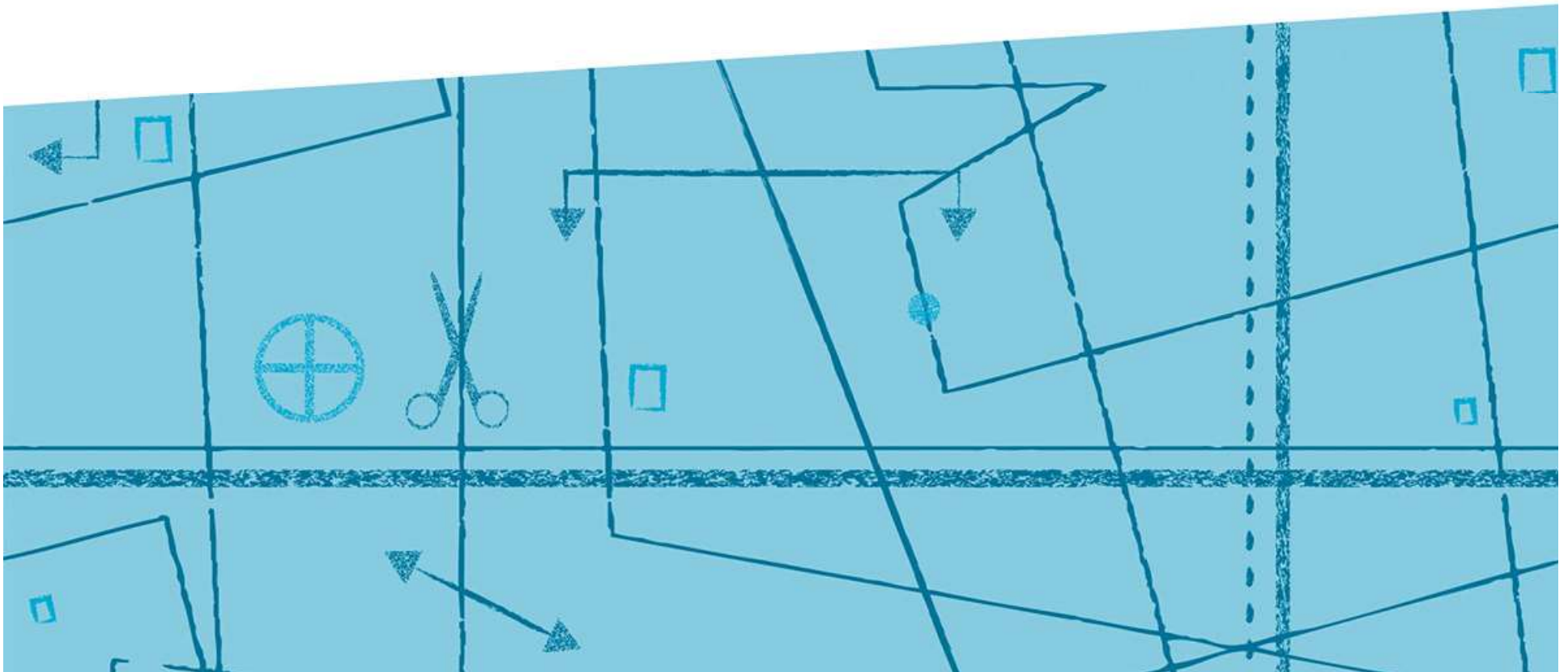


Module 3

Good Housekeeping



Overview and Content

Module 1: Chemicals in Textiles

Module 2: Chemical Management

Module 3: Good Housekeeping

Module 4: Wastewater and
Sludge Treatment

Module 5: Health Protection and
Occupational Safety

Module 6: Risk Analysis and Action
Planning

Module 7: Evaluation and Possible
Next Steps

- Target of the Module
- What is Good Housekeeping?
- Good Chemical Management Practices
- Improve Chemical Handling
- Chemicals Labelling
- Chemicals Storage
- Chemicals Waste Handling
- Exercise and Example



Target of the Module „Good Housekeeping“

- Familiarize with the concept of Good Housekeeping
- Reduce workers exposure to hazardous products
- Improve control of tools and materials, including inventory and supplies
- reduced property damage by improving preventive maintenance
- improved productivity



What is Good Housekeeping?

Effective housekeeping helps to control or eliminate workplace hazards.

Housekeeping is not just cleanliness:

- ✓ Keeping work areas neat and orderly
- ✓ Maintaining halls and floors free of slip and trip hazards
- ✓ Removing of waste materials (e.g., paper, cardboard) and other fire hazards from work areas.
- ✓ Paying attention to important details such as the layout of the whole workplace.
- ✓ Good housekeeping is also a basic part of incident and fire prevention.

Effective housekeeping is an ongoing operation: it is not a one-time or hit-and-miss clean-up done occasionally.



What is Good Housekeeping?

What is the purpose of workplace housekeeping?

Poor housekeeping can be a cause of incidents, such as:

- tripping over loose objects on floors, stairs and platforms
- slipping on greasy, wet or dirty surfaces
- cutting, puncturing, or tearing the skin of hands or other parts of the body on projecting nails, wire or steel strapping

To avoid these hazards, a workplace must "maintain" order throughout a workday. Although this effort requires a great deal of management and planning, the benefits are many.



What is Good Housekeeping?

What are some benefits of good housekeeping practices?



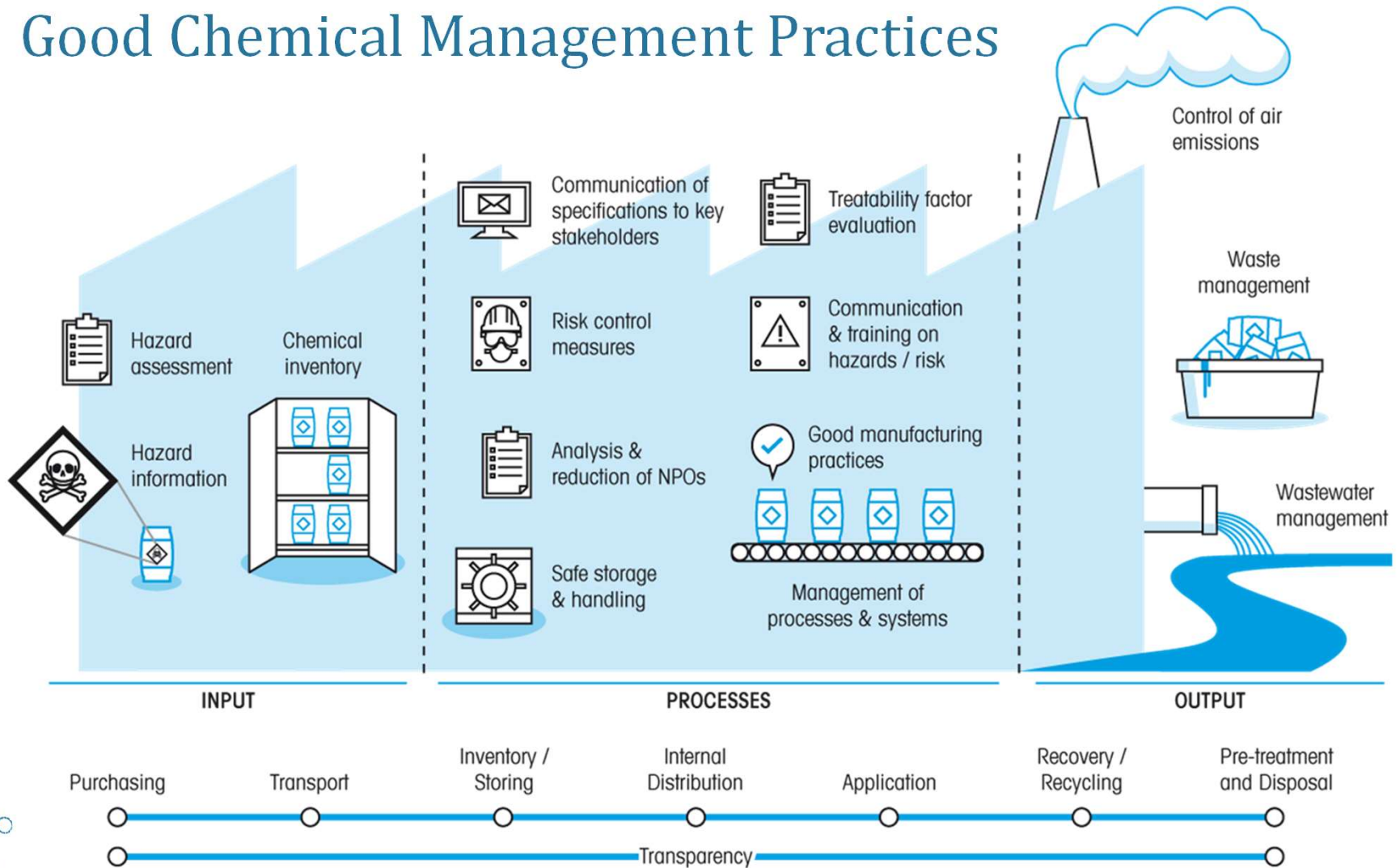
Good Chemical Management Practices

Tasks/Elements

- Establish purchase policy and practices
- Control exposure and releases
- Select and use personal protective equipment
- Provide training, procedures and instructions
- Improve chemical handling
- Safe chemical storage
- Safe chemical transport
- Plan and prepare for chemical emergencies
- Manage and dispose chemical waste



Good Chemical Management Practices



Good Chemical Management Practices

Establish purchase policy and practices

Your company's purchasing and disposal policy is guiding you on what you can and cannot order. By eliminating the purchase of unnecessary hazardous products, you reduce the risk to workers as well as overall product costs.

SELECT AND DOCUMENT YOUR CHEMICAL SUPPLIERS

ZDHC guidelines:

- Established and implement a clearly defined process for identifying and using preferred suppliers and removing suppliers from the preferred list when appropriate.
- Listed chemical manufacturer and/or supplier should be easily retrievable from your chemical inventory.
- In the chemical inventory, the name and relevant contact details for each chemical supplier should be documented for urgent technical support or in case of emergencies (e.g. point-of-contact name, phone number and address).

Good Chemical Management Practices

Documentation requirements for chemicals of concern

- Your company is expected to obtain and keep on record of signed and dated declarations like Certificates of Analysis (CoA), test reports etc. from your dye and chemical suppliers.
- This confirms that the formulations supplied to the facility are conform with the relevant retailers' or the facility's own restricted substances lists RSL and/or the ZDHC Manufacture Restricted Substances List ZDHC MRSL.



Good Chemical Management Practices

Documentation requirements for chemicals of concern

Make sure that:

- Your chemical suppliers ALWAYS provides a current Safety Data Sheet for each chemical formulation, so you can review the SDS for chemicals listed in the MRSL
- If the formulation has not already been assessed, verify whether you can obtain a third-party testing or certification from third party certification body or recognized laboratory (as per ISO 17025) to assure MRSL or RSL compliance of the formulation.
- First party conformance declarations includes the supplier contact information, a unique formulation/ batch identification, a statement of what the formulation conforms to, and clear indications of the limitations of this conformance declaration.



Good Chemical Management Practices

Control exposure and releases

- Reduce the risk that a hazardous chemical can come in contact with the worker or the environment to the lowest possible level. Also consider that it could produce fire or an explosion.
- Better than reducing the risk is eliminating the risk altogether by avoiding or substituting the hazardous chemical or, as an alternative, to improve the operation process.
- To minimize risks, usually a multi-point strategy of controls can be used to prevent and reduce the possibility and thus the risk of accidents, health impacts, fire or explosion and adverse effects on the environment.



Good Chemical Management Practices

Elements of Good Housekeeping in textile wet processes:

- ✓ Chemicals handling
- ✓ Chemicals labelling
- ✓ Chemicals Storage
- ✓ Use of chemicals
- ✓ Chemicals waste handling

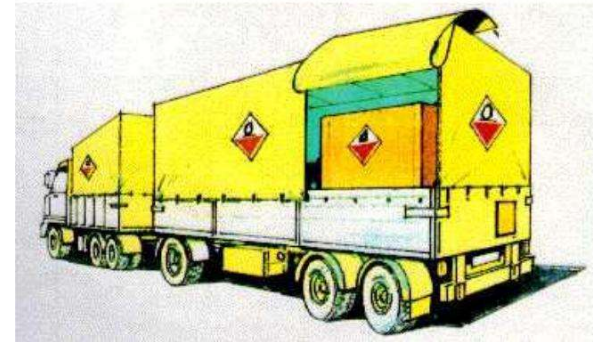


Improve Chemical Handling

Transport of Chemicals:

Take a look at following areas:

1. Transport of chemicals and chemical waste to/from your company
2. Receiving and unloading of chemicals
3. Internal transport and conveyance of chemicals and waste (e.g. transport to warehouse, from warehouse to production areas, within production areas,...)



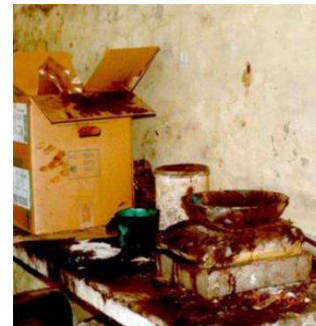
Source: ILO-CIS

Improve Chemical Handling

Good housekeeping refers to a number of practical measures that can improve productivity, obtain cost savings, and reduce environment, health & safety impacts of your production.

- ✓ Rationalizing the use of raw materials, chemicals, water and energy inputs
- ✓ Reducing the volume and toxicity of waste, waste water and emissions
- ✓ Conserving materials and energy
- ✓ Improving working conditions and occupational safety & health, e.g. by the use automatic dispensers

The implementation of such measures is usually relatively easy and often of low-cost nature!



Improve Chemical Handling

Ensure adherence to simple day-by-day practices:

- ✓ Repair all broken seals of chemical containers to avoid vapours from escaping.
- ✓ Ensure that the lids of all chemical containers are tightly closed.
- ✓ Inspect packaging of materials to make sure that it is not damaged during delivery and storage.
- ✓ Return poorly packaged and/or deteriorated chemicals to suppliers. Apply storage practices to avoid waste of chemical due to spoilage during storage or exceeding of shelf life



Improve Chemical Handling

- ✓ Regularly inspect and keep the storage area clean to avoid any contamination of materials.
- ✓ Immediately clean up any spillage to pre-vent accidental mixtures that could lead to ignition or explosion
- ✓ Instruct workers to avoid using the same tools (e.g. cups, scoops, buckets) for measuring and removing different materials in order to avoid contaminating stored chemicals



Improve Chemical Handling

Pay attention to equipment maintenance and operations audit

Take a closer look in your company:

- Are the machinery, pumps and pipework (including abatement systems) well maintained and free from leaks?
- Are regular maintenance schedules established, with all procedures documented?



Attending to leaking valves and pipe connections of a chemical dosing system



Improve Chemical Handling

Pay particular attention to the following areas:

Machinery checking

- Are the most significant components of the machinery like pumps, valves, level switches and pressure and flow regulators included in a maintenance checklist?

Leak control

- Are audits conducted and reporting systems in place for broken and leaking pipes, drums, pumps and valves, not only in the water system but also from the oil heat transfer and chemicals dispensing systems



Chemicals Labelling

Standard chemical hazard pictograms

In 1992, the United Nations initiated steps in 1992 to harmonize the labelling and classification systems into an internationally agreed-upon system, the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Since 2015 an increasing number of countries has been adopting GHS.



Chemicals Labelling

Chemical hazard pictograms used during transport of chemicals

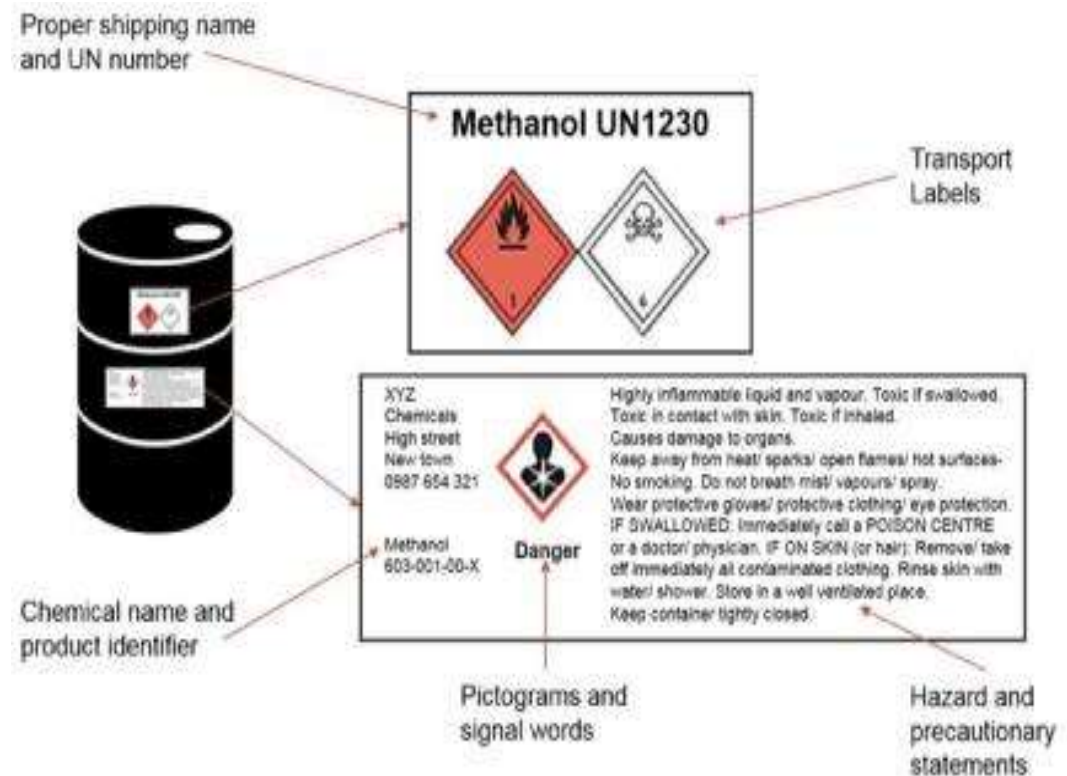
In addition to the GHS type pictograms, symbols as defined under the United Nations Committee for the Transport of Dangerous Goods are in use for purpose of identifying hazard properties of chemicals during transport



Chemicals Labelling

Verify availability and content of chemical container/package labels

Check whether the labels on the chemical containers and packages you receive and use in your organization contain the elements as shown in the graphic.



Chemicals Storage

Ventilation:

- Reduction of accumulation of dust or vapours.
- Controlled temperature and humidity.
- Combination of roof and wall ventilation.



Floors:

- Impermeable to liquids.
- Made from concrete and sealed with resin.
- Resistance against organic solvents.
- Smooth surface, but not slippery.
- Free from cracks to allow for easy cleaning.



Layout

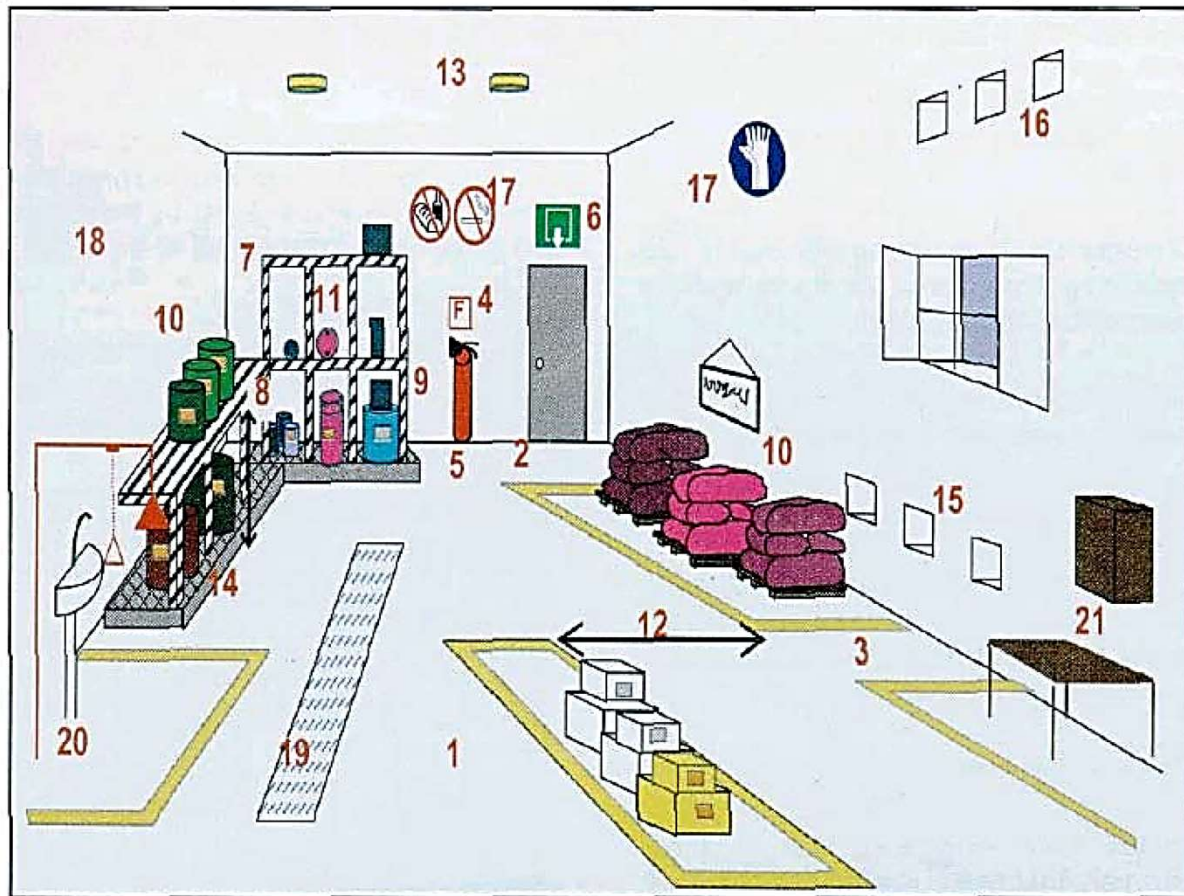
- Plan storage layout.
- Assign areas for storage and movement.
- Use colour markings.
- Allow for storage on pallets for easier rearrangement .



























Consult the SDS or chemical suppliers for recommended storage conditions.

Chemicals Storage

Model Layout of a chemical storage



Chemicals Storage: compatibility check

			C	Xi, Xn	T, T+	F, F+	O	E
								
								
C			✓	✓	o	✗	✗	✗
Xi Xn			✓	✓	✓	✓	o	✗
T, T+			o	✓	✓	o	✗	✗
F, F+			✗	✓	o	✓	✗	✗
O			✗	o	✗	✗	✓	✗
E			✗	✗	✗	✗	✗	✓

C Corrosive

Xi Irritant

Xn Harmful

T Toxic

T+ Highly toxic

F Flammable

F+ Highly flammable

O Oxidizing

E Explosive

✓ Are allowed to be stored together

o Are allowed to be stored together, subject to special precautions

✗ Are not allowed to be stored together

Reference

Chemicals Waste Handling

Hazardous waste management should be part of the overall chemicals management in your company

- Prevents harm to the environment and human health.
- Relevant for all the people working in your company and especially to the staff involved in handling hazardous waste on-site before it is handed over to a hazardous waste transporter.

Based on the waste inventory your company now needs to decide how to manage the different types of wastes generated. The various control measures will result in a change of the waste composition and characteristics.



Chemicals Waste Handling

Possible sources of chemical waste in your company

- Off-specification, unwanted or spilt raw material
- Raw materials or items which are used in a process but not consumed by that process
- Materials resulting from process start-ups
- Unwanted by-products from a process
- Results of process malfunctions / poor control
- Material resulting from process shut down
- Materials resulting from routine in-situ maintenance of the process equipment
- Sludges from waste water treatment plants and air emissions control residues



Possible Useful Corrective Actions

- Establish purchase policy and practices
- Improve chemical handling
- Provide training, standard operation procedures and instructions



Literature, Sources and Further Reading

- Training kit of the International Labour Organization (ILO): International Chemical Control Toolkit:
http://www.ilo.org/legacy/english/protection/safework/ctrl_banding/toolkit/icct/



Exercise and Example

- Exercise/self assessment:
 - “What Chemical Management Means in Practical Terms in your company – Foundational Level “
- Example:
 - “Checklist - Safe Chemical Storage”



Questions?

