

Loss Prevention Safety Tip



Loss Prevention
Program

By Red River Mutual

SPRAY COATING SAFETY

Spray coating operations represent a high risk of fire and explosion hazards. Spraying flammable/combustible liquids or materials near any source of ignition, or in the presence of a source of ignition, can result in serious physical injury or death. Physical exposure, such as inhalation of materials used in spray coating, is a significant hazard as well, and can result in serious illness.

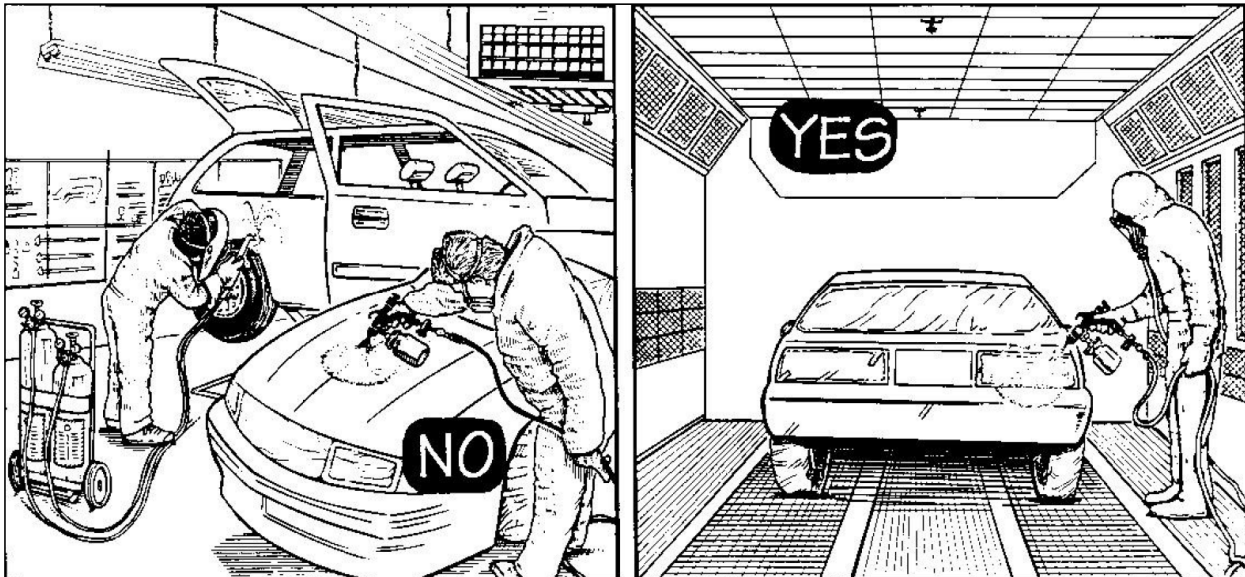
How to control the hazard:

Injuries and illnesses resulting from spray coating hazards can be prevented by:

- The use of engineering controls to lessen the risk of fires or explosions, and to reduce levels of contaminants in the air.
- Using approved personal protective equipment (PPE).

Engineering controls:

In order to protect workers from injury, all spray coating operations, including spray priming, must be carried out in a properly designed and approved spray coating facility. The volume of contaminated air exhausted, make-up air, and the ventilation maintenance program, must all be properly determined to ensure control of hazards both inside and outside the spray coating facility.



The requirements for an approved facility will ensure that the hazards involved in spray coating are minimized. These requirements are listed on the following page.

Personal protective equipment (PPE):

No spray coating facility system will prevent overexposure of a worker applying the hazardous controlled products. Therefore, National Institute for Occupational Safety and Health (NIOSH) approved respiratory protection must be worn. Only supplied-air respirators are acceptable for exposure to di-isocyanate containing paints.

Spray Coating Facilities Requirements: Construction & Operation		
	Unacceptable	Acceptable
Walls & Ceilings	Combustible	Noncombustible (e.g. metal)
	2x4 wood construction with gyprocboard finish	Steel studs, sheet metal cover minimum 1.2mm thick (.047")
	Corrugated steel finish & wood fabricated doors	Concrete block with smooth & continuous finish
Floor	Non-grounded concrete floor	Floor to be constructed of or covered with noncombustible material (e.g. a grounded concrete floor)
Filters	Glass fibre furnace filters	Combustibility no greater than Class II filters conforming to the ULC standard, "Test Performance of Air Filter Units"
Ventilation	Fans mounted directly at the face of the exhaust duct	Air velocity at the face of the spray booth & electrostatic spraying shall be in accordance with ACGIH guidelines
	Bathroom or barn exhaust fans	
	Steel exhaust fan blades	Fan blades & casings in exhaust blowers for spray booths shall be non-ferrous
Exhaust Ducts	Exhaust ducts constructed of combustible products such as wood or drywall	Securely supported & constructed as per current Manitoba Fire Code & NFPA 33, including: <ul style="list-style-type: none"> - Clearances between duct venting & unprotected combustible material - Ducts passing through a combustible room with noncombustible insulating material - Exhaust ducts access doors for cleaning - Exhaust duct outside discharge distances from combustible exterior walls - Distances air must not discharge toward any combustible surface or unprotected opening
Electrical	Electrical motors mounted in spray booths or ducts	All electric equipment including lights, fan motors, plug ins and switches must conform to CSA C22.1 Canadian Electrical Code Part 1
	Extension cords or other electrical plug in cords to energize the exhaust fan	All metal parts of the spray area including ducts to be electrically bonded & grounded

Combustible/Flammable Material Storage

Quantities of combustible/flammable materials are not to exceed one day's supply in the spray booth area as per the Manitoba Fire Code.

Fire Protection

Fire separation & fire suppression systems (e.g. sprinklers) to be installed as per the Manitoba Fire Code:

- Portable fire extinguishers
- Vehicles equipped with a pressure tank are not permitted in a drying oven or exposed to any heat source or ambient temperature conditions that could cause over pressurization of the container

Source: SAFE Work Manitoba

See more loss prevention tips at www.preventingloss.com

While the safety recommendations in this report are based on apparent and obvious conditions that were found at the time of inspection, the report does not purport to identify all hazards or guarantee compliance with any standards, codes, ordinances or regulations. It is not legal or expert advice, and should not be used in place of consultation with appropriate professionals. Any person relying on this information does so entirely at their own risk. Red River Mutual denies all responsibility for any liability, loss, injury or risk which is incurred as a direct or indirect result of the use of any of the recommendations in this report.