



# *Environmental* Newsletter

Prepared by WG Environment

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## SITE SPILL PREVENTION PLANS

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### **1- Summary**

This Newsletter provides information to the companies' site managers, environmental managers, department heads and specialists on how to handle and store chemicals, fuels and waste in order to prevent accidental spills that damage the environment. It specifies the steps that should be taken to prevent spills and the action to be taken in the event of a spill.

### **2- Main causes and action guidelines in the event of spillage**

The soil and the underground and surface water of the installations and the surrounding area are sensitive to the pollution caused by spillage and leaks. This can be harmful to people's health and damage the environment; therefore, it is necessary to ensure that no hazardous substances enter into the environment.

#### **The main causes for spillage are as follows:**

- mishandling of containers and chemicals during transfer or delivery,
- inadequate storage areas,
- inadequate or poorly maintained installations and equipment,
- faulty equipment,
- pipes not placed correctly,
- valves not working properly,
- valves not shut properly,
- collisions,
- corrosion,
- overpressure,
- third party activity such as vandalism,
- extreme weather (floods, storms).

#### **The action plans during a spillage are as follows:**

1. ensure your own personal safety (e.g. reach a safe area and make sure you have personal protection equipment),
2. identify the spill (product, label, situation, smell, etc.) without getting exposed,
3. get some help (call the local emergency team or the fire-fighting services),
4. isolate the area and alert people (prevent personnel from entering the affected area),
5. check to see if there are any injured people (can you help them without risking your own safety),
6. identify the risks (fire, explosion, pollution, etc.),
7. prepare the spill prevention equipment and materials (select according to the product and advice provide on the Safety Data Sheet),

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8. stop the leak at source (e.g. close the valve, shut the pump, block the leak, place container in a vertical position, etc.) and control the spill (prevent the spill from spreading especially towards sewers or watercourses),
9. clean the spill (do not touch the product nor breathe it directly, make sure you have personal protection equipment, note the wind direction),
  - use the appropriate absorbent:
    - there is a large variety of absorbents which are based on their retention capacity, weight, hydrophilic and/or hydrophobic properties, corrosion resistance, formats (tubes, cushions, carpets, rolls, hardening agents, particulate matter, etc.), reuse possibility, biodegradability, etc.,
  - use the appropriate containers for storing absorbents and manage hazardous waste with an authorised management company,
  - decontaminate the used equipment,
10. investigate the causes and issue a report with conclusions, distribute to all other concerned sites, close the follow up actions and replace equipment if necessary,
11. contact the regulatory authorities if required to report such incidents.

### **3- Criteria for storing and handling hazardous substances**

#### **STORAGE AREAS**

**Chemicals, fuels and hazardous waste should be stored based on these guidelines. It is important to comply with the applicable legislation in each case. The following requirements should be met as far as possible:**

- They should be stored, sheltered from the wind and rain and far from the areas used by people and vehicles, and they should be properly identified and have restricted access. They should also be far from unroofed areas, as well as from gutters, scuppers, sewers, drainage points, etc.
- If there are outdoor storage areas, the recommendation is to install a rainwater collection system so that this water can be subsequently treated before its discharge or deliver it to an authorised management company since it may contain pollutants.
- If possible, the installations should be surfaced, in both the process areas and the storage areas and non-built-up external areas. The surface should use materials that are appropriate for the type of stored substances.
- The tanks that store products or waste should have a spill prevention system (e.g. bunds, trays, containment buckets, sloping supports, etc.), especially when the stored products are not solid.
- Incompatible substances should be stored in independent areas. Protect the chemicals from high temperatures and, if the installations store products with a low ignition point, establish a specific area with the appropriate conditions for storing them at the right temperature.
- Those areas should have absorbing materials available nearby in order to collect the discharge in the event of spillage. There should also be fire-fighting equipment and products that are appropriate for cleaning the area in the event of a spill.
- Take into account the maximum storage times of the various substances based on the applicable legislation so that packages do not corrode and leak  
They should have protection devices (e.g. metal cages) that prevent the packaging from breaking when receiving blows, especially regarding the large containers.
- Hazardous chemicals should be stored in original packaging.**
- The containers or packaging should be labelled properly in a clear, legible and indelible way, with a label stuck firmly to the packaging. The label should at least identify the name of the contained product and the pictograms showing risks associated with the product including the advice to prevent and handle spills
- Develop and implement test programmes and inspections in order to prevent faults in the tanks. Those programmes include cathode protection tests, etc.
- Make sure that the underground tanks have secondary containment, overflow protection, corrosion protection and leak detection systems.( see ENL 16)
- If the installations have ponds for storing wastewater before treatment, they should be properly waterproofed in order to prevent leaks into the soil that may pollute it.
- Make sure that the condensation or steam lines do not fall directly on the floor in order to minimise corrosion

## PRODUCT HANDLING

**Chemicals, fuels, raw materials, hazardous waste and any other type of substance that can pollute the environment should be handled based on the following guidelines:**

- each product should be placed in its designated area. This prevents accidents which may lead to materials becoming unusable and turning into waste. Waste should always be deposited inside the bin and not outside,
- the packaging should be handled with care in order to prevent it from breaking or leaking and to ensure that the labels or notes identifying its content do not become deteriorated,
- do not damage or break materials such as batteries and fluorescent lights when depositing them in the bin,
- the installations should be cleaned preferably in dry conditions,
- the oils and other residual fluids used to maintain the machinery and equipment should be transferred to the hazardous waste storage area in order to prevent spillage. They should never be eliminated by throwing them on the floor or into the sewage or rainwater networks,
- the appropriate means should be used to transport the products in order to prevent leakage and spillage. Any spills should be properly collected,
- the vehicles should be cleaned in the designated areas in order to prevent the rainwater from being polluted by the hydrocarbons,
- **there should be product work instructions accessible to personnel describing what to do in the case of a spill.**

### **4- How to avoid hazardous substance spills. Examples.**



- Do not bury, discharge or deposit any type of waste directly on the soil since substances that can change its pH as well as other substances such as heavy metals may seep into it.



- Do not place equipment that contains oils on unsurfaced soil since small continuous leaks of that substance may seep into the soil, leading to pollution. Also, provide containment buckets for that equipment in order to prevent spillage.



- Draining equipment such as compressors tends to contain oil. Do not discharge them into the rainwater networks, nor into rainwater pits not fitted out for this (i.e. without a oil separator), nor on unsurfaced areas.



- Never mix hazardous waste with municipal waste, especially in outdoor bins and on unsurfaced areas since this may produce leachates of hazardous substances and seep into the soil.



- Do not load/unload fuel tanks onto unsurfaced area and without a spill prevention system since this may lead to spills or small leaks which can seep into the soil. Good equipment maintenance.
- If tanks need to be underground do ensure that systems are in place to detect leaks.



- Do not store hazardous raw materials near unprotected rainwater networks.



- If the installation has septic tanks, do not discharge waste into them, such as oil from the drainage, spillage, etc.
- Make sure that the septic tank meets all the legal requirements.



- Do not change the oil for vehicle maintenance, without the use of wheelbarrows/catchpots, in areas that have not been fitted out, since this may lead to spills onto the soil which may seep into it and pollute it.

**5. What can we do if...?**

What can we do if...?	Environmental impact	Solutions
...oil or another hazardous substance has been spilled during handling and there is a risk that this reaches the rainwater collection pits or the sewage system?	Cleaning the spillage of hazardous substances with water increases the risk of land pollution and generates a greater amount of wastewater.	<ul style="list-style-type: none"> <li>• Seal the rainwater collection pits that may be affected.</li> <li>• Clean the spill without using water, using only absorbent material specific for each spilled substance.</li> <li>• Deposit the absorbent material in the hazardous waste packaging labelled “polluted absorbents”.</li> </ul>
...we do not know whether or not the spilled substance is hazardous?	This may damage the environment and harm ourselves if the right measures are not taken.	<ul style="list-style-type: none"> <li>• Take care by handling it as hazardous until we know that it is not hazardous.</li> <li>• Check the original product’s packaging information.</li> </ul>
...we detect a water leak during the process that contains potentially hazardous substances?	This may pollute the land and water if it reaches the drainage system.	<ul style="list-style-type: none"> <li>• Place containers to collect the liquid and prevent temporary pollution until the final solution is implemented.</li> <li>• Warn the responsible person.</li> <li>• Stop the leak immediately.</li> <li>• Clean the spill without using water, using only absorbent material specific for each spilled substance.</li> <li>• Deposit the absorbent material used in the hazardous waste packaging labelled “polluted absorbents”.</li> </ul>
...there is a fire or explosion at the installations?	Hazardous substances may be released in various points of the installations that may pollute the land and water.	<ul style="list-style-type: none"> <li>• Follow the indications stated in the installation’s Emergency Plan.</li> </ul>

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**6- Actions**

The EIGA member companies should make sure that:

- The storage areas and the handling of hazardous substances including wastes should meet the minimum EIGA requirements listed above.
- Actions in the event of a spillage of hazardous substances are included in the site emergency plan
- The emergency plan training of employees and contractors is appropriate and that they know the action guidelines in the event of a spill within the installations.

**Comments**

The EIGA WG-5 members welcome any feedback on this and other publications.

If you need any more information or would like to make any comments please contact your WG-5 representative or the WG-5 Chairman.

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