

HEALTH AND SAFETY

27.08.2014

APPLICATION OF PAINT

GENERAL INFORMATION

Spray painting presents several hazards to the health and safety of workers due to the wrong use of paint or the failure to take correct precautions. Some of these hazards include skin diseases and occupational asthma. There is also a possibility that a small number of people may develop cancer or experience reproductive problems.

Care should be taken to avoid: -

- Inhalation of solvent vapours
- Inhalation of harmful dusts/spray mists
- Repeated contact with skin
- Contact with eyes
- Accidental ingestion.

Short-term symptoms of over exposure can include: -

- Dizziness and nausea
- Sore nose
- Sore eyes
- Sore throat
- Coughing and wheezing
- Skin rash

Long term or chronic effects may result in damage to the central nervous system from prolonged solvent exposure or to the cardio vascular system from chlorinated hydrocarbons such as methylene chloride or trichloroethane (products that may be found in paint strippers).

Other hazards in a spray painting workshop include fire and explosion where flammable paints are sprayed, electrical shock and electrocution with electrostatic spray painting, paint injection from airless spray guns, physical injuries (resulting from lifting, noise etc.) and environmental pollution.

SAFETY DATA SHEETS

Always read and understand the safety data sheet (SDS). An SDS which conforms to the current Worksafe Australia Guidance Note on SDS is the basic set of health and safety information that you need to know before you start painting. Please ensure your SDSs are current. To obtain a copy of current SDS please visit www.cromax.com.au or contact your Axalta Distributor.

FIRE AND EXPLOSION

Ensure the use of all products and storage conforms to the appropriate regulations and that all containers are correctly closed when not in immediate use. Put any paint, thinner or soiled rags in a separate metal container, which should be provided. Make sure the container is filled with water and the rags are completely immersed. Eliminate all sources of ignition.

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SOURCES OF IGNITION

Do not smoke. Do not use any naked light. All sources of ignition (open flames, spark producing switches, pilot lights, light fittings, matches, lighters, grinding, welding etc) must be eliminated both in, and near the working area.

VENTILATION AND EXTRACTION

Adequate ventilation and extraction must be provided to prevent to build up of dangerous concentrations of vapour. Check that the ventilation/extraction system is working effectively and that filter cartridges and personal respirators are in good order before starting work. Always paint with the work between you and the extraction fan. Whenever possible, spray towards the exhaust fan. Keep fan going for five minutes after use.

TOXICITY

- a. Isocyanates are sensitising chemicals. This means that exposure causes the body to react more profoundly to ever lower concentrations. Susceptible workers may become sensitised by exposure to isocyanates and subsequently exhibit symptoms of distress when exposed to atmospheric concentrations well below the normal industrial hygiene standard. While this hypersensitivity to isocyanates is generally reversible if the exposure is terminated at an early stage, continued exposure may lead to permanent respiratory disability.
- b. Organic isocyanates are mild skin irritants and occasionally, although rarely, skin sensitisers. They are, however, severe eye irritants and can cause chemical conjunctivitis. The symptoms are generally reversible by avoiding exposure.
- c. As respiratory irritants they will, if inhaled at sufficiently high concentrations, produce symptoms of dry throat and cough. In more severe cases asthmatic breathing and chest tightening may occur but there is usually a rapid recovery when exposure ceases. There may be a delay period of several hours after contact before symptoms appears.
- d. It is important to realise that air-borne droplets of liquid paint produced during spraying operations can be as much a source of inhaled isocyanates as the vapour of a volatile isocyanate itself.

PERSONNEL

Persons with a history of asthma or other respiratory problems, or known to be sensitised to isocyanates should not be engaged in any work involving the handling of isocyanate containing paints. This applies, in particular, to spray painters. Any person showing symptoms of possible reaction to isocyanates should obtain immediate medical advice and avoid further contact with such materials.

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PROTECTIVE CLOTHING AND EQUIPMENT

- a. When opening, stirring, pouring or mixing or when applying isocyanate containing paints by brush or roller, wear impervious gloves and goggles and full length clothing such as "boilersuit" overalls or long sleeved shirt and long trousers.
- b. When any risk of facial splashes is present, chemical goggles complying with Australian Standard AS 1337 "C" are recommended.
- c. When applying by spray, operators must wear a positive pressure air supplied full face respirator and appropriate protective clothing complying with Australian Standard AS 1715 and 1716.
- d. Dust respirators **MUST NOT** be relied on at any time to give protection from isocyanate paint spray mist. Chemical adsorption type canisters are not recommended due to their limited effective life and sealing efficiency.

STORAGE, MIXING AND HANDLING

- a. Both base and hardener must be stored and handled in compliance with the current regulations applying to flammable or highly flammable liquids. Hardeners and some bases must also comply with poisons regulations. All mixing and handling of hardener and paint containing hardener must be carried out under working conditions that prevent skin contact and inhalation of vapours including the use of protective clothing and equipment.
- b. Containers must be kept tightly closed when not in use and not allowed to come into contact with water. Isocyanates react with water, which destroys their effectiveness. Gas is evolved when the isocyanate reacts with water. Even contact with atmospheric moisture may lead to deterioration, hence the need to minimise frequency and duration of lid removal.
- c. If a closed container shows signs of internal pressure, cover it completely with a cloth and remove the lid slowly to prevent splashing or violent explosion of the lid.
- d. If using only a portion of the hardener in a can, reseal and use the balance of the contents within 36 hours, as it will deteriorate on exposure to air.
- e. Do not allow material of this type to enter drains.
- f. Store in a cool, dry place.
- g. Empty hardener cans and lids should be kept open under water for 24 hours before disposal.

DANGER SYMBOLS

Danger Symbol for: **Class 3: Flammable Liquid**

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- a. The general requirements for the application of isocyanate paint products are the same as those for any other paint containing volatile solvents. Whether applied by spray, brush or roller they should only be used where the ventilation is such that the vapour generated does not adversely affect the environment, the user or anyone in the vicinity. Ventilation should be designed to maintain free monomeric isocyanate below the recommended Threshold Limit Value (TLV) of 0.005 ppm. Users should be made aware of all precautions and when spraying is involved should comply with the provisions of state spray painting regulations.
- b. When isocyanate paint products are SPRAYED, it is necessary to take particular care to protect the user and any other persons in the vicinity from inhaling the spray mist. Spraying must be carried out in a spray booth fitted with an effective exhaust system and the operator must wear a positive pressure air supplied full face respirator. The exhaust ventilation should be sufficient to capture spray mists completely and conduct them away to a safe discharge point.
- c. Where large objects are being sprayed, and it is impractical to use a spray booth, positive pressure air supplied respirator must still be worn, in conjunction with full protective clothing to prevent skin contact with mists.
- d. Clean up brushes, rollers and spraying equipment using solvents and any other agents or equipment specified on the label. Particular care must be taken to prevent skin contact and vapour inhalation during this process. Protective clothing and equipment as used during application should be used.
- e. Sanding of isocyanate films should be carried out under the same conditions as apply to spraying as the dust may irritate operators susceptible to isocyanate contact. Wet sanding is the preferred method.

PREVENTION

This is a must for a safe and healthy future in the spray painting industry. Long term effects may not show up immediately. It is in your interest always to take correct precautions.

Skin and Eyes

Avoid skin and eye contact with paints and solvents. Wear overalls (sleeves rolled down), boots, and impervious, chemically resistant gloves and chemical type goggles conforming to Australian standard AS1337.

Inhalation

Strict precautions must be taken against inhalation of **fumes; dust when dry sanding; or spray mist by the correct use of a facemask**. Don't breath in spray or dust laden air - use a respirator. All hazardous or toxic substances should be applied in an approved spray booth wearing appropriate respiratory protection. For hazardous substances, use an approved particulate filter. For toxic substances, such as an isocyanate and lead based paint systems, use a full face, air fed respirator (see Australian Standard AS1715 and AS1716). Dry sanding of polyisocyanate films should be carried out under the same conditions as applied to spraying. Wet sanding is the preferred method. Please see the relevant Safety Data Sheet for the Recommended Health and Hygiene Guidelines for Handling Isocyanate Containing Products.

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Ingestion

No eating or drinking or smoking in the working areas i.e. spray booths, or where paints and thinners are stored or handled. Thoroughly wash hands and face before eating and before leaving work.

FIRST AID

First Aid

Skin

In case of skin contact, remove all contaminated clothing and wash all affected areas thoroughly with mild soap and water. If swelling, redness, blistering or irritation occurs seek medical advice.

Eyes

Wash immediately with copious quantities of water for at least 15 minutes. Eyelids to be held open. Seek immediate medical assistance.

Ingestion

Give water to drink, DO NOT induce vomiting. Seek immediate medical assistance. Have label information available. Poisons information centres in each State, Capital City can provide additional advice. Have the SDS ready for referral.

Inhalation

Anyone affected by inhalation of vapour or spray mist, remove from source of exposure and into fresh air. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Start artificial respiration if person is not breathing. Seek medical advice if breathing difficulty persists or occurs later and have label information available.

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SPILLS

Accidental spillages should be adsorbed into dry sand or earth, removed from the work area and covered with water for 24 hours.

- b. Dispose of treated waste as directed by the relevant waste disposal authorities.
- c. The following mixtures have been documented as being effective for sanitation purposes:

Powder:

25% sawdust
37% diatomite
4% triethanolamine
20% methylated spirits
4% ammonia
10% water

Liquid:

50% methylated spirits
5% ammonia
45% water

- e. Dispose of in an environmentally safe way in accordance with local regulations.

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CONTAMINATED CLOTHING

Immerse contaminated clothing in water for 24 hours and do not re-use until it has been laundered. Never burn rags soiled with isocyanate containing paint.

ENQUIRIES

For all enquiries, both technical and health and safety, please contact the Technical Support Manager on (02) 8818 4332 (during working hours), or

For Poisons Information Centre, call:

In Australia call: 131 126,

In New Zealand call: 0800 764 766 or 03-479 7248

Always read the SDS for all products to be used in this document and take all appropriate safety measures as outlined in the MSDS.

NOTES

All AXALTA PRODUCTS MAY BE USED SAFELY, IF YOU:-

- Read and follow instructions on labels and MSDS;
- Wear suitable protective clothing;
- Store flammable products according to regulations and ensure ignition sources are eliminated;
- Avoid inhaling solvent vapours/spray mists/dust from dry sanding;
- Inspect the effectiveness of ventilation/extraction before starting work;
- Check filter cartridges before putting on respirator;
- Ensure good ventilation during painting and whenever possible, spray towards an exhaust fan;
- Wear approved respiratory protective equipment where recommended;
- Ensure high standards of personal hygiene, and avoid eating, drinking and smoking in the
- Follow good housekeeping procedures i.e. Clean up spillage and floor dusts, maintain and clean exhaust ventilation systems, and follow correct fitting and maintenance procedures for personal respiratory equipment.

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