# Technical Data Bulletin March 2012

# **3M<sup>TM</sup>** Petroleum Sorbents

#### Use

For control of spills of hydrocarbons on water or land. 3M<sup>TM</sup> Petroleum Sorbents repel water and float (as long as surfactants are not also present). They are typically used on water to contain and adsorb hydrocarbons that are on the surface or in an emulsion in the water.

## **Product Description**

3M<sup>™</sup> Petroleum Sorbents are made from inert, synthetic fibers principally polypropylene and polyester. They are available in a wide range of formats and are lightweight and nominally dust-free. They have a high absorption capacity which minimizes the amount of waste for disposal. HP Series antistatic products have a charge dissipating polypropylene scrim and are packaged in charge dissipating film.

## Color

White (sheets and rolls) and red / orange (booms and pillows).

# **Selection Guide**

- Antistatic Products The HP antistatic products are designed for use in low temperatures and low humidity to help reduce the risk of sparking.
- Booms May be connected together to form barriers. These are anchored at each end and positioned across still or moving water to contain, channel and adsorb oil spills. Suitable for use on rivers and in harbors.
- Drum covers Rectangular pad with perforated circle designed to fit on top of 55 gallon drum.
- Folded Combines four formats in one product. It is perforated every 16 inches (40 cm) and can be unfolded to be used as booms, pillows, sheets or rolls.
- Minibooms Generally on-land applications to contain and adsorb spills.
- Pillows Used for bulk absorption of oil on land or water. Particularly useful in drains to act as interceptors.
- Pads A highly adaptable format. They can be used on water to pick up oil covering large surface areas and in wiping applications.
- Rolls For fast coverage of large surface areas of water, they can be easily torn to length. Also used as a mat to keep shorelines or banks clean and to place used sorbents upon.
- Spill Kits and Response Packs May contain different types of sorbents and temporary disposal bags. Compact for easy storage and quick response.
- Sweep Used to pull over still water to remove surface films.



# **Typical Liquids Adsorbed**

3M<sup>™</sup> Petroleum Sorbents are suitable for adsorbing hydrocarbons and non-polar organic solvents, eg., oil, paraffin, diesel, benzene, alcohols, toluene, trichloroethane, esters and ethers.

#### **Limitations of Use**

3M recommends that a compatibility test with the liquid of interest be carried out prior to using the sorbent. For use in temperature over 60C it is essential that such a compatibility test is made prior to use. Do not use on aqueous liquids or aggressive liquids, strong acids, caustic oxidizers or reactive chemicals. In particular there is a risk of degradation with the following: oleum, chlorosulfonic acid, liquid bromine, fuming nitric acid, chromic acid, sulfuric acid and hydrogen peroxide.

## Precautions

3M<sup>TM</sup> Petroleum Sorbents are not in themselves hazardous products, however, they take on the characteristics of the liquids they adsorb. Adequate precautions should be taken when handling or storing hazardous / flammable materials and appropriate personal protective equipment should be worn. Users should be informed of the risks incurred in use, storage and disposal of used sorbents.

#### Disposal

Dispose of used sorbents only in accordance with local and national regulations. Disposal companies should be consulted for their recommendations.

## Waste Minimization

3M recommends that waste streams should be minimized wherever possible. 3M sorbents promote minimization by only being a small part of the total waste. In addition where laws allow, 3M<sup>TM</sup> Petroleum Sorbents can be disposed of by incineration yielding less than 0.2% ash (ASTM D-482). The high energy value of the sorbents is also favorable for incineration and waste-to-fuel systems.

#### **Absorption / Sorbency**

The sorbent capacity quoted in the table below is based on testing per ASTM F 726 "Standard Test Method for Sorbent Performance of Adsorbents." In brief, the sorbent samples were immersed in 20 weight motor oil, drained and weighed. In the 1981 version of the standard, samples are immersed for a variable period of time in an attempt to make sure the sorbent is saturated. The sorbent is then drained horizontally. In the 2006 version of the standard, samples are immersed for 15 minutes and then most types are drained vertically. Capacity according to both versions of the standard is presented. Even though the sorbents have not changed, the test methods have, and thus the numbers are different. **These numbers are nominal; there will naturally be variability in sorbent performance.** Capacity and speed of absorption will differ depending on the liquid's polarity, surface tension and viscosity. Ambient temperature may also affect results. Therefore, these numbers may not be directly applicable to your specific use.

Product Number	Size	Number / Case	Shipping Case Weight Ib (kg)	Nominal capacity per case ASTM F 726-81 gallons (liters)	Nominal capacity per case ASTM F 726-06 gallons (liters)
Booms					
T-270	8 in diameter x 10 ft (20 cm diameter x 3 m)	4	55 (25)	80 (300)	54 (204) - not fully saturated after 15 minute test
T-280	Two side-by-side 4 in diameter x 10 ft (10 cm diameter x 3 m)	4	27.5 (12.5)	40 (150)	27 (102) - extrapolated from T- 270 testing, not fully saturated after 15 minute test
Drum Cover					
P-DC22DD	26 in x 26 in	25	8 (3.6)	19 (72)	13 (48)
high capacity	(66 cm x 66 cm)				
Folded					
P-FL550DD high capacity	5 in x 50 ft (12 cm x 15 m)	3	18 (8.2)	31.5 (120)	26 (98)
Minibooms					
T-4	3 in diameter x 4 feet (7.5 cm diameter x 121 cm)	12	13 (5.9)	12 (45)	13 (49)
T-8	4 in diameter x 8 feet (7.5 cm diameter x 243 cm)	6	13 (5.9)	12 (45)	13 (49)
T-12	4 in diameter x 12 feet (7.5 cm diameter x 365 cm)	4	13 (5.9)	12 (45)	13 (49)
Pillows					
T-30 mini-pillow	7 in x 15 in (17 cm x 38 cm)	16	7.3 (3.3)	8 (30)	9 (34)
T-240	5 in x 14 in x 38 in (12 cm x 35 cm x 96 cm)	10	27.5 (12.5)	35 (130)	41 (155)

Product Number	Size	Number / Case	Shipping Case Weight Ib (kg)	Nominal capacity per case ASTM F 726-81 gallons (liters)	Nominal capacity per case ASTM F 726-06 gallons (liters)
Pads					
HP-156	17 in x 19 in (43	100	11 (5)	37.5 (142)	26 (97)
high capacity	cm x 48 cm)				
HP-157	34 in x 38 in (86	50	38 (17)	75 (280)	51 (193)
high capacity	cm x 96 cm)				
HP-255	17 in x 19 in (43	50	11 (5)	33 (120)	12 (46)
high capacity	cm x 48 cm)				
HP-556	17 in x 19 in (43	100	10 (4.5)	37.5 (142)	26 (98)
high capacity	cm x 48 cm)				
static					
resistant					
HP-557	34 in x 38 in (86	50	22 (10)	75 (280)	52 (196)
high capacity	cm x 96 cm)				
static					
resistant					
T-151	17 in x 19 in (43	200	20.75	43.5 (165)	36 (135)
	cm x 48 cm)		(9.4)		
T-156	17 x 19 in (43	100	21.5 (9.8)	40.5 (153)	33 (125)
	cm x 48 cm)				
T-157	34 in x 38 in (86	50	40 (18)	81 (310)	66 (250)
	cm x 96 cm)				
Rolls					
HP-100	38 in x 144 ft (96	1	20 (9.1)	73 (280)	52 (196)
high capacity	cm x 44 m)				
HP-500	38 in x 144 ft (96	1	20 (9.1)	73 (280)	53 (199)
high capacity	cm x 44 m)				
static					
resistant					
T-100	38 in x 144 ft (96	1	40 (18)	84 (320)	67 (254)
	cm x 44 m)				
T-190	19 in x 144 ft (48	1	20 (9.1)	42 (160)	34 (127)
	cm x 44 m)				

Product Number	Size	Number / Case	Shipping Case Weight lb (kg)	Nominal capacity per case ASTM F 726-81 gallons (liters)	Nominal capacity per case ASTM F 726-06 gallons (liters)
Spill Kits					
P-SKFL5	P-FL550DD as 26 ft (7.9 m)	3 rolls	7.5 (3.4)	15 (57)	13 (50)
P-SKFL31	P-FL550DD HP-156	2 rolls 30 pads	20 (9.1)	31 (117)	25 (93)
SRP-Petro	T-4 HP-156	9 mbms 15 pads	12.7 (5.8)	12 (45)	15 (56)
Sweep					
T-126	21 in x 100 ft (53 cm x 30 m)	1	15 (6.8)	25 (95)	16 (61)

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