

waste – can you handle it?

Gypsum wastes and high sulphate bearing wastes

Using this guide

This guide is intended for producers and waste managers of gypsum wastes or other waste streams with a high sulphate content. It will help you to classify the waste and make decisions on how you manage and dispose of these wastes from 16 July 2005.

Waste description

Waste producers have a responsibility to characterise and classify their waste so that it can be correctly managed when they pass it on. Gypsum wastes are often produced from plaster and plasterboard manufacture and its subsequent use. You will be asked to describe your waste on Duty of Care Transfer Notes and Hazardous Waste Consignment Notes. You should use the European Waste Classification (EWC) list to describe and code your wastes.

Is your Waste Hazardous Waste?

To determine whether your waste is hazardous you need to check the Hazardous Waste List and our Technical Guidance Note WM2. The following information should assist you in making this decision.

- Sulphate bearing wastes can be hazardous where anhydrous calcium sulphate, an irritant, is present at concentrations of 20% or greater.
- Plasterboard is not considered to be hazardous waste.
- Gypsum based waste and high sulphate bearing wastes can be hazardous if mixed with other hazardous substances and wastes.
- Wastes are assessed against 14 properties (H1 – H14) to determine if they are hazardous. We have commissioned research to assess how the hazard H13 (wastes that produce hazardous substances in the landfill) would apply to such wastes. Until there is an agreed methodology you should not assess under H13.

Where can it be disposed of to landfill?

Firstly, consider whether it is necessary to continue to landfill your wastes. In particular consider the options to reduce the waste produced and the potential for its recovery or its reuse.

If the waste is **not hazardous** it must be disposed of in a non-hazardous landfill, where there are two options:

- 1) If the content of the load contains significant amounts of high sulphate bearing waste it must be disposed of in a separate cell where there is no biodegradable waste. This helps to minimise the production of hydrogen sulphide gas which can be toxic and smell of rotten eggs. We consider that this relates to both gypsum and other forms of sulphate containing waste with a content of more than 10%¹ sulphate per load.

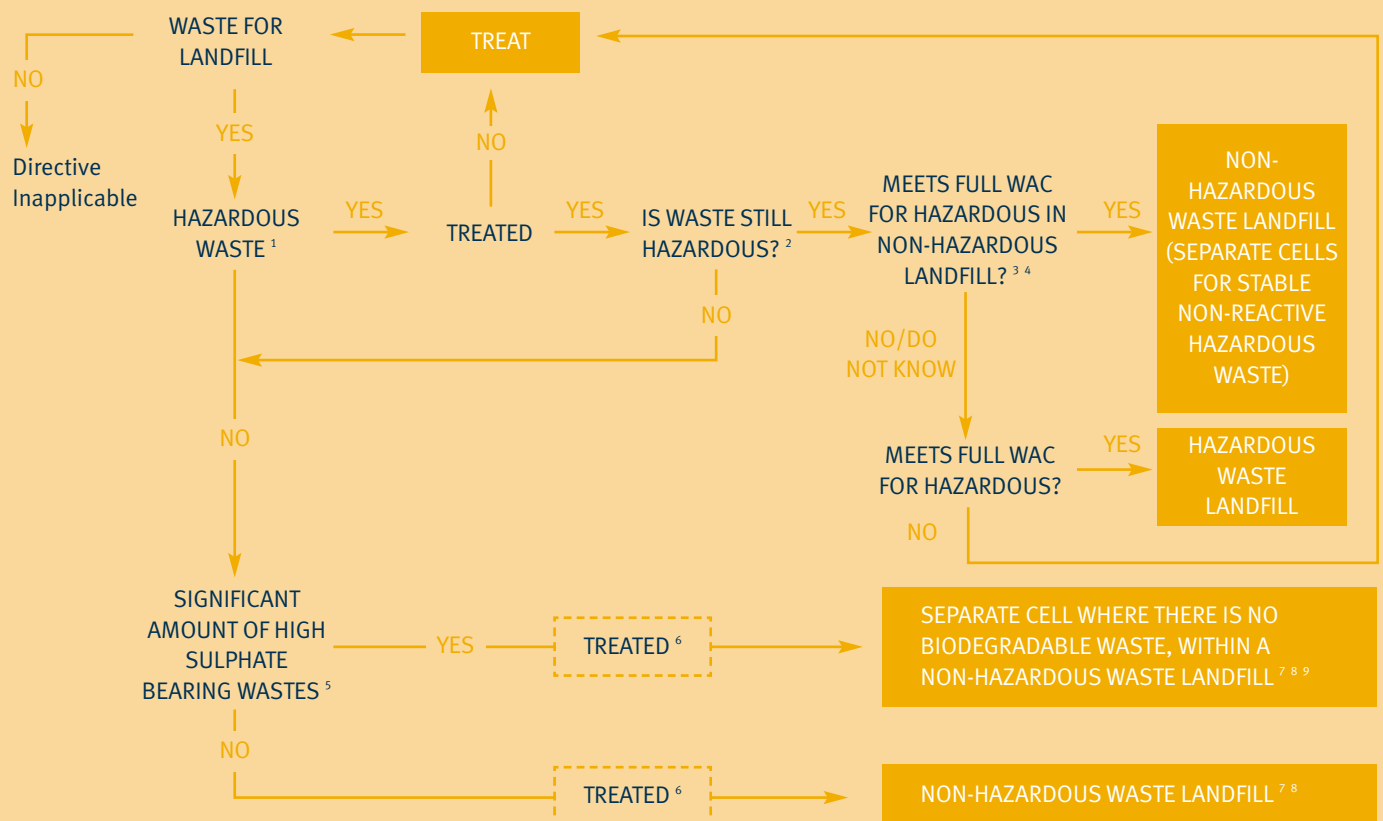
2) If the content of the load contains small amounts of high sulphate bearing waste, e.g. less than 10%¹, it may be deposited in a non-specific cell.

If the waste is **hazardous** it must be disposed of in a landfill permitted for hazardous waste disposal. The waste load will require pre-treatment prior to disposal in the landfill. Examples of pre-treatment include physical sorting and de-watering.

Further guidance is available on our web-site on waste acceptance criteria, sampling and testing of wastes and treatment prior to disposal in landfill.

¹ You should view this as a working guideline and not a precise measurement or requirement. You should also discuss the specific waste acceptance procedures with your waste manager or landfill operator.

Assessment of High Sulphate Bearing Wastes for Landfill from 16th July 2005



Flowchart References

1. Refer to our guidance on the definition and classification of hazardous waste, Technical Guidance WM2. It provides detailed guidance, including a useful flowchart at figure 3.1.
 - Sulphate bearing waste can be hazardous when anhydrous calcium sulphate is present at concentrations $\geq 20\%$.
 - Plasterboard is not hazardous waste.
 - Waste can be hazardous if mixed with other hazardous substances and wastes.
2. Hazardous waste can be treated to achieve WAC for hazardous waste. It can also be treated to make the waste non-hazardous. Where this treatment does not treat the component of the waste that makes the waste hazardous, then the waste remains hazardous. It is not acceptable to simply 'mix' or 'dilute' the substance that made the waste hazardous.
3. Certain wastes are prohibited from hazardous waste landfills.
4. For hazardous waste to be deposited in cells of a non-hazardous landfill (separate from biodegradable wastes), the waste must be stable and non-reactive, as defined in the Regulations, and meet both leaching and other waste acceptance criteria. Hazardous waste that meets those WAC could also be deposited in a normal hazardous waste landfill.
5. We consider that this relates to both gypsum and other forms of sulphate containing waste with a content of more than 10% sulphate per load. You should view this as a working guideline and not a requirement or precise measurement. You should discuss with your waste manager or landfill operator as to their waste acceptance procedure.
6. Requirement to pre-treat wastes is applicable to waste being sent to all hazardous waste landfill. Existing non-hazardous waste landfills are covered in reference 7 below.
7. The Government has announced that it intends to provide a single national date (30 October 2007) following which wastes in liquid form are prohibited from existing landfills for non-hazardous and inert waste, the following which wastes accepted at such landfills must be subject to the treatment requirement of Regulation 10(1). These requirements are already applicable to new landfills.
8. If non-hazardous (non-biodegradable) wastes are destined for disposal in the same cells as stable non-reactive hazardous wastes, they must meet the same European waste acceptance criteria.
9. This waste and other wastes disposed with it in the same cell should meet limit values for Total Organic Carbon (TOC) and Dissolved Organic Carbon (DOC).