

Workplace Health and Safety Queensland

Smash repair industry (including spray painters) – Spray painting

There are many aspects to spray painting to be addressed to make the whole job safe:

Spray painting tasks:

- Paint mixing
- Spray painting
- Clean up

Paint, equipment and people:

- Paints and solvents
- Isocyanates: health check-ups
- Ototoxins and neurotoxins
- Spray painting booth
- Personal protective equipment

Paint mixing

Mixing paint has similar health risks to spray painting.

- Preferably, mixing should be done in a purpose built room with a ventilation system that extracts paint and solvent vapours (often joined to the spray painting booth - should be built to AS/NZS 4114.1.
- Otherwise, the room where paints are mixed should be well-ventilated and have no sources of ignition (welding, grinding etc.) near by.
- The same personal protective equipment used for spray painting should be used when mixing paints.
- Containers of paint and solvents should be sealed when not in use to reduce the amount evaporating into the air. The containers should also be suitable for paint storage e.g. – not plastic or paper cups or bottles.

- Ensure all electrical equipment, such as lights, portable electrical hand tools, radios etc. are suitable for use in areas where mixing or spraying occurs – if there is enough solvent evaporated into the air, it can create a flammable atmosphere. If this is the case, only electrical equipment that has been designed for use in a hazardous area can be used, i.e. it's designed to be explosion protected.

Spray painting

- All spray painting should be done in a spray painting booth. Only minor (touch-up) painting is allowed to be done outside of a spray painting booth.
- When spray painting paint that contains isocyanates (refer to the paint label or MSDS for this information), cover your entire body and prevent inhaling any airborne paint by wearing:
 - full disposable overalls, gloves, a hood and closed in shoes
 - air-fed hood (positive pressure air supplied breathing apparatus).

When spray painting non-isocyanate paints, less protective equipment and clothing may be appropriate, such as a respirator rather than air supplied breathing apparatus. Refer to the section below on paints and solvents for information on how to decide on what protective equipment and clothing is needed for different paints and solvents.

Clean-up

- Use non-solvent based skin cleaners instead of solvents for people to clean their hands and skin.
- Use an automatic gun-wash system for cleaning paint guns. Otherwise, paint guns should be cleaned up in a well-ventilated area. Similarly to paint mixing and spray painting tasks, a combination of ventilation and personal protective equipment should be used.
- Solvent soaked rags should be placed under water to prevent the solvent evaporating into the air and being inhaled.

Paints and solvents

Most paints (especially those containing isocyanates) and solvents used in spray painting are hazardous to health and are therefore called 'hazardous substances'.

Wherever possible, substitute solvent based products with non-toxic or less toxic products and use local ventilation systems.

There are several things that must be done if hazardous substances are used at your workplace (refer to the 'hazardous substances' information sheet).

Isocyanates

Workers who are exposed to isocyanates either from inhalation or skin contact will need to have regular health check-ups (referred to as 'health surveillance') which have to be done by a designated doctor. For further information, refer to the *Workplace Health and Safety Regulation 2008*, *Hazardous Substances Code of Practice 2003* and guidance material on the Workplace Health and Safety Queensland website.

Ototoxins and neurotoxins

Most solvents used in the spray painting industry are also ototoxic (oto = ear, toxin = poison) and may cause hearing loss either on its own or in combination with noise exposure. It is recommended that potential workers have pre-employment medicals when required to work with ototoxic and/or neurotoxic substances, so that illnesses that can be caused or aggravated by solvent exposure (e.g. asthma or peripheral neuropathy) can be identified.

Spray painting booth

- Maintain the spray painting booth to ensure it effectively stops too much contaminant escaping (keep records/a log of spray booth maintenance):
 - Keep the booth clean and replace ventilation filters regularly
 - regularly (at least annually) check that it has enough air flow
 - regularly (at least annually) check that there is not a build-up of contaminants in the ventilation system
 - don't use compressed air to blow dust to clean out the booth or blow contaminant from clothes
- Keep doors and fire exits clear of obstacles.
- Don't use electrical equipment within two metres of any openings of the spray painting booth, unless the electrical equipment is designed to be explosion protected, i.e. it's designed to be used in a hazardous area. For further information on explosion protected equipment, contact the Electrical Safety Office.
- Ensure electrical equipment is not taken into the spray booth until the spray booth has been purged of its flammable atmosphere.

Personal protective equipment

People using personal protective equipment, such as respirators, have to be trained in how to use and maintain the equipment properly to ensure make sure it is effective. Things to check include :

- keeping respirators clean and storing them in a container so they don't gather contaminants
- half/full face respirators with cartridges used for solvent and paint vapours need to be kept in air tight containers – they absorb moisture and chemicals from the air continually, so keeping them in an air tight container between uses will make them last longer and be more effective
- regularly inspect personal protective equipment to ensure it is not cracked, brittle or faulty – repair or replace it before it fails.

For more information on spray painting and workplace health and safety issues call 1300 369 915 or visit www.deir.qld.gov.au

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