

Sheep dipping

Advice for farmers and others involved in dipping sheep

HSE information sheet

Agriculture Information Sheet No 41

Introduction

This leaflet will help farmers, farm workers and others to protect their health when they are involved in dipping sheep. It tells you how to plan and carry out the work 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 involved in the dipping operation must be properly trained and competent. It is an offence to use sheep dip unless either you have a Certificate of Competence in the Safe Use of Sheep Dips or, alternatively, you are working under the supervision and in the presence of a person who holds the certificate.

Certificates are issued in England, Wales and Northern Ireland by City & Guilds (C&G), formerly the National Proficiency Tests Council (NPTC), and in Scotland by NPTC or the 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 organophosphate (OP) sheep dip must have the C&G or 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.

How do I work safely with sheep dips?

You need to prevent or adequately control risks to health arising from the use of sheep dips and associated veterinary treatments in your work. You must assess whether the product you intend to use might have any harmful effects on you, anyone

working with you, or anyone who may have contact with your newly dipped sheep. See 'Further reading' for advice on the Control of Substances Hazardous to Health (COSHH) Regulations 2002.

If you employ five or more people, you must record your assessment. Follow this six-step process:

Step 1: Do you need to treat at all?

Sheep dip treatments are veterinary medicines. 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 or method which is the least hazardous to human health.

Dip products contain hazardous substances. If mishandled, they can make you ill, harm the sheep or pollute the environment. Hazardous substances can get into the body in three ways:

- through the skin;
- by swallowing them (eg by contamination of human food and drink);
- 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 concentrate, dilute solution, or from skin contact with contaminated materials (eg contaminated clothing, the fleece of a recently dipped sheep etc).

Step 3: Decide 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 recently dipped sheep, including at markets, during shearing or scanning etc). If you are a contractor, you are likely to be at greater risk from regularly using large quantities of dip.

Exclude all persons from dipping and associated activities who have been advised against working with OP-containing materials.

Step 4: Choose the treatment

When deciding which product to use you should decide which is the better option:

- to prevent/control the parasites; or
- to reduce risks to yourself and other people who may be affected.

Consider using authorised alternatives to plunge dips, for example:

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

It is easier to minimise your 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 make sure it is effective.

Check:

- which of the authorised products are effective against the problem you are trying to treat;
- 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.

You are advised to check the status of these products with the Veterinary Medicines Directorate (VMD) before deciding to use them. Visit www.vmd.defra.gov.uk for the latest news or telephone VMD on 01932 336911.

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

Some agricultural pesticides contain OPs or synthetic pyrethroids (SP) as 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 should 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 dip bath overflow;
- a race to guide the sheep to the dip bath;
- an entry slope to reduce splashing from sheep dropping vertically 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 positioned away from the dip operator which have a sloped, impermeable floor to ensure drainings run back into the dip bath and are big enough to allow the sheep to drain properly;
- a piped supply of clean water for top-up, decontamination and rinsing. This supply must be fed via an arrangement providing an adequate level of backflow protection, such as a storage cistern incorporating Type AA or AB air gap, to prevent the water company's supply becoming contaminated as a result of dipwash being back siphoned. Contact your water supplier for guidance on preventing contamination of water.

Check all equipment thoroughly before use to make sure it is working properly and for signs of damage, corrosion or excessive wear.

Mobile dips need to be carefully sited every time they are used since they introduce additional risks.

- 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.
- Do not move any mobile system containing dip solution unless it is specifically designed to be moved.

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;

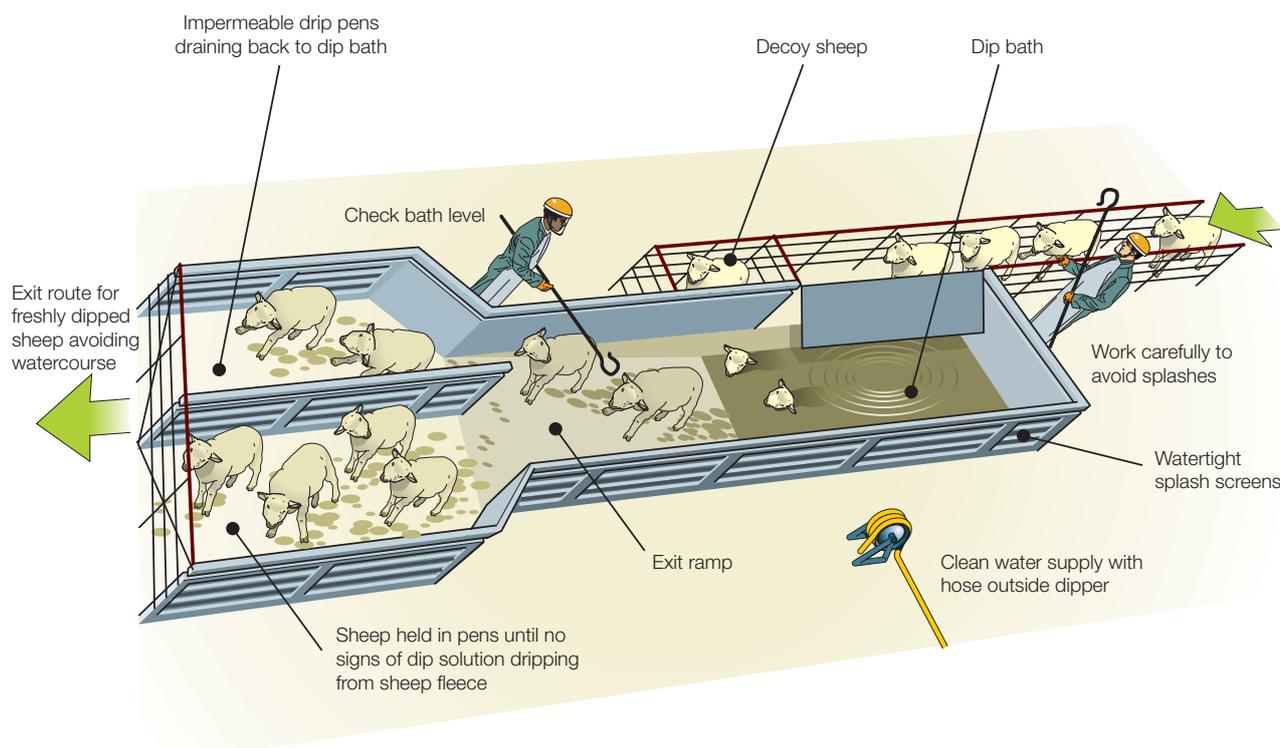


Figure 1 A typical sheep dip bath

- 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 operators' gloves.

Personal protective equipment (PPE)

As well as using engineering controls, operators must wear PPE to protect their health. When handling concentrated dips, the operators should 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);
- 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 type of gloves, boots, leg and body protective clothing as for concentrated dips;
- consider wearing a face shield or waterproof hat during dipping to protect your face, head and hair from splashes.

Remember:

- All PPE should be clean and a good fit.
- Before use, you should check all PPE for any damage (tears, worn areas, holes etc).
- Concentrated dip can permeate 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 that cannot be fastened properly, and leaking wellingtons.
- Avoid touching the surface of PPE that may be contaminated with dip chemicals with bare skin, eg when removing gloves etc.
- 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 same PPE 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 good quality synthetic rubber disposable gloves, coveralls and wellington boots. If the sheep are wet you should also wear waterproof trousers and coat.



Figure 2 Operators must wear suitable PPE

- Before storing reusable PPE make sure it is clean.
- 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 must be CE marked, which shows it has been manufactured to specific design and testing criteria under EC marketing law. It may not be sold specifically for dipping and you must check that it is suitable for that purpose – if in doubt, ask the manufacturer or your supplier.

Respiratory protective equipment (RPE)

RPE may not be 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 (eg A2P2). The filter should conform to the British Standard BS EN 14387 (see 'Further reading').

Step 6: Has anything changed?

- 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 become available and use them instead if they will do the job and reduce the risk of injury or ill health.



Figure 3 Always use a closed transfer systems for OP dips

- 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 dip bath to avoid leaks. Check it each time for cracks and other damage.
- 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 humid, still or freezing conditions – all are bad for both sheep and operators. Excessive heat will make wearing PPE more uncomfortable.
- Do not dip sheep that are ill, heavily pregnant, stressed, full of food or very wet.
- 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, remove PPE and wash thoroughly – especially before eating, drinking, smoking or using the toilet.
- Take breaks at a distance from the dip bath.
- Do not shear sheep for three months after dipping.

Never:

- leave dip concentrate in an unmarked container;
- use a hand dipper, ie where workers stand in an adjacent trench to allow them to push sheep under the dip solution with their hands;

- 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.

Closed transfer systems

OP sheep dips should only be used with closed transfer systems (CTS). These are devices designed to reduce the risk of operators being exposed to the dip concentrate while the dip bath is being filled. Follow the manufacturer's instructions carefully and ensure that suitable PPE is worn when using the CTS.

Closed transfer system for OP dips



Figure 5 CTS dispensing kit

Pump devices for transferring dip concentrate from container to dip bath

- Pump devices are supplied as a reusable dispensing kit.
- Once used for dispensing dip, you should 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.

Use of showers and jettors

Sheep dip products authorised for use as plunge dips are not approved for use in sheep showers, jettors 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 jettors. 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.

After dipping

Always allow sheep to drain thoroughly in the draining pen. 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.
- Treat discarded items that need disposal 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 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 *Guidance on storing pesticides for farmers and other professional users* (see 'Further reading').

Records

Employers with five or more employees must assess any health risks and record the significant findings as a requirement of the Control of Substances Hazardous to Health (COSHH) Regulations 2002 (as amended). For example, the safety data sheet supplied with the dip product should specify the type and standard of PPE to be worn when working with sheep dips and this information should be included in your COSHH assessment.

Disposal

OP sheep dips are harmful to wildlife and the environment.

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 dip bath as soon as practicable, preferably using a pump. Wear PPE to avoid skin contamination.

Never empty dipwash into watercourses.

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 reuse but try to keep the label readable. Empty containers must not be buried on site or on farmland. They must be disposed of at a licensed waste disposal site. Contact your local 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 contact EA or SEPA – see 'Useful contacts'.

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, eg an occupational health physician. This might include sampling for cholinesterase before the dipping season, and repeat sampling if there are adverse effects or significant accidental exposures.

Urine analysis for OP metabolites, as a measure of exposure, may also be useful to monitor the effectiveness of your control measures.

COSHH requires that a record is kept whenever health surveillance is undertaken. In some circumstances this is all that is 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 you or any of your employees become ill during dipping, consider whether this may be due to exposure to dip chemicals. If necessary, remove individual(s) from the operation and consider suspending activities. Any contamination should be washed from the skin and the affected person should change into fresh clean clothing. Anyone who experiences adverse effects within 48 hours of dipping or any associated activities should be advised to contact their doctor or local hospital, inform them of their work with dip chemicals, and provide the appropriate safety data sheet.

If OP 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:

- 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 in safety data sheets or on product labels.

- If any dip splashes in your eyes, it should be rinsed out with plenty of clean, cold water for at least ten 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.

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 by telephone (0845 300 9923), fax (0845 300 9924) or by completing an online form found at www.hse.gov.uk/riddor/report.htm#onlineby.

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

Useful contacts

Environment Agency (EA) General enquiry line
Tel: 03708 506 506 Pollution hotline Tel: 0800 807060
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.defra.gov.uk

City & Guilds Landbased Services (formerly National Proficiency Tests Council (NPTC))
Tel: 02476 857300 Website: www.nptc.org.uk or
information@cityandguilds.com

Scottish Skills Testing Service
Tel: 0131 333 2040
Website: www.ssts.co.uk

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

The Scottish Government
Tel: 08457 741 741 or 0131 556 8400
Website: www.scotland.gov.uk

Further reading

Working with substances hazardous to health. A brief guide to COSHH Leaflet INDG136(rev5) HSE Books 2012
www.hse.gov.uk/pubns/indg136.htm

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

Guidance on storing pesticides for farmers and other professional users Agriculture Information Sheet AIS16(rev1) HSE Books 2012
www.hse.gov.uk/pubns/ais16.htm

SARSS brochure
www.vmd.defra.gov.uk/pdf/leaflet_AER.pdf

Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR)
www.hse.gov.uk/riddor/

Groundwater protection code: Use and disposal of sheep dip compounds PB12010 Defra August 2001
www.defra.gov.uk

Prevention of environmental pollution from agricultural activity: A code of good practice Scottish Executive 2005
www.scotland.gov.uk

Medical aspects of work-related exposures to organophosphates Medical Guidance Note MS17 (Third edition) No longer published by HSE, an electronic version can be accessed via the internet Open Library
<http://openlibrary.org/books/OL22641515M>

Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

This leaflet is available at:
www.hse.gov.uk/pubns/ais41.htm.

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