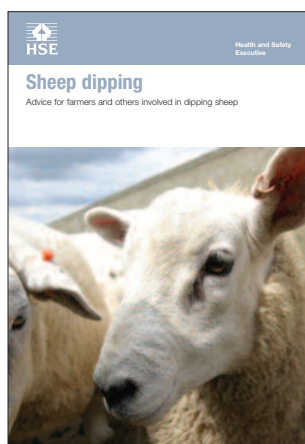


Sheep dipping

Advice for farmers and others involved in dipping sheep



This is a web-friendly version of leaflet AS29(rev3), revised 07/07

Introduction

This leaflet will help farmers, farm workers and others involved in dipping sheep to protect their health and the environment. It tells you how to plan and carry out the work, including how to assess the risks under the Control of Substances Hazardous to Health (COSHH) Regulations 2002 (as amended) and decide what precautions are needed. It also gives advice on how to dispose of used dipwash and containers safely.

Before you start: Competent operators

Everyone who will be involved in the dipping operation **must** be properly trained and competent. This is just as important whether you use an organophosphorous (OP) sheep dip or a synthetic pyrethroid (SP) sheep dip.

Under the Veterinary Medicines Regulations 2006 it is an offence to use sheep dip unless this is done by, or under the supervision and in the presence of, a person who holds a Certificate of Competence in the Safe Use of Sheep Dips.

Certificates are issued in England, Wales and Northern Ireland by the NPTC, and in Scotland by the NPTC or Scottish Skills Testing Service. The certificate test covers human, animal and environmental safety in planning, preparation, use and disposal of dips.

Training courses are available from training groups and local colleges. You can get further information on training from NPTC assessment centres.

As well as the requirements for dipping operations, any person who **buys** OP or SP sheep dip **must** have the NPTC Certificate of Competence in the Safe Use of Sheep Dips **or** satisfy the distributor selling the dip that they are acting on behalf of somebody who does have the Certificate.

What do I need to do to comply with COSHH?

You have to prevent or adequately control risks to health arising from the use of sheep dips and associated veterinary treatments in your work. You must:

- carry out an assessment of the risks (a 'COSHH assessment') by finding out what harmful effects the product might have, if any, and estimate the exposure of people who might come into contact with it;
- if there is more than one product that will treat the sheep, consider using the least hazardous to human health;
- use control measures to reduce exposure. Check regularly that they are working and being used by staff;
- keep everyone informed of the risks and precautions needed, consulting employees and safety representatives if your business has them;
- review all the above regularly or if the nature of the work changes.

COSHH assessment

The purpose of the assessment is to enable you to make valid decisions about the measures necessary to prevent or adequately control exposure to substances hazardous to health arising from work with sheep dips and related products. Follow this six-step process:

Step 1: Do you need to treat at all?

Only use treatments when they are strictly needed for animal health reasons. Seek advice from a vet where necessary. Never dip sheep for cosmetic purposes.

Ask yourself:

- What is the parasite (eg scab mite, blowfly, ticks, keds or lice)?
- Is there a problem in your flock or your area?
- Is your flock closed or open?
- Are weather conditions likely to help the spread of the parasite?

Step 2: Look for the hazards

If you have to treat sheep for animal health reasons, consider using a product which is the least hazardous to human health.

All dip products contain hazardous substances. If mishandled, they can make you ill, harm the sheep or pollute the environment. The harm products can cause depends on what active ingredient they contain (see the label) and how they are applied. Hazardous substances can get into the body in three ways:

- through the skin;
- by swallowing them (eg by contamination of human food and drink); or
- by breathing in vapour or aerosol containing them.

When dipping, or handling sheep afterwards, you are most at risk from absorbing products through your skin from splashes of dip solution or from skin contact with the fleece.

Step 3: Consider who might be harmed and how

As well as those who dip, think about people who may also be affected (eg family members, those handling sheep after dipping, including at markets, shearers etc). If you are a contractor, you are likely to be at greater risk from using large quantities of dip regularly. Careless dipping and disposal can also contaminate water supplies.

Step 4: Choose the treatment

At the time of writing this leaflet, the marketing authorisation for SP dips had been suspended pending the provision of further information concerning environmental risk. Therefore, you are advised to check the status of these products with VMD before deciding to use them. Visit www.vmd.gov.uk for the latest news on SP dips or telephone VMD on 01932 336911.

When deciding which product to use you should consider what is the best option to:

- prevent/control the parasites;
- reduce risks to people and the environment.

Consider using authorised alternatives to plunge dips, eg:

- a pour-on product to control blowfly in a scab-free area;
- an injectable for scab control;
- a pour-on to control ticks.

All sheep dip products contain hazardous substances, however, SP dips pose a greater hazard to aquatic life. It is easier to minimise exposure, and protect the environment, when alternatives to plunge dipping such as pour-ons or injectables are used. Whatever product you use, follow the label instructions carefully to ensure it is effective.

Check:

- which of the authorised products are effective against the problem you are trying to treat (see Table 1);
- if the treatment is appropriate for the size of your flock, and the way you manage it;
- you have chosen the safest effective product;
- you have planned safe disposal before you start.

If in doubt about which product to use, seek advice from your veterinary surgeon.

Table 1 What does what?

Active ingredient	Controls			
	Scab	Blowfly	Tick/ked/lice	
Plunge dips				
Diazinon (OP)	Yes	Yes		Yes
High-Cis Cypermethrin (SP)	Yes	Yes		Yes
Pour-ons (all non-OP)		(Prevention)	(Treatment)	
Cyromazine	No	Yes	No	No
Deltamethrin	No	No	Yes	Yes
Alpha-Cypermethrin	No	Yes	Yes	Yes
High-Cis Cypermethrin	No	Yes	Yes	Yes
Dicyclanil	No	Yes	No	No
Injectables (non-OP)				
Ivermectin	Yes	No	No	No
Doramectin	Yes	No	No	No
Moxidectin	Yes	No	No	No

Key:

OP = Organophosphorous

SP = Synthetic pyrethroid

Yes = Marketing authorisation for control

No = No marketing authorisation for control

Some agricultural pesticides contain OP or SP active ingredients. These products are not authorised for use as veterinary medicines and must never be used for this purpose.

Step 5: What controls do you need?

Properly designed and sited dip facilities

Good facilities have:

- adequate ventilation. Dipping inside buildings increases the risk of breathing in vapour (as well as stressing sheep and operators) **so it is better to dip outside**. However, a roof can help stop rainwater making the dipbath overflow;
- a race to guide the sheep to the dip;
- an entry slope to reduce splashing from sheep dropping into the dip bath;
- a dip bath of the minimum size for your flock. This reduces the cost of installation, the amount of concentrate needed and the amount of used dipwash to get rid of;
- a dip bath with no leaks or drain holes, eg by being a one-piece, prefabricated design. Inspect the bath before dipping and repair any cracks or holes;
- draining pens away from the dip operator with a sloped, impermeable floor to ensure drainings run back into the dip and which are big enough to allow the sheep to drain properly;
- a piped supply of clean water for top-up, decontamination and rinsing. Make sure the dipwash cannot syphon back into the pipe by fitting a double check valve.

Site dips as far away as possible and at least 10 m away from watercourses including ditches and drains and at least 50 m from wells, springs and boreholes. Before you start, think about where sheep will drain off and how you will safely empty the dip bath.

Mobile dipping facilities

Mobile dips need to be carefully sited every time they are used since they introduce additional risks. Follow the guidance for these facilities in the Defra Groundwater Protection Code (see 'Find out more'). For example:

- Only use farmyards as hardstandings if they have sealed drainage or collection systems. Sheep leaving mobile systems may have dip compounds dripping off them, so you must make provision to collect this in the same way as required for static dip baths.
- Field sites are acceptable if they meet the separation distances from watercourses, wells, springs and boreholes as described for static facilities, the site is flat or gently sloping and free from flooding and compaction.
- Check all equipment thoroughly before use to make sure it is working properly and for signs of damage, corrosion or excessive wear.
- Do not move any mobile system containing any dip solution unless it is specifically designed to be moved.
- You must co-operate with mobile dipping contractors on health and safety issues. For example, clearly establish responsibility in advance for the safe disposal of used dip.

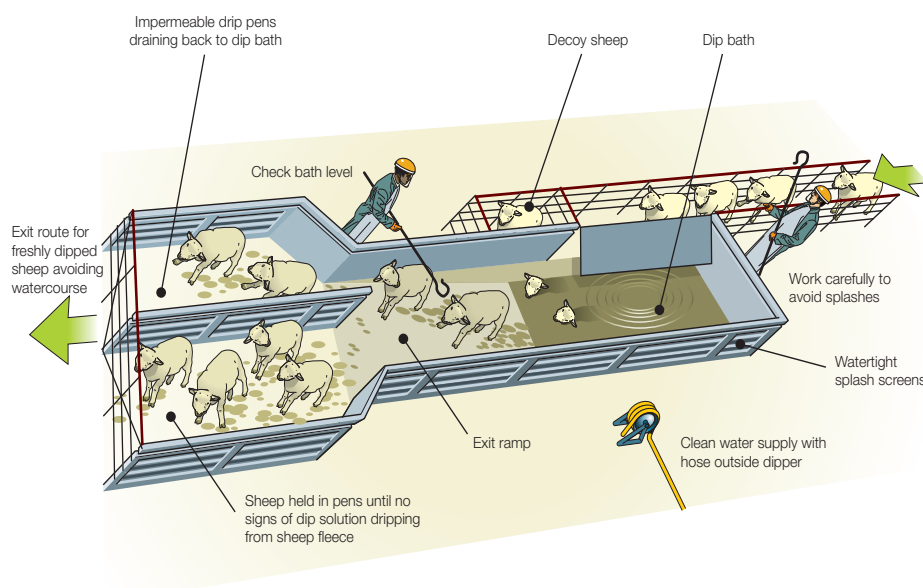


Figure 1 A typical sheep dip bath

Engineering controls

Use simple physical controls to help keep dip off operators and avoid pollution, for example:

- a screen across the dip entry slope to deflect splashes;
- splash boards or screens up to waist height where operators are likely to be splashed;
- high-sided screens at the exit from the dip so that droplets from shaking sheep do not land on the operators;
- draining pen gates which can be opened/closed by remote control, eg by rope and pulley;
- a metal handled crook. A 'tee-piece' or rubber ferrule at the end of the crook makes it easier to handle and avoids damaging the operator's gloves.

Personal protective equipment (PPE)

As well as using engineering controls, operators must wear PPE to protect their health. When handling concentrated dips, wear:

- non-lined synthetic rubber gloves (heavy duty gauntlet style PVC or nitrile at least 0.5 mm thick and at least 300 mm long). Purchasers of OP dips are entitled to receive two pairs of gloves and a laminated instruction card from their supplier at the time of purchase;
- wellington boots;
- waterproof leggings or trousers made of nitrile or PVC;
- a waterproof coat or a bib apron made of nitrile or PVC over a boiler suit or similar;
- a face shield.

When working with dilute dipwash:

- wear the same gloves, boots, leg and body protective clothing as for concentrated dips;
- if you wear a face shield or waterproof hat during dipping it will protect your face, head and hair from splashes.



Figure 2 Operators must wear suitable PPE

Remember:

- PPE should be serviceable, clean and a good fit.
- Concentrated dip can get through protective gloves and clothing. Wash it off PPE immediately.
- **If you get a lot of dipwash on your skin, PPE or personal clothing, wash your skin immediately and put on clean clothes and PPE.**
- Remove and replace damaged PPE such as cracked gloves, waterproof clothing with tears or which cannot be fastened properly, and leaking wellingtons.
- Avoid touching the surface of PPE which may be contaminated with dip chemicals, eg when removing gloves.
- Wear the trousers or leggings over the boots. In general wear the sleeves of waterproof suits over the gloves and overall sleeves inside the gloves.
- Woollen pullovers, tee-shirts, tracksuits etc do not keep dip off the skin. You should always wear the recommended PPE.
- Wear protective clothing when repairing or cleaning contaminated equipment, particularly if it has been used with concentrate.
- Wear the PPE you use for dipping if you have to work with sheep still wet from being dipped.
- In the weeks that follow dipping, dip residues remain on the sheep. If you have to handle them, wear coveralls and wellington boots. It is also good practice to wear good quality synthetic rubber disposable gloves. If the sheep are wet you should also wear waterproof trousers and coat.
- Provide adequate storage for PPE to protect it from contamination, loss, or damage. Any accommodation for PPE should be separate from any provided for ordinary clothing.

PPE manufactured after 30 June 1995 must be CE marked, which means it has been tested and certified under EC marketing law. It may not be marketed specifically for dipping and you **must** check that it is suitable for that purpose – if in doubt, ask the manufacturer or your supplier. PPE manufactured before this can still be used as long as it gives sufficient protection.

Respiratory protective equipment (RPE)

RPE is not needed if sheep are dipped following the guidelines in this leaflet. You should, however, consider using RPE if you cannot avoid the following tasks and there is poor ventilation:

- pouring concentrate or cleaning up spillage in a confined space;
- dipping inside a building or other enclosed area;
- working with freshly dipped sheep in still air conditions.

The RPE should be a full or half-mask respirator with a filter capable of removing particulates and gas/vapour. The filter should conform to the British Standard BS EN 14387 (see 'Find out more').

Step 6: Review your COSHH assessment

- Review your assessment if there have been significant changes, such as using different products, application methods, or systems of work.
- Consider any lower-risk products or application equipment that becomes available and use them instead if they will do the job and reduce the risk of injury or ill health.

Consult worker safety representatives and employees if you have them if there is a change to the work practice that has implications for health and safety.

Good working practice

- Carry out stock tasks such as foot trimming **before** dipping.
- Only buy enough dip for immediate use and store it in a safe place with a means of containing leakage.
- Maintain the dipbath to avoid leaks. Check it each time for cracks.
- Read the product label, follow the manufacturer's instructions and **do not use after the expiry date**. Any product that has exceeded the expiry date must be disposed of using a licensed waste disposal contractor.
- Where possible avoid dipping during hot weather, in still air or freezing conditions – all are bad for the sheep or operators and excessive heat may make wearing PPE more difficult.
- Do not dip sheep that are ill, heavily pregnant, stressed, full of food or very wet.
- Carefully pour the concentrate in the open air or a well-ventilated place and avoid getting any splashes on you or your PPE or into drains etc.
- Make sure the dipwash is well mixed and maintained at the proper strength throughout the dipping operation.
- Work at a steady pace to avoid excessive splashing. Allow enough breaks – tired operators cause more splashing.
- Whenever you stop for a break, wash thoroughly – especially before eating, drinking, smoking or using the toilet.
- It is good practice not to shear sheep for three months after dipping.

Never:

- leave dip concentrate in an unmarked container;
- use your hands, arms or feet to immerse sheep;
- allow untrained people to help with the dipping;
- allow anyone not wearing PPE to come near the dipping;
- use dip through a knapsack or hand sprayer.



Figure 3 Always use a CTS for OP dips

Closed transfer systems

OP sheep dips must only be used with closed transfer systems (CTSs). These are devices designed to reduce the risk of operators being exposed to the dip concentrate while the dip bath is being filled. There are different types of CTS. The product label, data sheet or instruction card will explain which type of CTS is specified by the manufacturer to be used for that particular product. Follow the manufacturer's instructions carefully and ensure that adequate and suitable PPE is worn when using the CTS.

Types of CTS for OP dips

Water-soluble sachets containing OP dip concentrate

- Dip is supplied in water-soluble sachets which are inside a pouch within an aluminium foil bag.
- Take care when opening either the foil bag or the pouch inside it that contains the soluble sachet.
- Do not use scissors, a knife, or any sharp object to open the foil bag or pouch, but use the tear strip provided.
- When placing the sachet in the dip bath take care to avoid splashes.
- Do not puncture the sachet to release the contents.

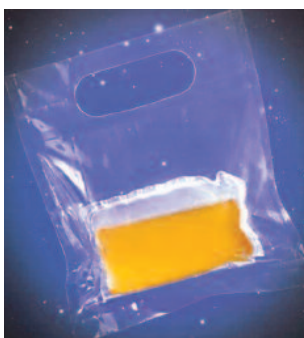


Figure 4 Example of a water-soluble sachet



Figure 5 CTS dispensing kit

Pump devices for transferring dip concentrate from the container to the dip bath

- Pump devices are supplied as a re-usable dispensing kit.
- Once used for dispensing dip you must not use them for any other purpose.
- You must use, remove, wash and store the kit as specified in the instructions.
- Rinse out empty containers according to the instructions supplied with the kit.

After dipping

Always allow sheep to drain thoroughly in the draining pen. Never allow freshly dipped sheep to contaminate watercourses. This may happen if sheep have access to streams or rivers immediately post-dipping, so provide them with an alternative source of drinking water. Never drive or ford freshly dipped sheep across rivers or streams.

When dipping is over, or when stopping for a meal, smoking or other break:

- cover or fence the dip bath securely if it is left unattended and keep children away. Children have drowned in dip baths so ensure suitable precautions are taken throughout the year, not just at dipping time;
- rinse equipment such as the dipping crook;
- decontaminate PPE and remove protective clothing after rinsing waterproof items thoroughly. Check and replace any damaged PPE. Discarded items which need disposal must be treated as contaminated waste (see the section on disposal);
- wash your hands and any exposed skin, eg your face and neck, with soap and clean running water;
- do not allow rinsings or washing water to contaminate groundwater or watercourses;
- do not work among or handle recently dipped sheep unless wearing the PPE described in the 'Personal protective equipment' section;
- wash your hands and any exposed skin after handling recently dipped sheep;
- return any unused dip concentrate to a suitable storage facility, eg a properly constructed farm chemical store which meets the requirements set out in HSE Agriculture Information Sheet AIS16 (see 'Find out more').

Records

COSHH assessments should be written down unless they can be easily repeated and explained. Employers with five or more employees must record the significant findings.

Records of treatments given must be kept to ensure food safety regulations are met. If you add the names of people who did the work, these records are good practice as a record of potential exposure.

Disposal

Both OP and SP sheep dips are harmful to wildlife and the environment.

- Careless handling or disposal can pollute watercourses and groundwater reserves.
- Very small quantities of any dip solution can contaminate large volumes of water.
- Dips are toxic to river life and can poison animals, fish and other creatures.
- Spilled or used dip disposed of to unsuitable land can pollute drinking water supplies, so it is essential to take adequate and suitable precautions before, during, and after dipping.

- It is an offence to pollute controlled waters (including groundwaters) with sheep dip. It is also an offence to dispose of sheep dip to land without an authorisation.

To dispose of used dip on land requires prior authorisation from the Environment Agency (EA) in England and Wales or the Scottish Environment Protection Agency (SEPA). Full details of the disposal requirements will be in the authorisation. Contact EA or SEPA for further details (see 'Useful contacts').

Disposal of used dipwash

You **must** prevent or adequately control exposure while disposing of used dipwash. Empty the dipbath as soon as practicable, preferably using a pump. Wear PPE to avoid skin contamination. **Never empty dipwash into watercourses.**

Follow the directions on the authorisation to help minimise the risk of environmental contamination. The following advice will help avoid water pollution:

- Do not apply more than 5000 litres of dipwash per hectare (450 gal/acre). You will normally need to dilute it with three parts water or slurry to achieve this if using equipment such as a slurry tanker.
- Choose an area of land as flat as possible – do not spread onto sloping land where the soil is saturated with water.
- Leave an untreated strip at least 10 m wide next to all watercourses. Do not apply within 50 m of springs, wells or boreholes.
- Do not use fields:
 - which are subject to flooding, waterlogged or frozen hard;
 - which have effective pipe or mole drains;
 - where the soil is cracked or severely compacted;
 - where the sub-soil is fissured.
- Do not spread on land which is important for wildlife or which has access for people or animals.
- Consider treating the used dipwash before disposal to reduce the environmental risk. Different treatment methods are needed for different dip products and using the wrong one can increase risks. Ask the manufacturer or supplier and remember you will still need to follow the disposal advice in this leaflet, in the authorisation, and in other recognised guidance.
- Avoid forming pools of dip when spreading on land.
- Do not graze stock on the land for at least one month.
- Alternatively, or if suitable land is unavailable, store the used dipwash in a suitable holding tank, designed to retain any spillage, and dispose of it using a licensed waste disposal contractor.

Soakaways are no longer an acceptable means of disposal for used dipwash as they represent an unacceptable risk to ground and surface waters. Do not build new soakaways for used dipwash disposal.

Disposal of concentrated dip

Your supplier may accept unopened containers returned to them. Unwanted concentrate **must** be disposed of by a licensed waste disposal contractor.

Disposal of empty containers

Rinse at least three times and use the washings to top up the dip bath. Crush or puncture to prevent re-use but try to keep the label readable. Empty containers must not be buried on site or on farm land. They must be disposed of at a licensed waste disposal site. Contact your local waste disposal authority for details of how to do this.

Contaminated clothing and PPE to be discarded

- Package all items securely in sealed containers or plastic bags for disposal at a licensed waste disposal site.

Spillages

- Use absorbent material such as sand, earth or sawdust to collect spillages of concentrate or diluted dip. Place in a sealed container and label for disposal at a licensed waste disposal site.

For more advice on disposal, see 'Find out more'.

Health surveillance

Contractors using OP dips regularly should seek advice on health surveillance from a medical practitioner who is familiar with the risks of the process and understands the principles of health surveillance. This might include sampling for cholinesterase before the dipping season and repeat sampling if there are adverse effects or significant accidental exposures. Urine sampling for OP metabolites, as a measure of exposure, may also be useful to monitor the effectiveness of your control measures.

COSHH requires that a health record is kept whenever health surveillance is undertaken. In some circumstances simply keeping a health record may be the only health surveillance required. It is also good practice to record details of when you use dip chemicals, what you use and who is involved.

In case of accident or illness

If any of your employees become ill, consider if this may be due to exposure to dip chemicals and, if necessary, take action to prevent further exposure until medical advice is available. Employees who become ill should be encouraged to inform their doctors that they work with dip chemicals. You must review working practices and control measures if an employee becomes ill as a result of the work.

If dip gets onto or into your body, any adverse effects will depend on the formulation, the route of absorption and the level of exposure.

The effects can include:

- with SPs – tingling, pins and needles, especially on the face, itching with red, blotchy skin, excessive salivation and eye watering; or
- with OPs – headache, exhaustion and mental confusion together with blurred vision, sweating, salivation, chest tightness, muscle twitching and abdominal cramps. More severe effects can include a loss of co-ordination, extreme difficulty with breathing and convulsions which may lead to unconsciousness in the absence of medical treatment.

Important advice on symptoms and first aid is given on product labels and data sheets.

- If any dip splashes in your eyes, it should be rinsed out with plenty of clean, cold water for at least 10 minutes.
- If anybody gets heavily contaminated, eg by falling in the dip, it should be treated as an emergency. Remove any contaminated clothing, wash any contamination from the skin and take the person straight to hospital.

- If anyone feels unwell during dipping, or within 48 hours of dipping, they should stop work, wash any contamination from their skin or clothing and consult a doctor as soon as possible.
- Anyone seeking medical advice should take the product label details so that the doctor knows which chemicals are involved.
- People who have been advised by their doctors not to work with OP compounds should not be involved in the use of OP dips.

Use of showers and jetters

Sheep dip products authorised for use as plunge dips are not approved for use in sheep showers, jetters or other similar equipment. No information has been presented to VMD on the risks to human health that may be associated with using dip products in showers and jetters. Also, the effectiveness of sheep dip products applied by these methods is not known and so the desired control of ectoparasites may not be achieved.

Until further evidence is available, HSE is unable to recommend the use of showers or jetting equipment to apply products that are authorised for use as plunge dips. Where users of such equipment decide to use plunge dips in this way they will still need to carry out a COSHH assessment and should follow the guidance in this leaflet.

Reporting

It is important that you tell your doctor if you have any persistent or long-term effects that may be linked to sheep dipping. If your doctor thinks that your symptoms may be related to sheep dip exposure, then your case should be reported to the Suspected Adverse Reaction Surveillance Scheme (SARSS) operated by VMD using form MLA 252A (see 'Useful contacts').

Any ill health of animals resulting from exposure to sheep dip should also be reported under SARSS.

VMD monitors any problems that may arise with these medicines and, if necessary, reviews the licensing provisions.

As well as reporting under SARSS, medically confirmed cases of OP poisoning in people **must** be reported to HSE under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995. Reports should be made to the Incident Contact Centre (ICC) by telephone (0845 300 9923), fax (0845 300 9924) or e-mail to riddor@natbrit.com.

Environmental pollution **must** be reported to EA or SEPA (see 'Useful contacts').

Useful contacts

Environment Agency (EA) General enquiry line Tel: 08708 506 506
Pollution Hotline Tel: 0800 80 70 60 Website: www.environment-agency.gov.uk

Scottish Environment Protection Agency (SEPA) Head Office Tel: 01786 457700
Pollution Hotline Tel: 0800 80 70 60 Website: www.sepa.org.uk

Veterinary Medicines Directorate (VMD) General enquiry line Tel: 01932 336911
SARSS Tel: 01932 338427 Website: www.vmd.gov.uk

National Proficiency Tests Council (NPTC)
Tel: 024 7685 7300 Website: www.nptc.org.uk

Department for Environment, Food and Rural Affairs (Defra)
Tel: 08459 33 55 77 Website: www.defra.gov.uk

The Scottish Executive Environment and Rural Affairs Department (SEERAD)
Tel: 08457 741 741 or 0131 556 8400 Website: www.scotland.gov.uk

Find out more

Guidance on storing pesticides for farmers and other professional users Agriculture Information Sheet AIS16 HSE Books 1996

Groundwater Protection Code: Use and disposal of sheep dip compounds Defra August 2001 www.defra.gov.uk

Medical aspects of work-related exposures to organophosphates Medical Guidance Note MS17 (Third edition) HSE Books 2000 ISBN 978 0 7176 1775 3

Prevention of environmental pollution from agricultural activity. A Code of Good Practice SEERAD www.scotland.gov.uk

SARSS brochure VMD April 2003 www.vmd.gov.uk

BS EN 14387:2004 *Respiratory protective devices. Gas filter(s) and combined filter(s). Requirements, testing, marking* British Standards Institution

Further information

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995 Website: www.hsebooks.co.uk (HSE priced publications are also available from bookshops and free leaflets can be downloaded from HSE's website: www.hse.gov.uk.)

For information about health and safety ring HSE's Infoline Tel: 0845 345 0055 Fax: 0845 408 9566 Textphone: 0845 408 9577 e-mail: hse.infoline@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

This leaflet is available in priced packs of 10 from HSE Books, ISBN 978 0 7176 6247 0. Single free copies are also available from HSE Books.

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