing: 28 bundles / 280 pillow

Sphag Sorb®

Technical Features

Meets EPA standards for disposal in landfills

Sphag Sorb® does not biodegrade before the substance it encapsulates. In its natural state, Sphag Sorb® is 100 percentbiodegradable; but its molecular properties permit it to pass EPA requirements for landfilling both hazardous and non-hazardous wastes.

Sphag Sorb® will not leach; it passes TCLP at ratios much lower than competing absorbents

Due to its porous structure and affinity for hydrocarbons and other organics, Sphag Sorb® is a truly non-leaching and suitable for landfilling where regulations permit.

High BTU value for incineration

Sphag Sorb® is equally compatible with other disposal options. It is ideal for incineration, (when regulations permit) since it is also an energy source with the ability to generate some of the heat required for incineration.

Lower volume of Sphag Sorb® required means lower disposal costs

Reduces flammable vapors by 90%

Sphag Sorb - Socks

Natural, unbleached knit-cotton, socks filled with Sphag Sorb, sealed in a plastic sleeve

Sphag Sorb Sock - 2" x 5'

IBS No. SS-60-2

Absorption: from 3/4 to 1 gallon
Shipping size: 40 per case, 18.5" x 18.5" x 29"
Approx. weight: 60 lbs. per case
Palletizing: 12 cases / 480 socks

Sphag Sorb Sock - 4" x 4'

IBS No. SS-48

Absorption: from 1-3/4 to 2-1/3 gallons
Shipping size: 20 per case, 20.5" x 24.5" x 30.5"
Approx. weight: 70 lbs. per case
Palletizing: 12 cases / 240 socks

Sphag Sorb Sock - 4" x 8'

IBS No. SS-96

Absorption: from 3-1/2 to 4-2/3 gallon
Shipping size: 10 per case, 20.5" x 24.5" x 30.5"
Approx. weight: 70 lbs. per case
Palletizing: 12 cases / 120 socks

How Sphag Sorb® Compares with Other Absorbents

Lower moisture, higher quality makes Sphag Sorb® **superior** to other absorbents.

Compared with clay, Sphag Sorb® is :

- **10 times** more absorbent
- **lightweight**
- **non-leaching**
- **safe and non-toxic,** contains no silica
- more suited for landfilling and incineration

Although more effective than clay, **compared with Sphag Sorb®** the following absorbents:

- Diatomaceous Earth
- Alumina Silicate
- Corn
- Cellulose
- Polypropylene
- Polymers

Offer lower absorbency, leach at lower ratios and have more limited disposal options.

Sphag Sorb - Spill Kits

Sphag Sorb 10 Gallon Tote Spill Kit

IBS No. SS-ST10

Description: water-resistant nylon tote bag containing a spill response kit which includes:

- 2 - Pads
- 2 - 2” x 5’ socks
- 1 - 8 quart loose-filled bag
- 1 - Waste Disposal Bag
- 1 - Dust Mask
- 1 pr - Nitrile Gloves
- 1 - 500 ml Plug It

Absorption: from 4 to 6 gallons
Shipping size: 14” x 27” x 6”
Approx. weight: 10 lbs. per kit
Palletizing: 75 per pallet

Sphag Sorb 15 Gallon Tote Spill Kit

IBS No. SS-ST15

Description: water-resistant nylon tote bag containing a spill response kit which includes:

- 4 -Pads
- 2 - 2” x 5’ socks
- 1 - 3/4 cu. ft loose-filled bag
- 1 - Waste Disposal Bag
- 1 - Dust Mask
- 1 pr - Nitrile Gloves
- 1 - 500 ml Plug It

Absorption: from 8 to 12 gallons
Shipping size: 24” x 12” x 10”
Approx. weight: 15 lbs. per kit
Palletizing: 45 per pallet

Sphag Sorb® Absorption

- **Triple Screened, high-grade sphagnum peat moss** containing less than 1/2 of 1% of inert materials.
- **Dehydration process results in a high capillary structure** that promotes rapid wicking and quick clean up
- **Exceeds Maxiumum Toxicity Characteristic Leachate Procedure (TCLP)** for environmental safety and easy disposal.
- Sphag Sorb is **super absorbent:**
  - — **10X** as effective as clay
  - — **6X** as effective as diatomaceous earth or alumina silicate-based absorbents.
- **Less Product** means easier clean-up, disposal and storage.
- **Does not leach** after absorption. Sphag Sorb® **eliminates secondary clean up and disposal problems.**

Sphag Sorb - Spill Kits

Sphag Sorb 14 Gallon Drum Spill Kit

IBS No. SS-14SRK

Description: 14 gallon UN/DOT-approved drum containing a spill response kit which includes:
2 - 2” x 5’ socks
2 - 2” x 10’ socks
2 - 3/4 cu ft loose-filled bags
1 - Waste Disposal Bag
1 - Dust Mask
1 pr - Nitrile Gloves
1 - 500 ml Plug It
Absorption: from 12 to 18 gallons
Shipping size: 26” x 16”
Approx. weight: 28 lbs. per kit
Palletizing: 27 per pallet

SPHAG SORB

ENVIRONMENTAL ORGANIC ABSORBENT

Sphag Sorb® is Versatile

This list includes some of the common hydrocarbons and industrial chemicals that can be effctively absorbed by Sphag Sorb:

Acetone
Acetone Cyanohydrin
Acetonitrile
Acrolein
Allyl Chloride
Amyl Acetate
Benzene
Bromodichloromethane
Bromoform
Bunker C Fuel Oil
Butanol
2-Butanone
Butyl Acetate
Butyric Acid
Canola Oil
Carbon Disulfide
Carbon Tetrachloride
Chloroform
Chloromethane
Chlorobenzene
Corn Oil
Cresol
Cutting Oils
Cyclohexane
Dichlorobenzene
1,2 Dichloroethene
1-1 Dichloroethylene
Dichloromethane
Diesel Fuels
2-4 Dinotrotoluene
Ethanol
Ethyl Benzene
Ethyl Ether
Ethylene Glycol
Gasoline
Heptane
Hexane
Hexachlorobenzene
Hexachlorobutadiene
Hexachloroethane
Hexene (97%)
Isobutanol
Isoprene
Isopropanol
Jet Fuels
Kerosene
Methanol
Methylene Chloride
Methyl EthylKetone
Methyl Methacrylate
Methyl Phenol
Motor Oils
Napthalene
2 Nitoaniline
Nitrobenzene
Oil Base Paint
Oil Base Ink
Paraffin Oil
Pentane
Pentachlorophenol
Petroleum Ether
Phenol
Propanol (48% in Acetone)
Pyridine
Silicone Oil (100 cs)
Styrene
Tetrachloroethane
Tetrachlorotethylene
Tetrahydrofuran
Toluene
Trichloroethylene
Trichlorophenol
Triethylamine
Varsol
Vinyl Acetate
Vinyl Chloride
Xylenes

Most organic solvents

Most acids and bases

Sphag Sorb - Spill Kits

Sphag Sorb 55 Gallon Drum Spill Kit

IBS No. SS-55SRK

Description: 55 gallon UN/DOT-approved drum containing a spill response kit which includes:

1 x 55 Gallon UN/DOT Approved Drum
3 - 3/4 cu. ft. Loose Fill Bag
10 - 18” x 18” Pad
5 - 18” X 18” Pillow
2 - 4” x 4’ Socks
2 - 4” x 8’ Socks
3 - Tyvek suits
3 pairs- nitrile gloves
3 pairs safety goggles
2 Waste Disposal Bags

Absorption: from 30 to 45 gallons
Shipping size: 37” x 24”
Approx. weight: 80 lbs. per kit
Palletizing: 8 per pallet

10 TIMES MORE ABSORBENT THAN CLAY!

SPHAG SORB SALES

A DIVISION OF EARTH CARE PRODUCTS

Distributed by IBS, Inc — Washington, Oregon, Idaho, Montana, Utah, Wyoming, Colorado, Nevada, North Dakota

EASY CLEAN-UP & DISPOSAL OF ANY OIL-BASED LIQUID

2 CU FT (SS-2)
ABSORBS 12-15 GALLONS

Economical
Sphag Sorb is superabsorbent: pound for pound, it absorbs 10 times more than clay.

Easy Clean Up
Clean up with a broom and dustpan, without the mess left by many other absorbents.

Non-Abrasive
Won't damage machinery or interfere with easy movement of creepers, tool-boxes and other garage equipment with wheels.

Lightweight
A 2 cu ft bag of Sphag Sorb (approximately 23 lbs) absorbs more than five (5) 40-pound bags of clay, and is easier to carry and store.

Our 2 cu ft bag absorbs as much as 200 pounds of clay equal to five 40 pound bags of clay!

Safe & Nontoxic
An all-natural product with no known health risks.

Versatile
Absorbs any oil-based liquid: oil, gasoline, grease, antifreeze, hydraulic fluid, herbicides, pesticides, solvents, battery acid, paint and cooking oil, to name just a few.

Landfill Acceptable where regulations permit.
Once absorbed, oil stays absorbed, reducing the mess of disposal. Sphag Sorb meets or exceeds EPA standards for disposal of hazardous or non-hazardous liquids in landfills.

SPHAG SORB
ENVIRONMENTAL ORGANIC ABSORBENT

IBS INC. SPECIALTY PRODUCTS FOR MAINTENANCE & REPAIR

Phone: 800.678.1906 / Internet: www.industrialbolt.com / E-mail: info@industrialbolt.com

SPHAG SORB NSN CAGE NUMBERS

JUNE 3, 2003

FSC	NIIN	AIN	PART #	CAGE	MANUFACTURER	DISTRIBUTOR
4235	**01-416-8964**	SORBENT, HAZARDOUS M	**SS-1**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-8980**	SORBENT, HAZARDOUS M	**SS-2**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-8986**	SORBENT, HAZARDOUS M	**SS-5G**	384Q8	SPHAG SORB INC.	
4235	**01-416-8990**	SORBENT, HAZARDOUS M	**SS-3D**	384Q8	SPHAG SORB INC.	
4235	**01-416-8992**	SORBENT, HAZARDOUS M	**SS-6D**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-8993**	PAD, ABSORBENT HAZARDOUS	**SS-PAD**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-8995**	PILLOW, ABSORBENT HAZARDOUS	**SS-PILLOW**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-8997**	SOCK, SPILL CONTAINMENT	**SS-60/2**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-8999**	SOCK, SPILL CONTAINMENT	**SS-120/2**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-9008**	SOCK, SPILL CONTAINMENT	**SS-48**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-9104**	SOCK, SPILL CONTAINMENT	**SS-96**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-9107**	SPILL CLEAN UP KIT	**SS-ST10**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-9110**	SPILL CLEAN UP KIT	**SS-ST15**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-9243**	SPILL CLEAN UP KIT	**SS-14SRK**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-9283**	SPIILL CLEAN UP KIT	**SS-25SRK**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-9395**	SPILL CLEAN UP KIT	**SS-55SRK**	384Q8	SPHAG SORB INC.	IBS, INC.
4235	**01-416-9489**	SPILL CLEAN UP KIT	**SS-55SRK/MAR**	384Q8	SPHAG SORB INC.	IBS, INC.
9330	**01-417-4167**	BRACKET SPILL KIT	**SS-BRACK**	384Q8	SPHAG SORB INC.	IBS, INC.

What is Sphag Sorb

The finest grade of sphagnum moss from bogs in Canada is the starting point for SPHAG SORB. The peat fibers are separated from all inorganic hard material, and then activated into a high-grade product with a remarkable ability to absorb and encapsulate oils, solvents, heavy metals, pesticides, herbicides and all other organic chemicals.

SPHAG SORB is a natural organic absorbent that can be used in all phases of spill clean ups:

1. The initial response to a spill.

2. The absorption and clean up of spilled liquids.

3. The removal and disposal of the contamination.

4. And the remediation of the contamination with or without hydrocarbon digesting microbes.

SPHAG SORB is a super absorbent organic compound that is used to clean up oil, gas, diesel fuel, solvents, paints, glycol and organic chemical spills. Peat is partially fossilized plant matter (mostly hemicelluloses, cellulose, and lignin) that is formed in poorly oxygenated wetlands where the rate of accumulation of plant matter is greater than that of decomposition. Peat is a highly porous material with a porosity of approximately 95% and a large specific surface area, which gives it a greater absorption capacity than other common absorbents.

Versatility
SPHAG SORB is an absorbent material with a unique versatility superior to any of the traditional absorbents available on the market today. A single absorbent material capable of absorbing almost every type of liquid from any type of land surface, and effectively removing hydrocarbons from a water surface as well. Being a natural and organic absorbent also provides a wider variety of options for disposal. SPHAG SORB is packaged in a variety of bags, containers, pads, socks and spill kits which simplifies preparedness for spill responses. This versatility translates into a simple, safe and complete readiness for reaction to spills with one inventory item.

Economical
The price of the absorbent, the weight of the absorbent, and the amount of liquid that can be absorbed per pound all determine the value of the absorbent. An absorbents price is part of the equation but often not the most costly part. The volume of waste generated; the shipping costs and disposal costs are all a significant portion of the total clean up cost. SPHAG SORB addresses all of these contributing expenses as it will typically absorb 4 times its own weight and generate much lower volumes of waste than competitive products. By using SPHAG SORB, the cost associated with spill cleanups is cut three ways:

1. Less absorbent is required.

2. Lower weight and volume saves on shipping.

3. The cost of disposal is reduced because of lower volume.

Additional savings will be realized in the reduced labor and time required because of the fast absorbing characteristics of SPHAG SORB.

Environmental
SPHAG SORB is produced to specific standards that achieve the highest absorption of liquids while generating the least amount of waste. SPHAG SORB is natural, organic, non-toxic, non-leaching, safe and easy to use. The fibrous structure of the product and the fact that the capillaries contain air and moisture reduces the tendency for soil compaction. This allows air, water and heat to penetrate into the ground speeding up the remediation process. Peat Moss is commonly added to soil as an enhancer in flower and vegetable gardens around the world everyday and is 100% environmentally friendly and a renewable resource.

(SPHAG SORB is a Cost saving, Versatile, Effective, Easy to use, and Environmentally responsible absorbent)

Features & Benefits

- **Natural** - Safe for Humans, Animals, Plants and the Environment.
- **Non-Toxic** - No associated Health & Safety issues or environmental issues in use or disposal.
- **Organic** - Use to improve soil conduitions (A RENEWABLE RESOURCE)
- **Biodegradable** - land filling Hazardous and nonhazardous waste. (Landfill friendly No long term environmental effect)
- **Flammability** - SPHAG SORB does not ignite instantly when exposed to heat or flame, in fact it is difficult to establish a smolder.
- **Versatile** - Can be applied on any surface type, land or water, and absorbs the widest variety of liquids when compared to traditional absorbents. (Reduces inventory and simplifies training and decision making; one absorbent does it all)
- **Easy to use** - No specialized training or equipment, just open and apply. (Reduces labor and equipment expense)
- **Lightweight** - Absorbs 4 tiems its own weight. (Less physical strain in handling and lower shipping and disposal cost)
- **Super-absorbent** - Absorbs hydrocarbons with up to 8 times less Sphag Sorb absorbent than competitive products. (Lower volumes of absorbent and weight. Reduces transportation and disposal costs)
- **Absorbs on contact** - Quicker absorption means less spill spread and less penetration resulting in lower clean up cost.
- **Non-Leaching** - Holds onto the absorbed liquid, therefore less dripping mess in clean up. (Very important in controlling the liquid on site cleanup, during transportation and in landfills)
- **Vapor Suppressive** - Reduces flammable vapors by 90%. (Lowers explosion and odor risks)
- **Microbe Enhanced** - Specially cultured bacterial strains that are known to digest hydrocarbons are concentrated in a formula and then added to SPHAG SORB in production. Designed to assist Mother Nature by adding massive amounts of specific bacterial-enzymes to hasten the remediation process.
- **Optimal Remediation Environment** - SPHAG SORB provides an ideal (Remediation) environment by allowing heat, air and water to reach the microbes, ensuring rapid bacterial growth and reproduction.
- **Renewable/Sustainable Resource** - Sphagnum peat moss is the dead material that accumulates as new live material grows on top and exerts pressure on the peat moss below. Over 50 million tons of peat are estimated to accumulate in the natural environment each year in Canada while current production utilizes approximately 700,000 to 800,000 tons annually. Several options are currently utilized for bag reclamation and restoration.

Microbes

Indigenous microbes are simply those originating in a particular region or country. Indigenous microbes exist everywhere, differing from region to region and varying in strains and concentrations. Some competitor's claim that they have indigenous microbes, that only means there are characteristic to the specific region that the plant is harvested in.

SPHAG SORB adds a microbe formulation that contains several types of microorganisms that can degrade aliphatic and Polynuclear aromatic hydrocarbon chemicals. It contains microflora that survive on hydrocarbon waste substances, utilizing it as a source of carbon. These safe, nonpathogenic microbes produce a broad spectrum of enzyme systems. This concentrated microbial formulation merely assists Mother Nature's indigenous microbes by adding massive amounts of specific bacterial-enzymes to hasten the remediation process.

Sphag Sorb Highlights

SUPER ABSORBENT:
Sphag Sorb is made of 100% natural sphagnum peat moss. The peat used to make Sphag Sorb is separated through three increasingly fine shaker screens, which remove all but 1/2 of one-percent inert materials. It is then dehydrated to a 6-8 percent moisture level. Horticulture peat moss, on the other hand can contain 50% moisture with a large percentage of sticks, dirt and inert material.

SPHAG SORB ABSORBENCY VS. CLAY
Sphag Sorb can absorb 10 times as much as clay granules. For example, one 23 lb. bag of Sphag Sorb (2 cu ft) is able to absorb the same amount as 200 pounds or 5 forty pound bags of clay.

STORAGE & HANDLING VS. CLAY:
Because 1 bag of Sphag Sorb can replace 5 bags of clay, it frees up more than 80% of the storage space. Plus, it is easier to handle 1 twenty-three pound as opposed to a forty pound bag of clay.

NON-LEACHING:
Sphag Sorb actually absorbs the liquid into the peat fibers and will not release.

REDUCES FLAMMABLE VAPORS BY 90%

A FEW EXAMPLES OF WHAT SPHAG SORB CAN ABSORB:

- Motor Oils
- Gasoline
- Varsol
- Methanol
- Benzene
- Methanol
- Diesel Fuels
- Oil Based Paints
- Bunker C Fuel Oil
- Paraffin Oil
- Gasoline
- Most Acids & Bases
- Cutting Oils
- Styrene
- Kerosene
- Most Organic Solvents

A FEW OF THE INDUSTRIES USING SPHAG SORB:

- Manufacturing Facilities
- Hazardous Materials Teams
- Electrical Power Companies
- Fire Departments
- Environmental Clean Up
- Trucking Companies
- Machine Shops
- Nuclear Plants
- Waste Haulers

IDEAL FOR INCINERATION or FUEL BLENDING:
With a value of 5,500 - 7,000 BTU's per pound and an ash residue of less than 5%, Sphag Sorb is ideal for incineration and fuel blending. When incarcerated, clay has an ash residue of 90%.

Answers to the Most Common Sphag-Sorb Questions

1. WHAT SETS SPHAG SORB APART FROM OTHER ABSORBENTS?

   Quality Control
   Availability
   Ongoing product improvement
   Landfill friendly
   5% as after incineration
   Permanently encapsulates waste
   Solidfies liquid waste, therefore less labor intensive
   5,500 to 7,000 BTU's per pound in natural state
   Less hazardous to the employees that handle the spill

2. WHO IS SPHAG SORBS COMPETITION

   Clay "kitty litter" Kelp Polypropolene Corn Husk
   Cellulose Corn Cob Polymers Cotton

3. HOW LONG DOES WASTE STAY ENCAPSULATED IN THE SPHAG SORB?

   The waste will decompose before the Sphag Sorb decomposes (Passes EPA requirement for Hazardous Waste Land Filling).

4. HOW LONG WILL SPHAG SORB FLOAT?

   Sphag Sorb will float for approximately 48 hours (2 days).

   Pads and socks will float approximately 60 hours (2.5 days) (This is after Sphag Sorb has absorbed the waste.

5 DOES SPHAG SORB TAKE ON WATER?

   Yes, eventually Sphag Sorb will take on water. Float time depends on water temperature, presence of wave action and whether or not the Sphag Sorb has absorbed the waste.

   We recommend application of Sphag Sorb directly to the waste sice it will, generally take on the characteristics of the absorbed waste.

6. WHAT DOES "LANDFILL FRIENDLY" MEAN?

   In it's natural state Sphag Sorb is 100% natural and biodegradable, yet passes EPA requirements for land fillling of Hazardous Waste and Non-Hazardous Waste.

7. WHAT DO YOU DO WITH SPHAG SORB ONCE IT TAKES ON A WASTE PRODUCT?

   The waste that Sphag Sorb absorbs will determine the manner in which it must be disposed. Sphag Sorb does not change the characteristics of the waste.

   One must follow the regularions of the State in which disposal is taking place.

   In its natural state Sphag Sorb has a BTU value of 5,500 to 7,000 per pound, reflecting an efficent incineration capability per pound.

8. WILL SPHAG SORB LIFT STAINS OUT OF CONCRETE?

   Sphag Sorb, immediately applied to a spill, will absorb the waste and will draw some of the free liquid ouf to the concrete. Stains can be removed by applying a degreaser in conjunction with the Sphag Sorb.

9. WILL SPHAG SORB ABSORB BLOOD AND URINE?

   In-house laboratory test using Sphag Sorb to absorb blood and urine has proven effective.
   NOTE: Johnson & Johnson has developed a feminine napkin and baby diaper with peat as the absorbent material

Answers to the Most Common Sphag-Sorb Questions

10. DOES SPHAG SORB ABSORB ANIMAL FATS?

Yes.

11. WHAT MARKET DOES SPHAG SORB TARGET?

Anywhere hydrocarbons are found or used, including:

Agricultural	Electrical / Power Plants	Maritime Industries	Transportation:
Airlines	Fire Departments	Military	*fleet, ferries, buses,*
Automotive	Food Industry	Municipalities	*road departments,*
Chemical	Industrial	Spill Response	*equipment operations*

12 CAN SPHAG SORB BE REUSED OR RECYCLED?

No. We encourage the use of to absorb waste and then dispose of the encapsuated waste according to the regulations of your particular state. In recycling an absorbent, one must consider the labor cost involved, the expense for the necessary equipment to be used in recycling, and the liability associated with employees handling the waste.

SPHAG SORB Inc. submitted the necessary paperwork to the appropriate agencies, however, neither agency will will endorse absorbents. Members of both agencies have observed the product being used during actual spill and Sphag Sorb received favorable reviews from governmental agencies.

13. DOES HUMIDITY AFFECT THE SPHAG SORB?

Humidity **does not** affect the sealed bags of Sphag Sorb. If a bag is open or torn, we suggest you put the remainder of the product in a sealed container.

14. HOW QUICK DOES SPHAG SORB ABSORB THE WASTE?

Absorption depends on the density of the waste being absorbed.

The more viscous (thick) the waste, the slower the absorption. Agitation of Sphag Sorb in the waste will speed up the absorption by exposing the surface area to the waste.

15. CAN YOU USE SPHAG SORB TO CLEAN ANIMALS THAT HAVE BEEN CONTAMINATED BY OIL?

Applying Sphag Sorb to an oil contaminated animal will remove the oil from the animal to some degree. There is no developed protocol for this application.

In house experiments with feathers have proven effective in such applications.

16. HISTORY OF PEAT USED AS AN ABSORBENT?

Peat used as an absorbent was introduced to the environmental market approximately 10 years ago.Due to the lack of environmental consiousness and limited marketing efforts, peat was not widely accepted as an absorbent.
In general, peat has been used as a heat source in Europe and Canada since the 1700's. Peat used as an absorbent was reintroduced in 1989. Sphag Sorb has been in business since July 1991.

17. WAS SPHAG SORB USED IN THE ALASKAN OIL SPILL?

No. Sphag Sorb was not in existence during the spill, but a peat moss product was used. It is said that the spill clean up crews tried to use horticultural peat.

Due to the fact that horticutultural peat contains approximately 40% moisture, its capillaries already contain moisture, preventing it from being an effective absorbent. Due to the moisture content, it has a tendency to rapidly sink.

WHO BUYS SPHAG SORB?

The following is a list of major international and domestic companies that have purchased Sphag Sorb through distribution networks. Purchases by these companies primarily include multiple orders of varying quantities. This list is compiled from information provided by Sphag Sorb dealers; therefore, it is not all inclusive.

Alabama Power & Light
Alo USA
Amerada Hess Corporation
British Petroleum
Andrews AFB
AT&T
Beechcraft
Bostic Bros. Inc.
Cleco
Coleman Products
Crescent City Towing
Decarrolis Truck Rental
Disneyland
Drytex
Elbow Farms
Exide Corporation
Florida Power & Light
Ford Motors
Frigidaire
General Electric
General Motors
Great Plains Manufacturing
Hallum Tooling
Honda Motors
Johnson Rock Products
La Crosse Footwear
Maytag
Meridian Oil
Mid-South Manufacturing
Mississippi Power & Light
Ohio Department of Transportation
Parkside Hospital
Pennsylvania State University
Pontiac Motors
Prescription Fertilizers
Quaker Oats
Rubbermaid Products
Shell Offshore
Silicone Products
Sonat
Alcoa Industries
Amana Refrigeration
American Medical Response
American Water Heaters
Amway
Army/Air Force Exchange Services
BASF Corporation
Bell Helicopter
B.W. Nuclear Technologies
California DOT
Colorado Springs Utility
Dallas Transit Authority
Delhi Gas Pipeline
DPW Logistics
E.O.T.T. Energy
Entergy
Exxon
Fina Oil
Fort Hood, TX
GEC Midwest
General Mills
Goodyear Tire
Gulfport-Biloxi Airport
Hitachi Corporation
Hunt Oil
Koch Industries
Marathon OIl
Medical Center Transportation
Metal Improvement
Minnesota Department of Trans.
Oconee E.M.C.
Ohio Oil Gathering
Peterbilt Motor Company
Pennzoil
Fort Campbell
Pure Solve
Reichold Chemicals
S.C. Johnson Wax
Sherwin Williams
Hunter Army Airfield
Southeast Paper Manufacturing

FIRE DISTRICTS, TOWNSHIPS, COUNTIES, STATES AND FEDERAL AGENCIES PURCHASING SPHAG-SORB FROM IBS

1. BENTON CTY PUBLIC WORKS
2. BISMARCK PARK DISTRICT
3. BISMARCK STATE COLLEGE
4. BOISE INDEPENDENT SD
5. BONNER CTY ROAD & BRIDGE
6. BONNER CTY SOLID WASTE
7. BONNEVILLE POWER ADMIN
8. BOULDER PARK INC
9. BOUNDARY CTY SCHOOL DIST
10. BOUNTIFUL CITY STREET DEPT
11. BOX ELDER SCHOOL DISTRICT
12. BURLINGTON NORTHERN RR
13. BYU - PHYSICAL FACILITIES
14. CACHE CTY SCHOOL DISTRICT
15. CAL PORTLAND
16. CAL PORTLAND
17. CARBON CTY ROAD DEPT
18. CASCADE SCHOOL DIST #228
19. CASHMERE SCHOOL DISTRICT
20. CASSIA COUNTY SD
21. CHELAN CTY FIRE DISTRICT #7
22. CHELAN COUNTY P.U.D
23. CHOUTEAU CTY ROAD DIST
24. CITY OF ASTORIA
25. CITY OF BAINBRIDGE ISLAND
26. CITY OF BAKER
27. CITY OF BAY CITY PUBLIC WORK
28. CITY OF BISMARCK
29. CITY OF BONNEY LAKE
30. CITY OF BOTHELL
31. CITY OF BREWSTER
32. CITY OF BUCKLEY
33. CITY OF BURIEN
34. CITY OF CALDWELL-STREET DEPT
35. CITY OF CHELAN
36. CITY OF COVINGTON
37. CITY OF DELTA
38. CITY OF DES MOINES
39. CITY OF ELKO
40. CITY OF ELMA
41. CITY OF ENUMCLAW
42. CITY OF ESTACADA
43. CITY OF GLENDIVE PUBLIC WORKS
44. CITY OF GOLDENDALE
45. CITY OF HAVRE
46. CITY OF HILLSBORO
47. CITY OF HILLSBORO - WATER DEPT
48. CITY OF HOQUIAM
49. CITY OF LAUREL
50. CITY OF LYNNWOOD
51. CITY OF LYNNWOOD
52. CITY OF MADRAS
53. CITY OF MEDICAL LAKE
54. CITY OF MERCER ISLAND
55. CITY OF MILES CITY
56. CITY OF MILWAUKIE
57. CITY OF MOSES LAKE
58. CITY OF MOSES LAKE WATER DEPT
59. CITY OF MOUNTLAKE TERRACE
60. CITY OF OKANOGAN
61. CITY OF OLYMPIA
62. CITY OF PENDLETON PARKS DEPT
63. CITY OF POLSON
64. CITY OF POLSON GOLF COURSE
65. CITY OF POLSON UTILITIES
66. CITY OF PORT ORCHARD
67. CITY OF PORTLAND
68. CITY OF PORTLAND PARKS & REC
69. CITY OF RENTON
70. CITY OF RITZVILLE
71. CITY OF SEATAC
72. CITY OF SEATTLE
73. CITY OF SEQUIM
74. CITY OF SHELTON
75. CITY OF SPOKANE PARKS & REC
76. CITY OF STANTON
77. CITY OF WARRENTON
78. CITY OF WEST LINN
79. CITY SERVICE VALCON
80. CLACKAMAS CTY - TRANSPORT
81. CLACKAMAS FIRE DISTRICT #1
82. CLALLAM COUNTY PUD
83. CLARK COUNTY PUBLIC WORKS
84. CLATSKANIE SCHOOL DISTRICT
85. CLEARWATER STATE FOREST
86. CLEARWATER VALLEY HOSPITAL
87. COLLEGE OF SOUTHERN IDAHO
88. COLORADO STATE DOT - MONTROSE
89. COLORADO STATE DOT- GJ
90. COLUMBIA BASIN AG RESEARCH
91. COLUMBIA COUNTY ROAD DEPT
92. DAGGETT COUNTY ROAD DEPT
93. DAGGETT SCHOOL DISTRICT
94. DAVENPORT SCHOOL DISTRICT
95. DAVID DOUGLAS SCHOOL DISTRICT
96. DUCHESNE COUNTY ROADS
97. DUCHESNE COUNTY SCHOOL DIST
98. DUNN COUNTY HIGHWAY DEPT
99. EASTSIDE FIRE & RESCUE
100. ELKO COUNTY SCHOOL DISTRICT
101. ENDICOTT SCHOOL DISTRICT
102. EPHRATA SCHOOL DISTRICT #165
103. FERNDALE SCHOOL DISTRICT 502
104. FINLEY SCHOOL DISTRICT
105. GLACIER NATIONAL PARK
106. GRAHAM FIRE & RESCUE
107. GRANT COUNTY FIRE DISTRICT #10
108. GRANT COUNTY FIRE DISTRICT #5
109. GRANT COUNTY FIRE DISTRICT #7
110. GRANT COUNTY PUD
111. GRAYS HARBOR COUNTY E R & R
112. HAVRE PUBLIC SCHOOLS
113. HUGHES FIRE EQUIPMENT
114. KELSO SCHOOL DISTRICT
115. KILLDEER PUBLIC SCHOOLS
116. KING COUNTY DEPT OF FINANCE
117. KING COUNTY FAC MGMT DIV

FIRE DISTRICTS, TOWNSHIPS, COUNTIES, STATES AND FEDERAL AGENCIES PURCHASING SPHAG-SORB FROM IBS

118. KIONA-BENTON CITY SCHOOL DISTR
119. KITTITAS COUNTY FIRE DIST 7
120. KITTITAS COUNTY PUBLIC WORKS
121. KLAMATH FALLS CITY SCHOOLS
122. KLICKITAT COUNTY
123. KLICKITAT COUNTY FIRE DISTRICT
124. KLICKITAT COUNTY PUBLIC WORKS
125. KOOTENAI COUNTY SHERIFF
126. KOOTENAI NATIONAL FOREST
127. LEWIS COUNTY PUD
128. LINCOLN COUNTY ROAD DEPT
129. LIND RITZVILLE COOP SCHOOL DIS
130. LONGVIEW SCHOOL DISTRICT #122
131. MADIGAN ARMY MEDICAL CENTER
132. MADISON COUNTY ROAD SHOP
133. MANHATTAN FIRE DEPARTMENT
134. MANHATTAN POLICE DEPARTMENT
135. MASON COUNTY ER & R DEPT
136. MCCHORD AIR FORCE BASE
137. MCKENZIE COUNTY ROAD DEPT
138. MONTANA DOT ST REGIS MAINT
139. MONTANA STATE UNIVERSITY
140. MORGAN SCHOOL DISTRICT
141. NOOKSACK SCHOOL DISTRICT
142. NORTH WASCO COUNTY SD #21
143. NORTHSHORE UTILITY DISTRICT
144. OAKESDALE SCHOOL DISTRICT
145. OKANOGAN COUNTY SHOP
146. OMAK SCHOOL DISTRICT #19
147. OREGON DEPT OF FORESTRY
148. OREGON STATE DOT
149. OROVILLE SCHOOL DISTRICT #410
150. PATEROS SCHOOL DISTRICT
151. PEND O'REILLE PUD
152. PIERCE COLLEGE
153. PORT OF GRAYS HARBOR
154. PORT OF PORT ANGELES
155. PORT OF TACOMA
156. PORTLAND DISPOSAL & RECYCLING
157. POWER COUNTY HWY DISTRICT
158. PROSSER SCHOOL DISTRICT
159. PROVIDENCE HEALTH SYSTEM
160. RED ROCK POWER INC
161. RENTON SCHOOL DISTRICT
162. REYNOLDS SCHOOL DISTRICT
163. RICHLAND SCHOOL DISTRICT
164. SALISH KOOTENAI DAM
165. SEATTLE PARKS & RECREATION
166. SEATTLE PUBLIC UTILITIES
167. SHERMAN COUNTY
168. SHOSHONE COUNTY FIRE DISTRICT
169. SHOSHONE CTY PUBLIC WORKS
170. SNOHOMISH CTY FIRE DISTRICT
171. SOAP LAKE SCHOOL DISTRICT
172.S OUTH KING FIRE & RESCUE
173. SPOKANE PUBLIC LIBRARY
174. SPRINGVILLE CITY CORP
175. ST JOHN SCHOOL DISTRICT
176. SWEETWATER COUNTY
177. TACOMA POWER & LIGHT
178. TACOMA PUBLIC UTILITIES
179. TEKOA SCHOOL DISTRICT
180. TOOELE SCHOOL DISTRICT
181. TOPPENISH SCHOOL DISTRICT
182. TOWN OF MANHATTAN
183. TOWN OF VALIER
184. TUALATIN VALLEY WATER DISTRICT
185. U S BUREAU OF RECLAMATION
186. UINTA COUNTY ROAD & BRIDGE
187. UINTAH COUNTY REC DISTRICT
188. UINTAH COUNTY ROADS
189. UINTAH COUNTY SCHOOL DISTRICT
190. UINTAH WATER CONSERVANCY
191. UMATILLA ELECTRIC COOP
192. UNIVERSITY OF MONTANA
193. US ARMY CORPS OF ENGINEERS
194. USAMMA
195. USDA COEUR D ALENE NURSERY
196. USDA FOREST SERVICE
197. UTAH VALLEY UNIVERSITY
198. V A MEDICAL CENTER
199. VANCOUVER SCHOOL DIST #37
200. VERNAL CITY FINANCE DEPT
201. VETERANS ADMINISTRATION
202. WA ST DEPT OF FISH & WILDLIFE
203. WAHLUKE SCHOOL DISTRICT
204. WASATCH CTY SCHOOL DISTRICT
205. WASCO COUNTY ROAD DEPT
206. WASHINGTON DEPT FISH & WILD
207. WASHINGTON STATE DOT
208. WASHINGTON STATE MILITARY DEPT
209. WEST BENTON FIRE RESCUE
210. WEST DAKOTA UTILITY SERVICES
211. WEST LAWN MEMORIAL PARK
212. WEST PEND O'REILLE FIRE DISTRICT
213. WEST VALLEY SCHOOL DIST #208
214. WIBAUX COUNTY ROAD DEPT
215. WILSON CREEK SCHOOL DISTRICT
216. YAKIMA COUNTY FIRE DIST 5

Sphag Sorb® is Versatile

This list includes some of the common hydrocarbons and industrial chemicals that can be effectively absorbed by Sphag Sorb®.

Acetone
Acetone Cyanohydrin
Acetonitrile
Acrolein
Allyl Chloride
Amyl Acetate
Acetonitrile

Benzene *
Bromodichloromethane
Bromoform
Bunker C Fuel Oil
Butanol
Butanone
Butyl Acetate
Butyric Acid

Canola Oil
Carbon Disulfide
Carbon Tetrachloride
Chloroform
Chloromethane
Chlorobenzene
Corn Oil
Cresol
Cutting Oils
Cyclohexane

Dichlorobenzene
Dichloroethene
Dichloroethylene
Dichloromethane
Diesel Fuels
Dinitrotoluene

Ethanol
Ethyl Benzene *
Ethyl Ether
Ethylene Glycol

Gasoline

Heptane
Hexane
Hexachlorobenzene
Hexachlorobutadiene
Hexachloroethane
Hexene (97%)

Isobutanol
Isoprene
Isopropanol

Jet Fuels

Kerosene

Methano
Methylene Chloride
Methyl Ethyl Ketone
Methyl Methacrylate
Methyl Phenol
Motor Oils
Most organic solvents
Most acids and bases

Naphthalene
Nitrobenzene
Nitroaniline

Oil Base Paint & Ink

Paraffin Oil
Pentane
Pentachlorophenol
Petroleum Ether
Phenol
Propanol (48% in Acetone)
Pyridine

Silicone Oil (100cs)
Styrene

Tetrachloroethane
Tetrachloroethylene
Tetrahydrofuran
Toluene *
Trichloroethylene
Trichlorophenol
Triethylamine

Varsol
Vinyl Acetate
Vinyl Chloride

Xylenes *

*** - BTEX**

IN-HOUSE TESTING
SPHAG SORB POWER

COMPARISON OF *SPHAG SORB* PADS TO POLYPROPYLENE PADS

Polypropylene is a man-made synthetic polymer. When used as an absorbent, it acts exactly like a thin sponge: its primary disadvantage is that it is incapable of holding on to the liquid it absorbs, therefore it leaches. This inability to encapsulate liquid results in polypropylene leaching at very low pressures, limiting cleanup and disposal options with such products. Because of its chemical makeup, polypropylene faces additional limitations for disposal, particularly in some types of incineration.

Since polypropylene leaches readily, some manufacturers recommend wringing out the pads and reusing them. But with each reuse, polypropylene's absorption efficiency decreases dramatically - by as much as 35 percent on its first reuse. Such 'recycling ' also involves significant additional costs in labor and equipment. This process poses potential problems of contamination in recovered liquids as well. All these factors reduce the value and efficiency of this approach.

On the other hand ***Sphag Sorb*** is a 100 percent all natural organic absorbent. The loose ***Sphag Sorb*** is contained in an unbleached cotton sock, making it durable, easy to handle and eliminating the possibilities of synthetic components complicating disposal or incineration.

Unlike polypropylene, ***Sphag Sorb*** acts as 'a one way sponge' safely locking in the liquid it absorbs, thus making it ideal for landfill disposal. When put through a filter press test simulating landfill pressure conditions, ***Sphag Sorb*** (at a ratio of 1.5 to 2 parts ***Sphag Sorb*** to 1 part waste oil) safely contains the oil at a pressure exceeding 150 psi for 80 minutes. At the same ratios, polypropylene leaches out the liquid immediately at only 10 psi, the first stage of the test. Thus, ***Sphag Sorb*** can exceed TCLP maximum pressures with a lower volume of absorbent, saving money on disposal costs while meeting landfill regulations for proper solidification of waste. ***Sphag Sorb*** passes the Abalone Larval Development Short Term Toxicity Test for oil spill cleanup agents.

In a direct comparison of absorption abilities, one ***Sphag Sorb*** pad will absorb a quantity of liquid waste which would require approximately eight to ten polypropylene pads, negating polypropylene's lower cost on a pad-for-pad basis.

IN-HOUSE TESTING
SPHAG SORB POWER

Comparison of Sphag Sorb vs Polypropylene

These calculations are based on 30 gallons of oil absorbed for disposal.

Polypropylene
30 Gallons would require 350 pads @
$0.75= $262.50

SPHAG SORB
30 Gallons would require 2.5 bags of *SPHAG SORB* @
$34.50 = $ 86.25

(Polypropylene brochure information with regards to absorption capacities is rated at 2.5 times usage of each pad. The comparison shown above is for one time usage, which is what happens in the majority of actual application.)

IN-HOUSE TESTING
SPHAG SORB POWER

Value Comparison

Oil Gator

30 lbs/$45.00 = $1.50 per lb @ 1.5 lb per quart = $2.25 per quart X 4 quarts = $9.00 per gallon

Oil Sponge

30 lbs/$23.00 = $0.76 per lb X 2.5 lbs per quart = $1.90 per quart X 4 quarts = $7.60 per gallon

Sphag Sorb 2.2 cu. ft. ME

18 lbs/$56.50 = $3.13 per lb X 1/2 lb per quart = $1.57 per quart X 4 quarts = $6.27 per gallon

Sphag Sorb 2.2 cu. ft. Regular

18 lbs/$42.72 = $2.37 per lb X 1/2 lb per quart = $1.18 per quart X 4 quarts = $4.74 per gallon

Floor Dry

25 lbs/$5.00 = $0.20 per lb X 5 lb per quart = $1.00 per quart X 4 quarts = $4.00 per gallon

Multi-Sorb

15 lbs/$13.00 = $0.84 per lb X 1.5 lb per liter = $1.26 X 3.79 liters = $4.77 per U. S. gallon

Can Dry

35 lbs/$8.00 = $0.22 per lb X 5 lb = $1.10 per liter = $1.10 X 3.79 liters = $4.16 per U.S. gallon

IN-HOUSE TESTING
SPHAG SORB POWER

Product Absorption Comparisons

Sphag Sorb
½ lb will absorb 1 quart of 10w30 motor oil

• Oclan Sorb	Peat Moss	½ lb per quart
• Cansorb	Peat Moss	¾ lb per quart
• Oil Gator	Cotton lint fibers:	1.5 lbs per quart.
• Oil Sponge	Reclaimed Cotton fibers:	2.5lb per quart.
• Qualisorb	Diatomaceous Earth	2 Lbs per quart
• X Sorb Select	Volcanic Ash	1-1/2 lbs per quart

Paint Absorption

- Oil base paint 1 quart required 1/2 lb, of Sphag Sorb
- Latex paint 1 quart required 1/2 lb, of Sphag Sorb.
-

NOTE: 1 liter of 10w30 oil weighed approx 2lb
1 liter converts to 1.06 U.S. Quarts, but I rounded it off to 1 quart for comparison purposes

Analytical Report of Crude Oil on Water

Earth Care Products

NWL Lot:	**347827**	**Project:**	**Crude Oil Absorbent Efficiency**
NWL Report:	**632192**	**Project ID:**	**Sphag Sorb**

Objective:

To determine the efficiency of Sphag Sorb absorbent material on oil products.

Sample Requirements:

Sphag Sorb/Oil Ratio	=0.23 g/mL (0.5 lb/1 L Water)
Water	=500 g
Supplied Crude Oil	=150 g

Experimental Protocol:

1. Determine and record oil density.
2. In 1000ml beaker weigh (~500 g) and record mass of water.
3. Add oil to water (~150 g) and record mass of oil.
4. Calculate mass of peak required based on Sphag Sorb/Oil ratio.
5. Add Sphag Sorb to water/oil mixture and record mass.
6. Let stand 10 minutes.
7. Gravity filter mixture and collect filtrate.**
8. Weigh filtrate collected.
9. Perform O/G analysis on filtrate.
10. Perform Dean Stark analysis on filtered solids (Sphag Sorb/Oil Mixture).
11. Calculate % solids, % water and % oil in Spahg Sorb.
12. Calculate mass balance and calculate recovery.
13. Calculate Sphag Sorb efficiency. (% Recovery of Oil Product)

***Filter is water wetted prior to filtration to avoid oil absorbtion.*

Observation:

- 2.70 cm oil layer measured on water surface
- 5.20 cm Sphag Sorb layer measured after 4 minute contact with oil/water mixture.
- 2.70 cm high dark region in Sphag Sorb from water oil interfaced after 4 minute contact.
- No other visible changes from 4 to 10 minutes from first contact.
- No color change from original observed in remaining 1.50 cm layer. Remaining Sphag Sorb appears dry.

Physical Property Data

			Sample
Density of Oil @ 15°C	0.8446	g/mL	ID: 135857
Density of Water @ 15°C	1.0000	g/mL	NWL De-ionized Water
Volume of Oil	178.2	mL	
Volume of Water	507.9	mL	
Total Volume	686.1	mL	
% Oil by Volume	26.0%		
Water by Volume	74.0%		
Depth of Oil Layer	2.70	cm	
Depth of Sphag Layer	5.20	cm	

Experimental Data

Pre-Treatment

	Total	Oil (g)	Sphag Sorb (g)	Water (g)	
Initial Mass of Sample	690.9 g	150.5	32.5	507.9	

Post Treatment

	Total	% Oil	% Sphag Sorb	% Water	Sample ID	Lot Ref
Sphag Sorb Analysis	100.0 %	46.1	13.1	40.8	1358565	-1
Light End Loos	10.0	10.0	0.0	0.0	1358565	-1
Water	100.000 %	0.001	0.000	99.999	1358566	-2
Mass of Residue Peat/Oil	3.1 g	1.7	0.4	1.3		
Mass of Filtrate Water	439.5 g	0.003	0.00	439.3		
Mass of Solids (Wet)	243 g	136.3	31.7	99.2		
Total Mass Recovered	685.6 g	138.1	32.1	540.0		
Recovery	99.2%	91.7%	98.9%	106.3%		

Conclusion:

The efficiency of the Sphag Sorb was 91.7% on supplied crude oil as per the experimental parameters. The % recovery of the oil after treatment indicates the absorbency of the product. The Loss of the Sphag Sorb Product may be due to dissolution of the Sphag Sorb into the oil and/or solvents used in the extraction. The loss of crude oil can be partially attributed to light end loss during reflux extraction with toluene.

Methodology and Notes:

Method of Analysis:
Density of Liquid – ASTM D 4052-96
Standard Test Method for Density and Relative Density of Liquids by Digital Density Method

Oil and Grease in water
*APHA 5220 B Oil and Grease: Partition-Gravimetric Method

Oil in Soil by Dean-Stark
*ACOSA Determination of the Bitumen, Water and Solids in Oil Sand,

*North method(s) in based on reference method

References:
APHA Standard Methods for the Examination of Water and Wastewater
ASTM Annual Book of ASTM Standards
Dean-Stark ACOSA Reference Method

Comments:
Sample 2 (1358566) was low in volume for oil and grease analysis which may affect the accuracy of the results.

Approved by: _____ Dave Murray *Manager, Oil & Gas Operations*

Analytical Report

Norwest Labs
7217 Roper Road NW
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to:	Earth Care Products	**Project:**	Flash Point	**NWL Lot ID:**	**385954**
Report to:	Earth Care Products	**ID:**		**Control Number:**	**E243737**
	7430 – 52 Street	**Name:**		**Report Number:**	**706053**
	Edmonton, AB, Canada	**Location:**			
Attn:	Management	**LSD:**			
Sampled By:		**P.O.:**	Sphag Sorb		
Company:	Earth Care Products	**Acct. Code:**			
				Page:	**1 of 1**

NWL Number	385954-1	
Sample Description	Fuel Samples	
Sample Matrix	Soil – general	

Analyte	Units	Result	Detection Limit
Waste Characterization			
Flash Point	°C	47	-
Flash	Yes		-

SPHAG SORB

FEATURE COMPARISON STUDY

FEATURE	Other Peat Products *(including Horticulture Peat)*	SPHAG SORB
Moisture Content *The presence of moisture. Moisture reduces absorption effectiveness*	**13 - 40%+ %**	**6 - 8%**
Composition: *Material make-up. Only Peat itself will absorb waste, other debris will not.*	Peat moss, twigs dirt, other inert materials	Triple screened, high grade sphagnum peat moss containing less than 1/2 of 1% of inert materials.
Encapsulation: *A process that permanently encloses waste within materials to prevent escape of substances into the environment. Leaching occurs without encapsulation.*	Inferior fiber selection will not encapsulate waste. Waste temporarily attaches to the surface and will leach. May not be disposed of in a landfill.	Natural Capillary and porous structure is activated through a dehydration process which results in a high grade product which absorbs and encapsulates oils, solvents, heavy metals, pesticides, herbicides and other organic chemicals versus attaching to the outside. Will not bio-degrade before the substance that it encapsulates. Passes EPA requirements for land filling both hazardous and non-hazardous wastes. ***(Refer to attached articles)***
Wicking Action: *Movement of a liquid by capillary action.*	**Low Capillary Content:** Clean up may be slow and require additional absorbent material for best results.	Dehydration process results in a high capillary structure that promotes rapid wicking and quick clean-up.
Hydrophobic Properties: *Resists absorbing water*	**Non-Hydrophobic** Absorbs water. Limited capacity to absorb waste.	**Repels water, allowing for** maximum absorption of waste. Effective for use on land or water.
Vapor Supression: *Ability to retain the dispersion of gaseous fumes.*	No test results available	Suppresses flammable vapors by 90%

SPHAG SORB

FEATURE COMPARISON STUDY

Additional Features that may be beneficial to your operation include:

Absorbs a wide range of organic chemicals	**Versatilty eliminates the need for multiple absorbents and reduces inventory costs.**
Lightweight	**Dehydrated material is lightweight and easy to handle.** **1 — 2CF bag weighs approximately 23lbs.**
Works on land or water	**The perfect tool for either venue. Repels water.**
Lower Disposal Costs	**Unique oleophilic (absorbs oil quickly) and capillary properties mean that less product is required for clean up. Less product equates to less disposal costs and less labor time spent on the clean up process.**

Like horticulture peat, Sphag Sorb is also Non-Toxic and Non-Abrasive

Finally, I consulted an expert in industrial clean up, my counterpart at Sphag Sorb, concerning horticulture peat and he informed me that they had just attended a trade show where they spoke with a number of remediation companies who've used nursery peat in an effort to save money and the two things they experienced were:

1. **The Horticulture Peat absorbed water which meant that they had to use 3 to 5 times the volume of absorbent (versus Sphag), and . . .**
2. **It did not encapsulate the waste, so when it rained, the oil washed off and surfaced, resulting in yet more clean up.**

Both factors proved to be far more costly in terms of the additional product and labor associated with the clean up than Sphag Sorb.

ON SITE
TECHNOLOGIES, LTD.

BIODEGRADABILITY REPORT

SUBMITTED BY

WILLIAM P. VORKINK, Ph.D.

AND

GARY K. LEE

The U.S. Environmental Protection Agency recently established a set of regulations to govern the use of sorptive materials in Hazardous Waste Land Fills (Federal Register / Vol. 57. No. 233) it is very important to clarify that the intent of this new body of regulations and rules apply only to Hazardous Waste Land Fills and does not apply to other levels of land fills (Federal Register / Vol. 57 No 233)

ENVIRONMENTAL PROTECTION
AGENCY
40 CFTL Parts 260. 264. 265 and 271
IF AL -45-06-J1
AMN 2-050-AAJ4

Hazardous Waste Management
Liquids in Landfills

Agency Land Federal Projection
Agent:
Action: Final rule

Summary: Under authority of the Resource Conservation and Recovery Act [RCRA] as amended by the Hazardous and Solid Waste Amendments of 1954 [HSWA]. EPA is promulgating this final rule regarding the landfill disposal of containerized liquids mixed with sorbents. This rule satisfies the statutory requirement that EPA issue a rule that prohibits the disposals in hazardous waste landfills of liquids that have been sorbed in materials that biodegraded of that release liquids when compressed as might occur during routine landfill operations. This rule will help assure the stability of materials in hazardous waste landfills.

Recent articles have indicated that this new EPA ruling applied to all land fills. This is a gross error and this EPA law does not apply to Sanitary Land Fills nor incineration Regulations for Sanitary Land Fills are developed within each state and in some states. Even at the county level

The ideal sorbent would have three basic characteristics. First, the sportive material, by some mechanism, should bind large quantities of hazardous substance (high binding capacity). The second characteristic is that the binding of the hazardous compound(s) to the sorbent molecules must be sufficiently tight as to prevent movement as the toxic material from the sorbent under the pressures that might be experienced in routine hazardous landfill operations (non Leaching). The final important characteristic for an absorbent in hazardous landfill use is that if be non-biodegradable. This means that the absorbent will not break down in hazardous landfill when it is exposed to microorganism founds there. It is interesting that biodegradable is a desirable characteristic in a sanitary and land fill and undesirable in a hazardous land fill. In the hazardous land fill if the sorbent degrades, then the hazardous material is released much the same as in leaching free flowing liquids are the major problem in hazardous land fills.

In Summary, an ideal sportive material for hazardous waste use would have a high binding capacity, non-leaching properties and would be non-biodegradable. There are three tests that measure these properties. The paint filter test measures the sorption capacity (ASTM Method 9095), the liquids release test measures leaching and either ASTM G21-70(1984a) or ASTM G22-76(1984b) measures biodegradability using fungi or bacterial, respectively. In the new regulations (Federal Register / Vol. 57. 223), EPA chose to only use criteria #1 and #3. Sorptive capacity (Paint filter test) and biodegradability to evaluate sorptive materials.

Several types of sorbents are available on the market and none of these are ideal, based on the evaluation of the three ideal characteristics. The two groups of absorbents which easily qualify under the new regulations are synthetic polymers, such as polypropylene and diatomaceous earth (clays). It is interesting that neither of these two would perform well under routine land fill operations since both have relatively low absorptive capacity and leach readily, that is score poorly on the liquids release test (see Table1). ***Spahg Sorb***, a peat-derived product, performs well on all three tests (see Table1)

The biodegradation discussion in the new ruling would indicate the peat-derived products would be considered biodegradable because they have biological origin. The ***Sphag Sorb*** can be considered non-biodegradable because of it's large molecular mass. ***Spahg Sorb*** is derived from peat, but is dehydrated and sized to yield a very dry (<10% water) uniform product. The drying induces cross linking between the polymeric chains which make up peat decreasing the probability of significant biodegradation.

Table 1 summarizes the relative merits of some absorbents available today. Looking at the paint filler (capacity), liquids release (leaching) and biodegradation test, ***Sphag Sorb*** is clearly the best performing sorbent. The biodegradaton studies (ASTM G22-76 [1984b]) have been completed recently and show conclusively that ***Sphag Sorb*** can be considered as non-biodegradable. From the measured comparative data, it is clear that ***Spahg Sorb*** out performs it's sorptive competitors and is overwhelmingly superior for hazardous waste as well as for non-hazardous waste disposal. It is also apparent that if you use the criteria listed in the summary of this new EPA ruling, that of the currently available sorbents, only ***Spahg Sorb*** clearly meets all criteria. Polypropylene and Diatomaceous Earth barely pass the pain filter test and bid only one-fifth of the oil that ***Sphag Sorb*** can. Both leach easily and both have positive characteristic that they are non-biodegradable.

Respectfully Submitted,

William P. Vorkink, Ph.D.
On Site Technologies Ltd.
Laboratory Director

Gary K Lee
On Site Technologies Ltd.
Environmental Scientist

Table 1

SORBENT EVALUATIONS

Sorbent	Capacity[1] W / W Oil	Gas	Leaching[2] Oil	Gas	Biodegradation[3]
Diatomaceous Earth (Clay)	1:1	fail	failed	failed	Pass
Polypropylene	1:1	fail	failed	failed	Pass
Sphag Sorb	1:5	1:3:5	passed	passed	Pass
Corn Cob Particle	1:1	fail	failed	failed	Fail

[1] Passed Paint Filter test at 1:1
[2] Liquids Release test (pass/fail) conditions; 1:1 – Sorbent, Oil 40 PSI, 5 minute interval (gasoline under same conditions).
[3] Based on Federal Register / Vol. 57, No. 233

IN-HOUSE TESTING
SPHAG SORB POWER

APPLICATION OF *SPHAG SORB* ON LAND SPILLS

TO ABSORB OIL SPILLS ON LAND; the first rule is to measure the amount of ***Sphag Sorb*** required to absorb crude oil using the ratio of **2 lbs of *Sphag Sorb* to 1 Gallon of Oil**.

- Apply ***Sphag Sorb*** as low to the spill as possible - upwind, using the wind to help distribute the ***Sphag Sorb***

- ***Sphag Sorb*** should be applied over the entire spill area until there is **no** 'dark' colored ***Sphag Sorb*** showing

- let sit until the ***Sphag Sorb*** is completely saturated, meaning 'dark' colored again, repeat

  note: on a large spill, repeat the last two steps as often as is necessary, to reach the point where there is **no** 'dark' colored ***Sphag Sorb*** showing

- after two or three days it is recommended that the ***Sphag Sorb*** be tilled into the ground and more ***Sphag Sorb*** added if there appears to be any oil remaining and till again

- once tilling is complete, wet the area completely and maintain a moisture level of at least 30% throughout the remediation period. It is the combination of moisture, heat and air, at the same time, that allows the natural microorganisms in the soil to eat away the hydrocarbon (oil) and ultimately complete the remediation process. The hydrocarbon will breakdown well before the ***Sphag Sorb*** would even start to breakdown.

Keep in mind that no two spills are identical and the above is a 'guideline' for use.

The above process is also referred to as 'bioremediation' and/or 'land farming'.

United States Department of Agriculture

Food Safety and Inspection Service

Regulatory Programs
Building 306, BARC-East
Beltsville, MD 20705

Sphag Sorb, Inc.
7430 – 52 Street NW
Edmonton, Alberta T6B2G3

This product is acceptable for use in inedible product processing areas, non-processing areas, and/or exterior areas of official establishments operating under the Federal meat, poultry, shell egg grading, and egg products inspection programs provided that it is not used to mask odours resulting form insanitary conditions, and that and characteristic odour or fragrance done not penetrate into an edible product area.

Permission for the use of this compound on loading docks and other similar areas is left to the discretion of the inspector in charge of the establishment.

Acceptance of compounds by this department is in no way to be construed as an endorsement of the compounds or of any claims made for them.

If any change is made in the labelling information or formulation, the authorization for use in official plants becomes void immediately.

Sincerely,
John M. Damaré, Chief
Compounds and Packaging Branch
Product Assessment Division

"What about disposal of Sphag Sorb after use?"

RECOVERY IS SIMPLE: SIMPLY SWEEP, VACUUM OR SHOVEL UP. ***Sphag Sorb*** can be incinerated and, on its own, will not produce unwanted emissions. As an energy source it contributes 5,500 - 7,000 B.T.U.'s per pound during incineration (excluding absorbed hydrocarbons).

After use, ***Sphag Sorb***, in some limited circumstances has actually remained in the environment as a natural organic aid to bioremediation. This is due to the ability to remain non-leaching since it encapsulates hydrocarbons. The encapsulated hydrocarbons will biodegrade before the ***Sphag Sorb***. Independent laboratory tests confirm ***Sphag Sorb*** meets or exceeds E.P.A. standards for disposal of solidified hazardous liquids in landfills, as well as lack of toxicity for safe use in oil spill cleanup.* ***Sphag Sorb*** significantly outperforms other absorbents in pressure tests for non-leaching characteristics, essential in acceptable landfill disposal.**

The ***Sphag Sorb*** properties offer impressive benefits for disposal. It has passed the Toxicity Characteristics Leachate Procedure (TCLP) Test with oil and is compatible with land filling where regulations permit.***
Sphag Sorb can be used to solidify liquid wastes for safe transport of hazardous materials. Used as fill-in around overpack drums, it can eliminate serious leaks, preventing environmental damage.

THE *SPHAG SORB* PRODUCT LINE

8 qt., 3/4, 1.1 and 2.2 cu. ft. loose filled bags DOT approved drum/locking lid, loose filled with 6 or 9 cu. ft.
2" and 4" diameter socks, unbleached cotton knit casing; 5' and 10' lengths; 4' and 8' lengths
5 gallon pail/re-useable lid, loose filled 18" x 18" Pads and Pillows, unbleached cotton knit casing; 75% and 90% Filled
10 and 15 gallon emergency Spill Totes, in a water resistant, nylon tote bag
16.5, 30, and 55 gallon emergency Spill Kit, in DOT approved drum/locking lid

Sphag Sorb *products are available in a variety of forms, which can be customized to meet your needs*

Sphag Sorb products are ideal for cleanup and containment of oil spills in parking lots, machine shops, service stations, hazardous material, and emergency response areas, factories, transportation companies, refineries, bulk terminals, environmental situations.

* Meets or exceeds EPA Federal Register/Vol.57, No.223, 40CFR Parts 260, 264, 265, and 271; Nov. 18, 1992, Hazardous Waste Management: Liquids in landfills. Test Methods – ASTM G22-76 (1984b), PFT 9095. *(Check Local Regulations for disposal requirements.)* Passes Abalone Larval Development Short-Term Toxicity Test for Oil Spill Cleanup Agents (California). Protocol CSWRCB 1990.

** Outperforms other absorbents utilizing a NL Baroid API 1/2 Area Filter Press with rendered pressures of 50, 80, and 100 psi.

*** Toxicity Characteristics Leachate Procedure CFR 261.24, Appendix II - SW846 Method 1311 - June 29, 1990 Edition.

www.sphagsorb.com

Sphag Sorb SDS Safety Data Sheet

Section 1 – Identification

Safety Data Sheet

Product identifier

Product Name • SPHAG SORB®

Synonyms • Environmental Organic Absorbent

Relevant identified uses of the substance or mixture and uses advised against recommended use

• Consult manufacturer for recommended product use.

Details of the supplier of the safety data sheet

Manufacturer:

Earth Care Products
7430 – 52 Street NW
Edmonton, Alberta T6B 2G3
Canada
ag@earthcareproducts.com or jay@earthcareproducts.com

Emergency telephone number

Manufacturer • 1-866-468-5411 - IN U.S.

Manufacturer • 1-780-468-5444 - INTERNATIONAL

Manufacturer • 1-866-468-5411 - IN CANADA

Section 2 – Hazard Identification

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012: Information throughout the SDS applies to unused SPHAG SORB®. Once SPHAG SORB® has been used to clean up a spill it is recommended that the SDSs for the liquids or chemicals that were spilled be consulted.
Not classified

Label elements

OSHA HCS 2012

Hazard statements: No label element(s) required

Other hazards

OSHA HCS 2012: This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Section 3 – Composition/Information on Ingredients

Substances: Material does not meet the criteria of a substance.

Mixtures

	Composition	
Chemical Name	Identifiers	%
Peat	NDA	85.5% TO 87.5%
Moisture	NDA	10% TO 12%
Inert Ingredients	NDA	0.5%

Section 4 – First-Aid Measures

Description of first aid measures

Inhalation • Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.

Skin • If skin irritation were to occur, wash irritated areas with mild soap and water.

Eye • In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.

Ingestion • Rinse mouth. Do not give anything by mouth to an unconscious person. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

• Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Notes to Physician • All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 – Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media • In case of fire use media as appropriate for surrounding fire.

Unsuitable Extinguishing Media • N/A

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • Dry (unsaturated) SPHAG SORB® may wick petroleum-based products to an open flame.

Hazardous Combustion Products • N/A

Advice for firefighters

• Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6 – Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions • No special precautions expected to be necessary if material is used under ordinary conditions and as recommended.

Emergency Procedures • No emergency procedures are expected to be necessary if material is used under ordinary conditions as recommended.

Environmental precautions • No special environmental precautions.
Methods and material for containment and cleaning up

Containment/Clean-up Measures • Carefully shovel or sweep up spilled material and place in suitable Container.

Section 7 – Handling and Storage

Precautions for safe handling

Handling • Use good safety and industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Storage • Store in a dry place to prevent unwanted hydration.

Section 8 – Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines

	Result	ACGIH	OSHA
Peat	TWAs	10 mg/m3 TWA (inhalable particles, recommended); 3 mg/m3 TWA (respirable particles, recommended) *as Particulates not otherwise classified (PNOC)*	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction) *as Particulates not otherwise classified (PNOC)*

Exposure Limits Supplemental

OSHA

Peat as Particulates not otherwise classified (PNOC): Mineral Dusts: (15 mppcf TWA (respirable fraction); 5 mg/m3 TWA (respirable fraction); 50 mppcf TWA (total dust); 15 mg/m3 TWA (total dust))

Exposure controls

Engineering Measures/Controls • Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Personal Protective Equipment

Respiratory • For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face • Safety glasses with side shields are recommended.

Skin/Body • Protective clothing is not necessary for SPHAG SORB®, but may be required to handle absorbed hydrocarbons.

Environmental Exposure Controls • Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
OSHA = Occupational Safety and Health Administration
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 – Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Brown, fibrous solid.
Color	Brown	Odor	N/A
Odor Threshold	N/A		
General Properties			
Boiling Point	N/A	Melting Point/Freezing	N/A
Decomposition Temperature		pH	6 to 8
Specific Gravity/Relative Density	N/A	Water Solubility	Insoluble Loose
Viscosity	N/A		
Volatility			
Vapor Pressure	N/A	Vapor Density	N/A
Evaporation Rate	N/A		
Flammability			
Flash Point	N/A	UEL	N/A
LEL	N/A	Autoignition (@ 10% moisture)	>500 °F (260 °C)
Flammability (solid, gas)	N/A		
Environmental			
Flammability (solid, gas)	N/A		
Octanol/Water Partition Coefficient	N/A		

Section 10 – Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Avoid generating dust.

Incompatible materials

- Strong acids/bases.

Hazardous decomposition products

- None known.

Section 11 – Toxicological Information

Information on toxicological effects

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • None
Skin corrosion/Irritation	OSHA HCS 2012 • None
Serious eye damage/Irritation	OSHA HCS 2012 • None
Skin sensitization	OSHA HCS 2012 • None
Respiratory sensitization	OSHA HCS 2012 • None
Aspiration Hazard	OSHA HCS 2012 • None
Carcinogenicity	OSHA HCS 2012 • None
Germ Cell Mutagenicity	OSHA HCS 2012 • None
Toxicity for Reproduction	OSHA HCS 2012 • None
STOT-SE	OSHA HCS 2012 • None
STOT-RE	OSHA HCS 2012 • None

Potential Health Effects

Inhalation

Acute (Immediate) • May cause slight irritation with very high concentrations.

Chronic (Delayed) • N/A

Skin

Acute (Immediate) • Under normal conditions of use, no health effects are expected.

Chronic (Delayed) • N/A

Eye

Acute (Immediate) • Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.

Chronic (Delayed) • N/A

Ingestion

Acute (Immediate) • Under normal conditions of use, no health effects are expected.

Chronic (Delayed) • N/A

Section 12 – Ecological Information

Toxicity

• Non-mandatory section - information about this substance not compiled.

Persistence and degradability

• Non-mandatory section - information about this substance not compiled.

Bio accumulative potential

• Non-mandatory section - information about this substance not compiled.

Mobility in Soil

• Non-mandatory section - information about this substance not compiled.

Other adverse effects

• Non-mandatory section - information about this substance not compiled.

Section 13 – Disposal Considerations

Waste treatment methods

Product waste
- Unused SPHAG SORB® is not hazardous. Due to the variety of liquids and chemicals involved in spills, the manufacturer cannot recommend disposal procedures. Dispose of content and/or container in accordance with local, regional, national, and/or international regulations reflective to the absorbed liquid.

Packaging waste
- All waste should be packaged for shipment accordance to local regulation or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	Not Applicable	Not Regulated	Not Applicable	Not Applicable	NDA

Special precautions for user
- None Known

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- N/A

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture United States

Labor

U.S. – OSHA – Process Safety Management – Highly Hazardous Chemicals:		N/A
U.S. – OSHA – Specifically Regulated Chemicals:		N/A

Environment

U.S. – CAA (Clean Air Act)	–	1990 Hazardous Air Pollutants:	N/A
U.S. – CERCLA/SARA	–	Hazardous Substances and their Reportable Quantities:	N/A
U.S. – CERCLA/SARA	–	Radionuclides and Their Reportable Quantities:	N/A
U.S. – CERCLA/SARA	–	Section 302 Extremely Hazardous Substances EPCRA RQs:	N/A
U.S. – CERCLA/SARA	–	Section 302 Extremely Hazardous Substances TPQs:	N/A
U.S. – CERCLA/SARA	–	Section 313 - Emission Reporting:	N/A
U.S. – CERCLA/SARA	–	Section 313 - PBT Chemical Listing:	N/A

United States - California

Environment

U.S. – California	–	Proposition 65 – Carcinogens List:	N/A
U.S. – California	–	Proposition 65 – Developmental Toxicity:	N/A
U.S. – California	–	Proposition 65 – Maximum Allowable Dose Levels (MADL)	N/A
U.S. – California	–	Proposition 65 – No Significant Risk Levels (NSRL)	N/A
U.S. – California	–	Proposition 65 – Reproductive Toxicity – Female:	N/A
U.S. – California	–	Proposition 65 – Reproductive Toxicity – Male:	N/A

Section 16 - Other Information

Due to the variety of liquids and chemicals involved in spills the manufacturer cannot guarantee the performance of SPHAG SORB® other than to replace such quantity of product proved to be defective. SPHAG SORB® disclaims any liability for loss or damage incurred in connection with the use of this substance.

Disclaimer/Statement of Liability Key to abbreviations
NDA = N/A