

Disposing of pesticide waste

5.1 This part of the code gives guidance on handling and disposing of pesticide waste (including concentrates, ready-to-use formulations and pesticide solutions), contaminated material and equipment and pesticide packaging.

5.2 Change to the law for farmers and growers

Defra has brought in regulations that apply to waste from agricultural premises (see 'The Waste Management (England and Wales) Regulations 2006' in annex A). These regulations place similar restrictions on farmers and growers to those that already apply in amenity and forestry areas. If you cause any pollution of air, water or soil, you can be prosecuted. Farmers and growers should follow the guidance in this code to make sure they dispose of waste pesticides in a safe and legal way to keep any unwanted effect on the environment or humans as low as possible.

5.3 How to reduce the amount of waste you produce

If you reduce your use of pesticides, you will also reduce the amount of waste pesticide and empty containers you produce, and you will save money. You should consider the following questions:

- Do you need to use the pesticide and, if you do, can you reduce its use?
- Do you have suitable pesticides currently in stock and can you order less new stock?
- Have you chosen the most suitable pack sizes?
- Can you manage and control the use of pesticides any better?
- Can you use any of the following methods to reduce packaging waste and reduce the washings produced?
 - Soluble packs
 - Returnable containers
 - Closed-transfer systems
 - Flushing systems for low-volume sprayers
 - Direct-injection systems
 - Rounding down your calculations of the amount of pesticide needed when filling your sprayer to allow you to dispose of the washings on an under-dosed area (or using a suitable electronic sprayer controller to achieve the same result)
- Will your contractor or distributor take back properly cleaned (using a pressure rinsing device or manually rinsed at least three times) empty containers?

5.4 How to dispose of unwanted pesticide concentrates and ready-to-use formulations?

Whenever possible, use up pesticides in the approved way. When a product's approval has been withdrawn or amended (for commercial, safety or other reasons), a 'wind-down' period is given (except when there are major safety concerns) to allow remaining stocks of the product to be used up. The website at www.pesticides.gov.uk gives details of the approval status of individual products and details of reviews which may affect a range of products. By checking this information, or asking your supplier, the manufacturer or an adviser, you should be able to avoid having to dispose of unapproved products.

Similarly, by managing your chemical store properly, you should be able to avoid having to dispose of pesticides because they have deteriorated or because products are out of date.

You should know about the HSE advice on storing pesticides given in the HSE Guidance Note AS 16 'Guidance on storing pesticides for farmers and other professional users'.

You should avoid storing an unwanted pesticide, and it is illegal to do so if the approval for storing and using it has been withdrawn.

If a container (or other packaging) is damaged, but the product is still approved for use, you may be able to carefully transfer the product to the equipment used to apply it, leaving only the container to be disposed of.

Despite good management, you may have some concentrates or ready-to-use pesticides that you need to dispose of. You should never dilute an unwanted concentrate in order to dispose of it as dilute pesticide waste. You should consider the following points:

- Firstly, ask your supplier if they will take back any unwanted, unused pesticides that are packaged, labelled and of good quality;
- Pesticide concentrates are likely to be 'hazardous waste' (previously known as 'special waste') and may present a significant risk to the environment or to humans. Handling and disposing of this type of waste is tightly controlled and you will need to use a registered carrier (registered with the Environment Agency) and a licensed waste-disposal contractor (you will be able to find one in The Phone Book);
- You must store unwanted concentrates and ready-to-use formulation in your chemical store to make sure they are secure and that any spills will be contained;
- You (or the carrier if you use one), must fill in a 'consignment note' and pay a fee to the Environment Agency if you are moving or disposing of 'hazardous waste'. You (as the waste producer) and the people transporting and receiving the waste must keep copies of the consignment notes for at least three years. Also, you must not move 'hazardous waste' until the appropriate period for notice has passed;
- When you have filled in the necessary consignment notes, you should pass the unwanted concentrates to a licensed waste-disposal contractor;

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- As the producer of the waste, you must make sure that the person who takes your waste is registered to take it and can transport it safely, and that it will be safely disposed of or recycled;
- You must also fill in a 'waste transfer note' and provide a written description of the waste (you can write this on the transfer note itself) using the appropriate European Waste Catalogue (EWC) codes. Both you and the waste-disposal contractor must keep copies of the transfer note and written description for two years. If the waste is 'hazardous' and you have filled in a 'consignment note', you do not also need to fill in a 'waste transfer note';
- If you can transport your own unwanted pesticides safely and legally, you can take these to a licensed treatment or disposal site, after checking whether the site will accept your waste.

If you need more guidance, contact the Environment Agency or your local authority.

For pesticide products which are applied undiluted and without a carrier (for example, ready-to-use formulations, granules, dusts, pellets and baits), you should be able to apply the product with no, or very little, extra product left in the equipment. The general guidance on cleaning application equipment also applies to these types of pesticide, although equipment used for applying solid pesticide is not usually cleaned using water.

'Hazardous waste' is defined under the European Hazardous Waste Directive 1991 (see annex A) and the EU has produced the European Waste Catalogue (EWC) which lists all wastes (whether hazardous or not). The EWC also states whether materials that can be dangerous are classified as 'hazardous waste' under all circumstances or only when a hazardous substance is present above a certain concentration. You can see the EWC and get guidance on deciding whether your waste is 'hazardous waste' on the Environment Agency website (www.environment-agency.gov.uk/business/444217/590750/590821/502174/).

You can get more information on hazardous waste from The Chartered Institution of Wastes Management website (www.ciwim.co.uk).

5.5 How to dispose of dilute pesticide waste

If you are spraying a pesticide, you should be able to do so with no, or very little, spray solution left over. Planning this will reduce your waste disposal problems and will save you money. However, in other situations (such as when you are applying a pesticide as a before planting or after harvesting dipping treatment) you may not always be able to avoid having dilute pesticide left over at the end of the treatment.

When you are treating several sites, one after another, using the same pesticide and the same equipment, you may be able to use left over spray from one site to treat another, if you can transport the pesticide safely and legally.

You must dispose of all dilute pesticide waste (including any leftover pesticides and all sprayer washings) safely and legally to protect humans, wildlife and the environment, especially groundwater and surface water.

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When you have finished applying the pesticide, clean both the inside and the outside of all equipment you have used. By thoroughly cleaning your application equipment, in line with the manufacturer's instructions, you will help to:

- reduce any risk from handling contaminated surfaces;
- prevent damage to other crops and areas which will be treated later using the same equipment; and
- reduce the risk of blockages.

Before cleaning your equipment you should read and follow the label instructions on:

- using appropriate PPE when handling contaminated surfaces; and
- carrying out any decontamination procedures relating to the particular product (for example, some herbicides need to be de-activated with ammonia-based cleaning agents).

If possible, you should clean the equipment you have used (inside and out) at the site of the treatment, rather than having a single, dedicated site for cleaning. You should use any built-in rinsing systems that are fitted to clean the inside of the equipment quickly and effectively while using the minimum volume of rinse water. Similarly, a hose and brush attachment (which is available on some sprayers and can be fitted to others) will help you to clean the outside of the equipment more effectively than a high pressure spray gun, and will use less water. Repeated tank washing, each using a small amount of water, will achieve better results than a single rinse using a large amount of water and will also produce less washings. As well as cleaning the tank, you will also need to make sure that all pipes, hoses, filters, valves, nozzles and induction systems are thoroughly cleaned. All facilities for washing equipment should be designed to make sure that the pesticide solution cannot get into your washing water under any circumstances.

You can get more guidance on cleaning sprayers on the Voluntary Initiative website (www.voluntaryinitiative.org.uk/Content/Agr_BP.asp)

The HSE report 'Exposure to spray residues on agricultural equipment' (HSE 4023.R51.192) provides useful, practical guidance on avoiding contamination on the outside of application equipment (see www.hseresearchprojects.com).

Possible options for disposing of dilute pesticide waste include the following:

- You can apply the contaminated water to the treated or untreated crop or area within the terms of the product approval. (But make sure you do not go over the maximum dose.);
- You can store the contaminated water in a suitable container until a licensed waste-disposal contractor can collect it;

- When using pesticides in agriculture, you can only dispose of the dilute waste onto soil or grass (either directly or fed by the drainage from a hard surface) under the terms of an authorisation under the Groundwater Regulations (see annex A) issued by the Environment Agency. To keep to the Landfill Regulations (see annex A) you must not use a single site in this way more often than once a year. The land you choose for this purpose must:
 - be able to absorb the volume of liquid to be disposed of onto it without run-off or leaving puddles;
 - result in the smallest possible risk to wildlife and watercourses;
 - protect groundwater (by not allowing the pesticide to reach the water table);
 - present the smallest possible risk to septic tanks, field drains or sewerage systems; and
 - where necessary, be signposted and fenced to keep people and livestock out.
- If you have suitable equipment (such as your own effluent treatment plant designed for treating liquid waste containing pesticides), you can process the dilute waste yourself, as long as:
 - You (or the person using the equipment) have an appropriate waste-management licence (or have registered an exemption) under the Waste Management Licensing Regulations (see annex A); and
 - the treated effluent is collected and either disposed of as stated in the waste-management licence or, if registered as exempt, reused (for example, as irrigation water or for preparing a spray solution).
- You can dispose of the dilute waste to a lined biobed (see the glossary) as long as:
 - you have an appropriate waste-management licence (or have registered an exemption) under the Waste Management Licensing Regulations (see annex A); and
 - the water flowing out from the base of the biobed is collected and either disposed of as stated in the waste-management licence or, if registered as exempt, reused (for example, as irrigation water or for preparing a spray solution).
- You can dispose of the dilute waste into a sewer under a 'trade effluent consent' issued (in rare circumstances) by the local company which manages the sewage treatment works the sewer is connected to. Waste that contains substances classified as 'special category effluent' also need approval from the Environment Agency before a 'trade effluent consent' can be issued (see 'The Water Act 1989' in annex A).

You can get more information on the design of, use of and licensing conditions for biobeds from the Environment Agency.

5.6 How to dispose of waste pesticide containers

Do not reuse an empty pesticide container for any purpose unless:

- it is specifically designed to be returned and refilled and you are doing so in line with the label instructions; or
- you are filling it with an identical pesticide product transferred from a damaged container.

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The product label will state whether you should rinse the container after emptying it.

Before disposing of a non-returnable container, make sure it is completely empty.

If you can, containers for products which are concentrates and are applied as a solution should be thoroughly rinsed before being disposed of.

Containers for ready-to-use formulations or products not applied as a solution are normally not rinsed after emptying.

Containers for hydrogen cyanide gassing powders or aluminium, magnesium or zinc phosphides must never be rinsed or cleaned.

Before disposing of rigid, non-returnable containers, you should always thoroughly rinse them in line with the label instructions.

If there are no instructions, you should:

- use purpose-made container-rinsing equipment in line with the manufacturer's instructions (for example, pressure rinsing devices forming part of many sprayer induction bowls); or
- rinse containers by hand at least three times (or until the container is visibly clean) with clean water. Add the rinsings to the spray solution.

You may also be able to rinse some types of flexible packaging designed for solid pesticides which are applied as a solution, depending on the material and design of these packs. You should always rinse containers immediately after emptying them, once you have allowed the product to drain fully into the equipment that is applying it. You should also rinse contaminated closures (caps and seals) and any contamination on the outside of containers. All rinsings should be added to the spray solution.

If, for any reason, you have container rinsings which you cannot add to the application equipment (for example, if you are not applying the pesticide as a spray or dipping solution), you should collect the contaminated rinsings in a suitable, labelled container, and store it in a safe place. You should then dispose of the rinsings in line with the guidance given in paragraph 5.5.

Containers which are not suitable for rinsing (for example, paper sacks and cardboard cartons) and those containing products which are either ready-to-use or not applied as a solution, are normally emptied completely but not rinsed. These will have the phrase 'Empty container completely and dispose of safely' on the label. You should handle and store these empty containers as if they still contained the pesticide, and you should dispose of them through a licensed waste-disposal contractor.

You must not rinse or clean empty containers which hydrogen cyanide gassing powders or aluminium, magnesium or zinc phosphides have been supplied in or kept in because of the dangerous gases they give off when they come into contact with moisture. You should handle and store these empty containers as if they still contained the pesticide and you should dispose of them through a licensed waste-disposal contractor.

Firmly replace caps on containers immediately after rinsing and draining them into the equipment used for applying pesticide. Put the rinsed foil seal inside the container. Store the rinsed and drained containers upright in a secure, weatherproof area away from stored pesticides (either in a separate store or a separate part of your chemical store), until you can dispose of them.

You can get more guidance on cleaning containers on the Voluntary Initiative website (www.voluntaryinitiative.org.uk/Content?agr).

You can dispose of rinsed pesticide containers in the following ways:

- Pass them on to a licensed waste-disposal contractor;
- Take them to a licensed waste-disposal or waste-recovery site, after checking whether the site will accept rinsed containers;
- Burn them only in an incinerator licensed by your local authority or the Environment Agency. Contact your local Environment Agency office for more information.

Containers that have been thoroughly rinsed and drained will generally be accepted at licensed waste-disposal sites as long as the conditions of the site operator's licence allow this. The local Environment Agency office can give you details of these sites.

Do not use empty pesticide containers or contaminated pallets for transporting food or animal feed.

5.7 How to dispose of other pesticide waste materials

You should arrange to dispose of contaminated packaging, equipment, unwanted protective clothing and waste from dealing with spills and leaks through a licensed waste-disposal contractor. Some of this waste may need to be dealt with as 'hazardous waste'.

You should dispose of used vertebrate control agents, other pesticide baits and dead bodies in line with the guidance on the product label. If no advice is given on the label, arrange to dispose of this waste through a licensed waste-disposal contractor, making sure that you follow the correct procedure.

You should dispose of used compost, soil and so on which have been treated with pesticides in line with the guidance on the product label. If no advice is given on the label, get guidance from your local Environment Agency office. You can also get information on the PSD website www.pesticides.gov.uk.

You should arrange to dispose of other materials (such as treated seed, other treated plant material and used crop covers which are contaminated with pesticides) through a licensed waste-disposal contractor.

5.8 Where you can get more information

You can get more detailed, up-to-date information on how to dispose of waste resulting from the use of pesticides from the Defra website (www.defra.gov.uk/environment/waste/topics/agwaste.htm) and the Environment Agency (visit www.environment-agency.gov.uk or phone 08708 506506).

