Fact-sheet - Chemical spill response procedure and material

What is the objective?

The objective is for the factory to be **ready to respond** to a chemical spill in a **safe and environmental friendly** manner. In order to do so, the factory has to make sure:

- **Employees know** how to react in case of chemical spill;
- **Equipment and materials** needed to clean-up the spill are available as per the Safety Data Sheets (SDS[1]) of all chemicals used on-site;
- **Waste material** will be disposed as per law and as per the internal procedure of the factory.

How to achieve this objective?

Step 1: **Write** a chemical spill response procedure. The content should cover actions to be taken:

Prior clean-up	• Notify the senior manager, isolate the area, aerate, remove ignition sources, etc. • Check the SDS to know what are the chemical hazards, how the chemical might react, what Personal Protective Equipment (PPE) should be used, special requirements for clean-up.

During clean-up	• Based on SDS: select the chemical spill clean-up material as per the instructions in the SDS and follow the instructions (e.g. confine and contain spill with absorbent pads, neutralize acid if applicable*, etc.).
	• And internal instructions: general instructions can be given along with the SDS specific instructions:
	  ○ Locate spill kit/ spill control materials (absorbents, etc.) / chemical clean up kit;
	  ○ Choose appropriate PPE (goggles, face shield, impervious gloves, lab coat, apron, etc.);
	  ○ Confine and contain spill;
	  ○ Cover with appropriate absorbent material;
	  ○ Sweep solid material into a recipient (plastic dust pan or closed container).
	
	* Acids that may be neutralized include hydrochloric acid, sulfuric acid, nitric acid, and phosphoric acid.

After clean-up	• Mop floors after clean-up. Be sure to decontaminate broom, dustpan, etc. • Dispose the contaminated solid material as per law and as per the instructions for the temporary storage and disposal of hazardous waste generated on-site (e.g. contaminated absorbent sand can be mixed with the sludge from the treatment plant).

Step 2: Provide the chemical spill clean-up kit in every section where chemicals are used and stored:

- Absorbent material: sand (picture 1), absorbent pads, cat litter, sawdust (picture 2), absorbent socks (picture 3);
- Acid neutralizer - sodium bicarbonate, soda ash (picture 4) and Alkali (Base) Neutralizer - sodium bisulfate;
- Bucket or bag to collect the contaminated sand (or other absorbent material) used to clean-up the spill;
- PPE: gloves, respiratory mask, apron, etc.




[1] Safety Data Sheet (SDS or also mentioned as MSDS): is a document provided for each chemical product which lists the properties of this particular chemical product and provide information on how to safely use it, store it, dispose it, what to do in case of accident, etc.

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Step 3: **Train** the employees to explain them how to react in case of chemical spill and make sure they understand the safety measures to be taken before cleaning-up the spill and the importance to check the SDS of the chemical spilled.

- **Control** that all the SDS are available on-site so any worker authorized to clean-up a spill is able to check the section 6- *Accidental release measures*.
- **Appoint a manager** to control the chemical clean-up material and PPE are available as per the SDS.

Common non-compliances

Fabric left-over and rags used to clean-up the chemical spills

In the chemical store, the factory is using pieces of fabric to absorb the chemicals in case of incident/spill. There is no specific chemical spill clean-up material (acid neutralized is missing, for example, whereas acids are being used) and there is no procedure to dispose the contaminated rags.

Unsafe practices to handle chemicals

As per the picture below, the way the worker is pouring the chemical in the smaller container is not safe. There is a risk of chemical spill during this operation:

The factory should train workers about how to handle chemicals in a safe way in order to avoid the risk of chemical spill. Moreover, pumps could be used to transfer chemical volumes from large drums to small containers.