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Weekly Safety Meeting

Welding Galvanized Steel Safely

One of the most significant health hazards in the welding process is the generation of fumes and gases. Do you weld on galvanized metals? Zinc is the coating used on galvanized metals and, when you heat the metal, it produces vaporized metal droplets, which are called “fumes.” This is the smoky haze that consists of fine particles of metals or silicates. When you breathe these fumes, they may work deeply into your lungs.

The typical effect of breathing zinc fumes is metal fume fever. One or two hours or more after welding—without proper personal protection—you may experience severe thirst, pain in the legs, shivering, congestion in the head, dryness and tickling of the throat, and a cough. In very bad cases, you may feel severe shivering, a high fever, buzzing in the ears, nausea, vomiting, and even hallucinations and convulsions. Your symptoms will usually last 24 hours.

Some of you may weld for a period of time and find that some of the symptoms appeared and then went away. You may actually have built up an immunity that hides the full effects. If you take a break from welding over the weekend or over a holiday, the symptoms will often come back again the next time you weld on galvanized metal. Because of this behavior, metal fume fever is sometimes known as “Monday morning sickness.”

Welding Fumes:

Welding fumes are a complex mixture of metallic oxides, silicates, and fluorides. Fumes are formed when a metal is heated above its boiling point and its vapors condense into very fine particles (solid particulates). Welding fumes generally contain particles from the electrode and the material being welded.

Welding Gases:

Welding gases are gases used or produced during welding and cutting processes like shielding gases or gases produced by the decomposition of fluxes or from the interaction of ultraviolet light or high temperatures with gases or vapors in the air.

Protection:

In all operations where metal fumes are present, you should work in a well-ventilated area. The best way to protect yourself against metal fumes is to use local exhaust ventilation at the source of the smoke. Do not re-circulate the air in the shop.

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If good local ventilation is not possible, you should wear an approved respirator, which will fit underneath your welding helmet to protect you from fumes. This respirator collects the fume particles and keeps them from entering your lungs. (A paper dust mask is not adequate).

If you find white dust inside your welding shield, you are not properly protecting yourself from the fumes.

After you have finished welding, wash your hands and face thoroughly with soap and water.

Do not eat, drink, or smoke in areas contaminated by welding fumes.

If you think you are experiencing symptoms of metal fume fever, report it to your supervisor. Physicians familiar with this illness say that the best treatment is to drink plenty of water and go to bed and rest.

Finally, did you know that you can "contaminate" your family by bringing home zinc particles on your clothing? Protect both yourself and your family. Weld safely.

SAVE YOUR BREATH...WEAR YOUR RESPIRATOR!!!

Safety Meeting Sign-In Sheet

Supervisor:	Subject:
Location:	Date:
Conducted By:	Trainer Signature:

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests