



TOGETHER FOR
SUSTAINABILITY

TfS Supplier Academy – Fact Sheet #3

CHEMICAL SAFETY



TOGETHER FOR
SUSTAINABILITY

CHEMICAL SAFETY

Chemical safety is ensured by proper handling and storage of chemicals. It protects the health & safety of any person in the facility. Chemical safety also minimizes the risks of accidents through, for example, fire or spillages and a subsequent contamination of soil / water / air. Moreover, it reduces losses of chemicals because of inappropriate storage or handling, for example through evaporation.

KEY EXPECTATIONS

Ensure product safety of chemicals

- ✓ The components of all products are registered according to the destination country's legal requirements.
- ✓ The company has an up-to-date and complete set of Material Safety Data Sheets (MSDS) available for all hazardous materials used or stored on-site (raw materials, intermediates, products).
- ✓ There is a process in place to ensure proper MSDSs are obtained or created for new raw materials, intermediates, and products.
- ✓ The company ensures proper labelling of all hazardous materials / dangerous goods, substances, raw materials, and final products handled.

Ensure proper storage of chemicals

- ✓ Processes to ensure material compatibility are established.
- ✓ Processes to identify hazardous substances and to implement applicable requirements for storage, use and handling to ensure compliance are established.
- ✓ A system or procedure is in place to ensure incompatible materials are segregated during storage (container storage), including a method to prevent leakages of two incompatible materials when being in contact.
- ✓ Containers are properly labelled in particular to warn employees of the hazardous content.

WHY IS THIS IMPORTANT?

Improper handling and storage of chemicals can lead to serious incidents, such as:

- Health issues which may lead to long term damage (e.g. acid burns, irritation of skin, eyes, or airways)
- Fire
- Damage to the property

PRODUCT SAFETY

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS are documents, which list the properties of particular chemical substances or mixtures. These sheets are a widely used system for providing information, such as potential hazards and instructions for safe use.

The original MSDS provided by the chemical supplier follows a 16 section format which is internationally agreed upon. Please note: MSDS from countries outside the EU may have different structures!

Original MSDS

- | | |
|--|-----------------------------------|
| 1. Identification of substance | 9. Physical / chemical properties |
| 2. Hazards identification | 10. Stability and reactivity |
| 3. Composition / ingredients | 11. Toxicological information |
| 4. First aid measures | 12. Ecological information |
| 5. Fire-fighting measures | 13. Disposal considerations |
| 6. Accidental release measures | 14. Transport information |
| 7. Handling and storage | 15. Regulatory information |
| 8. Personal protective equipment (PPE) | 16. Other information |

It must be ensured that for all chemicals MSDS are available!

MSDS are especially needed for:

- ✓ Proper labelling
- ✓ Required PPE use
- ✓ Requirements for storage, transport, handling, disposal
- ✓ Proper first aid measures
- ✓ Appropriate action in case of spillages
- ✓ Proper fire fighting measures

PRODUCT SAFETY

CLASSIFICATION AND LABELLING OF CHEMICALS

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

Chemicals must be labelled according to their classification, based on the GHS standards. GHS is an internationally agreed-upon system, created by the United Nations. The purpose of this system is to achieve uniformity globally and across industries.

The system includes 9 labels:



GHS 01
Explosive



GHS 02
Flammable



GHS 03
Oxydising



GHS 04
Compressed
gas



GHS 05
Corrosive



GHS 06
Toxic



GHS 07
Irritant



GHS 08
Systematic
health hazard



GHS 09
Environment

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CHEMICAL SAFETY

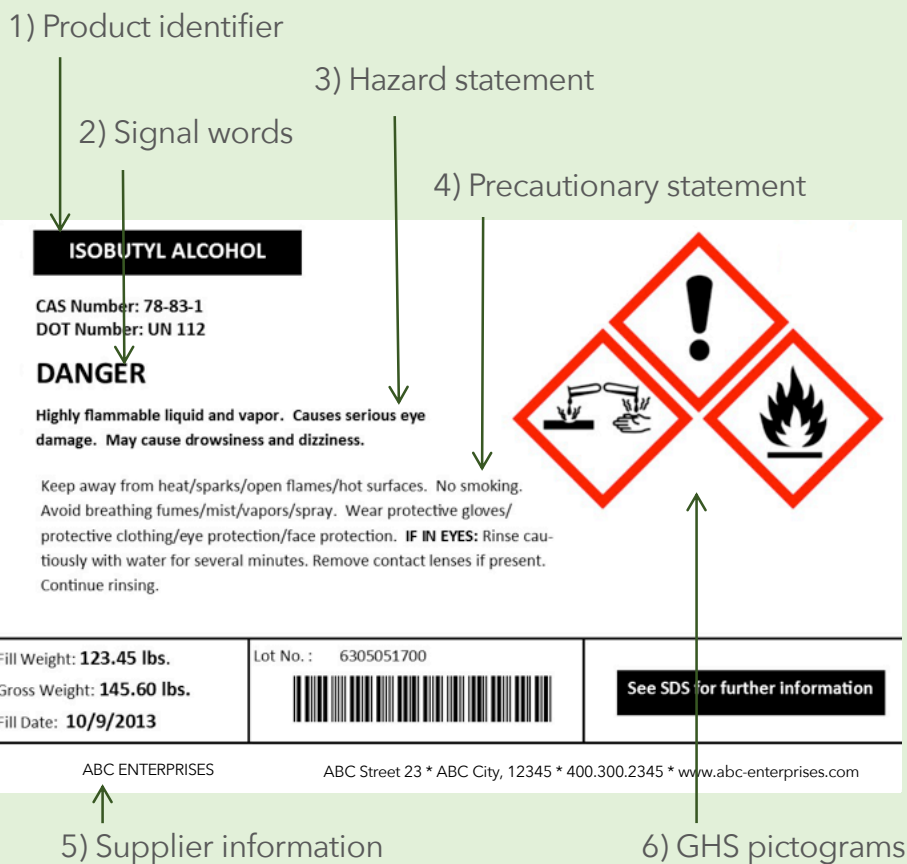
PRODUCT SAFETY

LABELLING OF CHEMICALS

Besides putting up warning signs, it is also essential to label containers properly:

ELEMENTS OF A LABEL

- 1) Product identifier
- 2) Signal words
- 3) Hazard statement
- 4) Precautionary statement
- 5) Supplier information
- 6) GHS pictograms



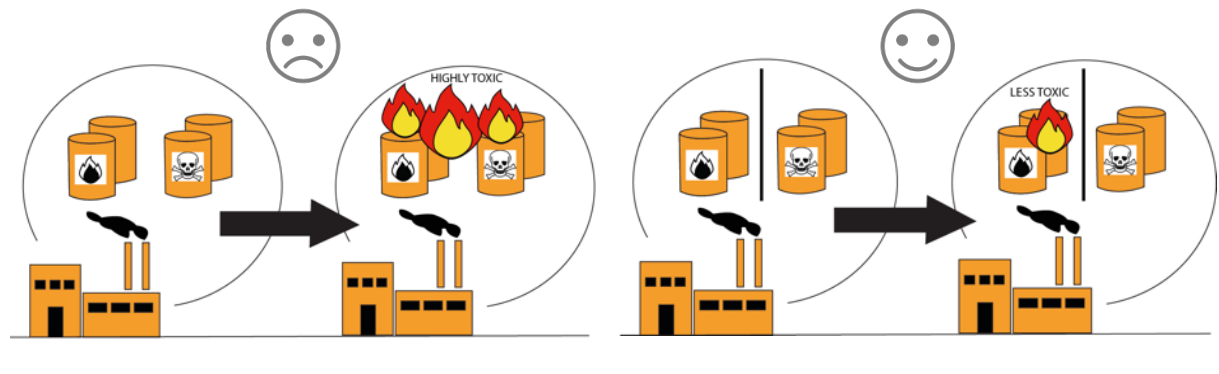
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CHEMICAL SAFETY

SAFE STORAGE













COMPATIBILITY OF CHEMICALS




To minimize the potential impact of chemical leaks and spillages, and the possible consequences of fires in chemical storage areas, it is important that incompatible chemical materials are stored in adequate separation.



MSDS provide specific information on chemical compatibility. Hazard symbols are also helpful for a compatibility check.

Please note: This table on the right is a generic example. It is important to review the MSDS for detailed information.

						
	GHS 05 Corrosive	GHS 07 Irritant	GHS 06 Toxic	GHS 02 Flammable	GHS 03 Oxidising	GHS 01 Explosive
	Green	Green	Yellow	Red	Red	Red
	Green	Green	Green	Green	Yellow	Red
	Yellow	Green	Green	Yellow	Red	Red
	Red	Green	Yellow	Green	Red	Red
	Red	Yellow	Red	Red	Green	Red
	Red	Red	Red	Red	Green	Green

 = are not allowed to be stored together
 = are allowed to be stored together, subject to special precautions
 = are allowed to be stored together

©GIZ Chemical Management Toolkit

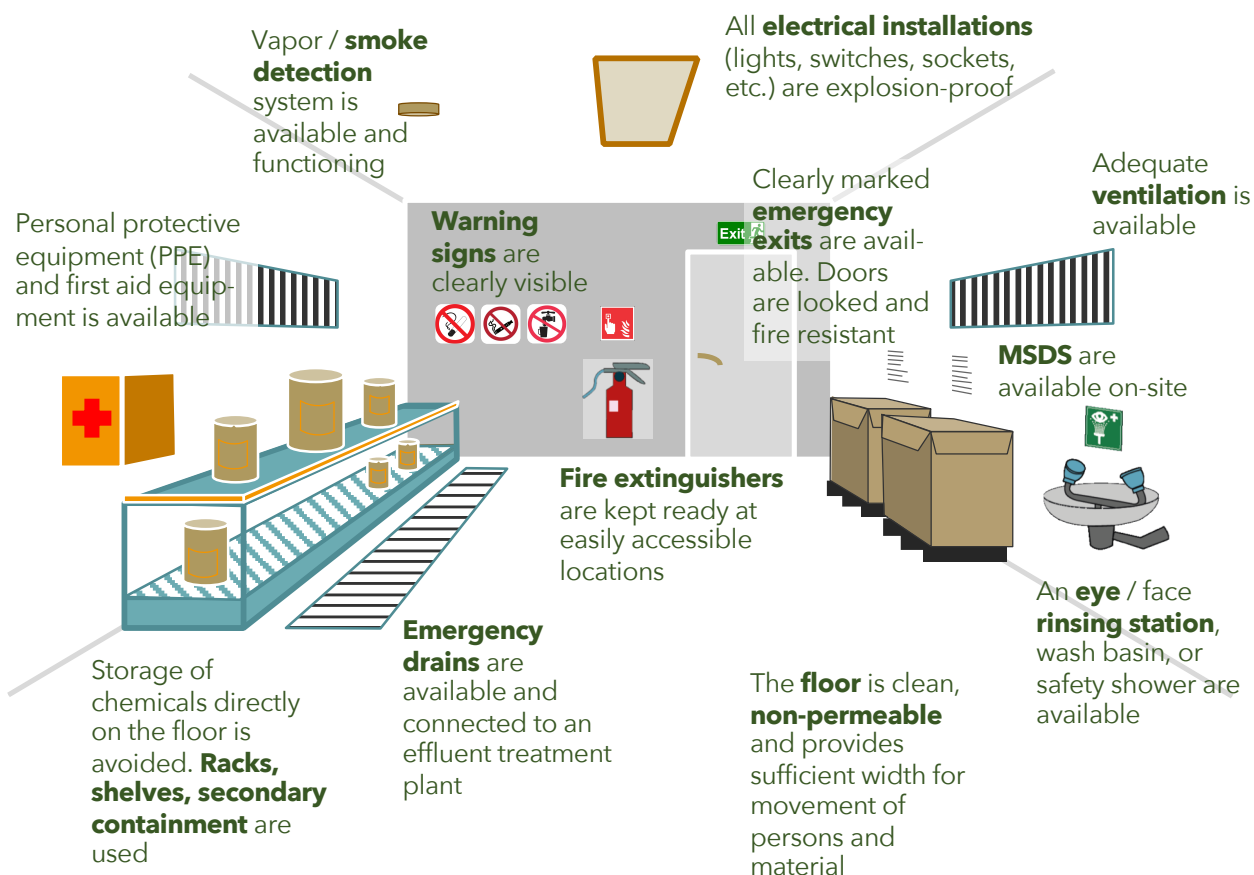
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SAFE STORAGE

CHEMICAL STORAGE ROOM

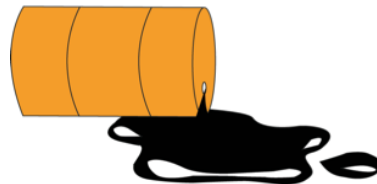
Any chemical storage must include particular health and safety equipment in order to minimize risks and hazards and protect human beings.



HANDLING CHEMICAL SPILLAGES

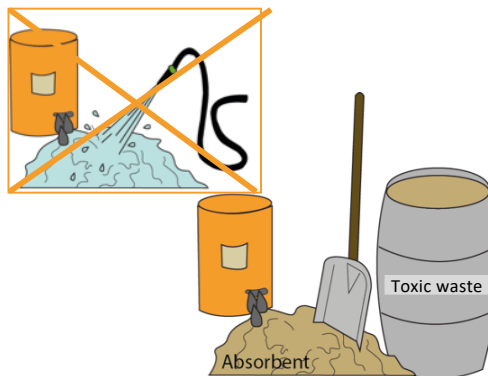
CLEAN UP SPILLAGES

- ✓ Plan and prepare for spillage response
- ✓ Evaluate and handle spillages
- ✓ Deal with hazardous waste



Handling liquid spillages

- ✓ Treat spillages asap
- ✓ Collect spillages with solid absorbent (in clay, sand, sawdust)
- ✓ Decontaminate area according to information on MSDS
- ✓ Do not use water to wash away liquid spillages



Handling solid spillages

- ✓ Remove with a shovel, a vacuum cleaner, or similar
- ✓ Dispose waste according to manufacturer's instructions and/or legal requirements

