



National
Operational
Guidance

Control measure

Substance identification



NFCC
National Fire
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Contents

Control measure - Substance identification 3



Control measure - Substance identification

Control measure knowledge

The information provided through legislation on hazardous materials containers is a key factor in identifying hazards to responders and the public. Other sources of information should also be considered and their value not overlooked in determining a complete picture of the incident. There are also times when marking, placarding and signs are not present, or are incorrect, damaged or obscured. Examples include during a fire, or where hazardous materials are badly controlled or used illicitly.

In addition to marking and signage, other legislative requirements for the use of substances require sites to keep records of substances held, their hazards and control measures. These requirements mean that sites should have access to Safety Data Sheets (SDS) or Control of Substances Hazardous to Health (COSHH) sheets. This information can provide information about the hazards, health effects, behaviours and control measures. Similar information can be obtained from written and/or electronic data sources such as Chemdata or the Emergency Response Guidebook.

Other sources of information that can assist may be obtained from scientific advisers such as the National Chemical Emergency Centre (NCEC) or other company or product specialists and industry mutual aid schemes, for example Bromaid. This may provide information on a substance, process or premises, or may provide assistance in interpreting information gained.

Signs, labels and other marking system

It is important for responders to recognise signs, labels and other marking systems so that they can gain information regarding the hazards associated with substance safety. These will generally be found on modes of transport or fixed sites.

Transport

The legal framework for the international transport of hazardous materials is set out in the United Nations (UN) model regulations ('Recommendations on the transport of dangerous goods', commonly known as the 'orange book'). These rules are revised every two years and form the basis of the internationally and nationally recognised legislation.

The recommendations are adopted in Europe and consequently in the UK, as ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route) for road transport and RID (Reglement International concernant le transport de marchandises Dangereuses

par chemin de fer) for rail transport. Additionally, the UK maintains some deviations from ADR, for example, Hazchem placards. As both marking systems are permitted in the UK it is important for responders to be familiar with both.

The International Maritime Dangerous Goods (IMDG) code contains internationally agreed guidance on the safe transport of dangerous goods by sea, and most commonly relates to the carriage of dangerous goods in freight containers and tank containers. It is primarily used by shipping operators, but it is also relevant to those transporting dangerous goods on journeys involving a sea crossing.

Fixed sites

For static sites, warning signage is governed by the dangerous substances Notification and Marking of Sites) (NAMOS) Regulations. The aim of these regulations is to ensure that firefighters arriving at an incident are warned of the presence of hazardous materials. It is a legal requirement to notify the fire and rescue service about any site with a total quantity of 25 tonnes or more (150 tonnes for ammonium nitrate fertilisers). There is a requirement to place warning signs at access points.

See the Health and Safety Executive website for further details. Dangerous Substances (Notification and Marking of Sites) Regulations (NAMOS)

Labelling of hazardous materials for general use is governed by the Classification, Labelling and Packaging regulations (CLP). These regulations adopt the UN Globally Harmonised System (GHS) on the classification and labelling of chemicals across all European Union countries, including the UK.

Equivalent legislation in Northern Ireland is The Dangerous Substances (Notification and Marking of Sites) Regulations (Northern Ireland).

Under the Control of Asbestos Regulations (CAR), there are specific labelling requirements for asbestos in non-domestic buildings. Responders should recognise these labels.

Containment systems

Hazardous materials containers range in size from small vials and jars used in laboratories through larger packages and transport containers holding many tonnes to site storage tanks and vessels that can hold many thousands of tonnes.

It is important that during incidents, responders can:

- Recognise typical container shapes or types that would indicate the presence of hazardous materials whether in storage, in use or in transit

- Identify the basic design and construction features, including closures for storage, packaging and transportation systems

For further information on substance identification see National Operational Guidance: [Health Hazards](#) and National Operational Guidance: [Physical Hazards](#)

Strategic actions

Fire and rescue services should:

- Consider developing systems to gather pre-planning information on local risks and incident specific information
- Ensure responding personnel have the necessary instruction and training in the identification of hazardous materials containers
- Provide access to appropriate detection, identification and monitoring (DIM) equipment
- Ensure that Information on the recognition of hazardous materials is immediately available to personnel
- Ensure that responders can recognise signs, labels and other markings on hazardous materials packages

Tactical actions

Incident commanders should:

- Use signs, labels, markings, container types and detection equipment to identify substance
- Identify if containers indicating the presence of general or specific hazardous materials are involved
- Use available fire service or on-site detection equipment to identify the substance involved