# The Los Angeles Silhouette Club

# Lead Safety Or we have met the enemy, and he is us. By: John Cox

# An Industry Perspective On Safely Handling Lead

I work in a plant that processes about 1,000,000 lbs of lead a week. You can work around lead for years with no problems -- if you do your part.

My Main Point will be: Good Hygiene Is Your #1 Preventive Measure.

And the corollary: You are your own worst enemy around lead.

#### So:

Do Not Smelt Or Cast In Your Kitchen. Make sure you have plenty of ventilation.

Don't eat, drink, or use tobacco products when you are playing with lead. Don't keep your drinks, snacks, or tobacco products in the lead area. Wash up good -- face and hands -- before you eat, drink, chew gum, or use tobacco products.

#### Exposure:

**1.** High Lead exposure causes reproductive problems causing defects and low activity in male sperm, and defects in female eggs. It can cause birth defects including nervous system and brain problems. Kids are most at risk, but you and your spouse are at risk if you are planning to have kids. Lead doses that wouldn't do any more than make you feel icky will *permanently* hurt a kid.

**2.** Symptoms of lead exposure in adults -- Feels like you have a cold or the flu. Runny nose, gravely throat, coughing up crud, no energy, generally feel like crap.

**3.** If you feel especially crappy the day after casting or smelting -- go check with your doctor. Blood lead levels above 40 are in the danger zone. Levels above 20 means you need to be more careful with hygiene, or need to wear a respirator around the lead pot. Levels above 40 mean you need to get out of the leaded environment.

**4.** All is not lost, no need for paranoia. Your body maintains a natural balance of lead in the blood below 15. If it temporarily gets too high, it will work itself back down in a couple months. Drink lots and lots and lots of water.

5. If you are having lead poisoning symptoms, go get medical treatment.

## Environment:

**1.** The main hazard activities are anything that deals with Dross or Hot Lead -- Smelting, Casting, and Handling Dross. Handling cast bullets and raw lead should not be a problem unless you have really bad hygiene. Cheap Rubber gloves will protect you from lead ingots and bullets.

**2. Do Not Smelt Or Cast In Your Kitchen.** The kitchen is the absolute worst place you can do it -- and it will guarantee you continuing problems with lead exposure.

- **3.** Why casting in the house is a bad idea:
  - A. Soft floors suck up lead dust and hold it forever
  - **B.** People eat all over the house
  - C. Ventilation typically blows dust all over the house.
  - **D.** Ventilation not really setup to pull out smoke.
  - E. Kids and pets don't watch what goes in the mouth.
  - F. Your Smelting/Casting Area: Lead dust and fumes are the problem. Lots of ventilation is your friend. This means "Up and Out" with a good ventilation fan that blows the air outside...

Blowing the lead oxide dust \*Around\* (box or desk fan) is just as bad as poor ventilation.

Even with good ventilation, you still have a 100% chance of lead dust getting on everything in your "Lead Area" -- especially the floor. Lead is the heaviest non-radioactive naturally occurring element. Lead oxide is heavier than Iron, but is extremely fine powder -- like baby powder. It hits the floor \*Very\* quickly and looks like a fine yellowish/brown dust.

**4.** Smelting: Lead gasses off like crazy above 900F. These gasses almost immediately oxidize in the air and float around your room. Run your pot well under 900F.

**5.** Handle dross carefully and store it in a closed container. It is very powdery and gets all over everything. You absolutely will lead yourself up good from careless handling of dross. Cheap rubber gloves and a dust mask are a really good idea here.

## Prevention:

95% of your exposure will be through ingestion (Eating it) rather than inhalation (Breathing it) Lead poisoning from skin contact is very uncommon-- it just does not absorb through the skin. **Good Hygiene Is Your #1 Preventive Measure**.

**1.** Don't eat or drink in the "Lead Area" We fire people who do.

**2.** Wash your hands and face after casting or smelting. DO NOT EAT, DRINK, SMOKE, OR CHEW UNLESS YOU WASH FIRST.

**3.** A good dust mask is a really good idea when smelting or casting as it kills 2-birds with 1-stone.. They cost 7.00 - 12.00. If you taste metal when casting, smelting, or when cleaning up – you need a dust mask.

- A. Keeps dust out of your mouth. (ingestion)
- **B.** Keeps your fingers and other things out of your mouth. (ingestion)

**4.** Nothing goes in your mouth when working around lead pots. This includes Tobacco use or gum. Cigarettes are especially bad -- as lead gets into the tobacco, then burns and is carried into the lungs.... Your dirty fingers touching the cigarette paper are enough to get lead oxide on it. One cigarette is not enough -- but a couple sessions

smoking and smelting will lead you up like crazy.

- 5. Wear a sweat band or "Head Rag" to keep the sweat from rolling into your mouth.
- 6. Shower off after smelting or casting. Be sure to wash your hair too.
- 7. Wipe down your work areas after casting.

**8**. Casting and smelting outside is best. Indoor places with hard floors are good -- they are much easier to clean. Make some floor sweeping compound (sawdust, peat, or dry dirt + a little kerosene, veggie oil, or old motor oil -- just enough to make it clumpy, not wet). Dust it on the floor. It is "sticky" and catches the lead dust -- keeps it from getting back up in the air. Sawdust or peat based sweep can be re-used as flux.

**9.** In conjunction with the floor sweep stuff, buy a cheap shop-vac, a pack of bags, and get the optional \$25.00 HEPA filter. Use this to vacuum up your area and your clothes once you are done smelting and handling dross. Regular vacuums will blow the oxide all over creation. Don't use this vacuum for anything else. <u>DON'T</u> Use The House Vacuum Unless You Want To Lead Up Your House.

## Thanks, John

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