EAST RIDING OF YORKSHIRE COUNCIL

Control of Substances Hazardous to Health
Safety Guidance Document

Lead Directorate and Service:	Corporate Resources - Human Resources, Safety Services.
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1. Background

This safety guidance document on the Control of Substances Hazardous to Health (COSHH) Regulations 2002 provides information on the legal duties to ensure compliance and safe working. Working with, or being exposed to, hazardous substances at work can put people's health at risk. The regulations require employers to prevent or adequately control exposure of employees and others to hazardous substances. Such control is based on risk assessment and the introduction of appropriate control measures.

2. Foreword

In accordance with the Council's Corporate Safety Policy, the Council is committed to pursuing continual improvements in Health and Safety. This safety guidance document supports this commitment and forms part of the Council's Health and Safety Management System.

3. Implementation

Directorates are responsible for the implementation of this safety guidance document, and communication of its content as appropriate.

This safety guidance document is available on the Safety Services Intranet Page and, where employees do not have access to the Council's intranet, via their line manager/headteacher.

The Council relies on the co-operation of all employees, and trades unions for the successful implementation of this safety guidance document.

A review of this safety guidance document will be undertaken three years after its implementation, and where significant changes in legislation or working practices deem this appropriate.

4. Roles and Responsibilities

4.1 Directors and Heads of Service

Directors and Heads of Services are ultimately responsible and accountable to the Chief Executive for ensuring this safety guidance document is issued to their management team.

4.2 Managers and Headteachers

Managers and headteachers are responsible for achieving the objectives of this safety guidance document where relevant to their area of service delivery and are responsible for ensuring that:

- The information contained within this safety guidance document is implemented and complied with;
- Competent persons will be appointed to carry out COSHH risk assessments of the exposure to substances hazardous to health and advise on their control;

- All operations which involve, or may involve, exposure to substances hazardous to health will be assessed and appropriate control measures will be taken if elimination or substitution of the substance is not possible;
- Engineering controls will be properly maintained and monitored by planned preventive maintenance and annual performance monitoring to ensure continued effectiveness;
- All employees and others who may work in the affected areas will be informed of the purpose and safe operation of all engineering controls;
- The type and use of Personal Protective Equipment (PPE) will be carefully assessed and maintained according to manufacturers' instructions;
- Each assessment will be reviewed annually or earlier if there are any significant changes;
- Health surveillance is carried out where indicated to be necessary by the assessment and records kept for a minimum of 40 years;
- Relevant information, instruction and training is provided to staff to enable them to undertake their job safely and without risk;
- Adequate personal protective equipment is provided and staff are suitably trained in its use.

4.3 Employees

Employees must ensure they carry out assigned tasks and duties in accordance with information, instruction, training and agreed safe systems of work. Specifically they must ensure:

- This safety guidance document is complied with;
- They participate in the completion and review of risk assessments;
- They co-operate to enable their manager/headteacher to formulate and implement effective management systems;
- They co-operate to enable their manager/headteacher to comply with the Control of Substances Hazardous to Health Regulations;
- Make proper use of control measures, including personal protective equipment;
- Return equipment after use to any storage place and report any defects found in the equipment;
- Attend health surveillance appointments at the arranged time and give any information about their health as may be reasonable;
- Report any accident or incident which could have resulted in the release of a biological agent into the workplace and which could cause severe human disease;
- Their own health and safety and that of others are not put at risk by their actions.

4.4 Safety Services

The primary function of Safety Services is to support the Council and its employees by providing professional, authoritative, impartial advice on all aspects of health, safety and wellbeing. Where managers/headteachers require further assistance, Safety Services will advise on achieving compliance with this safety guidance document.

4.5 Occupational Health

Occupational Health are available to provide managers, headteachers and employees with guidance on work related health issues. Further information on the role of Occupational Health can be found on the Council's intranet.

5.0 What are Substances Hazardous to Health?

The COSHH Regulations cover the use of substances or preparations that are hazardous to health. Substances are defined as individual chemical compounds. Preparations are mixtures of two or more substances, eg paints, cleaning products and many pesticides.

5.1 Classification of Substances

Substances are classified under Part 1 of the Approved Supply List to the Chemicals (Hazard Information and Packaging for Supply) Regulations 2009[10] (CHIP) as:

- very toxic
- toxic
- harmful
- corrosive
- irritant.

Under the CHIP Regulations, suppliers of chemicals for use at work are required to classify the hazard of their products according to criteria set out in the Approved Classification and Labeling Guide.

Information on the hazards must be displayed on the label in the form of hazard pictograms and risk phrases.

CHIP is being revoked and as of 1 June 2015 suppliers must adhere with European CLP Regulations which harmonises the pictorial hazard signs and meanings. Appendix 1 is the new symbols and meanings.

5.2 Substances which are Biological Agents

Biological agents are considered hazardous to health, whether exposure results from a deliberate intention to work with a biological agent or exposure is incidental to the work activity. Examples of biological agents include tetanus, legionnaires' disease, anthrax, lyme disease etc. This excludes non work activity exposure eg employee to employee transmission.

5.3 Nuisance Dusts

Dusts can be defined as hazardous to health, the finer the particle the more problematic to human health. Dusts typically have a workplace exposure limit, currently at a concentration in air above:

- 10mg/m3 as a time-weighted average over an eight-hour period, of inhalable dust
- 4mg/m3 as a time-weighted average over an eight-hour period, of respirable dust.

Dusts and respirable dusts which can be inhaled are defined in BS EN 481: 1993 Workplace Atmospheres, Size Fraction Definitions.

5.4 Substances Not Covered by COSHH

COSHH does not apply to substances which are covered by separate legislation, eg lead or asbestos.

Nor does COSHH cover substances and preparations which are hazardous solely because of their physical properties, eg substances and preparations that are:

- hot, eg molten metals
- cold, eg liquid nitrogen and other liquid gases
- pressurised, eg gas cylinders
- radioactive.

Substances and preparations with hazards not covered by COSHH are still subject to the general requirements of the Health and Safety at Work, etc Act 1974 and the Management of Health and Safety at Work Regulations 1999. Some are also subject to specific regulations, eg radioactive substances are covered by the Ionising Radiations Regulations 1999 and flammables and explosives are covered by the Dangerous Substances and Explosive Atmospheres Regulations 2002.

5.5 What Hazardous Substances are Present?

The first step in the risk assessment process, is to identify what hazardous substances are present, or likely to be present, in the workplace, or encountered during working operations.

An inventory of hazardous substances can then be drawn up. This requires identifying:

- all the organisation's activities
- the hazardous substances
- where substances are used
- where substances are produced
- how substances are handled
- where substances are stored.

Areas that should be considered include:

- substances coming into the organisation
- substances in stock
- substances produced, not only finished products, but also by-products, including:
    - dusts
    - fumes
    - effluents
    - residues
    - wastes

- substances used for work activities, eg

    - by cleaners
    - by painters
    - by maintenance personnel
    - in research and testing laboratories

- substances that may be encountered during work activities, eg dusts produced from work on the structure of a building
- micro-organisms that may be present, eg the legionella bacteria that causes legionnaires' disease and the range of diseases carried by farm animals which affect humans. Micro-organisms are biological agents, which are classed as substances hazardous to health under the COSHH Regulations.

5.6 What are the Hazardous Effects

Once the relevant substances have been identified; the hazards presented by each should be determined. This process has two aspects, which are:

- the route by which the substance enters the body
- the adverse effects of the substance on the body.

5.7 Route of Entry

Substances can enter the body by:

- inhalation
- ingestion
- absorption through the skin or via the eyes
- injection into the body, either by high pressure equipment or contaminated sharp objects.

In addition, contact with irritant and corrosive substances can cause serious damage to skin and eyes.

The physical form of the substance will govern the route by which it can enter the body.

The adverse effect of a hazardous substance often depends on its route of entry, eg inhalation of wood dust can cause nasal cancer, whereas ingestion or contact with wood dust will not bring about the disease.

5.8 Adverse Effects

Information about the adverse effects on health can be obtained from a variety of sources.

Suppliers of chemicals for use at work are required by the CHIP Regulations[10] (this is also a requirement under European CLP Regulations) to label the product with basic information on the substance's hazards, including:

- the indication of danger

- risk phrases
- safety phrases.

CHIP/European CLP also requires suppliers of chemicals to provide material safety data sheets with the chemical and these should be requested if not provided. These provide information under 16 headings specified by CLP, including:

- the hazards the chemical presents
- how the chemical should be stored
- how it should be disposed of
- the actions that should be taken in the case of an accident.

The HSE publication, EH40: Workplace Exposure Limits[1] should be consulted to determine whether the substance has been assigned a workplace exposure limit.

In this publication, substances with an Sk notation can be absorbed through the skin and dermal absorption may lead to systematic toxicity (affecting the body as a whole). Substances with a Sen notation are capable of causing respiratory sensitisation.

If safety data sheets are not available, eg if materials are made in-house specialist support may be required. East Riding of Yorkshire Council uses Sevron to provide this advice and can be contacted through your Directorate COSHH Editor or Safety Services.

The hazard information should indicate the period over which the adverse effects of a hazardous substance develop. The following questions should be asked.

- Are the effects immediate, short-term, acute?
- Are the effects delayed, long-term, chronic?
- Are the effects a combination of the above?

It is important that carcinogens and mutagens are identified. The COSHH Regulations require additional measures when substances classified as Category 1 or Category 2 carcinogens or Category 1 or Category 2 mutagens are used.

6. Arrangements

6.1 Duty to Assess the Risk

East Riding of Yorkshire Council will assess the risk to health arising from the substances hazardous to health used in the workplace. This involves:

- identifying the hazardous substances present in the workplace
- assessing the risks the hazardous substances pose to people's health.

Substances covered by the Control of Substances Hazardous to Health Regulations 2002 (COSHH) include substances used in work activities, and those:

- in storage
- produced by work activities, eg fumes, vapours, aerosols, by-products and waste materials
- materials naturally occurring in the workplace, eg radon and legionella bacteria.

The assessment of the risk to employees' health should consider:

- the hazard to health presented
- how the substance could enter the body, see 5.7
- the amount of hazardous substance used;
- the physical nature of the substance, ie the volatility or dustiness of substances govern the ease with which they can be inhaled;
- the people affected, not just those using the substance

The manager must ensure the person who carries out the assessment:

- has access to and understands the COSHH Regulations and relevant Approved Codes of Practice, or is able to consult someone who does;
- is able to get the information about the substance and how it is used;
- has the knowledge and experience to make correct decisions about risks and actions needed.

Specialist help may be required for workplaces with complex risks. Employees who carry out the operations are likely to have a significant insight and can contribute vital information to the risk assessment. Safety representatives and safety committees could also be consulted. Safety Services are available to offer support in assessing complex substances.

The risk assessment should enable the employer to determine:

- whether the risks of exposure are significant;
- the precautions needed to reduce the exposure to an acceptable level.

The results of the assessment should be recorded.

Appendix II provides a flowchart summary of the risk assessment process which should be adopted.

6.2 Duty to Prevent or Control Exposure

Employers must take steps to prevent or adequately control exposure to an acceptable level. Adequate control of exposure means reducing exposure to a level that most workers could be exposed to, day after day, without adverse effects on their health.

The workplace exposure limits[1] published by the Health and Safety Executive (HSE), in document EH40/2005 (rev 2011), will help assess whether there is adequate control. If possible:

- the process should be modified so the substance hazardous to health is not required;
- the substance should be replaced with a non-hazardous (or safer) alternative;
- a safer form of the substance should be used, eg pellets instead of powder.

Operations should be arranged so:

- safe operating procedures are used;

- safe and suitable equipment is used;
- exposure is controlled at the source, eg by using Local Exhaust Ventilation (LEV) systems usually consist of a hood connected to ducting via an air mover, or fan, in order to remove dust and contaminants from the workplace air supply;
- Personal Protective Equipment (PPE) is provided, but only as a last resort.

Exposure should be controlled by implementing the principles of good practice (see paragraph 8.1).

The need to carry out the hierarchy of risk control should be considered during the risk assessment:-

- Elimination
- Substitution
- Automation
- Mechanisation
- Enclose
- Guarding/Segregation of People
- Safe System of Work
- Written Procedures
- Adequate Supervision
- Identification of training needs
- Information/Instruction
- Personal Protective Equipment (PPE)

6.3 Duty to Maintain Control Measures

East Riding of Yorkshire Council will ensure control measures are kept in efficient working order and good repair and are properly used and maintained.

Engineering controls have to be examined and tested. In the case of local exhaust ventilation, testing should be carried out at least once in every 14-month period (unless more frequent examination is required under schedule 4 of the COSHH Regulations). Records of the tests should be kept for at least five years. Other engineering controls should be tested at suitable intervals.

Personal protective equipment, including protective clothing, must be properly stored, checked at suitable intervals and, if found to be defective, repaired or replaced before subsequent use.

Systems of work and supervision and any similar control measures provided, must be reviewed at suitable intervals and revised if necessary.

6.4 Duty to Measure Substance Concentration

The Council must measure the concentration of hazardous substances in the air breathed in by workers if:

- exposure limits might be exceeded;
- failure or deterioration of control measures could lead to serious risks to health;

- control measures may not operate correctly.

Records of any exposure monitoring must be kept for at least five years. Any monitoring relevant to an individual must be kept with their health record and retained for at least 40 years.

6.5 Duty to Conduct Health Surveillance

If appropriate, managers should arrange health surveillance for their employees. Health surveillance should be carried out if an employee is exposed to a substance listed in Schedule 6 of the Control of Substances Hazardous to Health Regulations 2002 (COSHH) or if an employee is:

- exposed to a substance linked to a particular disease or adverse health effect;
- there is a reasonable likelihood, under the conditions of work, of the disease or effect occurring;
- it is possible to detect the effect.

Health surveillance might involve examination by a doctor, nurse or trained supervisor, depending on the techniques to be used.

6.6 Duty to Plan for Accidents and Emergencies

If there is a possibility of a work activity causing an accident, incident or emergency which causes exposure to a substance hazardous to health likely to be in excess of the normal exposure the employer must prepare plans and procedures. The procedures should include provision of:

- appropriate first aid facilities;
- relevant fire drills;
- spillage containment and clean-up procedures;
- information on emergency arrangements, including details of:
    - relevant work hazards;
    - hazard identification arrangements;
    - any specific hazards likely to occur when an accident, incident or emergency occurs;
- suitable warning systems.

The employer must ensure that when an accident, incident or emergency occurs, steps are taken to:

- minimise the harmful effects;
- restore the situation to normal;
- inform affected employees.

This will not be necessary if the amounts of hazardous substances present at the workplace are only likely to cause a slight risk.

6.7 Duty to Train

Employers must provide employees with suitable and sufficient information, instruction, training and supervision. This should include:

- details of the substances hazardous to health that they are likely to be exposed to, including:
    - the names of the substances
    - the risks they present to health
    - any relevant workplace exposure limit
    - access to relevant safety data sheet;
- the significant findings of the risk assessment;
- the actions and precautions necessary to safeguard against exposure;
- the results of monitoring of exposure;
- the collective results of health surveillance. These should be in a form that does not allow results to be attributed to a specific individual.

Control measures will not be effective unless employees are trained to use them correctly.

6.8 Duty to Review Assessments

Employers should review all assessments regularly if:

- it is suspected the risk assessment is no longer valid;
- an accident or injury occurs;
- any monitoring of the concentration of hazardous substances shows it to be necessary.

The length of time between reviews will depend on the:

- type of risk
- work
- likelihood of changes occurring.

7. Control Measures

After the risks to health from the hazardous substances in use have been established, decisions have to be made about the measures required to prevent or control exposure. If there are a significant number of problems, the necessary actions will need to be prioritised.

There are a range of measures that can be used to prevent or reduce exposure. In order of priority, the measures include the following:

- Avoiding use of the hazardous substance.
- Altering process design and working procedures.
- Altering engineering controls.

- If control measures cannot be achieved by other means, the use of Personal Protective Equipment (PPE) in addition to the other measures.

The selection of the control measures should be proportionate to the level of risk.

7.1 Principles of Good Practice

Exposure should be controlled by implementing the following principles of good practice:

- Design and operate processes and activities to minimise emission, release and spread of substances hazardous to health.
- Take into account all relevant routes of exposure - inhalation, skin absorption and ingestion.
- Control exposure by measures that are proportionate to the health risk.
- Choose the most effective and reliable control options to minimise the escape and spread of substances hazardous to health.
- Provide suitable personal protective equipment in combination with other control measures where adequate control of exposure cannot be achieved by other means.
- Check and review regularly all elements of control measures for their continuing effectiveness.
- Inform and train all employees on the hazards and risks from the substances with which they work and the use of control measures provided to control the risks.
- Ensure that the introduction of control measures does not increase the overall risk to health and safety.

7.2 Avoiding Use of Hazardous Substances

Avoiding the use of hazardous substances should prevent exposure. This can be achieved by:

- modifying the process so use of the substance hazardous to health is not required
- replacing the substance with a non-hazardous alternative.

Different physical forms of substances that do not present a hazard can be used. The most common example of this is the substitution of hazardous dusty substances which can be inhaled, with a pellet form of the substance.

7.3 Process Design and Working Procedures

The design and use of work processes, systems of work, work equipment and materials should reduce exposure to a minimum, eg:

- design of the process to minimise the amount of hazardous dust, fume, vapour, etc produced;
- containment of the process, eg total enclosure;
- keeping the amount of hazardous substance used to a minimum;
- reducing the number of employees exposed and the duration of exposure;
- avoiding or reducing the need for maintenance staff to enter hazardous areas;
- safe storage and disposal of hazardous substances;
- safe operating procedures;

- adequate supervision to ensure control measures are used correctly;
- procedures for accidents and incidents, including spillages and exposure to the hazardous substance;
- good hygiene, including adequate facilities for:

    - washing
    - changing
    - storage of clothing
    - storage of PPE

- preventing smoking, eating and drinking in areas where hazardous substances are used;
- adequate information, instruction and training on the hazards of the work;
- monitoring exposure;
- health surveillance.

7.4 Engineering Controls

If processes cannot be totally enclosed, it may be necessary to use ventilation, either partial enclosure by Local Exhaust Ventilation (LEV) or general ventilation. Such equipment must be maintained in efficient working order, in good repair and be kept in a clean condition. LEV must be thoroughly examined and tested at least once in every 14 months (unless a different frequency is prescribed in schedule 4 of the COSHH Regulations), and other engineering controls at suitable intervals.

Frequency of Thorough Examination and Test of Local Exhaust Ventilation Plant Used in Certain Processes (as indicated in schedule 4 of the COSHH Regulations)

7.5 Personal Protective Equipment

Personal Protective Equipment (PPE) should only be used if the other control measures cannot give sufficient control of exposure. The PPE must be:

- properly stored;
- checked at suitable intervals;
- repaired or replaced if found to be defective or within any recommended timescales

Employees should be trained on how to correctly use and look after the PPE.

7.6 Recording the Results

All significant findings of the assessment must be recorded. The risk assessment can be recorded on the Sevron COSHH 365 data base or on COSHH assessment sheet (Appendix II). The degree of detail will depend on the level of risk and the detail with which the assessment was carried out.

8.0 Exposure Monitoring

Exposure monitoring is the measurement of an employee's exposure to substances hazardous to health and should be carried out if:

- the assessment indicates there could be serious risks to health if control measures fail or do not work properly;
- exposure limits might be exceeded.

Monitoring is not necessary if the employer can show exposure is prevented or adequately controlled by other means of evaluation. However, monitoring must be carried out if employees are exposed to certain substances specified in the COSHH Regulations.

8.1 Airborne Sampling

Most monitoring involves measuring the airborne concentration of a substance in the employee's breathing zone, using personal sampling equipment. Air can also be sampled in the workplace using static sampling.

8.2 Biological Monitoring

Biological monitoring can also be used, particularly if there is likely to be:

- significant skin absorption;
- significant uptake following ingestion of the chemical;
- control of uptake dependent on PPE.

Biological monitoring involves taking samples of breath, blood or urine.

The accumulation of the substance or its metabolites (substances the body converts the chemical into) are analysed from the sample.

There has to be clear criteria for interpreting the results. The HSE has established a system of non-statutory biological monitoring guidance values to provide an authoritative guide to the interpretation of biological monitoring results. There is no requirement in the COSHH Regulations for compliance with these values.

Biological monitoring involves measurements of samples collected from individuals, so it is essential the rights of the individual giving the sample are safeguarded and confidentiality maintained.

8.3 Records

Records of exposure monitoring must be kept for at least five years, and if the record is for an individual employee, it should be kept for at least 40 years.

8.4 Health Surveillance

Health surveillance[3] puts in place systematic, regular and appropriate procedures to detect early signs of work-related ill health among employees exposed to health risks. The results are then acted on.

Health surveillance will be appropriate if:

- there is exposure to a substance known to damage health in some particular way;
- there are valid ways to detect the disease or condition;

- it is reasonably likely that damage to health may occur under the particular conditions at work.

Health surveillance can take the following forms:

- A questionnaire;
- A responsible person looking for a clear reaction, for example checking skin for dermatitis, or;
- Asking questions about breathing difficulties if substances known to cause asthma are used;
- A qualified person asking employees about symptoms of ill health, or inspecting or examining individuals for signs of ill health;
- Medical surveillance by a doctor, which can include clinical examinations;
- Biological and biological effect monitoring.

Health surveillance programmes should include keeping a health record for each individual, which should be kept for 40 years.

The Data Protection Act 1998 places requirements on those who hold health and medical records. In particular, those employees whose records are kept should be informed about the record and its purpose. Employees have a right to see the information and correct it.

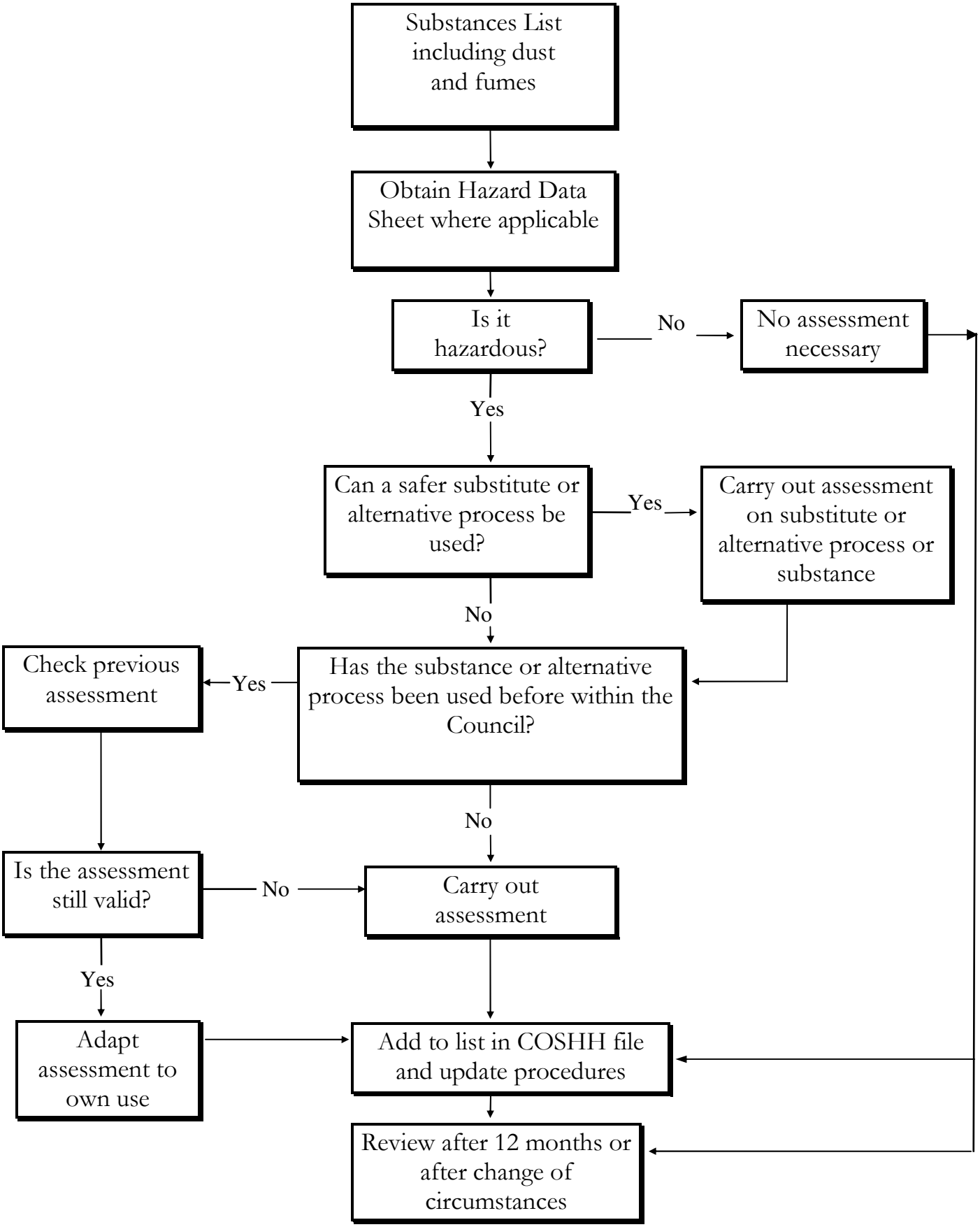
9.0 Sevron 365 COSHH Management Database

East Riding of Yorkshire Council subscribes to Sevron COSHH 365 which is a web based system which creates 100% compliant task based COSHH assessments and holds a library of safety data sheets which are continually updated and managed by Sevron. The usage of the system is unlimited therefore the system allows as many COSHH assessments as necessary to be produced at no additional cost. The system also provides inclusive e-learning and training tutorials and fully inclusive telephone support as part of the package.

Further guidance and information is available from Safety Services.

APPENDIX II

SUBSTANCE ASSESSMENT FLOW CHART



GHS hazard pictograms

-  Explosive
-  Flammable
-  Corrosive
-  Toxic
-  Human Health
-  Caution
-  Gas Bottle
-  Environmental
-  Oxidising

EAST RIDING OF YORKSHIRE COUNCIL COSHH ASSESSMENT

Directorate	
Service Area	
Manager/supervisor responsible	
Process/work activity	
Persons at risk	
Substance used	
Safety data sheet available (location)	
Hazard(s)	

Risk phrases	Route(s) of exposure	Workplace exposure limit	Volatility (boiling point) or dustiness	Quantity used

Risk of exposure

Controls required

Emergency action

Controls maintenance/examination/testing schedule

Information/instruction/training required

Signature		Date	
Date for next assessment			