

Hazards of Welding Fumes



	STAINLESS STEEL	ALUMINIUM	GALVANISED METALS
HEALTH EFFECTS - SHORT TERM	<p>CHROMIUM FUMES</p> <p>Asthma. Skin irritation.</p> <p>NICKEL FUMES</p> <p>Eye and skin irritation. Pneumonia-like illness. Build-up of fluid in the lungs, with severe shortness of breath.</p>	<p>ALUMINIUM FUMES</p> <p>Eye, nose and throat irritation.</p> <p>OZONE (mainly MIG welding)</p> <p>Nose, throat and lung irritation. Headache. Upset stomach or vomiting. Chest pain, shortness of breath. Tiredness.</p>	<p>ZINC-OXIDE FUMES</p> <p>Metal fume fever (flu-like) symptoms: chills, thirst, fever, muscle aches, chest soreness, fatigue, gastro-intestinal pain, headache, a metallic or sweet taste, nausea and vomiting.</p>
HEALTH EFFECTS - LONG TERM	<p>CHROMIUM FUMES</p> <p>Probably causes lung and throat cancer.</p> <p>NICKEL FUMES</p> <p>Probably causes lung cancer. Skin allergies. Asthma. Damage to the lungs, heart, liver, kidneys. Possible harm to developing fetus.</p>	<p>OZONE</p> <p>Chronic bronchitis and emphysema. Fibrosis of the lung.</p>	<p>IRON-OXIDE FUMES</p> <p>Siderosis. (building-up of iron in the lungs).</p>
CONTROLS	Local exhaust ventilation	Local exhaust ventilation	Local exhaust ventilation

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	MILD STEEL COATED WITH PRIMERS, PLASTICS, PAINT OR GREASE	CAST IRON (particularly for when NICKEL WIRE is used to weld cast iron)	HIGH-CONTENT ALLOYS
HEALTH EFFECTS - SHORT TERM	<p>PLASTICS FUMES</p> <p>Eyes, skin, throat and lung irritation and burns. Suffocation. Poisoning.</p>	<p>NICKEL FUMES</p> <p>Eye and skin irritation. Pneumonia-like illness. Build-up of fluid in the lungs, severe shortness of breath.</p>	<p>CHROMIUM FUMES</p> <p>Asthma. Skin irritation.</p> <p>NICKEL FUMES</p> <p>Eye and skin irritation. Pneumonia-like illness. Build-up of fluid in the lungs, severe shortness of breath.</p>
HEALTH EFFECTS- LONG TERM	<p>PLASTICS FUMES</p> <p>Lung and colon cancer, liver damage (from some epoxy-coated metals).</p> <p>PRIMERS, PAINT, GREASE FUMES</p> <p>Cancer. Kidney damage.</p>	<p>NICKEL FUMES</p> <p>Possibly causes lung and throat cancer. Skin allergies. Asthma. Damage to the lungs, heart, liver, kidneys. Possible harm to developing fetus.</p>	<p>CHROMIUM FUMES</p> <p>Possibly causes lung and throat cancer.</p> <p>NICKEL FUMES</p> <p>Possibly causes lung cancer. Skin allergies. Asthma. Damage to the lungs, heart, liver, kidneys. Possible harm to developing fetus.</p>
CONTROLS	<p>Clean contaminants from the metal to be welded</p> <p>Ensure that coatings are removed safely before welding</p> <p>If the coating or grease cannot be removed, use local exhaust ventilation and airfed respirators</p>	Appropriate local exhaust ventilation	Appropriate local exhaust ventilation

HEALTH EFFECTS	BRAZING FILLERS & FLUXES	SOLDERING
HEALTH EFFECTS - SHORT TERM	<p>CADMIUM FUMES (from copper-silver-zinc brazing fillers) Flu-like illness. High exposures: nausea, salivation, vomiting, cramps and diarrhea, and severe lung damage. Severe cases death or permanent lung damage.</p> <p>BERYLLIUM FUMES (from copper, aluminium & magnesium brazing alloys) Irritation of lungs and eyes. Fever.</p> <p>FLUORIDE FUMES (from silver brazing fluxes)</p> <p>Eye, nose and lung irritation. Skin inflammation.</p>	<p>CADMIUM FUMES (from silver solder cadmium-based) Flu-like illness. High exposure: nausea, salivation, vomiting, cramps and diarrhea, and severe lung damage. Severe cases death or permanent lung damage.</p> <p>LEAD FUMES (from tin-lead soft solder) see long term effects.</p> <p>ZINC CHLORIDE FUMES (from active soldering fluxes) Eye and skin irritation.</p> <p>FLUX FUMES Asthma. Inflammation of the skin. Nasal discomfort or damage. Nausea and sleepiness.</p>
HEALTH EFFECTS- LONG TERM	<p>CADMIUM FUMES (from copper-silver-zinc brazing fillers) Probably causes lung cancer. May damage testes. Kidney damage, kidney stones. Lung damage.</p> <p>BERYLLIUM FUMES (from copper, aluminium and magnesium brazing alloys) Probably causes lung and bone cancer.</p> <p>FLUORIDE FUMES (from silver brazing fluxes) Lung irritation. Blood disorder, weight loss. Kidney damage. Nose bleeds and sinus trouble.</p>	<p>CADMIUM FUMES (from silver solder cadmium-based) Probably causes lung cancer. May damage testes. Kidney damage, kidney stones. Lung damage.</p> <p>LEAD FUMES Lead can build-up in the liver and can cause permanent kidney or brain damage. Harm to developing fetus. Note: lead fumes from soft solder not considered a problem due to low temperatures involved.</p> <p>FUMES (from resin-based safety fluxes) Asthma.</p>
CONTROLS	<p>Always use CADMIUM-FREE filler materials.</p> <p>Use appropriate local exhaust ventilation for all brazing.</p>	<p>Silver solder (cadmium-based) appropriate local exhaust ventilation & respiratory protection</p> <p>Silver solder (cadmium-based) & tin-lead soft solder - appropriate local exhaust ventilation</p>