**SHEEP DIPPING:  
PPG12****POLLUTION  
PREVENTION  
GUIDELINES**

*These guidelines have been drawn up to assist all who are involved in dipping sheep, including farmers and contractors. They are without prejudice to any other legal obligations or codes of practice. They should be followed in order to reduce the risk of pollution of watercourses and groundwater. If a new dip is planned early consultation with your local Environment Agency staff is advisable. Contact details will be found at the end of these guidelines.*

**1. INTRODUCTION**

Under the Water Resources Act, 1991, the Environment Agency is responsible for the protection of "controlled waters" from pollution and it is an offence under the Act to cause such pollution, either deliberately or accidentally. "Controlled waters" include all watercourses and water contained in underground strata (or "groundwater"). From the 1 April 1999 disposal onto or into land requires an authorisation from the Agency to meet the provisions of the Groundwater Regulations 1998, and further references to an "authorisation" in this document take this meaning.

Every year there are pollution incidents involving sheep dip. Although the numbers are small they often cause serious damage and are largely due to poor management. These could be avoided by simple precautions and planning ahead. Careful siting of new dipping facilities, proper use and maintenance of existing dipping facilities and correct disposal of spent solution and empty containers are all important to prevent water pollution. This guidance note outlines best practice, and farmers should follow it as closely as possible, particularly if new facilities are being considered. The guidance is appropriate for dipping carried out by farmers themselves or contractors.

**2. SHEEP DIPPING AND POLLUTION**

All sheep dip formulations are environmentally toxic and may poison animals, fish and other creatures such as the food of fish that live in our rivers. They can also contaminate groundwater, rendering it unfit for use. The increasingly used **synthetic pyrethroid dip (SP) formulations are about 100 times more toxic to aquatic insects** than organophosphorus (OP) formulations. Sheep dipping activities and the disposal of sheep dip solution must therefore be carried out with great care. Very small quantities of any dip solution can contaminate large volumes of water. Just washing out a measuring cup in a small stream could kill everything for hundreds of metres downstream and spent dip seeping into groundwater can make it unfit for drinking. These threats can be kept to the minimum by following manufacturers' instructions and by taking the right precautions when dipping and disposing of spent dip. Remember, the chemicals in sheep dip can persist in the ground and remain a hazard to watercourses and groundwater. The Agency is also concerned that dip chemicals may enter rivers through the contamination of effluent from the wool scouring industry if sheep are sheared or slaughtered shortly after dipping. A three month withdrawal period is therefore recommended after dipping.

### 3. SITING OF SHEEP DIPS

The correct siting of sheep dipping facilities is an important factor in preventing water pollution. New facilities should be located as far as possible from any watercourse or drain, but never less than 10 metres, and 50 metres from any well, spring or borehole. Where existing facilities are unable to meet these recommendations, especially where groundwater could be affected, careful operation and maintenance is crucial. Where facilities are found to pose an unacceptable risk to water, a notice may be served by the Agency requiring alterations, or in extreme cases prohibiting further use.

Mobile dipping operations may have difficulty in meeting all the recommended standards. It is therefore recommended that you discuss the siting of both mobile and new permanent dips with Environment Agency staff. Their advice is free and may help to not only prevent pollution but also ensure money is not wasted.

### 4. DESIGN OF SHEEP DIP BATHS AND HOLDING PENS

**The dip bath must not have a drainage hole.** Some old designs also have a dry well where the operator stands, which offers an escape route for dip splashes, and should not be used. A ready made bath formed from one piece of material is preferable and replacement of old brick built structures may be more economic and safer than repairs. It should be designed to ensure that rainfall from areas other than drip pens cannot enter the bath and cause it to overflow. Drip pens should be constructed with impervious floors which drain back into the bath. They should be large enough to hold sheep for ten minutes so that they are not actively dripping when released to secondary holding areas. Where facilities are found to pose an unacceptable risk to water, a notice may be served by the Agency requiring alterations, or in extreme cases prohibiting further use.

### 5. SHEEP DIP CONCENTRATE STORAGE

Sheep dip is a veterinary medicine that contains pesticide material which must be stored safely and in accordance with the product label. Follow the advice in the HSE Agriculture Information Sheet No.16 (Reference 2), "Guidance on storing pesticides for farmers and other professional users". It is best to buy only sufficient product for immediate needs. If you must store sheep dip, it should be stored in the original containers. Metal containers should be kept off the ground to prevent rusting. Small quantities can be stored in a secure, weather-proof vault or container. Sheep dip should not be stored where it could pollute groundwater or surface waters.

### 6. PREPARATION OF WASH SOLUTION

You should always aim to minimise the production of waste by preparing only the quantity of solution needed for the job in hand. Mix dip in the bath and keep the concentrate within the drain back area. Have sufficient absorbent material (such as sand) available to mop up small spills. In field locations keep the concentrate within a spill proof tray and in a safe place where it will not be knocked over or trampled. When topping up, use an accurate measuring facility and follow the manufacturer's instructions. Use clean water without a direct connection to the water mains to avoid the risk of back-siphoning. The containers should be rinsed at least three times during the preparation of the dipping solution, using small quantities of water, and emptied into the bath.

### 7. OPERATION OF BATH

**Well before dipping, inspect the bath and repair any cracks or holes.** The bath can be checked by filling with water and leaving overnight. If satisfactory the water



can be used for preparing the dip or disposed of in the same way as spent dip (Section 8). If water loss occurs, the bath should be repaired and re-tested before use or replaced. Pollution can usually be avoided by paying careful attention to detail for the few days a year when dipping takes place. Make sure dip operators are properly trained. Using a contractor may not absolve owners from responsibility for any pollution. Never overfill the bath or allow it to overflow, especially on the entry of the first sheep. Carry out the operation with the minimum of splashing. After dipping ensure that the sheep have "fully drained" by keeping them in the drip pens for at least 10 minutes before releasing them. This is important if large numbers of sheep are subsequently kept on open ground, as soil and groundwater may be contaminated. Keep recently dipped sheep away from watercourses until they are completely dry to prevent dip chemicals being washed off. Provide them with an alternative source of drinking water, and try to provide a route back to pasture that avoids fording through water. Similarly, do not move them onto yards or roads that have surface water drains.

## 8. DISPOSAL OF SPENT DIP

**Sheep dip is very toxic to river life (particularly SP dip) and must be disposed of properly to avoid environmental damage.** Plan ahead and decide on your disposal route beforehand. Disposal to land without an authorisation is an offence. Spent dip must not be tipped into sewers, drains, cesspools or septic tanks and must not be able to run off or seep into any river, stream or groundwater. If in any doubt ask the Agency for advice.

When the dipping session has finished, remove the spent dip solution from the bath as soon as practical, and wash down the drip-pens with clean water to remove contamination. Some dip chemicals can be partially deactivated by adding chemicals, reducing (but not removing) the risk of pollution. Manufacturers or suppliers should be able to advise on this.

Because of the risk of pollution, **soakaways must not be used for the disposal of used dip** and an alternative must be sought. One possibility is to use a registered waste disposal contractor, and keep a record if possible. Alternatively, providing an authorisation has been obtained, spent dip can be spread thinly onto suitable land (normally grassland), at an application rate of up to 5,000 litres per hectare (450 gallons/acre) as long as there is no danger of affecting the quality of surface or ground water. Spreading on "non-spreading" or "very high risk" land as defined in the MAFF Code of Good Agricultural Practice for the Protection of Water will not be allowed. Thin soils overlying groundwater are also likely to be unsuitable. Dilution of one part dip solution to three parts water is allowed if a vacuum tanker is to be used, as most tankers cannot apply less than 20,000 litres per hectare (1800 gallons per acre). Co-disposal with slurry may increase the rate at which sheep dip is broken down in the soil, but the dip should not be added to a slurry store. It should be mixed in a tanker or spreader with at least an equal volume of slurry, and spread immediately. Make sure that clear arrangements for disposal are made with mobile contractors.

Do not spread within 10 metres of a watercourse or 50 metres of any spring, well or borehole, and ensure land drains will not be contaminated with the dip solution as these will discharge to a watercourse.

Do not spread if it is likely to rain within 24 hours, or if the soil water is already at field capacity. The ground should preferably be level, with limited access for people or animals, and should not be used to graze stock for at least a month. Special care should be taken to avoid land important for wildlife such as hedgerows or wildlife meadows. For further details see References 1, 3 and 5.

## 9. DISPOSAL OF CONTAINERS AND CONTAMINATED MATERIALS

Empty containers must be thoroughly cleaned before disposal. They should be rinsed at least three times during mixing operations using small quantities of water and the rinsings added to the dipping solution. Containers should be punctured and crushed after cleaning to prevent reuse. Disposable clothing should be rinsed and packaged in sealed containers and labelled ready for disposal. Absorbents used to clean up spillages should be packaged in sealed containers and labelled ready for disposal. Some materials may be buried in accordance with MAFF/HSC guidance (Reference 4), but it is better to arrange for disposal by a specialist waste disposal contractor. Further guidance can be obtained from the Agency.

## 10. REFERENCES

1. The Code of Good Agricultural Practice for the Protection of Water 1998 (Available free from MAFF, WOAD and the Environment Agency)
2. Guidance on storing pesticides for farmers and other professional users: Agricultural Information Sheet No. 16 - (available free from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 6FS Tel: 01787 881165)
3. Sheep Dipping, Agricultural Safety leaflet AS29 (Rev 2) 12/97 - (available free from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 6FS Tel: 01787 881165 and the Environment Agency, VMD, and SEPA)
4. Code of Practice for the Safe Use of Pesticides on Farms and Holdings: MAFF 1998 (Reference PB 3528, available free from MAFF Publications. Tel: 0645 556000)
5. Policy and Practice for the Protection of Groundwater: ISBN 0-11-310145 -7 (available from the Stationery Office. Tel: 0171 873 0011/9090)
6. Mobile Sheep Dipping: A guide to reducing pollution risks - (available free from the Environment Agency, NSA, and NAAC)

All the Agency pollution prevention guidance notes are available on the web site listed below.

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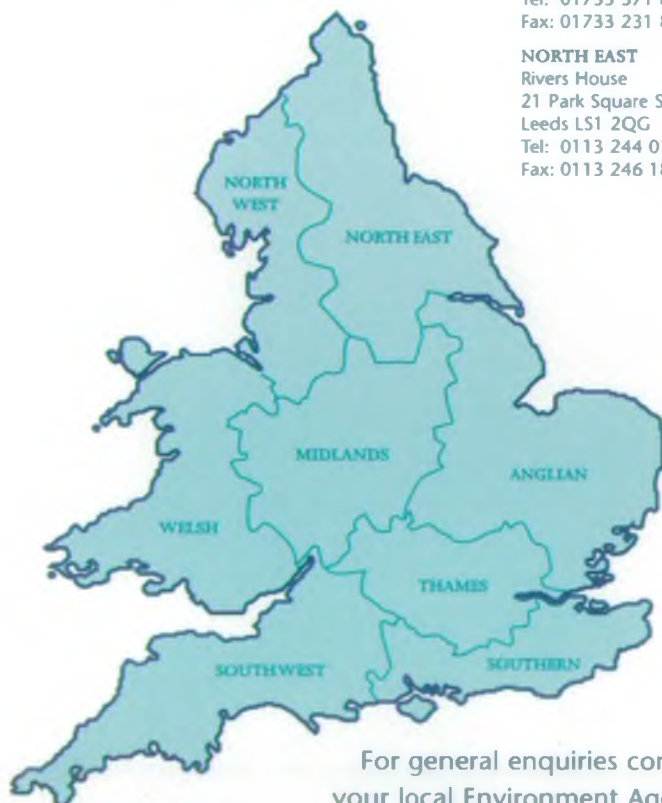
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For general enquiries contact  
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The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water in England, Wales, Scotland and Northern Ireland.

**ENVIRONMENT AGENCY  
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