HEALTH & SAFETY OPERATIONAL STANDARD – COSHH

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001	1st issue
002	Respiratory Hazards (Construction Dust) added
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1. Introduction

This is a guide to the classification and packaging of hazardous substances and is designed to help site teams understand what the labels mean to enable them to understand the assessments of risk relating to hazardous substances.

2. Hazardous substances

2.1 Deciding if something is a hazardous substance

A substance is deemed hazardous to health if it:

- Has an hazard warning symbol (see section 3 of this guidance)
- Has a Workplace Exposure Limit (WEL)
- Is carcinogenic, mutagenic, or toxic for reproduction
- Is one of a number of certain biological agents
- Dust of any kind, when present at a substantial concentration in air
- Any other substance that creates a comparable health hazard

2.1.1 Workplace Exposure Limits

Many thousands of substances are used at work but there are only about 500 substances have Workplace Exposure Limits (WELs) listed. There can be different values for the same chemical agent/substance depending upon where the work is, so reference must be made to the applicable documents listed at the back of this Guidance document.

2.1.2 Material Safety Data Sheets (SDS)

SDS provide information on chemical products that help users of those chemicals to make a risk assessment. They describe the hazards the chemical presents, and give information on handling, storage and emergency measures in case of accident. An SDS is not a risk assessment. The information it contains should be used to help make an assessment of the risks presented by the substance.

Remember that some substances arise from processes and have no safety data sheet. Examples include fume from welding or soldering and some forms of dust. Information about potential health risks is available from a number of sources. The GMI Health and Safety team can help assess the risks from process-based substances.

2.2 Assessing the risk

Using the information available an assessment of the risks to health presented by the hazardous substance must be carried out by the employer of the people carrying out the work involving the substance. This will normally be a contractor working for GMI, unless GMI are self delivering a package of works or employ labour whom we put to work.

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Risk assessment is not just a paper exercise. It's about taking sensible steps to prevent ill health. The person assessing the risk needs to know how workers are exposed, and to how much, before they can decide if they need to do anything to reduce their exposure.

Exposure to a substance is uptake into the body. The exposure routes are:

- By breathing fume, dust, gas or mist
- By skin contact
- By injection into the skin
- By swallowing

Employers have to assess the risk to their employees, and to prevent or adequately control those risks. Sometimes, it's easy to judge the amount of exposure to substances and decide what can be done about it.

When the task involves very small amounts of material, even if these are harmful, when there is little chance of it escaping, the risk is low. But the risk in a different task – such as cleaning up and disposal – will be higher because the harmful substance may be breathed in or get onto the skin.

When the task involves larger amounts of material, with obvious leaks, exposure is higher and so is the risk. Whether the substance is harmful or not, the need to control it is obvious. The context in which the substance is used is crucial in deciding what measures need to be taken, and when.

So, when assessing the risks, the appropriate risk control measures must be considered:

DO:

- Always try to prevent exposure at source. For example:
- Can the activity avoid using a hazardous substance or use a safer process – preventing exposure, e.g. using water-based rather than solvent-based products, applying by brush rather than spraying?
- Can the hazardous substance be substituted it for something safer – e.g. swap an irritant cleaning product for something milder, or using a vacuum cleaner rather than a brush?
- Is it possible to use a safer form, e.g. a solid rather than liquid to avoid splashes or a waxy solid instead of a dry powder to avoid dust?
- If preventing exposure is not possible exposure neds to be adequately controlled. his means:
- All control measures are in good working order
- Exposures are below the WEL as applicable, where one exists
- Exposure to substances that cause cancer, asthma or genetic damage is reduced to as low a level as possible
- Only rely on PPE or RPE as a last resort
- Ensure the risks have been assessed in the context of the site and the activity being carried out. The risks relating to flammable vapour are very different between someone using ta small quantity outside in good ventilation as opposed to someone using a large quantity in a small enclosed room such as a bathroom.
- If PPE is being used check that it is the right equipment for the substance and task being carried out.
- Record the results of the risk assessment. In the UK this is called a COSHH Assessment. Elsewhere it is simply a Risk Assessment of the activity involving the hazardous substance.

DO NOT:

- Allow any substance with a hazard warning label to be used unless the risks have been assessed.
- Allow someone to use a hazardous substance unless they have been trained in the safe system and have an awareness of the risks involved.

3. Chemical Substance Labelling

The containers and packaging that hazardous substances are supplied in must have warnings and symbols to indicate the nature of the risk. The following symbols indicate the classification of the chemical/substance using the EU standard classification system.



Explosive
Explosiv
Explosif



Hazardous to the environment
Umweltgefährlich
Dangereux pour l'environnement



Gas under pressure
Gas unter Druck
Gaz sous pression



Acute toxicity
Akute Toxizität
Toxicité aiguë



Serious health hazard
Ernste Gesundheitsgefahr
Grave danger pour la santé



Oxidizing
Oxidierend
Oxydant



Flammable
Entzündbar
Inflammable



Corrosive
Korrosiv
Corrosif



Health hazard
Gesundheitsgefahr
Danger pour la santé

Some suppliers of the same substance show different symbols. This is due to a number of reasons including the properties of the substance. For example, the same substance may be supplied as a gas under pressure in some instances as opposed to being supplied as a liquid form from a different supplier.

This is why it is important to assess the risks from the substance in the context of how it is supplied and how it will be used on site.

4. Respiratory Hazards (Construction Dust)

Respiratory hazards are substances that threaten human health by inhalation. These hazardous substances are normally inhaled in the form of dusts, vapours, gases, or fumes.

Nuisance and Dust Emissions have their own GMI Procedures and Operational standard within the Environmental Management System.

Construction dust is a general term used to describe different dusts that you may find on a construction site. There are three main types:

- Silica Dust – Created when working on silica containing materials like concrete, mortar, and sandstone.
- Wood Dust – Created when working on softwood, hardwood, and other wood-based products.
- General Dust – Created when working on other materials containing very little or no silica. The most common include gypsum, limestone, marble, and dolomite.

The presence of respiratory hazards should be prevented or eliminated where reasonably practicable, by:

- Substituting and using a less harmful substance or material.
- Using a different process (Such as block splitter instead of mechanical cutting).
- Manufacturing or cutting materials off site.

Respiratory Protection Equipment (RPE) should not be the only means of reducing exposure to construction dust. It should be used to control the residual risk after other controls have been applied to either reduce or eliminate exposure.

Operatives wearing RPE must be Face Fit Tested for the specific make and model of RPE they are using to ensure it is achieving the level of protection required.

Where significant amounts of dust (or Fume) are to be created those involved in the work must have a suitably completed GMI Dust / Fume Permit. This Permit is to be submitted by the supply chain Black Hat who must sign to confirm that all the relevant control for this task are in place and will remain in place for the duration of the task. A Guidance Document has been created to give more detail on the implementation of the GMI Dust / Fume Creation Permit.

RPE and PPE have their own GMI Procedure and Operational standard.

Where on-site cutting activities are still to be conducted suitable collective control measures must be implemented:

- The use of water suppression - however, this cannot be used with electrical tools, on wood or where the waste water/slurry may cause an additional hazard.
- The use of on-tool extraction - which is designed for the tool and for the activity taking place. The extraction hood should be positioned as close to the surface when in use to prevent dust escaping through and gaps.
- Either a H (High) or M (Medium) Class filter in the extraction unit and/or vacuums where construction dust is to be encountered are to be used.

- The use of L (Low) Class or HEPA filters are <u>not</u> permitted on GMI Sites where construction dust is to be encountered.

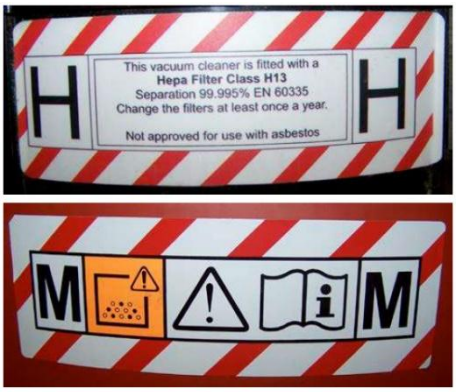

Figure 4 Examples of labels on H and M class extraction units

Good Practice Methods

Example Task	Example Control Measures
Drilling Masonry	• Determine if materials can be pre-drilled before arriving on site. • Ensure Drill bits are sharp. • Constant water suppression. • The use of on-tool extraction using a H or M Class extraction unit. • Avoid drilling horizontally at chest, eye level, or above head height. • Avoid sweeping; instead vacuum up drill dust. • Use RPE with a APF of 20 (P3 or FFP3-rated)
Cutting Slabs, kerbs, or concrete	• Purchase pre-sized material if possible. • Use a block splitter rather than a rotary cutter. • Use a cut saw with constant water suppression. • Use RPE with a APF of 20 (P3 or FFP3-rated)
Cutting wood with power tools.	• On-tool extraction using a H or M class extraction unit. • Regularly empty the vacuum collector and clean/replace the filters. • Use RPE with a APF of 20 (P3 or FFP3-rated)
Sanding plasterboard jointing	• Select boards with tapered edges to limit finishing needed. • Using other finishes/systems. • On-tool extraction using a H or M class extraction unit.
Sweeping up – General	• Vacuum the area, with a H or M Class extraction unit rather than sweeping. • Dampen down the area before any sweeping. • Dispose of construction dust in sealed bags. • Use RPE with a APF of 20 (P3 or FFP3-rated)

Other Controls.
Depending upon the work being performed a combination of these measures with other controls methods may be required. Other considerations include.

- Limiting the number of people near the work.
- Rotating those doing the task.
- Enclosing the work to stop dust escaping.
- General mechanical ventilation to remove dust away from the work area.
- Selecting work clothes that do not keep hold of the dust.

Workers are required to have the suitable skills, knowledge, experience, and training when conducting cutting activities and understand:

- How construction dust can harm their health and others.
- How to use the dust control measures and check that they are working.
- How to maintain and clean equipment.
- How to use and look after RPE and other personnel equipment.

5. Packaging Requirements

The packaging of hazardous chemicals should keep workers and the environment safe from unintended contact. If there are concerns with the packaging the chemicals arrive in, isolate the chemicals or prevent them from being unloaded. Then contact the supplier. If the chemicals are provided by a contractor, the contractor must contact the supplier.

The packaging for chemicals and hazardous substances should be designed so the hazardous contents cannot escape. Packaging should not be susceptible to being damaged by its contents and should be strong enough to meet the normal stresses and strains of handling. Packaging with replaceable fastenings should be designed so that they can be repeatedly refastened without the contents escaping.





6. Health Surveillance

Health surveillance is any activity which involves obtaining information about employees' health and which helps protect employees from health risks at work. It allows for early identification of ill health and helps identify any corrective action needed. Health surveillance may be required by law if employees are exposed to noise or vibration, solvents, fumes, dusts, biological agents and other substances hazardous to health, or work in compressed air. If Health surveillance is necessary, it is the Employer of the individual affected who has to arrange for this. It is usually an ongoing series of health checks once started.

Health surveillance should not be confused with general health screening or health promotion. Health surveillance is necessary when:

- There is a disease associated with the chemical/hazardous substance in use (eg Asthma, Dermatitis, Cancers);
- It is possible to detect the disease or adverse change and reduce the risk of further harm;
- The conditions in the workplace make it likely that the disease will appear.

Health surveillance may need to be completed by an occupational health service physician (doctor or nurse). If a GP offers the service, you need to be sure that they are competent in occupational medicine. The clinical outcomes from health surveillance are personal. The service provider must interpret the results of health surveillance for each individual.

If GMI are not the individual's employer, we only need confirmation that this process is being carried out. GMI do not keep or request details of Health Surveillance for non-employees. However, copies of SDS and hazardous substance assessments may have to be provided to enable the medical practitioner to understand the potential exposure.

The employer has a duty to ensure health records, or a copy, are be kept in a suitable form for at least 40 years from the date of last entry because often there is a long period between exposure and onset of ill health.

7. Legislation & Guidance

Document	Link
Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation & Guidance	REACH
Classification, Labelling and Packaging of Substances and Mixtures (CLP) Regulation & Guidance	CLPSMR
Control of Substances Hazardous to Health Regulations (as amended) 2002 & Guidance	COSHH
EH40 Workplace Exposure Limits	EH40
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009	CDGR
CIS-36 Construction Dust	CIS-36
CIS-69 Controlling Construction Dust with on-tool extraction	CIS-69
Dust / Fume Creation Permit - Guidance	Link