

LIST OF HYDROPHOBIC FLOATING SORBENT TO BE USED AT SEA AND IN INLAND WATERS TESTED BY CEDRE

SORBENT TYPE A (BULK, "SPAGHETTIS")

The table below gives a non-exhaustive list of sorbent products tested according the **NFT 90-360** norm by Cedre's laboratory measured using crude Arabian Light, topped at 110°C (viscosity 42-45 cP at 20°C) for their efficiency and specifies:

- the sorbent capacity which allows a comparison of the products performances.
- the nature of the sorbent material, which is an essential element to define the storage conditions and the disposal of the product (eg: incineration).

Only products which meet to the following criteria are listed below:

1. sorbent capacity: sorbent capacity in weight higher than 5 or sorbent capacity in volume higher than 0,5 (calculated according to the apparent density of the product)
2. hydrophobia: retention capacity of water/retention capacity of oil equal or below 0,25
3. stability: the product must stay stable and un-friable for keep its properties

Name of the product	Nature of the material	Aspect	Characteristic of the sorbent	Absorbent capacity by weight	Supplier
Bioblue natural absorber	biopolymer	beige Flake	bulk	19,8	Biosolvit Ltda
Corksorb G01006	vegetal (cork)	dark brown granules	bulk	8,3	Amorim Isolamentos S.A.
Corksorb G02025	vegetal (cork)	light brown granules	bulk	3,0	Amorim Isolamentos S.A.
Dipsorb T	polyurethane	granulate	bulk	19,0	Saitec SA
Elcosorb	vegetal fiber (peat)	brown fiber	bulk	7,8	Dipter
Ergon	polypropylene	white fiber	« spaghetti »	10,6	Ergon
Granosorb_H	vegetal (wood)	light brown granulate	bulk	4,7	SAS Jacky Courtigne
Microsorb	polypropylene	white flake	bulk	13,7	Schoeller Industries S.A.S
Möbius Carbon Adsorbent	carbon and cellulose	black granules	bulk	4,0	Mobius group LLC
Oilkontrol	collagen	light grey flake	bulk	5,6	Technokontrol
Repsorb Spaghetti	polypropylene	white fiber	« spaghetti »	9,0	REP
Verdyol Sorbent	vegetal fiber	cream-coloured fiber	bulk	12,5	Verdyol International

NOTE ABOUT THE USE OF DATA OF TABLE

The sorbent capacity in weight in the table, is the retention capacity when the sorbent is saturated, with oil (crude Arabian Light, topped at 110° C). For each product, it is possible to determine the theoretical price per treated liter, by combining the retention capacity in weight (sorbent capacity) with the price of the sorbent. The price per treated liter of oil is a good criterion to compare the efficiency of various sorbents from an economic point of view.

Beyond this criterion, for obvious operational reasons, it is important to evaluate the sorbent capacity in volume, which is the volume of sorbent needed to recover a given volume of pollutant. This can be calculated by taking into account the apparent density of the product in its packaging, available from the supplier, and the sorbent capacity in weight.

Some manufacturers might modify the composition or the nature of the sorbent they market; in case of doubt, do not hesitate to consult Cedre which keeps a sample of each product that is tested ; this will allow, at least, a visual comparison to be made. Additionally it is always possible to order a control test of the product.

This procedure of approval is carried out without prejudice to the procedures prescribed under the French law n°77-771 of 12 July 1977, as amended by French Law n°82-905 of 21 October 1982 relating to the control of chemicals and its implementary provision.

If the data provided by Cedre, valid for a three year period, is not updated by the manufacturer or retailer, Cedre cannot guarantee that the product is still available for purchase or that is still presents the same characteristics as the sample tested.

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TYPES B & C (SHEETS, ROLLS or MAT)

The table below gives a non-exhaustive list of sorbent products tested according the **NFT 90-360** norm by Cedre's laboratory measured using crude Arabian Light, topped at 110°C (viscosity 42-45 cP at 20°C) for their efficiency and specifies:

- the sorbent capacity which allows a comparison of the products performances.
- the nature of the sorbent material, which is an essential element to define the storage conditions and the disposal of the product (eg: incineration).

Only products which meet to the following criteria are listed below:

1. **sorbent capacity:** sorbent capacity in weight higher than 5
2. **hydrophobia:** retention capacity of water/retention capacity of oil equal or below 0,25
3. **stability:** the product must be sufficiently strong to be manipulated as it is without tearing

Name of the product	Nature of the material	Aspect	Characteristic of the sorbent	Absorbent capacity by weight	Supplier
AquaPal Blue	polyolefin mixture	blue Foam	sheet	10,8	Palziv
AquaPal Green	polyolefin mixture	green Foam	sheet	11,6	Palziv
Dipter 2011	polypropylene	white	roll	11,9	Dipter S.A.S.
ENV200-M	polypropylene	white	sheet	12,9	SPC, a Brady business
Ergon	polypropylene	white	mat	11,6	Ergon
HY4050X L	polypropylene	white	sheet	16,7	Euroorb
OP100-E	polypropylene	white	sheet	13,0	SPC, a Brady business
Maresorb Pad	polypropylene	white	pre-cut and honeycombed sorbent	9,6	Mare Sea Cleaning Services INC
Maresorb Pad 2	polypropylene	white	sheet	11,9	Mare Sea Cleaning Services INC
Maresorb 350g/m ² Pad	polypropylene	white	sheet	11,0	Mare Sea Cleaning Services INC
Poroil	polyester polypropylene	brown	sheet	8,7	Enac
Absorbant d'huile et hydrocarbure 3M HP 156	polypropylene	white	sheet	16,5	3M
Repsorb Feuille	polypropylene	white	sheet	12,6	REP
Repsorb Feuille HC	polypropylene	white	sheet	12,8	REP

NOTE ABOUT THE USE OF DATA OF TABLE

The sorbent ability in weight in the table, is the retention capacity when the sorbent has reached on point, measured using crude Arabian Light, topped at 110° C. For each product: It is possible to determine the theoretical price per treated liter, by combining the retention capacity in weight (sorbent ability) with the price of the sorbent. The price per treated liter of oil is the only criterion by which the efficiency of the various sorbents can be compared from an economic point of view.

Some manufacturers may modify the composition or the nature of the sorbent they market; in case of doubt, do not hesitate to consult Cedre which keeps a sample of each product that is tested; this will allow, at least, a visual comparison to be made. Additionally it is always possible to request a product test from Cedre.

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TYPES D & E (PILLOWS or SOCKS and BOOMS) And TYPES G (SPECIAL PRODUCTS)

The table below gives a non-exhaustive list of sorbent products tested according to the **NFT 90-360** norm by Cedre's laboratory measured using crude Arabian Light, topped at 110°C (viscosity 42-45 cP at 20°C) for their efficiency and specifies:

- the sorbent capacity which allows a comparison of the products performances.
- the nature of the sorbent material, which is an essential element to define the storage conditions and the disposal of the product (eg: incineration).

Only products which meet to the following criteria are listed below:

1. **sorbent capacity:** sorbent capacity in weight higher than 10
2. **hydrophobia:** retention capacity of water/retention capacity of oil equal or below 0,25
3. **stability:** the product must stay stable and un-friable for keep its properties

Name of the product	Nature of the material	Aspect	Characteristic of the sorbent	Absorbent capacity by weight	Supplier
Types D & E - Pillows, socks and booms					
Dipter 2030	polypropylene	white	boom	23,0	Dipter S.A.S.
GO-1	mineral (Silicate)	grey fiber	boom	26,7	Green ocean B.V
HY810	polypropylene	white	boom	21,1	EuroSorb
Maresorb Boom	polypropylene	white	boom	14,7	Mare Sea Cleaning Services INC
MicroSorb barrage	polypropylene	white	boom	23,0	Schoeller Industries S.A.S
Type G - Special product					
Blocks – Rigid plate					

NOTE ABOUT THE USE OF DATA OF TABLE

The sorbent ability in weight in the table is the retention capacity when the sorbent has reached on point, measured using crude Arabian Light, topped at 110° C. For each product: It is possible to determine the theoretical price per treated liter, by combining the retention capacity in weight (sorbent ability) with the price of the sorbent. The price per treated liter of oil is the only criterion by which the efficiency of the various sorbents can be compared from an economic point of view.

In the case of a boom, the results of tests apply to the constituent material of the boom and not to the boom itself; the performances of booms may vary slightly according to the state of compression of the material within the boom.

Some manufacturers may modify the composition or the nature of the sorbent they market; in case of doubt, do not hesitate to consult Cedre which keeps a sample of each product that is tested; this will allow, at least, a visual comparison to be made. Additionally it is always possible to request a product test from Cedre.

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