

"SORBENT" products for dealing with Leaks and Spills of LIQUIDS

GUIDANCE ON SELECTION FOR USE OF SORBENTS

The BSIF Sorbent Manufacturers Group and the Environment Agency have written this guidance to help you choose the correct sorbent for your site to help you safely manage any liquid spill.

This Guidance will help you and your staff during an emergency as you will have the correct type and format of sorbent available to cope with the liquids you have spilt.

The timely use of the correct sorbent helps reduce the risk of causing a health and safety problem and helps prevent damage to the environment.

This Guidance covers the most commonly occurring spill circumstances that may be relevant to different areas of your site.

If this Guidance does not cover the specific circumstances present on your site or after reading this Guidance your choice of sorbent is still unclear, please seek further information from our experts. The relevant contact details can be found on the back of this leaflet.



We have split your decision making process into three steps:

Check each step carefully as you may need to find more information or plan training to reflect the needs of your site

Consult Table 1 and match the nature of liquids you have on site to the type of sorbent.

Consult Table 2 and match the locations where you might have a spill to the formats of sorbents.

IMPORTANT NOTES:

This Guidance is designed to provide you with “selection for use” information on sorbent products to assist product selection. It is not intended to provide expert information on product use in specific locations or to deal with specific spills. Current regulations are clear that these responsibilities rest with the owner of the site and the employer of the personnel concerned.

This Guidance does not set out to define the relevant environmental or health and safety regulations which might be applicable to the site or persons handling or disposing of liquids which have been the subject of spills and leaks. Current regulations are clear that these responsibilities rest with the owner of the site and the employer of the personnel concerned.

Step One: Considerations

Carry out a full risk assessment

Before you check Tables 1 and 2 it is important that you do a full risk assessment to identify the nature of the liquids you have on site. Include the potential hazards to both the clean-up personnel and the environment as well as the final disposal or recovery route for the waste sorbent.

Material Safety Data Sheets [e.g. COSHH]

You must check the information on the suppliers' data sheets for all liquids used on your site to decide the best sorbent to use for spills of the liquids you have.

Familiarise yourself with booklet L129 - Approved Supply List

L129 is published by HSE Books and contains definitive descriptions of the terms "corrosive", "oxidising", "flammable", etc. Where these terms are used in this Guidance to describe the “nature” of a liquid they have the meanings as defined in this booklet.

Speak to your staff who handle leaks and spills

It is important that you are all aware that leaks and spills of liquids are not usually deliberate or predictable. Spills often need to be handled as an emergency by staff who do not carry out these functions on a day-to-day basis.

Plan for what you will do in an emergency

The Environment Agency Pollution Prevention Guidance note 21 “Pollution incident response planning” gives guidance to people making plans to help reduce the environmental damage that can be caused by an accidental spill. Get a copy from www.environment-agency.gov.uk/ppg

Train staff and run practice emergencies

Train your staff to deal with liquid spills and leaks. Have regular practices where you clean up a simulated spill, so that if there is a real spill your staff have experience of what they need to do. For more information on sorbent training, see contacts on the back page.

Quantity of sorbents to be available to handle spills

To make sure you have enough sorbents available on site you should check suppliers/manufacturers literature. Also check that the performance of sorbents you are choosing has been evaluated using BS 7959.

Siting of sorbent on your site

Having chosen the best sorbents for the liquids on your site make sure you put them near to where you handle the liquids so they can be reached quickly in an emergency.

Disposal of waste sorbent

Many used sorbents cannot legally be put into general waste disposal. After you have used any sorbents check with your liquid supplier how should dispose of the waste. You have a “Duty of Care” to ensure the waste sorbents are disposed of legally.

Get help from the Environment Agency

If your spill may have run into drains, watercourses or soaked into the ground call the Environment Agency free on 0800 80 70 60 for advice and help. We can advise you on how to clean up the spill and how to stop it happening again.

Do not be afraid to ask for more information

If anything in this guidance is not clear please do not hesitate to ask for more information. See back page for contact details.

Step Two: Selection of the most appropriate “type” of sorbent

Some liquids and spill circumstances may not fit into the selection charts below. If this is the case, use the contact information on the back page for help.

In principle, CHEMICAL and MAINTENANCE SORBENTS will handle both “aqueous” chemicals and liquids immiscible with water. “OIL SELECTIVE” SORBENTS are only suitable for liquids immiscible with water.

However when dealing with liquids that are immiscible with water in WET conditions, an “OIL SELECTIVE” sorbent should always be used.

IMPORTANT

In some circumstances, the incorrect use of “oil selective” sorbents with aqueous liquids can be dangerous to the personnel handling leaks and spills.

TABLE 1: “types” of sorbents v “nature” of spilt liquids

“Nature of Liquid”	“Type” of sorbent to use	Possible alternatives	Notes
OXIDISING	MINERAL Sorbent		Do NOT use combustible sorbents
CORROSIVE	CHEMICAL Sorbent		Maintenance sorbents are not recommended
HIGHLY FLAMMABLE	OIL SELECTIVE ABSORBENT	OIL SELECTIVE ADSORBENT	1. When using ADSORBENTS seek information on the need to reduce “vapours” 2. Ensure that suitable anti-static sorbents are chosen when necessary
GIVES OFF TOXIC VAPOURS	SUITABLE ABSORBENT	OIL SELECTIVE, CHEMICAL or MAINTENANCE ADSORBENT	When using ADSORBENTS seek information on the need to reduce “vapours”
AQUEOUS	MAINTENANCE Sorbent	CHEMICAL SORBENT	Do NOT use an OIL SPECIFIC sorbent
IMMISCIBLE with Water	OIL SELECTIVE Sorbent	MAINTENANCE or CHEMICAL Sorbent	Do not use a MAINTENANCE Sorbent in “wet” conditions

Note:

- ▲ To use this table correctly follow it through from top to bottom. You may miss important safety information if you focus on just one liquid.
- ▲ This table does not cover spills of Mercury. Specialised spill kits are available specifically for Mercury.
- ▲ It is good practice to select the “Type” you need from the table above. You should check the risk assessment before selecting an alternative type of sorbent.
- ▲ The “nature” of liquids are those used in the Approved Supply List [L129] as above.
- ▲ Unless otherwise stated, both ADSorbents and ABSorbents can be used. Adsorbents hold liquids on the surface and Absorbents take in and retain liquids in the solid body of the sorbent.
- ▲ Look for sorbents that are Colour Coded to BS 7959:
 - Maintenance Sorbents = GREY
 - Oil Selective Sorbents = WHITE or BLUE
 - Chemical Sorbents = YELLOW

Step Three: Selection of the most appropriate “format” of sorbent

TABLE 2: “Formats” of sorbents v location/circumstances of spill

✓ = Best to use

Location \ Format	Loose	Cushions & Pillows	Socks	Booms	Pads	Rolls and Blankets	Matting	Drip Trays	Drum Top Covers	Sweeps
<i>Indoors</i>										
• Drip Trays	✓	✓			✓			✓		
• Bunding	✓		✓	✓						
• Machines/Equipment			✓					✓		
• Drums			✓						✓	
• Sumps		✓								
• Manholes/Wells		✓								
• Wiping/Cleaning					✓					
• Work Surfaces					✓	✓				
• Walkways						✓	✓			
• Floors (rough/uneven)	✓									
• Floors (smooth)	✓		✓	✓	✓	✓				
• Floors (porous)	✓									
<i>Outdoors</i>										
On hard ground:										
• Concrete	✓			✓	✓	✓				
• Tarmac	✓									
• On Water	✓	✓		✓	✓	✓				✓
<i>Priorities</i>										
• Viscous liquids	✓									
• Speed of sorption	✓				✓	✓				
• Rapid deployment	✓				✓	✓				
• Drips/small leaks/spills		✓			✓					
• Ease of pick-up		✓	✓		✓	✓				
• Ease of disposal		✓	✓		✓	✓				
• Containment	✓		✓	✓						
• Filtration	✓	✓								
• Windy conditions				✓		✓				

Notes:

- ▲ As well as choosing the format of sorbent for where you will be using it (indoors or outdoors), your choice should also match with ‘priorities’ lower down the table.
- ▲ You should take into account different qualities of sorbent: to remove oil from water requires highest rejection of water and best oil retention. Seek manufacturers advice.
- ▲ Size of spill: for a larger spill use rolls/blankets with booms rather than pads or pillows with booms.
- ▲ Filtration: check with suppliers for suitable products to avoid problems with flow, i.e. consider the liquid flow rate.
- ▲ Containment: this is a general use for booms and socks, both indoors and outdoors, but the spilt liquid and local conditions will determine the effectiveness of the sorbent.
- ▲ Loose product: check with manufacturers on suitability for specific applications such as removing an oil spill from tarmac where the ability to ‘suck’ in the spill is useful.
- ▲ Avoid loose product if ease of pick up is essential.
- ▲ Windy conditions: choose a heavy product which will not blow away easily.

The guidance in this leaflet is considered as “good practice” but a combination of circumstances may result in the need to seek further information from the companies opposite. In an emergency, it is preferable to use the correct type of sorbent already on site in whatever format rather than wait until supplies of the ideal format of sorbent are available. Please note that sorbent density will alter considerably in use and that a variety of factors (eg viscosity of liquid) will dictate the quantity of sorbent required for a given volume of spill.

This literature is the copyright of the British Safety Industry Federation (BSIF) and for reasons of safety, it may not be reproduced in part under any circumstances. It may be reproduced in full with the written permission of the BSIF. The Environment Agency does not endorse any of the companies, types or format of product listed.

This Guidance is provided by:

BSIF Info-desk
Tel: 01745 585600
Web: www.bsif.co.uk