



The New WM3 Guidelines

Safe, compliant management of laboratory wastes

Ian Blenkarn

Blenkarn Environmental, London

<http://www.ianblenkarn.com>

<http://www.blenkarnenvironmental.com>

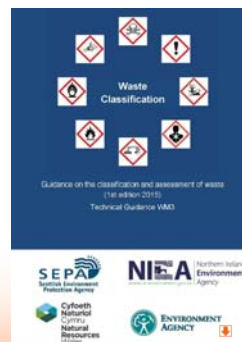
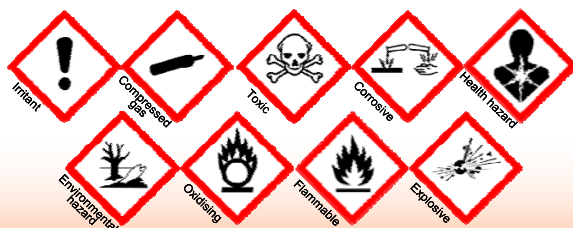


Let's be honest,
waste management
is such a bore!

PENALTY

What is WM3?

- Joint UK environmental regulators' guidance on classification of hazardous waste
- Changes the way waste is assessed & classified
 - still based on the List of Wastes (2000/532/EC)
 - incorporates requirements of Classification, Labelling and Packaging Regulation (CLP) (2008/1272/EC)
 - hazard classes



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Duty of Care for waste

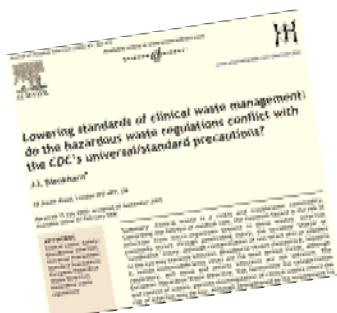
Your **Duty of Care** requires you classify all of the waste your organisation produces

- WM3 expects 7 basic steps**
 - Classify the waste (before collection, disposal, recovery)**
 - Check if waste needs to be classified – is it hazardous?
 - Identify code(s) to be applied (LoW)
 - Identify assessment process(es) needed to select the code(s)
 - Assess the waste**
 - Determine chemical composition of waste
 - Identify "hazardous substances" / "persistent organic pollutants"
 - Identify hazardous properties of waste
 - Obtain and assign relevant classification codes



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Expect errors and revisions in WM3



- WM3 introduces changes mainly associated with the **Classification, Labelling & Packaging Regs (CLP)**
- In use from 1 June 2015



- WM2 had errors. *J Hosp Infect* 2006;62:467-72
Expect corrections and changes in WM3
- There remains much that is **subjective**
- Interpretation of mirror entries will become much more **contentious**

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What is excluded from WM3?

- material that is **not waste**
- gaseous effluents emitted to atmosphere
- radioactive waste
- decommissioned explosives
- faecal matter, straw, other natural non-hazardous agricultural/forestry materials used in farming, forestry, or energy biomass
- **waste waters** – but think twice before putting ANYTHING down the drain!
- animal by-products except those for incineration, landfill or biogas/composting
- carcasses of animals died other than by slaughter, animals killed to eradicate epizootic diseases, disposed in accordance with Regulation (EC) 774/2002
- waste from prospecting, extraction, treatment and storage of mineral resources and the working of quarries covered by Directive 2006/21/EC



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List of Wastes

Code	Chapter Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting, fishing, food preparation & processing
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
04	Wastes from the leather, fur and textile industries
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
06	Wastes from inorganic chemical processes
07	Wastes from organic chemical processes
08	Wastes from the manufacture, formulation, supply & use of paints, varnishes, vitreous enamels, adhesives, sealants, printing inks
09	Wastes from the photographic industry
10	Wastes from thermal processes
11	Wastes from chemical surface treatment, coating of metals and other materials, non-ferrous hydro-metallurgy
12	Wastes from shaping and physical and mechanical surface treatment of metals and plastics
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)
14	Waste organic solvents, refrigerants and propellants (except 07 and 08)
15	Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
16	Wastes not otherwise specified in the list
17	Construction and demolition wastes (including excavated soil from contaminated sites)
18	Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)
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
20	Municipal wastes (household waste, similar commercial, industrial, institutional wastes) including separately collected fractions



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Clinical (healthcare & biomedical) wastes entries in the List of Wastes

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 01	sharps (except 18 01 03)	AN
18 01 02	body parts and organs including blood bags and blood preserves (except 18 01 03)	AN
18 01 03*	wastes whose collection & disposal is subject to special requirements to prevent infection	AH
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)	AN
18 01 06*	chemicals consisting of or containing hazardous substances	MH
18 01 07	chemicals other than those mentioned in 18 01 06	MN
18 01 08*	cytotoxic and cytostatic medicines	AH
18 01 09	medicines other than those mentioned in 18 01 08	AN
18 01 10*	amalgam waste from dental care	AH
18 02	Wastes from research, diagnosis, treatment, prevention of disease involving animals	
18 02 01	sharps (except 18 02 02)	AN
18 02 02*	wastes whose collection and disposal is subject to special requirements prevent infection	AH
18 02 03	wastes whose collection & disposal not subject to special requirements to prevent infection	AN
18 02 05*	chemicals consisting of or containing hazardous substances	MH
18 02 06	chemicals other than those mentioned in 18 02 05	MN
18 02 07*	cytotoxic and cytostatic medicines	AH
18 02 08	medicines other than those mentioned in 18 02 07	AN

Absolute non-hazardous (AN) Non-hazardous waste
Mirror hazardous (MH) Hazardous waste (*)
Minor non-hazardous (MN) Alternative non-hazardous waste
Absolute hazardous (AH) Hazardous wastes (always)



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Biomedical wastes

- Research or treatment of humans, or involving animals; biomedical research wastes
- Manage as clinical (healthcare) waste (List of Wastes 18 xx xx)
 - ❖ Packaging
 - ❖ On-site treatments?
 - ❖ Internal transport
 - ❖ Storage
 - ❖ Description/paperwork
 - ❖ Packaging & labelling
 - ❖ Collection for transport and final disposal/treatment



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What makes hazardous waste hazardous?

- New criteria for defining hazardous waste increase the types of materials considered a risk to human health or to the environment
- Ethanol is hazardous; a bottle of Whisky is not, but is flammable and acutely toxic and would be hazardous if left out for kerbside recycling and accidentally consumed by a child
- Healthcare wastes from home healthcare is non-hazardous, except when the District Nurse is present
- What happens during storage or treatment of wastes?
- Containers that held hazardous waste are hazardous?



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What makes hazardous waste hazardous?

- An empty drug vial or syringe is hazardous due to trace pharmaceutical residues, but what about the excreted dose and its metabolites?
- If prescription pharmaceutical wastes and their laboratory equivalents are hazardous, what about OTC products?
- GMOs, biotech, & nanotech wastes?
- Be very careful about what goes down the drain



“If there is any doubt, the worst case substance should be considered to be present” WM3, 2015



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What is “infectious”?

- In the context of waste classification, the term “Infectious” is undefined, and open to interpretation
- A better definition might evolve from hospital infection control policy and practice
- Consider the micro-organism, the dose, the opportunities and the route(s) for exposure etc?
- Expect challenge



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Work with your waste contractors

- Identify waste composition prospectively
- Ensure correct segregation at source
- Ensure correct containers; use with care
- Ensure correct labelling and documentation
- No excuses!

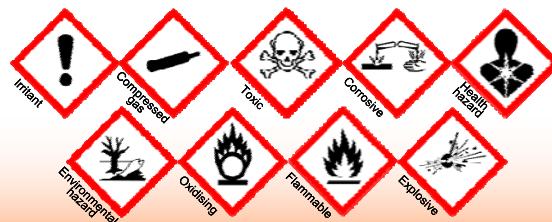


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Is my waste hazardous?

- Advice from waste producers?
- MSDS?
- Sampling?
- Discuss with contractors?
- European Chemical Agency (ECHA) Classification & Labelling Inventory <http://echa.europa.eu/web/quest/information-on-chemicals/cl-inventory-database>

❖ *This information is from manufacturers, not users – will it be relevant to you?*



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So, what to do?




- Waste safety, training, awareness
- Waste reduction; reuse; recycling
- Waste tracking; **unit charging**
- Local waste treatments?
- Identify wastes prospectively
- Waste & environment champions?
- **7 Steps**
- Work with producers
 - ❖ identification, segregation
 - ❖ packaging, labelling, storage
 - ❖ product inventory
- Work with contractors
 - ❖ technical assistance & guidance
 - ❖ administration & consignment notes
- **What happens to your wastes?**

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Looking beyond the WM3 horizon?





- Potent driver for cost reduction by re-classification (down-regulation) of wastes
- Disproportionate cost increases for hazardous wastes
- Licensing and prosecutions?
- Changes in waste containers, labels, storage, transport?
- Empty containers?
- Will the regulatory process be evidence-based, or largely ideological?
 Quo vadis? Science and regulation as uneasy bedfellows.
Open Waste Management Journal 2008;1:1-3

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