

## DEALING WITH HAZARDOUS WASTE IN SCOTLAND: GETTING IT RIGHT



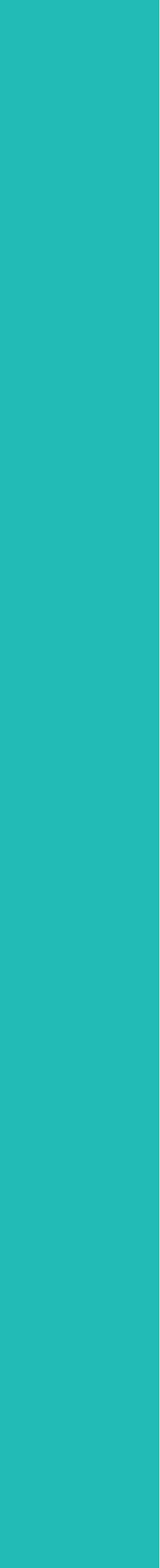




# **DEALING WITH HAZARDOUS WASTE IN SCOTLAND: GETTING IT RIGHT**

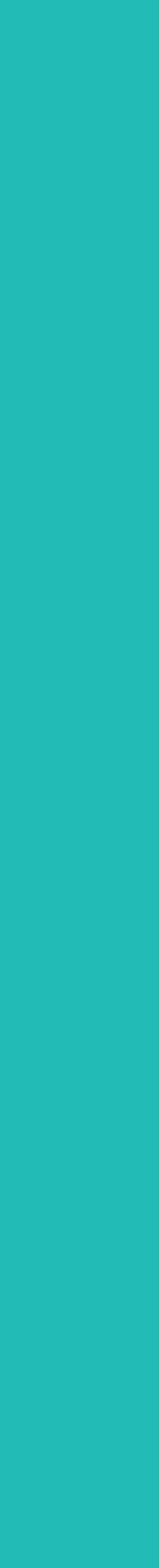
**This Good Practice Guide was produced by Envirowise**

Prepared with assistance from: Enviromentor Ltd



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# INTRODUCTION

**In Scotland, the terms ‘special waste’ and ‘hazardous waste’ mean the same thing. Under Scottish law, special waste is any waste that is defined as hazardous by the European Hazardous Waste Directive. Special waste has hazardous properties that may make it harmful to human health or the environment and, consequently strict laws control how it is managed.**

As a business, most of your time will be dedicated to your core activities, and other matters can seem to be an unnecessary distraction. However, most businesses are likely to produce some special waste, and failure to deal with it appropriately could put your business at risk.

This Guide aims to provide useful, concise information about managing special waste responsibly within your business in Scotland. The guidance includes:

- an outline of your legal obligations;
- a fuller definition of special waste and associated codes within the European Waste Catalogue;
- details of the procedures for dealing with special waste in Scotland;
- tips for minimising special waste;
- answers to some frequently asked questions arising from recent regulatory changes;
- mini guides for certain types of special waste, based on Advisory Notes issued by the Scottish Environment Protection Agency (SEPA).

Sources of further help are also listed, to help you find any additional information you may need.

**Please note that the legislation mentioned in this publication was checked for accuracy before going to press. However, legislation is constantly changing and being updated. For information on current legislation relating to special (hazardous) waste, please contact the Envirowise Advice Line free on 0800 585794.**

**The information is based on the regimes applying to Scotland. Guidance on all regulatory regimes across the UK is published by the regulating agencies on their respective websites:**

- **Scottish Environment Protection Agency (SEPA): [www.sepa.org.uk](http://www.sepa.org.uk)**
- **Environment Agency (England and Wales): [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)**
- **Northern Ireland Environment and Heritage Service: [www.ehsni.gov.uk](http://www.ehsni.gov.uk)**

**The NetRegs website ([www.netregs.gov.uk](http://www.netregs.gov.uk)) also provides UK businesses with considerable information and advice on environmental legislation.**

## WHAT IS SPECIAL WASTE IN SCOTLAND?

In Scotland, the terms ‘special waste’ and ‘hazardous waste’ are interchangeable. Under Scottish law, special waste is any waste that is defined as hazardous by the European Hazardous Waste Directive. Special waste has hazardous properties that may make it harmful to human health or the environment. Examples of wastes classed as special waste include:

- asbestos;
- lead-acid batteries;
- electrical equipment containing hazardous components, such as cathode ray tubes (eg televisions);
- oily sludges;
- solvents;
- fluorescent light tubes;
- chemical wastes;
- pesticides.

Any waste classified as hazardous in the European Waste Catalogue (EWC) is special waste. The EWC lists all wastes, hazardous and non-hazardous, grouped according to generic industry or process. Each waste type is assigned a six-digit code, with the first two digits identifying the industry or process (as listed in Table 1). Hazardous wastes are identified by an asterisk (\*) after the code.

The EWC classifies hazardous waste according to strictly defined criteria. Some wastes are always classed as hazardous, irrespective of composition or concentration: these are **absolute entries in the EWC and appear in red in this document**<sup>1</sup>. Wastes which may be hazardous but require a separate assessment to determine whether the dangerous substances present are above threshold concentrations are **mirror entries in the EWC and appear in blue in this document**. Non-hazardous wastes appear in **black**.

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<sup>1</sup> These colours are used throughout the Guide to highlight the waste entry type.

**Table 1 EWC codes for generic industries and processes**

<b>EWC Code</b>	<b>Generic industry or process</b>
01	Exploration, mining, quarrying, and physical and chemical treatment of minerals
02	Agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
03	Wood processing and the production of panels and furniture, pulp, paper and cardboard
04	Leather, fur and textile industries
05	Petroleum refining, natural gas purification and pyrolytic treatment of coal
06	Inorganic chemical processes
07	Organic chemical processes
08	Manufacture, formulation, supply and use (MFSU) of coatings, adhesives, sealants and printing inks
09	Photographic industry
10	Thermal processes
11	Chemical surface treatment and coating of metals and other materials; non-ferrous hydrometallurgy
12	Shaping and physical and mechanical surface treatment of metals and plastics
13	Oil wastes and wastes of liquid fuels
14	Organic solvents, refrigerants and propellants
15	Packaging, absorbents, wiping cloths, filter materials and protective clothing
16	Not otherwise specified
17	Construction and demolition waste
18	Human and animal health care and/or related research
19	Waste management facilities, waste water treatment plants and water treatment plants
20	Municipal wastes (household and similar commercial, industrial and institutional wastes)

The environmental regulators have produced guidance to help you determine whether your waste is special (hazardous). This guidance, *Hazardous Waste: Interpretation of the definition and classification of hazardous waste (Second Edition)* (sometimes referred to as WM2), is available on the SEPA website<sup>2</sup>.

<sup>2</sup> [www.sepa.org.uk/guidance/waste/hazardous/index.htm](http://www.sepa.org.uk/guidance/waste/hazardous/index.htm)

SEPA has also developed Special Waste Advisory Notes<sup>3</sup>, which give advice clarifying the procedures for consigning special (hazardous) wastes and also, for certain types of waste, their potential hazardous properties and how they are classified in the EWC. The Advisory Notes cover 14 topics, including fluorescent tubes, waste electronic and electrical equipment, oil-contaminated wastes, adhesives and mineral fibres. The main purpose of these Notes is to:

- help to determine whether or not a waste is special, particularly for those that do not appear as case studies in the joint Agencies' guidance WM2: the Notes complement rather than replace this guidance;
- assist with the preparation and completion of paperwork needed to accompany the movement of special (hazardous) wastes, for instance, for multiple collections (carriers' rounds) and landed ships' waste: the Notes complement SEPA's publication, *A Guide to Consigning Special Waste*<sup>4</sup>.

Further information on dealing with special waste in Scotland, the necessary paperwork and timescales is presented later in this Guide. The Appendix also contains 'mini guides' to certain types of waste, based on SEPA's Advisory Notes.

## HOW MUCH HAZARDOUS WASTE IS PRODUCED IN THE UK?

In the UK, some 4.6 million tonnes of hazardous waste is produced each year. Around 39% of the hazardous waste produced in England and Wales is sent to landfill, with the remainder recycled, treated or incinerated.

In Scotland, around 653,000 tonnes of special waste was consigned in 2004, with nearly 32% sent to landfill, 39% recycled or treated in Scotland and 5% incinerated. The remainder was exported to England for further treatment and disposal. Only a few landfill sites in Scotland can take asbestos and stable non-reactive hazardous wastes and, since 2004, only one Scottish site has been licensed to accept certain hazardous wastes. Hazardous waste producers have responded by:

- replacing hazardous substances with non-hazardous substances where possible, so that the waste they produce is also non-hazardous;
- treating their hazardous waste to make it non-hazardous;
- minimising the amount of hazardous waste they generate;
- sending their hazardous waste to licensed landfills in England or Wales.

This last option means that some Scottish waste is transported hundreds of miles.

<sup>3</sup> [www.sepa.org.uk/guidance/waste/swan/index.htm](http://www.sepa.org.uk/guidance/waste/swan/index.htm)

<sup>4</sup> [www.sepa.org.uk/pdf/guidance/waste/consigning\\_special\\_waste.pdf](http://www.sepa.org.uk/pdf/guidance/waste/consigning_special_waste.pdf)

# UNDERSTANDING YOUR LEGAL OBLIGATIONS

Support is available to help you understand your legal obligations. If you are unsure whether or not hazardous waste controls apply to you, contact the Envirowise Advice Line free on 0800 585794 or SEPA on 01786 457700. You can also make contact through the relevant websites ([www.envirowise.gov.uk/scotland](http://www.envirowise.gov.uk/scotland) or [www.sepa.org.uk/contact/](http://www.sepa.org.uk/contact/)).

## DUTY OF CARE

Waste materials produced as part of your business or within your workplace are regulated by law. As a business, you have a duty to ensure that any waste you produce is handled safely and in accordance with the law. This 'Duty of Care' applies to:

- all 'controlled waste', which encompasses all commercial, industrial and household wastes (including hazardous/special wastes);
- anyone who produces, imports, carries, keeps, treats or disposes of controlled waste from business or industry, or acts as a waste broker in this respect.

You must make sure that anyone that you pass your waste on to, such as a waste contractor, scrap metal merchant, recycler, local council or skip hire company, is authorised to take it. If you do not, and your waste is disposed of illegally, you could be held responsible.

The Duty of Care has no time limit, and extends until the waste has been either finally and properly disposed of, or fully recovered.

A searchable database of registered waste carriers is available on the SEPA website<sup>5</sup>. The list is not inclusive, but it should help your business to meet its Duty of Care requirements.

**Specific information on Duty of Care responsibilities can be found on the NetRegs website ([www.netregs.gov.uk](http://www.netregs.gov.uk)), which offers comprehensive advice to help UK businesses understand what they need to do to comply with environmental legislation.**

## HAZARDOUS/SPECIAL WASTE REGULATIONS

If you produce or deal with waste that has certain hazardous properties, you also have to comply with the requirements of the Hazardous/Special Waste Regulations. Most businesses are likely to produce some special waste, and must ensure that it is dealt with appropriately. There are separate requirements for:

- explosives covered by the Explosives Act 1875;
- most radioactive waste.

<sup>5</sup> [www.sepa.org.uk/regulation/rocas/search/index.aspx](http://www.sepa.org.uk/regulation/rocas/search/index.aspx)

If you are unsure whether or not these Regulations apply to you, contact the Envirowise Advice Line free on 0800 585794 or SEPA on 01786 457700. You can also make contact through the relevant websites ([www.envirowise.gov.uk/scotland](http://www.envirowise.gov.uk/scotland) or [www.sepa.org.uk/contact/](http://www.sepa.org.uk/contact/)).



## CARRIAGE OF DANGEROUS GOODS

Some special (hazardous) wastes require special transport arrangements, such as the use of trained drivers, and specific labelling and equipment. Both the company consigning the material and the company transporting the material are required to ensure that all appropriate arrangements are in place.

**You must check your obligations to ensure that you transport these materials in compliance with the law. If you need further help with these matters, many waste disposal companies can provide assistance. Further advice can also be obtained from the Health and Safety Executive ([www.hse.gov.uk/cdg/index.htm](http://www.hse.gov.uk/cdg/index.htm)).**

# CONSIGNING SPECIAL WASTE IN SCOTLAND

Full details of the steps involved in consigning special waste in Scotland, together with details of how to complete all necessary paperwork, can be found in the SEPA publication, *A Guide to Consigning Special Waste*, which can be downloaded from the SEPA website<sup>6</sup>.

## TRACKING SPECIAL WASTE MOVEMENTS

SEPA tracks the movement of special waste through a consignment note system, designed to ensure that waste is responsibly managed from its point of origin until it reaches a suitably licensed or exempt facility for recovery or disposal.

For special waste produced in Scotland, you may only use consignment notes or codes issued by SEPA. SEPA will accept the use of older-style SEPA consignment notes, as long as the six-digit European Waste Catalogue codes and full details of the postcode of the waste producer are included on the note in accordance with The Special Waste Amendment (Scotland) Regulations 2004.

## PRE-NOTIFICATION OF SPECIAL WASTE MOVEMENTS

You must pre-notify SEPA at least three working days, but not more than one month, before special waste is moved in Scotland, or imported into Scotland from England or Wales. For waste produced in Scotland, a consignment note must be used that contains a unique Scottish code; codes and consignment notes can be obtained from SEPA.

Certain types of special waste movements are **exempt from pre-notification, but a consignment note must still accompany these movements**. Exemptions include:

- the second and subsequent movements of the same type of waste moving from the same producer to the same disposal or recovery facility, **where the first movement has been pre-notified and transported**;
- special waste moved between companies belonging to the same group of companies or corporate body, where that waste is to be stored prior to disposal or recovery, and where the site receiving the waste holds a suitable licence, permit or exemption to receive the waste;
- off-specification special waste consisting of products or materials being returned to their originator;
- the removal of a consignment consisting solely of lead-acid motor vehicle batteries.

<sup>6</sup> [www.sepa.org.uk/pdf/guidance/waste/consigning\\_special\\_waste.pdf](http://www.sepa.org.uk/pdf/guidance/waste/consigning_special_waste.pdf)

## COMPLETING CONSIGNMENT NOTES

A consignment note consists of five different coloured pages. Each page is divided into five sections, each of which refers to a different aspect of the waste transfer process and must be filled out by the appropriate person (waste producer, consigner, carrier or consignee).

All consignment notes must bear a unique code, purchased from SEPA, consisting of a two-letter prefix (SA, SB or SC) and a series of numbers:

- SA codes cost £15 each and are used for all other types of consignment not listed below;
- SB codes cost £10 each and are used for the consignment of special waste consisting entirely of lead-acid motor vehicle batteries;
- SC codes are free of charge and are restricted to:
  - the second or subsequent removal of waste within a succession of extended carriers' collection rounds;
  - the return of out-of-specification materials, which are waste, to the original manufacturer;
  - the removal of waste from a ship to a conveyance or reception facility.

Details recorded on the notes include:

- the name, address and postcode of the waste producer;
- full details of where the waste will be taken from;
- full details of where the waste will be taken to;
- the expected date of the first and last consignments;
- a description of the waste (including name, physical form and colour);
- the six-digit EWC code assigned to the waste;
- the quantity of waste to be moved;
- information on the chemical or biological components of the waste that make it special;
- all hazards and hazardous properties associated with the special waste being consigned;
- a description of the process giving rise to the waste.

When completed, one copy of the note must be sent to SEPA as pre-notification, one copy must be retained by the producer/consigner of the waste, and three copies are given to the carrier of the waste. The waste producer must keep consignment notes for three years.

## QUICK GUIDE TO CONSIGNING WASTE

Determine the classification of the waste using WM2 and the EWC, and assign the appropriate EWC code(s) and hazard code(s)

Obtain consignment notes (for codes only) from SEPA

Complete Sections A and B (including postcode) and send the pre-notification (white) copy to the appropriate SEPA office

Allow at least three days (but no longer than one month) from the purchase of the notes (or codes) before moving the waste

Complete Section D (and check that the carrier has completed Section C) before the waste leaves the premises

Make sure at least three copies of the note (yellow, pink and gold) travel with the waste to the consignee

The consignee retains the pink copy, and returns the gold copy to the carrier/hauler: these notes must be kept for at least three years

The consignee sends the yellow copy (deposit information) to SEPA

## EXPORTING SPECIAL WASTE FROM SCOTLAND

All special waste produced in Scotland must be consigned using a SEPA-issued consignment note or code regardless of its final destination within the UK. However, if you are a producer of special waste in Scotland, you do not have to register with the Environment Agency, even if you export your waste to England or Wales. Details of how the consignment system works for special waste being exported from Scotland to England, Wales or Northern Ireland can be found in the SEPA publication, *A Guide to Consigning Special Waste*.

## WHY MINIMISE SPECIAL WASTE?

By minimising the amount of special waste you produce, you will:

- pay less for waste disposal;
- be better able to comply with environmental legislation and avoid costly fines;
- improve your company's public image by reducing its impact on the environment.

Special waste that is properly managed and disposed of in accordance with the law poses a small risk to the environment; it only becomes harmful if it is managed badly or disposed of illegally. Because of the extra hazardous risks that special waste poses to human health and the environment, strict laws control how it is managed.

## REGULATING THE DISPOSAL OF HAZARDOUS (SPECIAL) WASTE

The co-disposal of hazardous (special) waste and non-hazardous waste in landfill sites has been banned since July 2004.

Legislation that came into force in July 2005 reduced the number of landfill sites accepting hazardous waste throughout the UK. A landfill site authorised to accept hazardous waste will not automatically be able to take all types of hazardous waste. Hazardous waste may only be accepted if:

- the landfill site's licence or permit allows it;
- certain waste acceptance criteria (WAC) can be met;
- the landfill operator is prepared to accept it.

Under certain circumstances, asbestos and some stable non-reactive hazardous wastes can still be deposited at non-hazardous landfills. This applies to a few sites in Scotland. However, for the majority of hazardous wastes, the nearest licensed landfill site is in Tyne and Wear.

Hazardous waste must be pretreated before it can be sent to landfill. The treatment should take into account the limit values set by the landfill site's WAC. If, after treatment, the limit values of the landfill's WAC are exceeded, you will need to treat the waste further before it will be accepted for disposal.

These legislative changes have influenced the gate fees of landfill sites. Contact landfill operators directly to find out how much you will be charged for disposal of your waste, as charges may vary from site to site.



## RECYCLING HAZARDOUS (SPECIAL) WASTE

Some hazardous waste, such as solvents, oils and metals, can be re-used, recovered or recycled, while other types of waste may be incinerated. For example, waste mineral oil can be burned as fuel, but it is better for the environment if it is recycled. Be aware that a waste management licence or suitable exemption may be required to treat or recycle special wastes.

Any business based in Scotland can use the Waste Aware Business website and its Business Recycling Directory<sup>7</sup> to access information about local and national waste recycling and re-use services from a range of service providers. The Directory can be searched by local authority area, postcode or type of material, enabling you to find relevant information quickly and easily. The site contains information on organisations providing recycling and re-use services for a wide range of non-hazardous and hazardous materials, including asbestos, batteries, fluorescent tubes, IT and telecommunication equipment, oils and chemicals. It also provides links to other organisations that can offer business support or advice in Scotland.

<sup>7</sup> [www.wasteawarebusiness.org.uk/](http://www.wasteawarebusiness.org.uk/)

## MINIMISING SPECIAL WASTE

Minimising the hazardous properties of waste at source will help your business to avoid the increasing costs of special waste treatment and disposal, and at the same time it will help to protect the environment. Explore possibilities for using alternative materials and practices that do not result in the production of special waste, or that reduce its production at source.

Free advice on all aspects of special (hazardous) waste and waste minimisation – generic and sector-specific – can be obtained from the Envirowise Advice Line on 0800 585794. Envirowise advisors can provide a free and confidential *FastTrack* waste minimisation review: contact Envirowise through the Advice Line or e-mail [advice@envirowise.gov.uk](mailto:advice@envirowise.gov.uk).

### GENERIC TIPS FOR MINIMISING SPECIAL WASTE

#### General

Often the easiest and least expensive way to reduce the hazardous properties of special waste is to improve housekeeping practices. Good housekeeping includes inventory control and efficient operating procedures.

- Reassess operations and waste handling practices periodically. A successful waste reduction programme requires diligence: take action to avoid slipping back into old, more wasteful ways of doing things and to identify additional waste reduction possibilities.
- As long as waste is being produced, potential exists for waste reduction. Less-polluting materials, equipment and procedures are constantly being developed, and wastes that are difficult or costly to control today may be easily eliminated tomorrow. It is important to keep a look out for developments that could benefit your company.

#### Procurement

- Estimate and use only the amount of materials necessary for a job.
- Substitute feedstock materials for those with less-hazardous properties.
- Purchase paints with higher solids content, or water-based paints with no solvent, whenever possible.
- Keep good inventory records to prevent materials from spoiling or going out of date.
- Keep accurate records of material usage, so that you can measure reductions in use.
- Mark the purchase date on each container and adopt a 'first in, first out' policy, so that older materials are used up before new ones are opened. Assign someone to distribute and keep track of these materials.
- Always ask for the material safety data sheets when considering or purchasing a product, to establish its hazardous content.

- Inspect materials upon delivery, and immediately return unacceptable materials to the supplier.
- If making a special order, purchase only the amount of material needed to do the job.
- When buying new equipment, look for equipment that will minimise both the amount of hazardous material used and the amount of waste produced.

### On-site housekeeping

- Avoid the use of aerosols.
- Use refillable, smaller labelled containers for dispensing bulk materials.
- Keep premises clean and orderly, to eliminate leaks and spills.
- Install drip plates, pans or trays to catch drips for return to a tank, etc.
- Apply flow restriction devices, such as pH-controlled and pressure-controlled shut-off valves.
- Use high-volume, low-pressure spray guns for painting operations.
- Segregate hazardous and non-hazardous wastes for recycling.
- Avoid mixing special wastes with non-hazardous wastes. If you deposit special waste in a skip containing otherwise non-hazardous waste, the whole content of the skip becomes classed as 'special waste'.

### Solvent management

- Substitute less-hazardous materials for solvent cleaners. Consider water-based cleaners or water-soluble cutting fluids, or install a pressure wash system if feasible.
- Where possible, try to find one multi-purpose solvent that can serve a variety of uses, rather than having a different solvent for each operation.
- If solvents cannot be made re-usable, try to find a way to recycle them. For example, it may be possible to purchase solvents from a company that will pick up and recycle any spent solvent.
- Extend the life of solvent baths, for example, by pre-cleaning parts with rags before placing them in the bath (and cleaning the rags for re-use), or by using old solvent as a pre-soak to remove most of the dirt or grease before introducing the parts into the fresh bath.
- Minimise the amount of cleaning solvent lost during drainage of cleaned parts. Remove parts from the bath slowly to prevent spillage, install drip trays or racks near the bath for draining cleaned parts, and return the drainage to the bath.
- For large volumes of solvent waste, consider leasing or purchasing on-site distillation units.

### Oils

- Use drip pans to catch lubrication oils for re-use.
- Handle oils carefully to avoid spillage.

## FREQUENTLY ASKED QUESTIONS

The Special Waste Amendment (Scotland) Regulations 2004 have resulted in several changes to the way in which special waste can be consigned in Scotland. This section lists answers to some frequently asked questions arising from the regulatory changes, but it is not exhaustive and SEPA's position may change from time to time. Check the SEPA website for the current position<sup>8</sup> and ensure that you are fully aware of your legal obligations before consigning any special waste.

### Can special waste be consigned with domestic waste?

Small amounts of special waste, such as a fluorescent tube, generated at a domestic premises and discarded with normal mixed domestic refuse are not subject to the controls of The Special Waste Amendment (Scotland) Regulations 2004. However, waste from church halls, residential homes, camp sites, prisons and buildings used for public meetings and charities would probably be considered to be generating household waste that is not domestic waste. Consequently, wastes containing hazardous materials at these properties would be categorised as 'special waste'.

### Is 'domestic asbestos waste' subject to regulatory control?

Domestic asbestos waste is classed as special waste. The requirements of the Special Waste Regulations 1996, as amended, apply to this special waste, except where the original producer is also the person who resides at the domestic premises where the waste arises or where the waste producer is acting on behalf of the resident without reward. Any contractor that undertakes work for a householder who generates asbestos waste must comply with the requirements of the Regulations.

### Can special waste be consigned with non-hazardous waste from a commercial premises?

With the exception of domestic special waste, the Regulations do not include a de minimis for small quantities of special waste. Therefore, if a business deposits a fluorescent tube or a computer screen in a skip of otherwise non-hazardous waste, the whole content of the skip becomes classed as special waste.

Computers used in the course of business (even where the business is conducted at a domestic premises) are not domestic waste. If a commercial premises disposes of hazardous waste with non-hazardous waste, for example, by putting a cathode ray tube in a skip of mixed municipal waste, the most appropriate EWC codes used to describe the load are likely to be:

**20 03 01**      **Mixed municipal waste and**

**16 02 13\***      **Discarded equipment containing hazardous components**



### Are fluorescent tubes always classed as special waste?

SEPA is of the view that all fluorescent tubes from commercial and industrial premises are special waste. The codes used to describe a consignment from commercial or industrial premises that is comprised of mixed municipal waste and fluorescent tubes would be expected to be:

**16 02 13\***      **Discarded equipment containing hazardous components**  
and

**20 03 01**      **Mixed municipal waste**

### What is the position for special waste originating outside Scotland?

Where special waste is removed from premises situated outside Scotland, any consignment note that contains the same information will be treated as if it were a consignment note raised in compliance with the provisions of the Scottish Regulations. For waste originating in Northern Ireland, SEPA's interim position is that consignment notes generated in Northern Ireland in accordance with the Hazardous Waste Regulations (Northern Ireland) 2005 are acceptable in Scotland.

## SOURCES OF FURTHER INFORMATION

### ENVIROWISE

The Envirowise Advice Line on 0800 585794 (e-mail [advice@envirowise.gov.uk](mailto:advice@envirowise.gov.uk)) can:

- put you in touch with Envirowise's technical experts free of charge;
- provide free, up-to-date advice on waste minimisation issues, methods and successes;
- tell you about relevant special (hazardous) waste regulations and other legislation that could affect your business;
- send you copies of free, relevant Envirowise publications;
- suggest other sources of information;
- arrange for a free, confidential on-site waste review (known as a *FastTrack* visit) by an Envirowise advisor, to help you identify and realise savings;
- arrange for a counselling visit from an Envirowise advisor to discuss a specific environmental issue at your site.

All Envirowise's free information and advice can also be accessed via its website ([www.envirowise.gov.uk](http://www.envirowise.gov.uk)).

Particular publications of interest include:

- *Practical ways to manage and minimise hazardous waste* (GG490)

### SEPA

SEPA (Scottish Environment Protection Agency) is Scotland's environmental regulator and advisor, responsible to the Scottish Parliament through Ministers. SEPA's main aim is to provide an efficient and integrated environmental protection system for Scotland that will both improve the environment and contribute to the Scottish Ministers' goal of sustainable development.

The SEPA website ([www.sepa.org.uk](http://www.sepa.org.uk)) offers considerable advice and information about special waste, including:

- Guidance and publications covering all aspects of waste  
[www.sepa.org.uk/guidance/index.htm#waste](http://www.sepa.org.uk/guidance/index.htm#waste)
- Special Waste Advisory Notes  
Fourteen advisory notes clarifying the procedures for consigning special wastes and also, for certain types of waste, their potential hazardous properties and how they are classified in the EWC.  
[www.sepa.org.uk/guidance/waste/swan/index.htm](http://www.sepa.org.uk/guidance/waste/swan/index.htm)
- *Hazardous Waste: Interpretation of the definition and classification of hazardous waste (Second Edition)*  
Guidance to help you determine whether your waste is hazardous/special (sometimes known as WM2).  
[www.sepa.org.uk/guidance/waste/hazardous/index.htm](http://www.sepa.org.uk/guidance/waste/hazardous/index.htm)



- *A Guide to Consigning Special Waste*  
Guidance on the procedures and paperwork necessary when moving special waste produced in Scotland.  
[www.sepa.org.uk/pdf/guidance/waste/consigning\\_special\\_waste.pdf](http://www.sepa.org.uk/pdf/guidance/waste/consigning_special_waste.pdf)
- A quick overview of the changes that will result from The Special Waste Amendment (Scotland) Regulations 2004.  
[www.sepa.org.uk/guidance/waste/amendment\\_faq.htm](http://www.sepa.org.uk/guidance/waste/amendment_faq.htm)

SEPA Corporate Office can also be contacted by telephone on 01786 457700.

## USEFUL WEBSITES

### NetRegs

NetRegs provides free environmental guidance for small businesses in the UK. The site helps you understand what you need to do to comply with environmental legislation and protect the environment.  
[www.netregs.gov.uk](http://www.netregs.gov.uk)

### Waste Aware Business

Waste Aware Business aims to raise awareness of business waste issues and provide information on alternatives to landfill. The Business Recycling Directory provides searchable information about local and national waste and recycling services from a range of service providers. In addition, the site provides links to other organisations offering business support and advice in Scotland.  
[www.wasteawarebusiness.org.uk](http://www.wasteawarebusiness.org.uk)

### The National Chemical Emergency Centre

The NCEC Product Stewardship Consultancy can provide advice on compliance with the carriage of dangerous goods.  
[www.the-ncec.com/productstewardship/dgsa](http://www.the-ncec.com/productstewardship/dgsa)

### Freight Transport Association

The FTA's Dangerous Goods Network has been established for professionals dealing with the safe transport of dangerous goods. It aims to keep those involved with dangerous goods up to date with the very latest on regulatory developments and information.

[www.fta.co.uk/services/dangerousgoods/index.htm](http://www.fta.co.uk/services/dangerousgoods/index.htm)

## MINI GUIDES FOR CERTAIN TYPES OF SPECIAL WASTE

These 'mini guides' have been compiled from information contained in the relevant Special Waste Advisory Notes, produced by SEPA. The Advisory Notes give advice clarifying the procedures for consigning special (hazardous) wastes and also, for certain types of waste, their potential hazardous properties and how they are classified in the European Waste Catalogue (EWC). To view the full Advisory Note, or to find similar information for other types of special waste, visit [www.sepa.org.uk/guidance/waste/swan/index.htm](http://www.sepa.org.uk/guidance/waste/swan/index.htm)

### FLUORESCENT TUBES AND GAS DISCHARGE LAMPS<sup>9</sup>

This mini guide considers fluorescent tubes and other gas discharge lamps containing sodium and/or mercury. These exist in many forms, from large strip lights to small low-energy bulbs. They arise from both domestic use and other public or commercial/industrial applications such as sodium street lights. The hazardous components may also contain lead, cadmium and other heavy metals. Reference in this note to 'special waste' also means hazardous waste.

Fluorescent tubes and lamps are always special waste, unless they have been treated to remove the hazardous components.

#### Waste classification

Where fluorescent tubes are separately collected in bulk, eg as part of a maintenance activity, they are an absolute entry:<sup>10</sup>

#### **20 01 21\*** Fluorescent tubes and other mercury containing waste

Tubes discarded into commercial or industrial waste are identified by the code below, alongside the code for the general waste they are consigned in (eg **20 03 01** – mixed municipal waste):

#### **16 02 13\*** Discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12

Lamps that are treated, for example, to recover the mercury, will be classified under Chapter 19 of the EWC. The hazardous components of fluorescent tubes include the 'ballasts' or starting capacitors which contain the mercury and, in older lamps, polychlorinated biphenyls (PCBs). When completely removed these are classified by a separate entry:

#### **16 02 15\*** Hazardous components removed from discarded (electrical and electronic) equipment

<sup>9</sup> [www.sepa.org.uk/pdf/guidance/waste/swan/SWAN01.pdf](http://www.sepa.org.uk/pdf/guidance/waste/swan/SWAN01.pdf)

<sup>10</sup> Some wastes are always classed as hazardous: **these are absolute entries in the EWC and are colour-coded red in this Appendix**. Others require separate assessment to determine whether or not they are hazardous, depending on whether the amount of dangerous substances present is above threshold concentrations: **these are mirror entries in the EWC and are colour-coded blue in this Appendix**. Non-hazardous wastes appear in **black**.

## OIL CONTAMINATED WASTES<sup>11</sup>

Oil contaminated wastes can arise in industrial production processes, end-of-life products, clean-up operations and waste treatment. The EWC has many references to wastes containing oil, but oil may be a dangerous substance in other wastes. In judging whether the waste is special, information may be at hand such as analyses or the data that suppliers require for safe handling of material. However, waste holders may not always be familiar with the composition of the waste.

### Assessment on total oil content and generic threshold

Oil products are classified in the ASL<sup>12</sup> under generic names such as ‘lubricating oil’, ‘kerosene’, ‘coal tar’ and ‘petroleum substances’ (eg grease). These have the same status as a ‘substance’ and should be compared to the thresholds for hazardous (special) waste in WM2. It is not necessary to complete a full analysis to assess against each individual hydrocarbon. Heating and insulating oils are not on the ASL.

If it simply needs establishing that oil is or is not present to make the waste special, a generic threshold of 0.1% is used. This is based on a worst case scenario of category 1 or 2 carcinogen substances (H7) (most of which are classified against risk phrase R45<sup>13</sup>). This represents the first ‘screen’ and can be applied regardless of how complex the oil mixture is, but does not dispense the waste holder from investigating other potential hazards (eg from flammability H3 or toxicity H6) or contaminants.

### Assessment on individual hydrocarbons and ‘marker’ compounds

If the specific nature of the hydrocarbons making up the ‘oil’ content is known, or the source and type of contamination is understood, the waste may be special against other thresholds. For instance, diesel is a category 3 carcinogen (H7) and would make the waste special at 1%.

If the holder cannot decide which substances might be present, they would simply use the generic threshold (0.1%). The waste holder must make their own judgement on a definitive approach to classification of their waste and balance the costs of providing this information to support a contention that the waste is or is not special.

Waste classification

### Oil contaminated wastes where there is no specific reference to oils in the EWC

Oil contaminated wastes may be caught by entries in the EWC without a specific reference to the hydrocarbon as a dangerous substance. Examples are lubricating greases and solvents for degreasing car parts, classified as **11 01 13\*** (WM2), and excavated contaminated soils or mixed construction and demolition wastes, classified as **17 05 03\*** and **17 09 03\*** respectively. Petroleum products and chemicals are also used in the manufacture of detergents, artificial fibres, plastics,

<sup>11</sup> [www.sepa.org.uk/pdf/guidance/waste/swan/SWAN04.pdf](http://www.sepa.org.uk/pdf/guidance/waste/swan/SWAN04.pdf)

<sup>12</sup> The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP3) Approved Supply List (ASL) provides simple information for the labelling of products with chemicals that could be dangerous to human health or the environment. WM2 uses the most recent version of the ASL to ensure that classification of waste reflects current understanding on dangerous substances.

<sup>13</sup> R45 – may cause cancer.

insecticides, fertilisers, pharmaceutical preparations, toiletries, and synthetic rubber. The oil in the waste is assessed in relation to the threshold levels in the same way as if there was a specific reference to it.

Street sweepings and other similar ‘municipal’ wastes are classified as non-hazardous under Chapter 20. Other gulley emptyings or oily waters from industrial interceptors, vehicle repair shops etc would be classified under Chapter 13 or **16 10 01\*** (aqueous liquid wastes containing dangerous substances) if they required off-site treatment.

### Oil contaminated wastes where there is specific reference to oils in the EWC

Type of oil-containing waste	EWC entry (& non-hazardous mirror)
Drilling muds	<b>01 05 05*</b> (01 05 07 / 08) (see text below)
Wastes from petroleum refinery	Chapter 5
Oil fly ash from incinerators	<b>10 01 04*</b>
Water cooling treatment	Chapter 10
Tar wastes from electronics industry	<b>10 08 12*</b> (10 08 13)
Machining oils	<b>Chapter 12 01</b>
Grinding etc sludges	<b>12 01 18*</b> (12 01 99)
Oil interceptor waste	<b>Chapter 13 05</b>
Industrial gulley waste emptyings	<b>Chapter 13 05</b>
Oily wipes and granules/clean-ups	<b>15 02 02*</b> (15 02 03)
Oil filters from metal fabrication	<b>15 02 02*</b> (15 02 03)
Oil filters from vehicles	<b>16 01 07*</b>
Transport/storage tank cleaning	<b>16 07 08*</b> (16 07 99)
Bitumen roofing felt	<b>17 03 01*</b> (17 03 02)
Cables from construction/demolition	<b>17 04 10*</b> (17 04 11)
Road surfacing wastes	See text below
Waste treatment wastes	<b>19 02 07*</b>
Water treatment works waste	<b>19 08 10*</b>

#### Drilling muds

Refined mineral oils tend to be used in modern drilling fluids, with the distillation process reducing the aromatic hydrocarbon content to about half that of diesel, which reduces toxicity. More recently, synthesised hydrocarbons such as paraffins (alkanes) and olefins, which have very low PAH content and offer more stability, have also been used. Drilling fluids will be blended with other additives such as thinners, sodium hydroxide and lubricants to achieve the correct drilling performance.

#### Road surfacing wastes

Since modern road surfacing materials are bituminous mixtures, road planings or chippings would be classified as non-hazardous by **17 03 02**. There is no specific reference to bitumen as a dangerous substance but the ASL classifies ‘pitch’ as carcinogenic (R45), and therefore it is advised that analysis or a marker test is

carried out or a hazardous classification used. Bituminous mixtures containing coal tar are classified as a mirror entry **17 03 01\***, but coal tar and tarred products themselves are absolute hazardous **17 03 03\***.

Chapter 16 contains a mirror entry for organic substances containing dangerous substances **16 03 05\***. This could be used to classify off-specification batches and unused products, such as road-making material surplus to requirements.

## PACKAGING<sup>14</sup>

This guidance assists in the classification of waste packaging that might be contaminated. It also covers other articles, such as spoiled goods or similar items that might not be packaging (eg dry wipes).

### Waste classification

It should be noted that items used to contain material and that are essential for the functioning of another product, eg emptied printer cartridges or oil filters from cars, are not packaging waste.

The assessment of used packaging such as drums with contents left in them does not consider their weight, ie any hazardous classification is on the presence of the contents themselves. The same principle applies to an item of hazardous waste in a mixed container or skip, or a hazardous component in certain electrical waste, ie these make the whole waste hazardous.



<sup>14</sup> [www.sepa.org.uk/pdf/guidance/waste/swan/SWAN05.pdf](http://www.sepa.org.uk/pdf/guidance/waste/swan/SWAN05.pdf)

Goods that are damaged and contaminated with any dangerous substances above the relevant thresholds will also be hazardous.

In both the cases above, the used or spoiled packaging or containers will be classified under the entry appropriate to the industry/process that gave rise to it. For example, un-rinsed paint tins:

**08 01 11\* Waste paint and varnish containing dangerous substances**

Emptied pressurised gas cylinders are not likely to be hazardous waste. If in doubt, gas cylinders and pressurised aerosols (both the propellant and contents) should be considered under:

**16 05 04\* Gases in pressure containers containing dangerous substances**

If the packaging is emptied or cleaned as far as possible such that the residue cannot be removed any further (eg aqueous cleaning, power wire brushing), the waste can be considered under Chapter 15. The weight of the packaging can be taken into account when assessing whether any residues still make the waste hazardous (further information is given in WM2, Appendix B41/42):

**15 01 10\* Packaging containing residues of or contaminated by dangerous substances**

**15 01 11\* Metallic packaging containing a dangerous solid porous matrix (for example, asbestos), including empty pressure containers**

Cleaning or processing of the waste (eg drum reconditioning) may be a waste treatment operation, in which case the entries in Chapter 19 will be used.

Waste absorbents and filters includes materials used in the clean-up of spillages or other contamination, for instance, absorbent granules, sawdust and dry wipes. It also includes dirty clothing for disposal or treatment (clothes and other textiles for laundering and return are not waste) and non-vehicle oil filters (eg from the metal fabrication industry contaminated with machining emulsion oil). The weight of the absorbent or material is accounted for in the assessment as hazardous waste:

**15 02 02\* Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances**

**15 02 03 Absorbents, filter materials, wiping cloths and protective clothing other than those specified in 15 02 02**

## WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)<sup>15</sup>

This note covers potentially hazardous (special) WEEE (and its components) and their classification in the EWC. There is a range of dangerous substances in WEEE in the form of plasticisers, flame retardants, colourants and insulators. Many are also used for light emission and semiconduction. The principal substances are heavy metals (eg lead, mercury, cadmium), halogenated organic compounds (polychlorinated, fluorinated and/or brominated substances) and asbestos or other mineral fibres. The potential hazards will depend on whether the dangerous substances must be assessed against the component parts or the equipment as a whole.

Many items of WEEE are assessed on the dangerous substances in their component parts (capacitors etc). If hazardous, these parts will render the whole equipment hazardous and the following EWC entry is appropriate:

### **16 02 13\* Discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12**

Separately collected hazardous WEEE from municipal sources, with the exception of CFC and mercury containing wastes (such as older industrial cooling equipment, medical devices and fluorescent tubes), is classified in the EWC as:

### **20 01 35\* Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components**

The classification as hazardous therefore generally depends on the presence of a hazardous component, regardless of its size, in the WEEE. There may be exceptions in the EWC in refrigeration and PCB or asbestos contaminated equipment, where the dangerous substances are assessed in the whole WEEE. Mercury switches, lead and NiCd batteries/accumulators, cathode ray tubes (CRTs) and other activated glass components are already identified as examples in the EWC that are absolute hazardous components.

If the components are identified and removed at the end of life, the remaining parts of the WEEE may be non-hazardous and the components classified in the EWC as:

### **16 02 15\* Hazardous components removed from discarded (WEEE) equipment**

Note that this has a corresponding non-hazardous entry in **16 02 16**.

Waste classification

### **Capacitors and PCB components**

Capacitors store electrical energy and transmit current. In most modern appliances they simply act as small 'starting' units. The conductive medium is an electrolyte such as glycol. With a risk phrase of R22,<sup>16</sup> glycol would have to account for more than 25% w/w in total of the capacitor to make the equipment hazardous (H5 - harmful).

<sup>15</sup> [www.sepa.org.uk/pdf/guidance/waste/swan/SWAN02.pdf](http://www.sepa.org.uk/pdf/guidance/waste/swan/SWAN02.pdf)

<sup>16</sup> R22 – harmful if swallowed.

Some capacitors, transformers and fluorescent light ‘ballast’ may contain polychlorinated biphenyls (PCBs). PCBs are chemically stable, fire resistant and good electrical insulators, although they will not have been fitted in domestic appliances since 1986. Many old trade names for PCBs exist, eg Asbestol and Clorinol. The typical concentration of PCBs in a capacitor is about 50 g. A worst case assumption must be made that pre-1986 capacitors contain PCBs, unless the contrary can be proven. PCBs are classified in the ASL with risk phrase R50-53<sup>17</sup> which is H14 eco-toxic above 0.25% (the substances being additive). However, as PCBs are persistent in the environment and are able to move into the food chain, they are more rigorously controlled. To maintain consistency with international/UK legislation and guidance, 50 mg/kg (0.005%) of PCBs is the threshold such waste should be considered against.

The EWC entry depends on whether PCB-containing parts or whole equipment is being classified:

**16 02 09\* Transformers and capacitors containing PCBs**

**16 02 10\* Discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09**

Old oil-filled equipment may be contaminated with PCBs for heat transmission, the oil then being classified as an absolute entry under Chapter 13 if removed, eg:

**13 03 01\* Insulating or heat transmission oils containing PCBs**

Although PCBs are used in parts that are exposed to particularly high thermal loads, when subject to uncontrolled heat they can produce highly toxic substances known as furans and dioxins.

### Appliances containing ozone depleting substances (ODS)

Appliances entering the waste stream thought to be older than 10 years should be presumed to contain ODS unless proved to the contrary. EWC codes for separate municipal collections of fridge-freezers distinguish CFC-containing appliances from others, as CFCs had earlier phase-out dates and are deemed more damaging to the environment:

**20 01 23\* Discarded equipment containing chlorofluorocarbons**

Other municipal collections could be classified under **20 01 35\***. Other appliances destined for specialist recovery could be classified under Chapter 16 of the EWC:

**16 02 11\* Discarded equipment containing chlorofluorocarbons, HCFC, HFC**

A degassed fridge would be non-hazardous (**16 02 14** or **20 01 36**) assuming there are no other contents or hazardous components that make it hazardous waste. Both the refrigerant and blowing agent would have to be recovered if they are ODS to make the appliance non-hazardous. Refrigerants and foam propellants themselves are classified in Chapter 14, further information is given in Appendix B39, WM2.

<sup>17</sup> R50-53 - very harmful to aquatic organisms and may cause long-term effects in the aquatic environment.

## Fibrous insulating materials

Items over 20 years old such as electric coffee pots, toasters, irons and other heating appliances may contain asbestos in the thermal pads. Asbestos is classified as a category 1 carcinogen - H7 where the individual chemical form is present (in free or bonded form) above 0.1% (risk phrase R45). Asbestos is also classified as H6 when present at 3% (with risk phrase R48/23). WEEE containing asbestos at these levels is classified in the EWC as:

### **16 02 12\*** Discarded equipment containing free asbestos

Any other insulating material stripped off the WEEE could be classified under Chapter 17 06 – Insulating Materials.

## Plastics and PVC

Cable insulation, casings and other plastic components (such as the laminate of circuit boards) may contain organic halogenated substances. They are collectively known as brominated flame retardants (BFRs) (eg polybrominated biphenyls). There is no evidence on their persistence, bioaccumulation or consensus on their risk to the environment, although they can liberate HCl or highly toxic dioxins and furans when burnt. Office equipment makes up the major part of BFRs, although there has been a growing trend against their use.

Some metal compounds, eg lead and cadmium, are used as colouring pigments or stabilising additives in plastics and PVC. There is, as yet, no definitive finding on the hazardousness of lead stabilisers and as a precautionary measure they should be considered to be hazardous waste.

'Phthalates' such as dibutyl phthalate perform a similar function to plastic stabilisers. If there was more than about 5% in the plastic, not only would it be hazardous but also the overall concentration in the whole WEEE would be likely to exceed the threshold.

## Switches, printed circuit boards and other mercury-based components

Many mercury-containing items are found in the parts soldered onto circuit (wiring) boards, in particular, the switches. Circuit boards are nearly ubiquitous in white goods and other electronic items, for instance, in timers and variable speed controllers, and they also contain other metals. Mercury is also present in thermostats, sensors, relays, medical equipment, telecoms products and mobile phone batteries. Mercury switches not going separately for specialist recovery will be classified as **16 02 15\*** in the EWC. Mercury-containing equipment or components that are separately collected (with the exception of mercury batteries - **20 01 33\***) will be classified:

### **20 01 21\*** Fluorescent tubes and other mercury-containing waste

## Cathode ray tubes

These are absolute hazardous wastes **16 02 15\*** in the EWC. Their hazardous nature is due to the conductive phosphor powder that generates the image on the inside of the glass screen. This coating contains heavy metal oxides (eg lead, chromium, cobalt, nickel and arsenic). They have similar applications in light bulbs, X-ray fluorescent screens, smoke detectors, photographic exposure meters and photocopier glass plates.

## Liquid crystals

These are organic compounds (hexane and benzene based substances) which conduct electricity and transmit/change polarised light. They are embedded within the liquid crystal displays (LCDs) common in mobile phones, digital clocks, microwave ovens, hand-held devices, PC monitors and non-CRT flat screens (LCDs or plasma screens are being used more commonly instead of CRTs). The presence of liquid crystals is unlikely to exceed the thresholds in either the LCD panels or the whole item. However, the assessment of the hazardous nature of waste containing liquid crystals should be on a case-by-case basis, including any verifiable risk phrase information.

Mercury will be contained within the switches for the backlight to LCDs. However, toxicity data on liquid crystals are limited and again they are unlikely to classify the LCD as hazardous waste. The backlight itself is a hazardous component. The precautionary principle should be invoked on insufficient or inconclusive data.

## Printer and photocopier cartridges

Used cartridges would be hazardous only if the residues left over are enough to breach the thresholds relative to the weight of the cartridges. These are 25% of an H5 or 3% of an H6 substance.

Full or part-full waste cartridges (ie those not fully utilised and subject to the above heading) are assessed on the hazardous nature of the contents alone regardless of the weight of packaging:

### **08 03 17\*** Waste printing toner containing dangerous substances

EC Directives ensure that dangerous substances cannot be placed on the market unless the labelling on their packaging indicates the name and origin of the substances. Users should therefore check the data sheets or look on the labels/packaging. Modern inks tend to contain non-toxic pigments but may include some harmful ingredients.

## Mixed wastes containing hazardous parts or equipment

Hazardous WEEE from non-municipal sources will make the whole waste hazardous if discarded into the general municipal waste stream and not separated out. The relevant EWC code for the WEEE and the mixed municipal waste (**20 03 01**) is given.

Construction and demolition wastes containing hazardous WEEE are classified under Chapter 17 09.

## Batteries

Batteries are covered in Appendix B44, and metals recovery waste from spent rechargeables in Appendix B33 of WM2. On-board batteries in WEEE are likely to be hazardous components and therefore render the whole waste hazardous, eg NiCd's commonly found as battery packs to power tools. Recent studies by Defra indicate that nickel metal hydride and lithium ion batteries are classified as hazardous owing to nickel and manganese dioxide levels. Separately collected, these will be classified in the EWC as **20 01 33\***.

## ASBESTOS CONTAMINATED WASTE<sup>18</sup>

Asbestos was used extensively in the 1940s to early 1980s because of its thermal insulating properties, resistance to degradation and tensile strength. It was used as a moulding or sprayed coating/mix in building materials: lagging for pipes and boilers, firebreaks, panels, partitions, ducts, soffit boards and around structural steel work. Other uses were hydrated cement products such as corrugated sheets for roofing or cladding, gutters, rain pipes and water tanks; millboard and paper products for electrical insulation; woven items such as ropes and blankets and textured applications such as decorative plasters and paints. This guidance assists in the classification of waste contaminated with asbestos.

### Waste classification

Asbestos is a naturally occurring silicate mineral and exists in three chemical types chrysotile ('white'), amosite ('brown') and crocidolite ('blue') - in either a bonded or fibrous form. These are all classified the same on the ASL with risk phrases R45 and T:R48/23<sup>19</sup>. The fibres are very fine, less than 3 microns in diameter and respirable into the lung passageways where they can lodge indefinitely and penetrate tissue.

Asbestos materials may be found with binding agents in, for example, cementitious mixes, car brakes and old electrical equipment. Coating, wetting, bagging etc of any asbestos waste will not change its classification.

There are numerous entries that refer specifically to asbestos throughout the EWC, depending on the manner and source of waste arising. These (rather than those that refer to 'dangerous substances') should be used unless the waste happens to be contaminated with other hazardous components.

## Contaminated soils, insulating materials and construction and demolition waste

**17 05 03\*** Soil and stones containing dangerous substances

**17 06 01\*** Insulation materials containing asbestos

**17 06 05\*** Construction materials containing asbestos

<sup>18</sup> [www.sepa.org.uk/pdf/guidance/waste/swan/SWAN12.pdf](http://www.sepa.org.uk/pdf/guidance/waste/swan/SWAN12.pdf)

<sup>19</sup> R48/23 means risk phrase R48 (danger of serious damage to health by prolonged exposure) used in combination with R23 (toxic by inhalation): this identifies that the exposure route is inhalation and that the waste is also harmful H5 at an asbestos content of 3% and also toxic H6 at 25% w/w.

Note that it is the presence of asbestos-containing materials themselves that confers the hazardous status of the waste. It is not acceptable to compare the thresholds as a proportion to the whole waste unless the fibres are free and dispersed. The classification **17 06 05\*** should be used in preference to any of the other Chapter 17 wastes for different construction wastes.

### **Industrial process or manufacturing waste containing asbestos**

- 06 07 01\*** Wastes containing asbestos from electrolysis
- 06 13 04\*** Wastes from asbestos processing
- 10 13 09\*** Wastes from asbestos-cement manufacture containing asbestos

### **Packaging waste**

- 15 01 11\*** Metallic packaging containing a dangerous solid porous matrix (for example, asbestos), including empty pressure containers

### **Other waste**

- 16 01 11\*** Brake pads containing asbestos
- 16 02 12\*** Discarded equipment containing free asbestos

### **Treated waste**

Waste forms that arise from treatment processes that solidify or stabilise the asbestos are classified under Chapter 19. Only techniques that degrade the fibres so that they fall below the lowest threshold of 0.1% would render the treated waste non-hazardous.



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- **Free, on-site waste reviews from Envirowise advisors, called *FastTrack* visits, that help businesses identify and realise savings.**
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