Cannon Guidance on Cytotoxic and Cytostatic Medicines (June 2010)

Previous guidance available on cytotoxic and cytostatic medicines provided by

- Department of Health
  {in their document *'Health Technical Memorandum 07-01: Safe Management of Healthcare Waste'* (Dept of Health, Dec 2006}
- The Environment Agencies
  {The Environment Agency, SEPA & EHS(NI), in their document *'Hazardous Waste: Interpretation of the Definition and Classification of Hazardous Waste'* 2nd Edition, Version 2.2}

and made available as part of Cannon Guidance was neither comprehensive nor helpful in the practical identification of which medicines were cytotoxic and cytostatic and hence hazardous/special waste.

Part of the problem was differing opinions about which medicines in the British National Formulary (BNF) and the US National Institute for Occupational Safety and Health (NIOSH) list should be included.

The Environment Agency have provided our Trade Association (Sanitary Medical Disposal Services Association, SMDSA) with a list of recognised cytotoxic and cytostatic medicines developed by the NHS.

The list is attached and should enable much easier identification which medicines are cytotoxic or cytostatic waste and hence always hazardous/special waste.

Extracts from the above documents are also attached to provide additional supporting information to those who wish to look further into why these particular medicines are recognised being cytotoxic and cytostatic.

Where Customers have these medicines for disposal or other waste contaminated with or containing these medicines Cannon can provide purple lidded and/or purple labelled containers in accordance with the colour coding Guidance in *'Safe Management of Healthcare Waste'* shown in the attached product information.
Unlike our separate sharps, pharmi-sharps and pharmaceutical waste unit ranges, this is a dual range with sharps containers/lids for syringes, scalpels, scissors etc contaminated with these medicines and solid lidded containers for other waste contaminated with or containing these medicines (e.g. unused or surplus medicines contained in their primary or similar packaging, contaminated dispensing equipment, PPE etc)

Attached:

- Cannon Product Information Sheet – *'Pharmaceutical: Cytotoxic and Cytostatic Waste Bins, Pharmi bins and Cannon Code kits'*
- Environment Agency Provided List of Recognised Cytotoxic and Cytostatic Medicines (Dec 2008)
- Extracts from *''Health Technical Memorandum 07-01: Safe Management of Healthcare Waste'* (Dept of Health, Dec 2006}
- Extracts from The Environment Agencies {The Environment Agency, SEPA and EHS(NI)} *'Hazardous Waste: Interpretation of the Definition and Classification of Hazardous Waste'* 2nd Edition, Version 2.2}

Cytotoxic and Cytostatic Waste Bins

For sharps contaminated with cytotoxic or cytostatic medicines (2.5 litre and 22 litre). For cytotoxic and/or cytostatic medicines contained in their original packaging and other items (e.g. gloves, gowns etc) that are contaminated with cytotoxic and/or cytostatic medicines (11.5 litre, 30 litre and 60 litre)

- Purple lid /label to identify hazardous/special cytotoxic or cytostatic waste for incineration only.
- All containers comply with current legislation and 'Safe Management of Healthcare Waste' Guidance.
- Always hazardous/special waste. (refer to Cannon guidance, available to download on our website).

Available Sizes (L)	2.5 / 11.5 / 22 / 30 / 60
Available colours	Yellow Bin / Purple Lid or Yellow lid (30L & 60L)

Pharmi-Bins

For the safe storage and disposal of non hazardous waste medicines (e.g. tablets, liquid medicines, patches, inhalers) in original or similar packaging (i.e. blister packs, bottles, inhaler cartridges).

- Blue lid/label to identify as medicine and anaesthetic waste for incineration only.
- Removable solid lid for ease of depositing larger items.
- Wall mountable, security bracket available for 5L unit.
- All containers comply with current legislation and 'Safe Management of Healthcare Waste' Guidance.

Yellow Bin & Blue Lid	
Available Sizes (L)	5 / 11.5 / 22

Yellow Bin & Yellow Lid	
Available Sizes (L)	30 / 60

Cannon CODE Kits

The Cannon CODE Kit ('Controlled Drugs Denaturing kit') meets the requirements of the guidance and legislation on rendering controlled drugs irretrievable.

- Single use kits.
- Denature crushed tablets or ampoules, powders and liquids.
- Simple to use.
  - place controlled drugs in the CODE Kit container.
  - fill with water to fill level and shake.
  - Once the resin has set the drugs are denatured and irretrievable.
- Used containers can be disposed of by placing in a pharmi-bin.
- For guidance on which drugs require denaturing, consult the dispensing pharmacist.

Available Sizes (L)	0.25 / 1.8

ENVIRONMENT AGENCY PROVIDED LIST OF RECOGNISED CYTOTOXIC AND CYTOSTATIC MEDICINES (AS PROVIDED TO CANNON HYGIENE'S TRADE ASSOCIATION, SANITARY MEDICAL DISPOSAL SERVICES ASSOCATION [SMDSA], 2009

List of Recognised Cytotoxic and Cytostatic Medicines – December 2008

Cytostatic medicines based on NIOSSH list = (a) Cytotoxic medicines based on BNF = (b) Trade Name = ®

A	Ciclosporin (a)	Estrogen-progesterone combinations (a)	**I**	Mitomycin (b)	Prempak-C® (a)	Taxotere® (b)
Abacavir (a)	Cidofovir (a)	Estrogens, conjugated[2] (a)	Idarubicin (b)	Mitotane (a)	Procarbazine (b)	Telzir® (a)
Advagraf® (a)	Cilest® (a)	Estrone (a)	Ifosfamide (b)	Mitoxantrone (b)	Prezista® (a)	Temodal® (b)
Agenerase® (a)	Cisplatin (b)	Estropipate (a)	Imatinib (b)	Mitoxana® (b)	Progynova® (a)	Temoporfin (b)
Aknemyci®Plus (a)	Cladribine (b)	Ethinylestradiol (a)	Imuran® (a)	Mycophenolate (a)	Proleukin® (a)	Temozolomide (b)
Aldesleukin (a)	Climagest® (a)	Etopophos® (b))	Indivina® (a)	Myfortic® (b)	Propecia® (a)	Teniposide (b)
Alemtuzumab (a)	Climaval® (a)	Exemestane (a)	Indinavir (a)	Myleran® (b)	Proscar® (a)	Tenofovir (a)
Alimta® (b)	Climesse® (a)	Etoposide (b)	Interferon alfa-2a (a)	Myocet® (b)	Prostap® (a)	Testim® (a)
Alkeran® (b)	Clinorette® (a)	Evoltra® (b)	Interferon alfa-2b (a)		Prezista® (a)	Testogel® (a)
Amprenavir (a)	Clofarabine (b)	Evorel® (a)	Interferon beta-1a (a)		Progesterones (a)	Testosterone (a)
Amsacrine (b)	Colchicine (a)	Evista® (a)	Interferon beta-1b (a)	**N**	Propess® (a)	Thalidomide (a)
Amsidine® (b)	Combivir® (a)	Evra® (a)	Irinotecan (b)	Nafarelin (a)	Prograf® (a)	Thioguanine (b)
Anastrozole (a)	Copegus® (a)		Intrinsa® (a)	Navelbine® (b)	Prostin E2® (a)	Thiotepa (b)
Andropatch® (a)	Cosmegen Lyovac® (b)		IntronA® (a)	Nebido® (a)	Protoptic® (a)	Tibilone (a)
Angeliq® (a)	Crisantaspase (b)		Invirase® (a)	Nelarabine (b)	Puri-Nethol® (b)	Tipranavir (a)
Antiretrovirals (a)	Crixivan® (a)	**F**	Isentress® (a)	Nelfinavir (a)		Tomudex® (b)
Aptivus® (a)	Cyclophosphamide (b)	Fareston® (a)		Neoral® (a)	**R**	Topotecan (b)
Arava® (a)	Cyclo-Progynova® (a)	Faslodex® (a)		Nevirapine (a)	Raloxifene (a)	Toremifene (a)
Arimidex® (a)	Cymevene® (a)	Femara® (a)	**J-K**	Nexavar® (b)	Raltegravir (a)	Tostran® (a)
Aromasin® (a)	Cytarabine (b)	Femapak® (a)	Kaletra® (a)	Nilotinib	Rapamune® (a)	Trabectedin (b)
Arsenic Trioxide (b)		Fematrix® (a)	Katya® (a)	Nipent® (b)	Raltitrexed (b)	Traztuzumab (a)
Asparaginase (a)		Femodene® (a)	Kivexa® (a)	Nolvadex® (a)	Rebetol® (a)	Treosulfan (b)
Atazanavir (a)	**D**	Femodette® (a)	Kliofem® (a)	Norimin® (a)	Rebif® (a)	Tretinoin (a)
Atriance® (b)	Dacarbazine (b)	Femoston® (a)	Kliovance® (a)	Nevirapine (a)	Restandol® (a)	Triadene® (a)
Atripla® (a)	Dactinomycin (b)	FemSeven® (a)		Nexavar® (b)	Retin-A® (a)	Tridestra® (a)
Avastin® (b)	Darunavir (a)	Finasteride (a)		Nilotinib	Retrovir® (a)	TriNovum® (a)
Avonex® (b)	Dasatanib (b)	Fludarabine (b)		Nipent® (b)	Reyataz® (a)	Triptorelin (a)
Azacitidine (b)	Daunorubicin (b)	Fluorouracil (b)		Nolvadex® (a)	Ribavirin (a)	Trisequens® (a)
Azathioprine (b)	DaunoXome® (b)	Fulvestrant (a)		Norimin® (a)	Ritonavir (a)	Trisenox® (b)
	Decapeptyl® (a)	Fludara® (b)			Rituximab (a)	Trizivir® (a)
	DepoCyte® (b)	Flutamide (b)	**L**	**O**	Roferon-A® (a)	Truvada® (a)
	Dexrazoxane (b)	Fosamprenavir (a)	Lamivudine (a)	Oestrogel® (a)		
	Didanosine® (b)	Foscan® (b)	Lanvis® (b)	Oestrogens (a)	**S**	**U-Z**
	Diethylstilbestrol (a)	Foscarnet (a)	Leflunomide (a)	Oncovin® (b)	Sandimmun® (a)	Uftoral® (b)
B	Dinoprostone (a)	Foscavir® (a)	Letrozole (a)	Onkotrone® (b)	Sandrena® (a)	Valcyte® (a)
BCG – connaught (a)	Docetaxel (b)	Fuzeon® (a)	Leukeran® (b)	Ovestin® (a)	Saquinavir (a)	Valganciclovir (a)
BCG vaccine (a)	Doxorubicin (b)		Leuprorelin (a)	Ovranette® (a)	Savene® (a)	Vectibix® (b)
Bedol® (a)	Drogenil® (a)		Leustat® (b)	Ovysmen® (a)	Sirolimus (a)	Velbe® (b)
Bevicizumab (a)			Litak® (b)	Oxaliplatin (b)	Sorafenib (b)	Velcade® (b)
Bexarotene (a)		**G**	Livial® (a)	Oxytocin (a)	Sprycel® (b)	Vepesid® (b)
Bicalutamide (a)	**E**	Ganciclovir (a)	Loestrin® (a)		Stavudine (a)	Vesanoid® (b)
BiNovum® (a)	Efavirenz (a)	Gemcitabine (b)	Logynon® (a)		Sunitinib (b)	Videx® (a)
Bleomycin (b)	Efudix® (b)	Gemeprost (a)	Lopinavir (a)	**P-Q**	Streptozocin (b)	Vinblastine (b)
Bortezomib (b)	Eldisine® (b)	Gemtuzumab (b)	Lomustine (b)	Panitumumab (b)	Striant® (a)	Vincristine (b)
Brevinor® (a)	Elleste® (a)	Gemzar® (b)	Lysodren® (b)	Paraplatin® (b)	Sunya® (a)	Vindesine (b)
Buserelin (a)	Eloxatin® (b)	Gliadel® (b)		Pegasparaginase (a)	Suprefact® (a)	Vinorelbine (b)
Busilvex® (b)	Emtricitabine (a)	Glivec® (b)		Paclitaxel (b)	Sustanon® (a)	Viread® (a)
Busulfan (b)	Emtriva® (b)	Gonapeptyl® (a)	**M**	Pegasys® (b)	Sustiva® (a)	Viracept® (a)
	Endoxana® (b)	Goserelin (a)	MabThera® (a)	Peginterferon alfa-2a (b)	Sutent® (b)	ViraferonPeg® (a)
C	Enfuviritide (a)		MabCampath® (a)	Peginterferon alfa-2b (b)	Synarel® (a)	Viramune® (a)
Caelyx® (b)	Epirubicin (b)		Marvelon® (a)	Pentacarinat® (a)	Synphase® (a)	Virizole® (a)
Campto® (b)	Epivir® (a)		Maraviroc (a)	Pentamidine (a)	Syntocinon® (a)	Viromone® (a)
Capecitabine (b)	Erbitux® (b)	**H**	Megace® (a)	Pemetrexed (b)	Syntometrine® (a)	Vistide® (a)
Carboplatin (b)	Ergometrine (a)	Harmogen® (a)	Megestrol (a)	Pentostatin (b)		Xeloda® (b)
Cardioxane® (a)	Erlotinib (b)	Herceptin® (b)	Melphalan (b)	Pharmorubicin® (b)	**T**	Yasmin® (a)
Carmustine (b)	Erwinase® (b)	Hormonin® (a)	Menotropins (a)	Photofrin® (b)	Tacrolimus (a)	Yondelis® (b)
Casodex® (a)	Estracombi® (a)	Hycamtin® (b)	Mercaptopurine (b)	Podophyllum (a)	Tamoxifen (a)	Zavedos® (b)
Celsentri® (a)	Estracyt® (b)	Hydrea® (b)	Mercilon® (a)	Porfimer (b)	Tasigna® (b)	Zeffix® (a)
CellCept® (a)	Estraderm® (a)	Hydroxycarbamide (b)	Methotrexate (b)	Premarin® (a)	Tegafur Uracil (b)	Zerit® (a)
Cetrorelix (a)	Estradiol (a)		Methylergometrine (a)	Premique® (a)	Tarceva® (b)	Ziagen® (a)
Cetrotide® (a)	Estradot® (a)		Microgynon® (a)		Targretin® (b)	Zidovudine (a)
Cetuximab (a)	Estramustine (b)		Mifegyne® (a)		Taxol® (b)	Zoladex® (a)
Chlorambucil (b)	Estriol (a)		Mifepristone (a)			Zumenon® (a)
Chloramphenicol (a)						

Please note: There are no special handling instructions required for cytostatic medicines unless specifically stated in the manufacturers instructions, please refer to the product data sheet (http://emc.medicines.org.uk/) or package insert. **Dispose of any drugs on this list and any contaminated administration equipment by placing in a purple lidded waste container.**

LAST UPDATE DECEMBER 2008

EXTRACT FROM

Department of Health

Environment and sustainability

Health Technical Memorandum 07-01: Safe management of healthcare waste

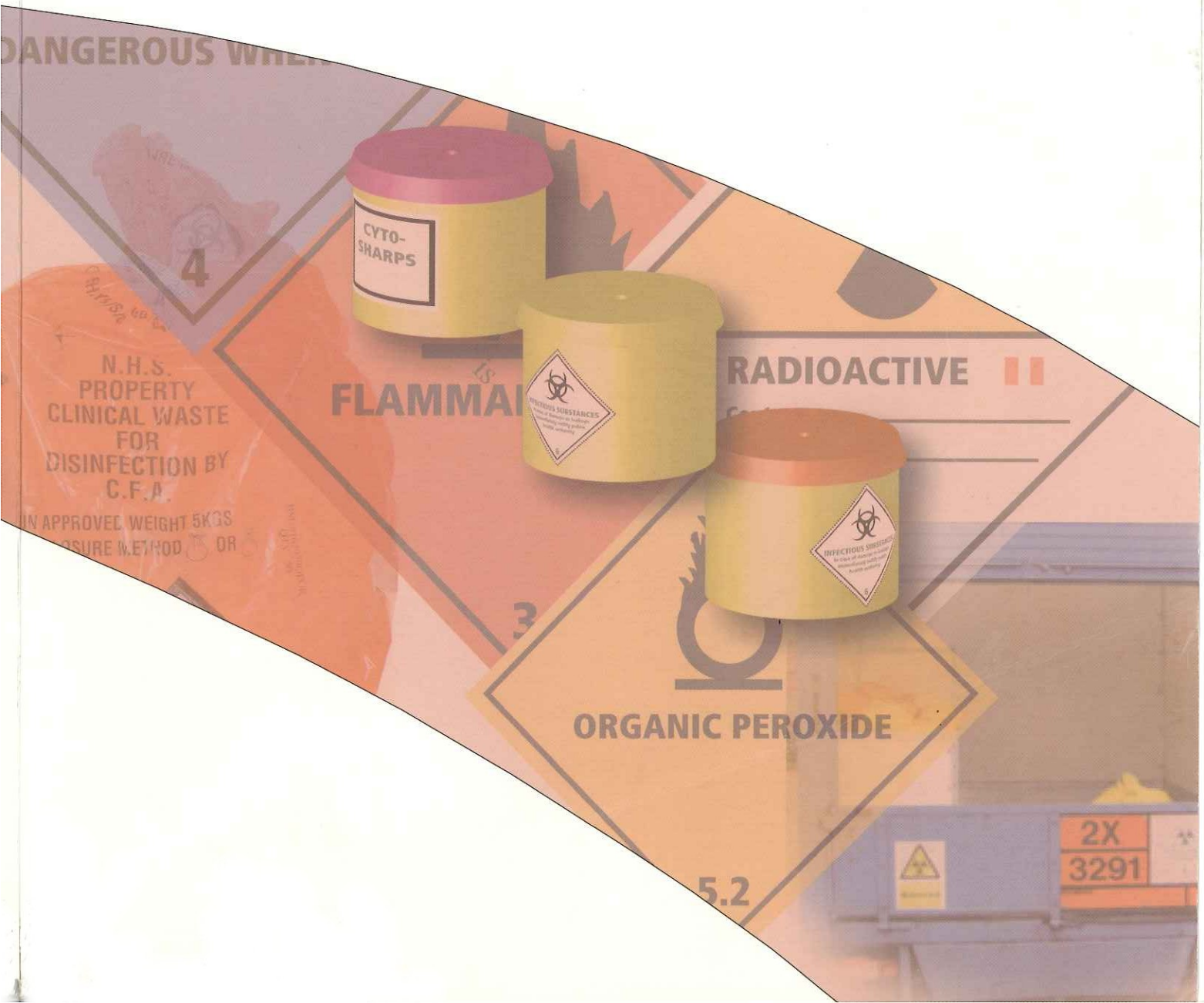

Table 1 EWC coding for the types of healthcare waste

EWC code	Description of waste
18 01 XX	**Waste from natal care, diagnosis, treatment or prevention of disease in humans**
18 01 01	Sharps except 18 01 03*
18 01 02	Body parts and organs including blood bags and blood preserves (except 18 01 03*)
18 01 03*	**Waste whose collection and disposal is subject to special requirements in order to prevent infection**
18 01 04	Waste whose collection and disposal is not subject to special requirements in order to prevent infection, eg dressings, plaster casts, linen, disposable clothing
18 01 06*	**Chemicals consisting of dangerous substances**
18 01 07	Chemicals other than those listed in 18 01 06*
18 01 08*	**Cytotoxic and cytostatic medicines**
18 01 09	Medicines other than those mentioned in 18 01 08*
18 01 10*	**Amalgam waste from dental care**

EWC code	Description of waste
18 02 XX	**Waste from research, diagnosis, treatment or prevention of disease involving animals**
18 02 01	Sharps except 18 02 02*
18 02 02*	**Waste whose collection and disposal is subject to special requirements in order to prevent infection**
18 02 03	Waste whose collection and disposal is not subject to special requirements in order to prevent infection
18 02 05*	**Chemicals consisting of dangerous substances**
18 02 06	Chemicals other than those listed in 18 02 05*
18 02 07*	**Cytotoxic and cytostatic medicines**
18 02 08	Medicines other than those mentioned in 18 02 07*

*Hazardous waste list entries

Hazardous wastes can be absolute entries (in which case they are always hazardous – highlighted red in the Table) or mirror entries (which can be either hazardous or non-hazardous depending on their properties – highlighted blue in the Table).
A description of each EWC chapter can be found in Appendix A

4.18 WM2 provides guidance on the classification of **absolute*** and **mirror** entries in the EWC in relation to the 14 hazard groups identified in the Hazardous Waste Regulations. The 14 hazard groups originate from the Hazardous Waste Directive and are shown in Table 2.

4.19 Appendix C of the WM2 guidance provides comprehensive guidance on the classification of waste in each of the hazard groups. Paragraphs 4.20–4.27 and paragraph 4.36 provide a summary of the WM2 guidance with respect to infectious, medicinal and amalgam healthcare waste.

Table 2 The 14 hazard groups identified in the Hazardous Waste Regulations

H1	Explosive
H2	Oxidising
H3A	Highly Flammable
H3B	Flammable
H4	Irritant
H5	Harmful
H6	Toxic
H7	Carcinogenic
H8	Corrosive
H9	Infectious
H10	Toxic for reproduction
H11	Mutagenic
H12	Substances that release toxic gases
H13	Substances capable of yielding substances listed above
H14	Ecotoxic

Infectious waste

4.20 The Hazardous Waste Regulations define infectious as:

H9: Infectious	Substances containing viable microorganisms or their toxins which are known or reliably believed to cause disease in man or other living organisms

4.21 Waste traditionally known as "clinical waste" on the basis of infection risk is infectious waste.

4.22 WM2 provides UK guidance on the interpretation and risk-based identification of infectious waste. Failure to segregate infectious waste from non-infectious waste will mean that the entire waste stream (that is, where it includes any quantity of infectious waste) will need to be classified as infectious waste and consigned for appropriate treatment and recovery or disposal.

Note

In England and Wales, it is a legal requirement of the Hazardous Waste Regulations to segregate infectious waste (waste that is subject to special requirements) from other wastes. This duty is not specified in the Hazardous Waste Regulations in Northern Ireland nor in the Special Waste Regulations in Scotland. However, source segregation of infectious waste is considered best practice.

4.23 Absolute EWC entries for infectious waste (hazardous property H9) are only found in Chapter 18 of the EWC. The relevant EWC codes for infectious waste are shown in Table 3.

Table 3 EWC coding for infectious waste

EWC Code	Description of Waste
18 01 XX	**Waste from natal care, diagnosis, treatment or prevention of disease in humans**
18 01 03*	**Waste whose collection and disposal is subject to special requirements in order to prevent infection**
18 02 XX	**Waste from research, diagnosis, treatment or prevention of disease involving animals**
18 02 02*	**Waste whose collection and disposal is subject to special requirements in order to prevent infection**

Medicinal waste

4.24 The EWC has entries for medicinal waste in both Chapter 18 ("Healthcare waste") and Chapter 20 ("Municipal waste") as shown in Table 4.

4.25 Medicinal waste is classified into two categories:

a. cytotoxic and cytostatic medicines;

b. medicines other than those classified as cytotoxic and cytostatic.

Table 4 EWC coding for medicinal waste

EWC Code	Description of Waste
18 01 XX	**Waste from natal care, diagnosis, treatment or prevention of disease in humans**
18 01 08*	**Cytotoxic and cytostatic medicines**
18 01 09	Medicines other than those mentioned in 18 01 08*
18 02 XX	**Waste from research, diagnosis, treatment or prevention of disease involving animals**
18 02 07*	**Cytotoxic and cytostatic medicines**
18 02 08	Medicines other than those mentioned in 18 02 07*
20 XX XX	**Municipal waste (household waste and other similar commercial, industrial and institutional waste (including separately collected fractions))**
20 01 31*	**Cytotoxic and cytostatic medicines**
20 01 32	Medicines other than those mentioned in 20 01 31

4.26 Only cytotoxic and cytostatic medicines are classified as hazardous waste. However, other (non-cyto) medicinal waste may require specialist treatment/disposal (see paragraphs 5.11–5.19).

4.27 Failure to segregate cytotoxic and/or cytostatic medicines from other medicines will mean that the entire medicinal waste stream (that is, where it includes any quantity of cytotoxic and/or cytostatic medicines) will need to be classified as hazardous medicinal waste and consigned for disposal to a suitably authorised waste incinerator.

Note

The hazardous properties of non-cyto-medicinal waste should still be considered for the purposes of duty of care (for example "H3B: Flammable"; "H4: Irritant"; "H5: Harmful"; "H14: Ecotoxic").

Controlled drugs

4.28 Controlled drugs are subject to special legislative controls as they are potentially harmful.

Definition of controlled drugs

4.29 The Misuse of Drugs Regulations list the medicines which are classified as controlled drugs. There are currently five schedules which dictate the level of control applied to each medicine – schedule one having the most controls, and schedule five the fewest.

vaccines, and sera that are no longer required and need to be disposed of appropriately.

5.12 The category also includes discarded items contaminated from use in the handling of pharmaceuticals, such as bottles or boxes with residues, gloves, masks, connecting tubing, syringe bodies and drug vials.

5.13 This document divides medicines into three broad groups:

1. cytotoxic and cytostatic;
2. pharmaceutically active, but not cytotoxic and cytostatic;
3. not pharmaceutically active and possessing no hazardous properties (examples include saline and glucose).

5.14 Medicinal waste is listed in both Chapter 18 and Chapter 20 of the EWC. The term "cytotoxic and cytostatic" relates to the classification of waste medicines in the EWC as shown in Table 4 (Chapter 4). Only cytotoxic and cytostatic medicines are classified as a hazardous waste, although other medicines often possess hazardous properties and therefore require appropriate treatment and disposal.

5.15 A cytotoxic and cytostatic medicine is a medicinal product possessing any one or more of the hazardous properties:

- H6: Toxic;
- H7: Carcinogenic;
- H10: Toxic for reproduction;
- H11: Mutagenic.

5.16 Medicines other than cytotoxic and cytostatic medicines may have hazardous properties that should be identified to subsequent holders for the purposes of duty-of-care and for transport.

5.17 To establish whether a medicinal product has the above-mentioned hazardous characteristics, pharmacists should refer to the products material safety data sheets (MSDS; sometimes referred to as "COSHH sheets").

When should cytotoxic and cytostatic medicinal wastes be segregated from other medicinal wastes?

5.18 It is best practice to segregate cytotoxic and cytostatic medicines from other medicines. Waste contractors may request this, as not all incinerators are authorised for cytotoxic and cytostatic medicines. In most cases, however, it is not a legal requirement.

5.19 In England, Wales and Northern Ireland, the Hazardous Waste Regulations place prohibitions on producers mixing waste types. The mixing of a cytotoxic and cytostatic medicine with any other medicine, including other cytotoxic and cytostatic medicines, is prohibited where:

- they are chemically incompatible; or
- the necessary treatment/disposal of the waste is affected.

Offensive/hygiene waste

5.20 The term offensive/hygiene waste describes waste which is non-infectious and which does not require specialist treatment or disposal, but which may cause offence to those coming into contact with it. Offensive/hygiene waste includes waste previously described as human hygiene waste and "sanpro" waste, and does not need to be classified for transport.

5.21 Examples of offensive/hygiene waste include:

- incontinence and other waste produced from human hygiene;
- sanitary waste;
- nappies;
- medical/veterinary items and equipment which do not pose a risk of infection, including gowns, plaster casts etc;
- animal faeces and soiled animal bedding.

The waste assessment framework

5.22 The assessment framework considers:

- the definition of an infectious clinical waste;
- the definition of a hazardous waste;
- the structure of the EWC and the classification of the waste;
- the general principles of the Carriage Regulations.

5.23 To determine their classification, all healthcare waste items must be clinically and specifically assessed by the producer, at the time of production, for:

- medicinal properties (see Appendix E and Figure E1);

Extract from

Technical Guidance WM2

www.environment-agency.gov.uk

Hazardous waste

Interpretation of the definition and classification of hazardous waste

(Second Edition, version 2.2)

SEPA
Scottish Environment Protection Agency

ENVIRONMENT AND HERITAGE SERVICE

ENVIRONMENT AGENCY

Appendix A:

Consolidated European Waste Catalogue

This aim of this appendix is to provide guidance on the use of the European Waste Catalogue (EWC 2002). It reproduces the EWC 2002 in full, including amendments, and includes instructions for for its use.

The structure of the EWC 2002

The EWC contains 20 chapters that are based upon the source that generated the waste or upon the type of waste. The chapter headings are shown in Table A1.

Each chapter is identified by a two-digit number :

e.g., 07 Wastes from Organic Chemical Processes

Each of these chapters contains sub-chapters that are identified by four digits. ;

e.g., 07 01 Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals.

The unique six-digit code for each waste is contained within the sub-chapters.

e.g., 07 01 01* aqueous washing liquids and mother liquors

The red and blue colour coding of entries is provided in this document to support the instructions on the use of the EWC 2002 included below.

Under the Duty of Care, waste producers have a duty to classify and describe their waste correctly; this includes selecting the most appropriate six-digit code from the EWC 2002. Note : The written description must not simply reproduce the description from the EWC 2002 that accompanies each classification code.

Using the EWC 2002

The EWC 2002 details a series of steps for identifying wastes in the catalogue and determining whether a waste is covered by a hazardous waste entry. Set out below are the steps to be followed when using the catalogue.

Step 1 Identification by Waste Source

Identify the source process generating the waste in chapters 01 to 12 and 17 to 20 and select the appropriate six-digit code. However it should be noted that:

- six-digit codes ending 99 (which represents wastes not otherwise specified under a particular two-digit and four-digit code) should not be used at this stage and are only to be used if no other code applies to a waste (Step 4 below)
- certain producers may need to look in more than one of these Chapters if their activity has a number of different processes.
- source related chapters may contain codes that apply to wastes generated by a manufacturing process (for example chapter 07). However, the manufactured products themselves may be found elsewhere in the EWC 2002 .
- Separately collected packaging waste, including mixtures of different packaging materials, should be classified under 15 01 and not 20 01

Step 2 Identification by Waste Type

If no appropriate waste code can be found in Chapters 01 to 12 and 17 to 20, then chapters 13, 14, and 15 must be examined to identify the type of waste.

Step 3 Waste not otherwise specified in the list.

If a suitable waste code can not be found in Chapters 13 to 15, a six-digit code from Chapter 16 should be used to identify the waste.

Step 4 Waste not otherwise specified in the chapter

Only if no suitable six-digit code can be found in Chapter 16 should the most appropriate six digit code ending 99 in Chapters 01 to 12 and 17 to 20 be used .

Step 5 Hazardous Waste Classification

There are three types on entry in the EWC 2002

- Absolute hazardous that are colour-coded red and marked with an A in this document
- Mirror hazardous that are colour-coded blue and marked with an M in this document
- Non-hazardous that are colour-coded black in this document

"Absolute entries " :

These entries are marked in the EWC 2002 with an asterisk (*), but without a specific or general reference to dangerous substances. They are automatically considered hazardous.

There is no requirement to assess the composition of these wastes to determine whether they are hazardous or not; the European Commission has determined that these wastes possess one of more hazardous properties H1 to H14. Absolute entries are colour-coded in red and marked with an A in this document ;

e.g., 13 07 01* fuel oil and diesel

"**Mirror entries** " :

Some wastes have the potential to be either hazardous or not, depending on whether they contain “dangerous substances".

These wastes are covered by two or more linked entries in the EWC 2002, collectively called mirror entries, that typically comprise:

- a hazardous waste entry (or entries) marked with an asterisk (*), and
- an alternative non-hazardous waste entry (or entries) not marked with an asterisk.

Mirror entry wastes, highlighted in blue and marked with an M, are easily identified because they make a reference to dangerous substances. They can do this in one of two ways:

Appendix B:

Wastes and Potential Hazards for Absolute and Mirror Entries in the European Waste Catalogue

The aim of this appendix is to:

- provide advice on the dangerous substances that may be associated with a particular hazardous waste entry;
- highlight indicative hazardous properties that may need to be considered for different hazardous waste entries;
- assist in assigning hazard properties to wastes for Duty of Care purposes; and
- provide explanation on classification using examples and further explanation to highlight key issues.

The appendix only lists the hazardous entries in the EWC 2002.

The appendix guides the user towards further actions appropriate to the likely hazards, and links to Step 4 and 5 in the Hazardous Waste Assessment Methodology set out in Chapter 3. Only general comments are possible for some six-figure waste categories. These categories cover wastes that could have a broad range of chemical constituents. Waste producers should consider all hazardous properties.

Where particular difficulties might arise in assigning some wastes to their correct category examples are given. These have been taken from a wide variety of industries that produce mixtures of different and sometimes complex wastes.

Examples B17.2 | EWC: 17 06 01*
EWC: 17 06 05*

Asbestos

All forms of asbestos, regardless of the chemical form (e.g. chrysotile, amosite) or physical form (e.g. cement, fibres, dust) are listed as Carc Cat 1: R45 and T: R48/23 in the ASL. All forms of asbestos are regarded as hazardous waste, where the asbestos content is greater than the threshold concentration for Carc Cat 1 of ≥ 0.1% w/w.

It should be noted that asbestos is also Harmful (H5) at 3%, and Toxic (H6) at 25%.

Waste asbestos cement

The threshold concentration for Carc Cat 1 is 0.1%. Waste asbestos cement containing 10-15% asbestos (predominantly chrysotile) is therefore hazardous by carcinogenic H7. Since the HWD relate to hazard and not to risk, the ability of the waste to release free fibres is not relevant for consideration.

Note that asbestos is also classified R48/23: At a concentration of 3% or greater the waste is harmful (H5), however at a concentration of 25% or greater this is replaced by hazard toxic (H6)

Examples B17.3 | EWC: 17 09 02*

Wastes containing PCBs or PCTs

Construction and demolition wastes containing PCB are likely to decline as PCBs are phased out and destroyed. They were mainly used in transformers and capacitors but have been used for other applications such as sealants, resin-based floorings, sealed glazing units.

PCBs are listed in the ASL and are given the hazard classification N, with risk phrases R50, 53 (Very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment). This would give a threshold limit of 0.25%.

However, to maintain consistency with international UK legislation and guidance, the Agencies consider that the level of 50 mg/kg should be the defining threshold concentration for wastes containing PCBs and PCTs. Wastes containing PCBs/PCTs at more than 0.005% will be hazardous waste by virtue of their PCB and PCT content.

18	**Wastes from Human or Animal Health Care and/or Related Research (except kitchen and restaurant wastes not arising from immediate health care)**	
18 01	wastes from natal care, diagnosis, treatment or prevention of disease in humans	
18 01 03*	wastes whose collection and disposal is subject to special requirements in order to prevent infection Wastes under this heading should be considered under H9: see Appendix C9 for detailed guidance.	A
18 01 06*	chemicals consisting of or containing dangerous substances If the chemical constituents of the waste are unknown, it should be treated as hazardous unless tested.	M

18 01 08*	cytotoxic and cytostatic medicines	A
	Any medicinal product that possesses one or more of the hazardous properties Toxic (H6), Carcinogenic (H7), Toxic for Reproduction (H10), or Mutagenic (H11), is classified as 'Cytotoxic and Cytostatic'. This may include drugs from a number of medicinal classes for example antineoplastic agents, antivirals, immunosuppressants, hormonal drugs and others.	
18 01 10*	amalgam waste from dental care	A
	Amalgam waste is hazardous from mercury, and to a lesser extent from the other constituents of the amalgam (e.g. silver and tin). Hazard H13 applies as chemical or thermal processes involved in recycling, incineration or other treatment may liberate mercury from the amalgam. Hazards H6 and H14 apply to the mercury released.	
18 02	**wastes from research, diagnosis, treatment or prevention of disease involving animals**	
18 02 02*	wastes whose collection and disposal is subject to special requirements in order to prevent infection	A
	Wastes under this heading should be considered under H9: see Appendix C9 for detailed guidance.	
18 02 05*	chemicals consisting of or containing dangerous substances	M
	If the chemical constituents of the waste are unknown, it should be treated as hazardous unless tested.	
18 02 07*	cytotoxic and cytostatic medicines	A
	Any medicinal product that possesses one or more of the hazardous properties Toxic (H6), Carcinogenic (H7), Toxic for Reproduction (H10), or Mutagenic (H11), is classified as 'Cytotoxic and Cytostatic'. This may include drugs from a number of medicinal classes for example antineoplastic agents, antivirals, immunosuppressants, hormonal drugs and others.	
19	**Wastes from Waste Management Facilities, Off-Site Waste Water Treatment Plants and the Preparation of Water Intended for Human Consumption and Water for Industrial use**	
19 01	**wastes from incineration or pyrolysis of waste**	
19 01 05*	filter cake from gas treatment	A
19 01 06*	aqueous liquid wastes from gas treatment and other aqueous liquid wastes	A
19 01 07*	solid wastes from gas treatment	A
19 01 10*	spent activated carbon from flue-gas treatment	A
	Possible hazards from metals such as nickel; copper; zinc; arsenic; cadmium; antimony; tellurium; mercury; thorium; lead or their compounds should be considered under the following hazards: H5 to H7, H10, H11, or H14.	

20	Municipal Wastes (Household Waste and Similar Commercial, Industrial and Institutional Wastes) Including Separately Collected Fractions	
20 01	**separately collected fractions (except 15 01)**	
20 01 13*	solvents	A
20 01 14*	acids	A
20 01 15*	alkalines	A
20 01 17*	photochemicals	A
20 01 19*	pesticides	A
20 01 21*	fluorescent tubes and other mercury-containing waste	A
20 01 31*	cytotoxic and cytostatic medicines There are possible hazards from flammability (H3) ecotoxicity (H14); corrosive (H8), carcinogenic (H7) and teratogenic (H10) properties, plus trace levels of the potentially hazardous metals nickel; copper; zinc; chromium; cobalt; arsenic; cadmium; antimony; mercury; thorium and lead and their compounds. Potential hazards may include H3A (first indent), H3B, H4 to H8, H12 and H14. Any medicinal product that possesses one or more of the hazardous properties Toxic (H6). Carcinogenic (H7), Toxic for Reproduction (H10), or Mutagenic (H11), is classified as 'Cytotoxic and Cytostatic'. This may include drugs from a number of medicinal classes for example antineoplastic agents, antivirals, immunosuppressants, hormonal drugs and others. (There is a corresponding entry for non-cytotoxic and cytostatic medicines 20 01 32.)	A
20 01 23*	discarded equipment containing chlorofluorocarbons	M
20 01 26*	oil and fat other than those mentioned in 20 01 25	A
20 01 27*	paint, inks, adhesives and resins containing dangerous substances	M
20 01 29*	detergents containing dangerous substances	M
20 01 33*	batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries	A
20 01 35*	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components [7]	M
20 01 37*	wood containing dangerous substances Potential hazards include: • flammability (H3) and ecotoxicity (H14) in 20 01 23*, 20 01 26*, 20 01 27*; • trace levels of the metals nickel; copper; zinc; chromium; cobalt; arsenic; cadmium; antimony; mercury; thorium and lead or their compounds may occur in 20 01 27*, 20 01 33*, 20 01 35*, 20 01 37* and should be considered under the following hazards: H5 to H7, H10, H11, or H14; • irritant (H4) nature of some waste inks in 20 01 27*; and • carcinogenic (H7) and teratogenic (H10) properties may be found in 20 01 27*, 20 01 33*, 20 01 35*, 20 01 37*. There is a corresponding non-hazardous entry for • 20 01 26*, where the grease and oils consist of edible oils and fats only, 20 01 25; and • 20 01 33*, where the waste contains only non-hazardous batteries, 20 01 34. The components in electrical equipment are assessed in isolation to determine if they are hazardous waste. The equipment is hazardous, 20 01 23*, 20 01 35*, where it contains a hazardous component .	M

[7] Hazardous components from electrical and electronic equipment may include accumulators and batteries mentioned in 16 06 and marked as hazardous; mercury switches, glass from cathode ray tubes and other activated glass, etc.