

ABATED SPRAY PAINTING AND ABRASIVE BLASTING HAZARD

In the Navy, painting shipboard equipment is essential to preserving metal surfaces and preventing corrosion. But paint and related materials like primers, thinners, strippers and varnishes can also be hazardous. Paint materials often contain volatile chemicals and toxic heavy metals such as lead and chromium. Vapors and mists from paints and paint removers can be health hazardous if they are inhaled, or come in contact with skin. Short term exposure to high concentrations can result in eye, nose and throat irritation, dizziness, nausea and vomiting, or skin rashes. Long term inhalation of these products may result in serious health problems. Paint removal operations, such as chipping, sanding, grinding and abrasive blasting may generate dust or fumes that contain lead or other heavy metals. Inhaling the dust or fumes or absorbing dust through the skin can also lead to major health problems.

The Navy has established strict controls to limit occupational exposures of Navy personnel to lead and many other toxic materials. Ventilation is important to protect workers against inhalation of toxic materials, so fresh air is supplied to the painting and blasting areas and a mechanical exhaust system removes harmful vapors, mists, dusts, and fumes from these spaces. Navy workers who paint or use abrasive blasting equipment receive medical screening and are trained and approved to wear respiratory protection.

At the Shore Intermediate Maintenance Activity (SIMA), Ingleside, TX ten employees were found to be at risk of exposure to paint mist, organic vapors, and dusts while performing abrasive blasting and spray painting of large equipment in a tent without mechanical exhaust ventilation.

The solution was to provide these workers with a central facility with an adequate ventilation system. This central facility is suitable for both painting and blasting operations. A changeroom for changing into and out of protective clothing was also provided to avoid contaminating surrounding areas and to ensure that employees do not take the contamination home with them to their families and friends. The facility was funded through the Navy's Hazard Abatement Program.



View of old abrasive blast tent, SIMA Ingleside.