

Health hazards in the waste and recycling industry

Introduction

This good practice guidance has been produced by the Health and Safety Executive in consultation with the waste and recycling industry and health professionals.

It is for employers, managers and supervisors to help them understand, remove or reduce the risk of ill health associated with handling waste and recyclables during collection and sorting activities (both at the kerbside and at materials recycling facilities (MRFs)). This document supports the health pocket card *Stay clean – stay healthy*,¹ which provides waste and recycling workers with basic health information.

This guidance does not cover health issues such as noise, musculoskeletal disorders, drugs, alcohol and mental health.

The risks associated with your particular activities and the methods of reducing those risks should be identified during your risk assessment.

Health hazards

Ill health from potentially hazardous substances can occur via four routes:

- **skin contact**, especially through cuts and abrasions or through contact with the eye's mucus-membrane;
- **injection** through sharps injuries;
- **ingestion** through hand-to-mouth contact (commonly experienced when eating, drinking or smoking); and
- **inhalation** through the lungs.

Health hazards that may be encountered in the collection and sorting of waste and recyclables include:

- faeces present in nappies, incontinence pads and stoma bags;
- animal waste (including straw and hay) produced from litter trays, hutches, pens etc of normal domestic pets;
- dead animal carcasses;
- rodent infestations;
- hazardous liquids such as paint, varnishes and cleaning products;
- car batteries;
- blood-borne infectious material within used needles/syringes and drug/sex litter; and
- broken glass and other sharp items.

Risk assessment

It is a legal requirement for employers to carry out a risk assessment of their activities to identify where control measures are needed. The assessment process should:

- identify the hazards;
- identify those potentially at risk;
- assess the risks from those hazards; and
- identify areas where control measures and systems of work are necessary to control those risks, so far as is reasonably practicable.

Discuss health and safety issues with your employees and their safety representatives; ask if they have come across any hazards you haven't identified. They know what actually goes on and the locations where the risk is highest (eg areas where dirty or used needles might be encountered), and can help develop practical solutions to problems.

Preventing or controlling the risk

You should prevent or eliminate exposure to hazardous substances. Where this is not reasonably practicable, exposure should be adequately controlled.

Control of exposure should follow the hierarchy set out in the Control of Substances Hazardous to Health Regulations 2002 (COSHH), ie use engineering controls, work processes and systems of work in preference to relying on personal protective equipment.

Remember that although a useful additional measure, vaccination/inoculation does not guarantee that infection will not occur. A minority of people gain no protection, as the vaccine does not trigger an immune response. It is the last line of defence for collection workers, loaders and pickers.

Some workers may also need health surveillance. Your occupational health professional should be able to advise when surveillance is needed and how it should be implemented. Contact HSE's Infoline for details or see *The Employment Medical Advisory Service and you* HSE5.²

Your control measures should be supported by:

- clear instructions for the task;
- training for all staff (including casual and agency staff) in operation of those control measures;
- information to make others aware of potential dangers; and
- regular checks and monitoring to ensure the system is working as planned and is followed.

Control measures

Employers can do a number of things to manage the risk of ill health in their own workplaces. Consider the following and adapt them to your local circumstances to establish a safe system of work:

- Work with other agencies to reduce the risk at source, eg needle return schemes, guidance for householders on how to present waste and recyclables, dog faeces bins, hazardous waste return schemes etc.

- Provide appropriate equipment for the task, eg litter picking tongs, shovels, ventilation equipment, sharps boxes, containers and lighting.
- Provide and use appropriate protective clothing, eg gloves, safety boots and cut-resistant trousers.
- Make sure operators and their managers understand the risks involved through proper information, instruction, training and supervision – check they understand key messages.
- Promote good personal hygiene (this will significantly reduce the risk of ill health). It is essential that workers wash or clean their hands before:
 - eating;
 - drinking;
 - smoking;
 - using the phone;
 - taking medication;
 - inserting contact lenses;
 - wearing gloves;
 - using the toilet; or
 - after becoming contaminated with infected material.
- Make sure workers know what to do if there is a spillage, if they become contaminated or if they handle contaminated material.
- Make sure workers know what the reporting arrangements are, should they be potentially exposed to a hazardous substance.

Personal hygiene

Good personal hygiene is essential to prevent ill health. Provide facilities for workers to maintain effective hygiene.

- Provide adequate hand-washing facilities, including mild soap and towels on collection vehicles. Cleansing wipes alone should only be provided on vehicles where there is a minimal health risk of exposure. Avoid strong or abrasive cleansers that can cause irritant dermatitis.
- Provide an effective skincare programme to keep the skin moisturised, ie mild cleansers, clean towels and pre-work and after-work skin creams. ‘Barrier’ creams can be a useful addition to the skincare regime because they make it easier to remove contamination. However, they should not be used as a substitute for suitable gloves.

Use your risk assessment to decide which skincare regime is appropriate for the tasks your workers carry out and draw up procedures accordingly. Make sure your workers receive suitable training.

Health surveillance

Workers (including agency workers) should be subject to regular hand inspection. This is likely to include:

- Appoint a responsible person, such as a supervisor, first aider or crew leader, to be trained by an occupational health professional on the symptoms and signs of dermatitis. Set up a system of periodic skin inspections.
- Carry out regular inspections. The likely risk of dermatitis from the work will determine the frequency of inspection, typically at least monthly.
- Train workers to recognise and report relevant symptoms and signs of illness to the responsible person.
- Arrange for new workers to have their hands and forearms inspected before they start work to establish whether they have an existing condition.

- Refer workers with relevant symptoms or signs to an occupational health physician who is familiar with the risks of the process and the principles of health surveillance.

Health hazards present in waste and recycling processes

The following hazards can be found in the waste and recycling industry. Specific control measures will vary from process to process – use your risk assessment to identify these controls.

Dermatitis and skin diseases

Causes of dermatitis and skin disease include wet work and contact with chemicals or dust, which produces an abrasive effect on the skin or removes the skin's natural oils, allowing the skin surface to dry and crack, especially on hands, wrists, elbows and forearms. Fingers and the webs between the fingers are the most commonly affected parts of the body.

Often workers with a skin complaint find the problem clears up away from work. Symptoms can include itching, rough or dry skin and redness.

Control measures

Contact with wet material is often unavoidable; protect hands by wearing gloves. Hands should be thoroughly dried after washing and before pulling on gloves.

Infectious diseases

Bacteria and viruses

Bacteria and viruses can infect the body if they are breathed in, swallowed, or penetrate the skin if it is punctured with contaminated sharps or broken glass. They can also cause allergic reactions. Potentially vulnerable workers can include loaders handling waste and recyclables and pickers hand-sorting at conveyor belts or MRFs. Drivers and crew discharging loads at sorting stations or tips and staff employed at and working close to discharging vehicles may be exposed to high levels of dust that might contain microorganisms.

Control measures

Consider installing proper filtration in collection vehicle cabs to provide good air quality for drivers and crew (riding in the cab). Make sure filters are changed in accordance with the manufacturer's instructions.

Sprinkler systems around the tip can reduce dust emissions during tipping operations. The area around pits should be kept clean (taking into account the nature of the material and activity). Avoid dry brushing by using vacuum cleaners to remove dust accumulation from floors and ledges.

Tetanus

Tetanus can be caused by sharp objects, such as wood shards, nails, metal etc penetrating tissue. Symptoms include exaggerated reflexes, muscle rigidity and uncontrolled muscle spasms (lockjaw). Immunisation is available free from GPs regardless of workplace risk.

Control measures

Remove nails from timber and avoid walking on waste or recyclable loads and piles. Wear protective shoes, boots or clothing. Encourage workers to keep vaccinations up to date, eg by periodic reminders with pay notifications.

Leptospirosis (Weil's disease)

Leptospirosis is a water-borne infection associated with rats. Symptoms include fever, headache, vomiting and muscle pain – it can lead to jaundice, meningitis and kidney failure. See *Leptospirosis: Are you at risk?*³

Control measures

Wear suitable protective gloves, shoes, boots, trousers, and/or clothing. Avoid handling bags and other receptacles accessible to rats without hand and forearm protection. Wash hands after handling any contaminated clothing or material and always before eating, drinking or smoking.

Toxocariasis

Toxocariasis is a roundworm parasite that can enter the body by hand-to-mouth contact with cat and dog faeces or contaminated material. Following ingestion, the eggs hatch and the larvae migrate to the liver, lungs, eyes and brain.

Control measures

Ask householders to securely bag or wrap pet faeces and litter. Good personal hygiene is the key here and the need (and facility) for loaders to wash their hands in cases of contamination or leakage and before eating, drinking, smoking etc is essential.

HIV and hepatitis B

HIV and hepatitis B are blood-borne viruses acquired by the transfer of body fluids from an infected person to the body fluids of the recipient, eg by needlestick injury.

Refuse and recycling collection involving plastic bags, hand-sorting material into kerbside collection vehicles and from MRF picking lines or conveyor belts, and street litter picking are tasks where there is a potential for injury. Unless the risk assessment clearly indicates that there is no risk of this, then it is reasonable to consider offering hepatitis B immunisation. No immunisation is available to protect against HIV.

Treatment for hepatitis B is most effective when given within a few hours of the injury. Where risk exists, you should identify direct-access treatment clinics so that a worker can attend the clinic following a needlestick injury (often via casualty).

Hepatitis B may cause acute inflammation of the liver (hepatitis), which may be life threatening; however, a carrier may show no symptoms at all.

Control measures

Provide sharps boxes and pincer tools, tongs, litter pickers, tweezers or a dust-pan and hand brush for picking up needles. Consider replacing bag collections with rigid receptacles where practicable, as these can reduce sharps injuries.

Provide proper information, training and supervision so that your workers understand the risks. They need to know why they should take extra precautions and care if collecting from known drug user and litter areas, and know and follow your organisation's procedures. Some local authorities have drug litter collection teams that operate on a call-out basis.

Schemes that encourage the safe disposal of used needles among drug users, management of vulnerable and known areas for drug abuse and awareness-raising among residents can help ensure needles are not encountered unexpectedly. See Defra's advice in *Tackling drug related litter: Guidance and good practice*.⁴

Hepatitis A

Hepatitis A is transferred by ingestion of infected faecal material. This often occurs via contaminated water.

Control measures

Provide hygiene facilities, information and training. Personal hygiene is essential, including washing hands before eating, drinking, smoking and before/after using toilets.

Immunisation can be offered.

Encourage householders to securely wrap faecal matter (pet waste and litter) before placing it in domestic waste. Consider running awareness campaigns among householders to raise these issues – see HSE's waste management website.⁵

Fungi and moulds

Fungi and moulds are likely to be found in damp areas, on organic material or naturally occurring in soil. They are widely found in the environment and can cause infection and allergy, such as farmers lung, if spores are breathed in. See *Green waste collection: Health issues*.⁶

Salmonellosis

Salmonellosis can be caused by various species of the bacteria salmonella and is transmitted by hand-to-mouth contact with faeces or contaminated material, resulting in diarrhoea, vomiting and fever.

Control measures

Provide hand-washing facilities. Good personal hygiene is essential, including making sure that hands are washed before eating, drinking and smoking.

Scrotal cancer

Can be caused by mineral oils, typically used engine oil, coming into contact with the worker's scrotum via soiled hands and impregnated clothing.

Control measures

Provide clean clothing and washing facilities for soiled work clothing. Good personal hygiene is essential and workers should wash their hands before and after using toilets.

References and further reading

References

- 1 *Stay clean – stay healthy. Looking after your health in the waste/recycling industry* Pocket card INDG415 HSE Books 2007 (single copy free or priced packs of 25 ISBN 978 0 7176 6262 3)
- 2 *The Employment Medical Advisory Service and you* Leaflet HSE5(rev1) HSE Books 2000 Web only version available at www.hse.gov.uk/pubns/hse5.pdf
- 3 *Leptospirosis: Are you at risk?* Pocket card INDG84 HSE Books 1990 (single copy free or priced packs of 20 ISBN 978 0 7176 2546 8) www.hse.gov.uk/pubns/indg84.pdf
- 4 *Tackling drug related litter: Guidance and good practice* Defra 2005 www.defra.gov.uk
- 5 HSE's waste management website: www.hse.gov.uk/waste
- 6 *Green waste collection: Health issues* Waste02 HSE 2007 www.hse.gov.uk/pubns/waste02.pdf

Further reading

A step by step guide to COSHH assessment HSG97 (Second edition) HSE Books 2004 ISBN 978 0 7176 2785 1

Handling needles in the waste and recycling industry Waste19 HSE 2007 www.hse.gov.uk/pubns/waste19.pdf

Five steps to risk assessment Leaflet INDG163(rev2) HSE Books 2006 (single copy free or priced packs of 10 ISBN 978 0 7176 6189 3) www.hse.gov.uk/pubns/indg163.pdf

Incident at work? Flyer MISC769 HSE Books 2007 www.hse.gov.uk/pubns/misc769.pdf

Householders' awareness-raising exercise: www.hse.gov.uk/waste/campaign.htm and www.hse.gov.uk/waste/communicating.htm

Blood-borne viruses in the workplace: Guidance for employers and employees Leaflet INDG342 HSE Books 2001 (single copy free or priced packs of 10 ISBN 978 0 7176 2062 3) www.hse.gov.uk/pubns/indg342.pdf

Working with sewage: The health hazards – A guide for employees Pocket card INDG197 HSE Books 1995 www.hse.gov.uk/pubns/indg197.pdf

HSE website: www.hse.gov.uk

Skin at work: www.hse.gov.uk/skin/index.htm

Types of skin disease: www.hse.gov.uk/skin/diseases/index.htm

Temperature – working in hot and cold environments:

www.hse.gov.uk/temperature/thermal/factors.htm

Waste management: www.hse.gov.uk/waste

Further information

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

This document is available web-only at: www.hse.gov.uk/pubns/waste15.pdf.

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