

## Hazardous Substances Guidance

### Introduction

As the Q&SIII programme nears its completion there is an increased need for operatives to work with or in close proximity to hazardous substances this is especially pertinent during the commissioning phases of any project. Such substances are required to ensure the correct treatment of water and are therefore an essential ingredient in the water treatment process as well as being prevalent in certain construction activities. It is therefore essential that all Contractors working on the Q&SIII Framework raise their awareness on working with and around such substances whether the work being undertaken directly or indirectly exposes their operatives to such hazards.

A recent incident in December resulted in a number of operatives being exposed to Lime which had the potential to seriously harm their respiratory system and burn skin tissue. This hazard also existed to those who came into contact with these operatives especially children. The major concern was that the operatives involved were not aware of the hazards associated with the substance. It is vitally important that the subject of Hazardous Substances receives the focus it necessitates throughout all the Q&S 111 works currently taking place.

The intent of this Advice Note is to provide a simplistic but effective guide on managing hazardous substances taking cognisance of the statutory requirements which control such activities.

This note shall focus on three main subjects all of which are complimentary to each other namely:

- Control of Substances Hazardous to Health Regulations 2002 (COSHH) (as amended)
- The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP3)
- The Dangerous Substances and Explosive Atmospheres Regulations 2002

### Control of Substances Hazardous to Health Regulations 2002 (COSHH) (as amended)

COSHH is the main piece of statute governing the use of hazardous Substances and sets out eight basic measures that employers, and sometimes employees, must take. These are set out in below:

<b>Step 1</b>	Assess the risks	Assess the risks to health from hazardous substances used in or created by your workplace activities.
<b>Step 2</b>	Decide what precautions are needed	You must not carry out work which could expose your employees to hazardous substances without first considering the risks and the necessary precautions, and what else you need to do to comply with COSHH.
<b>Step 3</b>	Prevent or adequately control exposure	You must prevent your employees being exposed to hazardous substances. Where preventing exposure is not reasonably practicable, then you must adequately control it. The advice in this leaflet and in the other guidance it refers to, will help you to make correct assessments and to put the appropriate controls into place.
<b>Step 4</b>	Ensure that control measures are used and maintained	Ensure that control measures are used and maintained properly and that safety procedures are followed.
<b>Step 5</b>	Monitor the exposure	Monitor the exposure of employees to hazardous substances, if necessary.
<b>Step 6</b>	Carry out appropriate health surveillance	Carry out appropriate health surveillance where your assessment has shown this is necessary or where COSHH sets specific requirements.
<b>Step 7</b>	Prepare plans and procedures to deal with accidents, incidents and emergencies	Prepare plans and procedures to deal with accidents, incidents and emergencies involving hazardous substances, where necessary.
<b>Step 8</b>	Ensure employees are properly informed, trained and supervised	You should provide your employees with suitable and sufficient information, instruction and training.

## The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP3)

CHIP governs the supply of dangerous chemicals within the United Kingdom and requires the **suppliers of such chemicals** to:

- Classify the hazards of the chemicals,
- Provide information in the form of labels and **Material Safety Data Sheets** and
- Package the chemicals safely.

These requirements are called "**supply requirements**".

Labelling: If a dangerous chemical is supplied in a package, the package must be labelled and include the following information:-




- The full name, address and telephone number of the **supplier** in the European Economic Area (EEA).
- The name of the substance or the trade name if it is a preparation.
- The indication of danger and the associated symbol.
- Risk phrases.
- Safety phrases.

The **Supplier** must decide whether or not chemicals are hazardous and, if they are, they must be allocated a category of danger and one or more **Risk Phrases**. Risk Phrases represent a numbered code describing the types of risk presented by the substance e.g. R38 – Irritating to skin. This is known as **Classification** and has resulted in the packaging of hazardous substances having specific symbols assigned to them such as those below.

<b>R1</b>	Explosive when dry
<b>R2</b>	Risk of explosion by shock, friction, fire or other source of ignition
<b>R3</b>	Extreme risk of explosion by shock, friction, fire or other source of ignition

CIP also requires manufacturers of Hazardous substances to categorise the dangers of their substances. Categorisation takes the form a description followed by a pictorial image as shown below.

The wording in **BOLD** highlights the **Categorisation**

<b>Oxidising, O</b> (Chemicals that react exothermally with other chemicals)	
<b>Extremely Flammable, F+, or Highly Flammable, F, or Flammable</b> (Chemicals that have an extremely low flash point and boiling point, and gases that catch fire in contact with air OR chemicals that may catch fire in contact with air, only need brief contact with an ignition source, have a very low flash point or evolve highly flammable gases in contact with water)	
<b>Very Toxic, T+, or Toxic, T</b> (Chemicals that at very low levels cause damage to health or Chemicals that at low levels cause damage to health)	

### Safety Phrases

Safety Phrases are simply precautions that should be taken, accompany the Risk Phrase and are all denoted by the letter S followed by a number as shown below. They will appear in a text box on the packaging/labelling. In some cases a product may have several safety phrases.

<b>S23</b>	Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer)
<b>S24</b>	Avoid contact with the skin
<b>S25</b>	Avoid contact with eyes

### Material Safety Data Sheets (MSDS)

MSDS's are often **WRONGLY** called/referred COSHH assessments. A MSDS is an information sheet containing information under the following specific headings:

<ul style="list-style-type: none"> <li>• Identification of the substance or preparation (a preparation is a mixture of substances) and the name of the supplying company.</li> <li>• Composition/information on ingredients.</li> <li>• Hazards Identification.</li> <li>• First-aid measures.</li> <li>• Fire-fighting measures.</li> <li>• Accidental release measures.</li> <li>• Handling and storage.</li> <li>• Exposure controls / personal protection.</li> </ul>	<ul style="list-style-type: none"> <li>• Physical and Chemical properties.</li> <li>• Stability and reactivity.</li> <li>• Toxicological Information.</li> <li>• Ecological Information.</li> <li>• Disposal considerations.</li> <li>• Transport information.</li> <li>• Regulatory Information.</li> <li>• Other Information.</li> </ul>
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A COSHH assessment/method statement should take cognisance of the content of the MSDS.

## The Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR)

DSEAR require employers to control the risks to safety from fire and explosions and applies to workplaces where dangerous substances are present, used, or produced.

Dangerous substances are substances or mixtures of substances (called 'preparations' in DSEAR) that could create risks to people's safety from fires and explosions or similar events, such as 'thermal runaway' from chemical reactions. Liquids, gases, vapours and dusts that may be found in a workplace can all be dangerous substances.

Such substances or mixtures of substances classified as explosive, oxidising, extremely flammable, highly flammable, or flammable under the current **CHIP Regulations**.

### Summary

All three pieces of statute mentioned above have both direct and indirect influences on each other and therefore should be appraised/considered when developing a safe system of work.

At present there are **no** hazardous substances present in any Scottish Water facility that are not regulated by COSHH therefore it is imperative that an understanding of its requirements should be a pre-requisite with every Contractor.