

USE OF SORBENTS

PRINCIPLE

CONDITIONS OF USE

EQUIPMENT

Sorbents are solid products used to fix the pollutant (by impregnation), in order to facilitate recovery.

Sorbents are used to:

- ✓ reduce the spread of spilled oil
- ✓ fix a pollutant by impregnation to facilitate its recovery for small spills
- ✓ recover the pollutant from effluents generated by cleanup operations

- ✓ **Pollution:** all
- ✓ **Substrate:** all
- ✓ **Site:** all

● Basic equipment:

- ✓ Sorbents

● Extra equipment:

- ✓ Air blower (only for spreading of bulk sorbents)
- ✓ Landing nets (recovery of saturated sorbents)
- ✓ Bins, barrels (storage of saturated sorbents)

- **PPE:** Gloves (masks and goggles in the case of bulk sorbents) depending on the nature of the pollutant, exposure and responder activity.

- ✓ All sorbents deployed in the environment must be recovered, whether they are oiled or not, and disposed of in a special plant dealing with hazardous waste
- ✓ To recover oiled effluents during cleanup operations, use pillows, sorbent pads, sorbent rolls or mops in rocky areas
- ✓ To recover small quantities of oil on the water, use sorbent sheets or bulk sorbents
- ✓ To wipe oiled rocks or structures, use sorbent pads
- ✓ To protect a surface from getting oiled, use rolls of sorbent
- ✓ When spreading bulk sorbent, wait a few minutes to allow absorption to take place, stirring the sorbent in the oil if necessary. Then recover the sorbent using a hand dip net
- ✓ When using sorbent pads, turn them over to use the both sides of the pads.

Small floating boom, sorbent boom and mops (recovery of washing effluents)



Booms and mops (trapping of cleanup effluents)



Deployment of sorbent booms before cleanup starts



USE OF SORBENTS

Bulk sorbents

These products do not have any particular shape of their own and are made up of particles without any links between them.

They can be spread:

- ✓ manually (irregular spreading and only applicable to small amounts of pollution)
- ✓ using an air blower.

Whatever the method chosen, all personnel must be protected (masks, goggles), due to the effect of the wind on the sorbent and the possibility of irritation caused by the product.

Sheets

Sorbent sheets are flexible and thin but sufficiently resistant to be easily manipulated. They are not well suited to viscous pollutants.

Rolls

Sorbent rolls can be several tens of metres long. They are not well suited to viscous pollutants.

Pillows

Sorbent pillows are particularly used to prevent oil from escaping from a boom. Sorbent pillows are flexible and the sorbent material is contained in a permeable envelope, which is resistant enough to be manipulated.

Booms

Sorbent booms are flexible and the sorbent material is contained in a permeable envelope, which is resistant enough to be able to be handled. The boom parts should be designed to be joined together and overlap.



Booms and sheets deployed to trap thermal washing effluents

Despite being called 'booms', they are largely inefficient in terms of containment. Because of their small draught (lack of skirt), they are unable to efficiently contain an oil slick, except in particularly good conditions (no current and little wave action).

To improve containment performance, some manufacturers sell ballasted sorbent booms (increased draught) and/or booms with a skirt. Even if the oil is very fluid, it is often difficult to fully saturate them.

Their use is therefore more suited to limited spills in ports or sheltered areas, to recover slicks contained by ordinary booms, or downstream from a recovery site to trap any potential leaks of oil.

Mops

These types of sorbents are made of flexible, thread-like materials, forming light open structures able to trap viscous liquids. They are used mainly on thick oil on surfaces or in crevices.

With these sorbents the oil is not absorbed by the fibres but rather caught between the fibres, which explain why they are best suited to heavy hydrocarbons.