Gas and oxy-gas cutting

Access and premises
✓ Only allow access to authorised staff.
✓ Locate the work away from doors, windows and walkways. Stop draughts interfering with the extraction.

Equipment
✓ Provide a good standard of general ventilation; 5-10 air changes per hour, with a through draught.
✓ Use a downdraught table or bench. See illustration.
✓ You need an air speed of at least 2 metres per second into a downdraught table.
✓ Fit a manometer, pressure gauge or tell-tale to show that the extraction is working.
✓ Discharge clean, extracted air to a safe place outside the building, away from doors and windows.
✓ Have a supply of clean air coming into the workroom to replace extracted air.
Caution: reducing flames can produce carbon monoxide.

Procedures
✓ Remove grease and all surface coatings first, unless they are meant to be welded or cut through.
✓ Arrange work so that the worker’s head is out of the fume.
✓ Confirm that extraction is turned on and working.
✓ Use the correct nozzle and keep the flame as short as possible.
✓ Avoid nitrous fumes - remind workers to extinguish the torch during work pauses.
✓ Check for gas leaks.

Maintenance, examination and testing
✓ Follow the instructions in the manual - keep equipment in effective and efficient working order.
✓ If any equipment is faulty, repair it straight away.
✓ Daily, look for signs of damage to ducting, fans and air filters. Noisy or vibrating fans can indicate a problem.
✓ At least once a week, check that the extraction system and gauges work properly.
You need to know the manufacturer’s specifications to check the extraction’s performance.
If this information isn’t available, hire a competent ventilation engineer to determine the performance needed for effective control.
The engineer’s report must show the target extraction rates.
Keep this information in your testing log-book.
Get a competent ventilation engineer to examine the extraction thoroughly and test its performance at least once every 14 months, or six months for non-ferrous metals. See the HSE publication HSG54 - see ‘Further information’.
Keep records of all examinations and tests for at least five years.
Review records - failure patterns show where preventive maintenance is needed.

Personal protective equipment (PPE)

✓ Ask your safety equipment supplier to help you get the right PPE.
✓ Provide storage for clean and contaminated PPE.

Respiratory protective equipment (RPE)

✓ RPE should not be needed.

Other protective equipment

✓ Provide and ensure that workers use a welding helmet, flame-resistant overalls and protective gloves.
✓ Use a properly equipped contract laundry or a suitable equivalent to wash work clothing.
✓ Skin creams help in washing contamination from the skin. After-work creams help to replace skin oils.
   Caution: Never allow use of compressed air for removing dust from clothing.

Health monitoring

✓ You should consider health monitoring. See sheet G401.
✓ Consult an occupational health professional - see ‘Useful links’.

Cleaning and housekeeping

✓ Keep the work area clean and free of combustible materials.
✓ Clean the general workroom once a week.

Training and supervision

✓ Tell workers that fume from welding and cutting can cause serious lung diseases.
✓ Working in the right way and using the controls correctly is important for exposure control. Train and supervise workers. See sheet WL0.
Employee checklist

☐ Do you know how to use the controls properly?

☐ Is the extraction working?

☐ Use, maintain and store your protective equipment in accordance with instructions.

☐ Look for signs of leaks, wear and damage.

☐ If you find any problems, tell your supervisor. Don’t just carry on working.

☐ Put out the torch during work pauses.

☐ Co-operate with health monitoring.

☐ Wash your hands before eating, drinking, or using the lavatory.

☐ Never clean your hands with solvents or concentrated cleaning products.

☐ Use skin creams provided as instructed.

Further information

- The safe use of compressed gases in welding, flame cutting and allied processes HSG139 HSE Books 1997 ISBN 0 7176 0680 5
- Hot work on small tanks and drums Leaflet INDG314 HSE Books 2000 (single copy free or priced packs of 10 ISBN 0 7176 1766 1)
- For environmental guidelines see sheet WL0

Useful links

- Your trade association may advise on health and safety consultants and training providers.
- 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.
- Contact the British Occupational Hygiene Society (BOHS) on 01332 298101 or at www.bohs.org for lists of qualified hygienists who can help you.
- Look in the Yellow Pages under ‘Health and safety consultants’ and ‘Health authorities and services’ for ‘occupational health’.
- Also see www.nhsplus.nhs.uk.

This document is available at: www.hse.gov.uk/pubns/guidance/ and www.hse.gov.uk/coshh/essentials/

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

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