FlintGroup

Rely on us.℠

OCCUPATIONAL HYGIENE & CHEMICAL SAFETY

Why does it matter?

Occupational hygiene is the applied science concerned with the recognition, evaluation and control of chemical, physical and biological activities arising from work activities.

Chemicals are encountered on a daily basis within Flint Group. Hazardous situation can arise easily if they are not handled properly and the potential impacts can range from a simple spill to a long-term disease.

Did You know that…

- The ILO estimates occupational disease cause the most deaths among workers. Hazardous substances alone are estimated to cause 651,279 deaths a year worldwide.

At Flint Group…

- Over the last 10 years there have been over 100 reported incidents and near misses relating to chemicals.

Assess the Risk

Look at each substance:

Which substances are involved? In what way are they harmful? You can find out by:

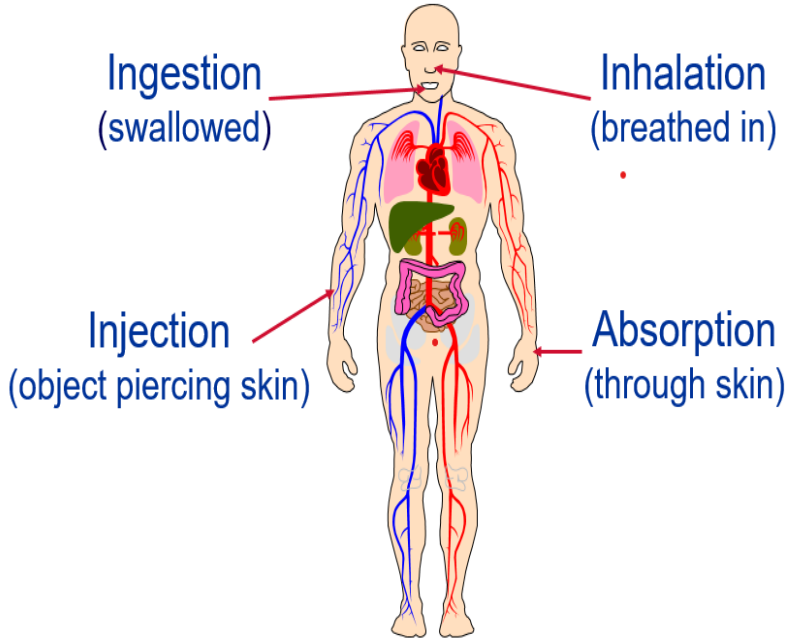
- checking information that came with the product, eg a safety data sheet;
- asking the supplier, sales representative and your trade association;
- looking in the trade organisations press for health and safety information;
- checking on the Internet, e.g. regulators website.

Think about the task:

If the substance is harmful, how might workers be exposed? By:

- breathing in gases, fumes, mist or dust?
- contact with the skin?
- swallowing?
- contact with the eyes?
- skin puncture?

Bear these in mind when you look at the tasks.

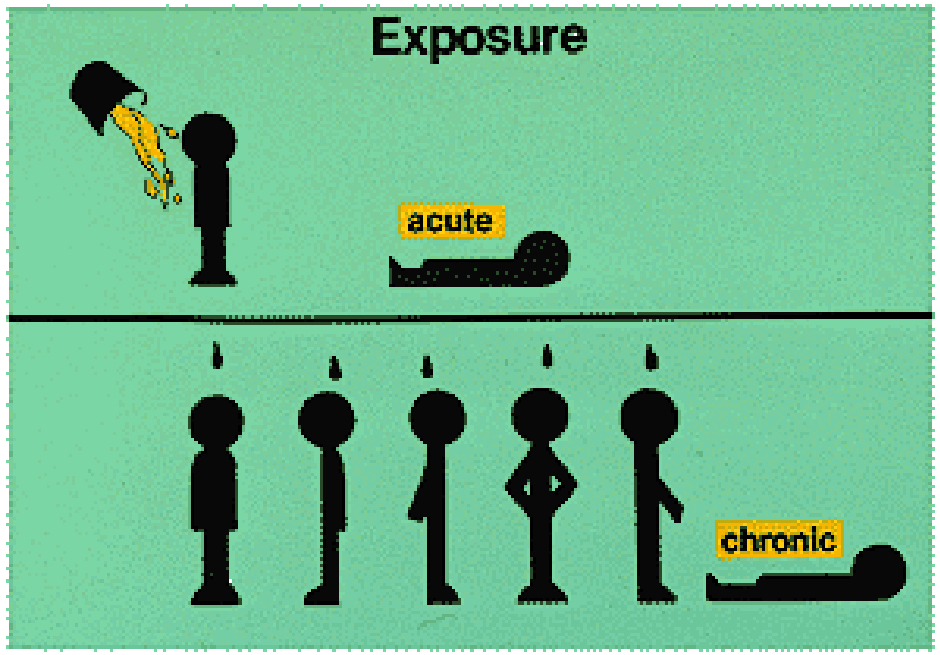


Assess the Risk

The result of a chemical exposure depends on factors as the **type** of chemical, the **route of entry**, the **type of exposure** (frequency, duration, level of exposure, …), **health** state of the worker, …

There are two main types of chemical injuries :

- **Acute exposure**, resulting of a brief contact with the chemical and leading to bur, skin irritation, itching, convulsion, intoxication, unconsciousness, coma, respiratory arrest…
- **Chronic exposure**, resulting of a repeated exposure to the chemical, even on small levels, and leading to eczema or asthma, silicosis, cancer (mesothelioma ...), kidney failure, fertility disorders ... Pathologies can appear months or years after the initial exposure to the chemical.



Assess the Risk

Safety Data Sheets:

- Suppliers of dangerous substances are required to provide Safety Data Sheets
- Contain all information on risks and safety information relating to substance
- An SDS is NOT a risk assessment – user needs to use the information and conduct their own chemical risk assessment

Workplace/Occupational Exposure Limits:

The maximum concentration of an airborne substance averaged over a reference period, to which employees may be exposed by inhalation."

- Listed in publically available national databases
  - OEL's can differ across different countries
- Units – ppm or mg.m3
- 2 reference periods – Short term (15 mins) and Long term (8 hours)

SECTION 8: Exposure controls/personal protection

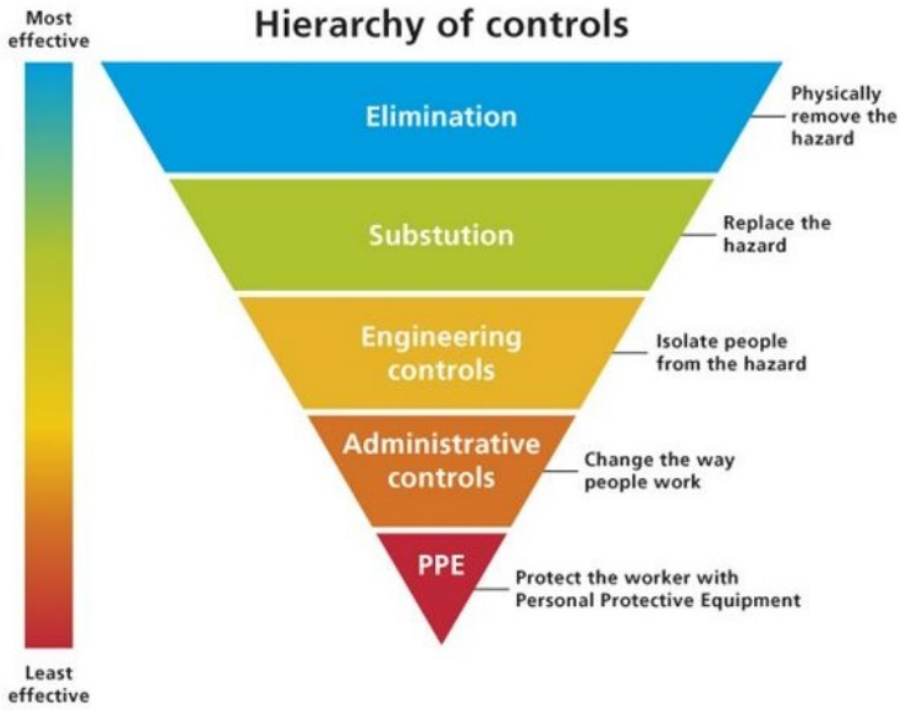
8.1. Control parameters

carbon black (1333-86-4)		
Belgium	Limit value (mg/m³)	3,5 mg/m³
Croatia	GVI (granična vrijednost izloženosti) (mg/m³)	3,5 mg/m³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m³)	7 mg/m³
Czech Republic	Expoziční limity (PEL) (mg/m³)	2,0 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	3,5 mg/m³
Estonia	OEL TWA (mg/m³)	3 mg/m³
Finland	HTP-arvo (8h) (mg/m³)	3,5 mg/m³
Finland	HTP-arvo (15 min)	7 mg/m³
France	VME (mg/m³)	3,5 mg/m³
Greece	OEL TWA (mg/m³)	3,5 mg/m³
Greece	OEL STEL (mg/m³)	7 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	3,5 mg/m³
Ireland	OEL (15 min ref) (mg/m3)	7 mg/m³
Italy	OEL TWA (mg/m³)	3,5 mg/m³
Poland	NDS (mg/m³)	4,0 mg/m³

Manage the Risk

Hierarchy of Control Strategy

- Eliminate/Substitute with less hazardous
- Engineering Controls
  - Isolation of process
  - Enclosure of process
  - Ventilation (including LEV)
- Change work methods e.g. Brush instead of spray, reduce quantity
- Reduce time exposure
- PPE/RPE
- Housekeeping/Welfare and Hygiene
- Health Surveillance
- Instruction, Information, Training



Manage the Risk

Monitoring

- Ensure that control measures are used and maintained.
- Monitor exposure.
- Carry out appropriate health surveillance.
- Prepare plans to deal with accidents, incidents and emergencies.
- Ensure that staff are properly informed, trained and supervised.