



CHEMICAL SPILL MANAGEMENT

Guidance Sheet: Chemical Spill Management

The purpose of this Guidance sheet is to provide information on how to prevent chemical spills and/or manage and respond to spills in the event that they do occur.

Appropriate spill containment procedures and equipment must be implemented to control or reduce the risk from any spill or leak of any chemical in your workplace.

All spills should be cleaned up immediately. The cause of the spill should be investigated and appropriate measures implemented to prevent any recurrence.

Spill Prevention

Spills can be prevented in the workplace by:

- Ensuring appropriate chemical containers are used with seals that are in good condition (i.e. glass containers for corrosive chemicals). It is prohibited to use drink or food containers (new or discarded) to store chemicals.
- Ensuring all chemicals are stored appropriately. This may include:
 - provision of locked cupboards and storage areas;
 - provision of drip trays or purpose built chemical storage cupboards/cabinets with inbuilt spill retention; and
 - storage of chemicals in their respective Dangerous Goods Classes taking into account incompatibilities within a class. *Refer to [Guidance Sheet 1 – Chemical Storage](#) for more detailed information.*
- Ensuring appropriate equipment and procedures are in place for decanting chemicals. This may include:
 - provision of automated dispensing units
 - provision of appropriate equipment for decanting chemicals (i.e. easy pour funnels, trays, containers etc.)
 - provision of Personal Protective Equipment (PPE) such as gloves, goggles, coats/aprons etc., and
 - development of local Safe Work Procedures (SWP) or instructions on how



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- chemicals are decanted
- o safely and how spills are cleaned up
- o ensuring employees, students, volunteer workers or contractors have appropriate training in safe chemical handling/SWP.

Spill Management

Be prepared to respond to a spill by:

- chemical spill response kit readily available
- keeping the spill kit fully stocked and regularly maintained
- predetermining spill procedures and training relevant employees accordingly
- ensuring appropriate PPE is provided and used
- knowing the location and proper use of clean-up material
- knowing how to turn equipment and energy sources off (i.e. air conditioning, gas, electricity etc.)
- maintaining and reviewing the relevant Safety Data Sheets (SDS) to ensure appropriate risk controls are in place. SDS must be no more than five years old from date of issue, and

- developing and maintaining chemical SWP.

Spill Kits

Spill kits should be provided and be readily accessible in relevant locations at the workplace.

Commercially available spill kits can be purchased or the workplace can create their own. It is important that spill kits are tailored to meet the specific needs of each location where chemicals are stored. A good spill kit should include the following items:

Absorbents:

- Universal Spill Absorbent: 1:1:1 mixture of Flor-Dri (or unscented kitty litter), sodium bicarbonate and sand. This all-purpose absorbent is good for most chemical spills including solvents, bases and acids (with the exception of hydrofluoric acid)
- Absorbent pads and rolls: 'HazMat' absorbent pads
- Acid Spill Neutraliser: sodium bicarbonate, sodium carbonate or calcium carbonate
- Alkali (Base) Neutraliser: sodium bisulphate, boric acid or oxalic acid
- Solvents/Organic Liquid Absorbent: Inert absorbents such as vermiculite, clay, sand

Personal Protective Equipment (PPE)



- Hand protection: chemical resistant safety gloves (i.e. disposable neoprene or nitrile gloves)
- Eye protection: Safety goggles
- Body protection: Laboratory coat /Corrosive apron
- Foot protection: Enclosed footwear, shoe covers
- Respiratory protection: Dust mask/Respirator (All personnel must be properly fit tested before using a respirator)

Clean Up Material

- Brooms, plastic dustpan and square mouth shovel to sweep up the absorbent material
- Paper towels for minor spills
- Plastic tongs/ scoops to pick up contaminated absorbent material
- A chemical resistant bin (i.e. wheelie bin) with a close fitting lid to hold the volume of spill and

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absorbent residues prior
to disposal

- Heavy duty plastic bags
for wrapping
contaminated PPE

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Spill Response

Dangerous goods or hazardous substance spills should be cleaned up immediately, taking appropriate precautions for the hazards of the material.

Step 1 – Assess safety and stop the source of the spill

Limit access to the immediate area where the spill has occurred and ensure that only personnel with the appropriate training and equipment deal with the spill (providing it is safe to do so).

This may involve righting an overturned container or placing the source (e.g. cracked container) in a larger container to contain the spill.

Step 2 – Review safety precautions and risk controls

Review relevant Safety Data Sheet (SDS) for the spilt chemical (SDS should be located where the chemicals are used and stored). The SDS will have specific instructions on how to deal with chemical spills as well as first aid information. Safe Work Procedures should also be referred to, if developed.

Step 3 – Clean up the spill

Using appropriate PPE promptly cover the spill with absorbent material taking care not to spread the spill further.

Using a dustpan or spade, collect the absorbent material/waste and place into a thick walled, puncture proof chemical resistant bag/bin which is suitably labelled. The waste disposal method will depend on the amount and the type of chemical that was spilt and disposal should be in accordance with local and state regulations.

Step 4 – Notify the appropriate authority

The **Workplace Manager** should be notified immediately and the incident logged on eduSafe. If there is a hazard to health or property, call 000. The escape, spillage or leakage of any substance including dangerous goods must be reported to WorkSafe as per the Department's Incident Notification to WorkSafe Flowchart and to the **Victorian Environment Protection Authority** on 1300 372 842.

Step 5 – Restock the chemical spill kit

Restock the spill kit and return it to its designated storage location.

Note:

Certain types of chemicals must be prevented from entering the storm water system and appropriate procedures and or systems should be in place if you have chemicals of this nature.

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| Chemical type | Processes |
|---|---|
| <p>Neutralising <i>Acid</i> spills</p> <p>Acid spills can be neutralised with sodium bicarbonate, sodium carbonate, or calcium carbonate</p> | <ul style="list-style-type: none"> • Contain the liquid first • Sprinkle powder over the spill slowly, starting from the outside • Acid is neutralised if effervescence ceases in the presence of excess bicarbonate • Avoid breathing in the fine powder and the gas evolved (carbon dioxide) |
| <p>Neutralising <i>Alkali</i> spills</p> <p>Alkali spills can be neutralised with sodium bisulphite, boric acid or oxalic acid. Many alkalis can result in serious burns to skin and eyes, so proceed with extreme caution</p> | <ul style="list-style-type: none"> • Ensure that there is adequate ventilation • Eliminate all sources of ignition as neutralisation of alkali can produce heat. This includes removing all combustible materials that are close to the spill • Right any overturned containers where the spill originated or stop leak at source only if safe to do so • Avoid handling fluid even with nitrile gloves. • Liberally apply the alkali neutraliser around the perimeter of the spill to limit the extent of spreading and continue sprinkling it towards the centre. This should be done until the entire spill is covered and there is no free liquid or liquid migration. The neutralisation reactions should occur 1-5 minutes after application • Stand clear as splattering of reaction products might occur. The heat and vigour of the reaction will depend on the type and concentration of the alkali being neutralised • The alkali will be neutralised when the reaction has stopped and there is no more fizzing from the liquid Caution: Neutralised alkalis may produce heat. Wait until mixtures have cooled before sweeping up spilled material • Avoid handling spilled material until absorption is complete • Use non-metal, non-sparking tools such as a broom, scoop or scraper to clean-up neutralised spill. Take care not to overly disturb the neutralised spill |

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| Chemical type | Processes |
|---|--|
| Solid Spills | <ul style="list-style-type: none"> • Sweep solid material into a plastic dustpan and place in a sealed container. Care should be taken so as to minimise dust or the contaminated powder becoming airborne • Use of a dust mask is advisable • Wipe the area down with a wet paper towel and dispose of the used paper towel in a strong polyethylene bag. Seal the bag and ensure all waste is collected for proper disposal |
| Liquid Spills (other than flammable liquids) | <ul style="list-style-type: none"> • Spread absorbent pads over the spill starting with the edges first. This will help to contain the spill to a smaller area. Enough pads should be used to completely cover the liquid • Pick up the contaminated pads with tongs or a scoop and place into a chemical resistant bin • If the chemical is water soluble, wipe the area down with a paper towel, followed by wet mop and detergent • Appropriately dispose of used paper towel |
| Flammable Liquid Spills | <ul style="list-style-type: none"> • Control all sources of ignition- turn off all electrical and heat generating equipment • Spread the absorbent pads over the spill starting from the edge. Allow the pads to completely soak up the liquid • Pick up the contaminated pads with tongs or scoop and minimise direct contact • Place the waste into the chemical resistant bin. • Wipe the area down with a paper towel and copious amounts of water • Dispose of paper towel into a chemical resistant bin and seal the bin so it is airtight • Never use wet vacuum cleaner on flammable solvents |