Do I need health checks?

If you are spraying with polyurethane paints, yes.
- Ask your employer to arrange for you to have a medical check-up at his/her expense before you start work with isocyanates. This should cover lung function tests and review any chest problems you may already have.
- The lung function tests should be repeated after 3 months and then at least annually to safeguard your health.
- Ask for more frequent checks if you experience:
  — a cough (day or night) which lasts more than a month;
  — a chest illness which keeps you off work more than 2 weeks.

What about first aid?

You should know the first aid measures to take in an emergency.
- **Coughing and breathing difficulties**
  — get the worker into fresh air;
  — call a doctor.
- **Eye contact**
  — irrigate with running water;
  — continue for at least 15 minutes;
  — obtain medical attention if irritation persists.
- **Skin contact**
  — wash off with soap and water;
  — do not use solvents.

What are my employer’s responsibilities?

Your employer must:
- instruct workers on the hazards of working with isocyanate-containing paints and how to use them safely;
- provide all the necessary safety equipment.

What are my responsibilities?

You have a duty to use all the safety gear your employer provides. You owe it to yourself to protect your health — and the job you have spent years learning.
If you are a spray painter, you need to understand the health risks involved in spraying polyurethane paints.

You will probably be familiar with the two-pack mixes of polyurethane paints and possibly also the one-pack moisture-cured mixes. These are widely used in the automotive and other industries because of their excellent gloss, hardness, adhesion and chemical resistance.

This group of paints contains small quantities of chemicals known as isocyanates, which are very dangerous to health. The major hazard is breathing the fine mist or aerosol droplets of the paint during spraying and absorbing the liquid isocyanate into your lungs.

If, however, isocyanate-containing paint is applied by brush, roller or dipping, in a cool, well-ventilated area; there is generally no more hazard than with ordinary paints. These methods usually do not produce a dangerous concentration of isocyanate vapour.

Mixing the two-pack paints is generally a safe operation provided you do it, in a well-ventilated place and take care in removing the lids.

After, curing, polyurethane paints contain no isocyanates and are not harmful under normal conditions of use.

This pamphlet explains the health hazards of isocyanate-containing paints and how you can protect yourself while spraying with them.

What are the health hazards?

If isocyanate-containing paints are used incorrectly they can affect you in these ways:

• **Breathing the aerosol** — irritation of the nose, throat and lungs occurs either immediately on exposure or, more often, later, causing a dry throat, coughing, chest tightness and/or asthma.

• **Eye contact** — irritation; may cause severe chemical conjunctivitis.

• **Skin contact** — mild irritation; can lead to dermatitis.

Some people become ‘sensitised’ to isocyanates after inhaling the vapour. This can happen after a single exposure or after exposure to isocyanates over many years.

Sensitised workers experience asthma-type symptoms whenever they are exposed to free isocyanates. There is no cure for this condition, and a sensitised person has to give up working with isocyanates permanently.

What is a safe exposure?

The maximum concentration of isocyanates you may be exposed to is set by the Occupational Health Advisory Committee at 70 micrograms/m³ expressed as NCO. This is known as the Threshold Limit Value or TLV for isocyanates. Some people, however, can be sensitised at concentrations much lower than this.

How can I protect myself?

The essential safety measures are:

• Wear a compressed air fed respirator mask or hood with eye protection whenever spraying isocyanate-containing paints.

• Make sure the air inlet supply is taken from uncontaminated air and is suitably filtered to remove oil mist, dust and water. Also check that the visor is clean and the air valves work before starting spraying. Wear suitable protective clothing and gloves.

• An air movement as prescribed by the Code of Practice for the Safe Use of Isocyanates is required in the operator’s breathing zone unless the occupier can prove that the injurious fumes are removed by the booth’s existing ventilation system and do not exceed the TLV.

• Do not smoke.