

WARNING: Melting lead and casting lead objects will expose you and others in the area to lead, a substance known to the State of California to cause birth defects, other reproductive harm, and cancer. High levels of lead in the body have been associated with serious health problems. There is disagreement within the scientific community about at what level exposure to lead is hazardous, but there is no disagreement that high levels of lead absorbed into the body is harmful. Lead poisoning is an accumulative effect caused by taking in more lead into the body than it can expel. Most adult exposure to lead has been through airborne emissions from auto fuel, through lead glazed china ware, and through drinking water carried through leaded pipes. Steps have been taken to reduce exposure through these means.

Lead contamination in air, in dust, and on your skin is invisible. Risk can be reduced -but not eliminated- with strong ventilation; washing hands immediately after use of these products before eating or smoking, and careful cleaning of surfaces and floors after lead dust has a chance to settle. The hobbyist tackle maker has minor exposure to lead hazards, but care must be exercised when working with lead just the same. Molten lead in minute amounts can vaporize and could be inhaled and in turn absorbed into the body. Air movement that is sufficient to carry away the smoke from an extinguished match is considered adequate ventilation. Run an exhaust fan or open a window to vent lead vapors to the outside. Lead could be absorbed into the body through food handled with unwashed hands.

PERSPECTIVE: Several industrial hygiene tests have been performed to determine how melting and molding lead in sinker and bullet casting rated with the OSHA (Occupational Safety and Health Administration) permissible exposure levels for lead in the workplace. The results were well within the permissible OSHA standards, in fact the presence of airborne lead could not be detected in these tests. Conditions can and do vary. The risks associated with molding lead objects is left for you to determine. We make no warranty or other representations with respect to your safety in doing so. Keep children and pregnant women away during use and until cleanup is complete.



CAUTION - SAFETY FIRST - MOLDING SAFETY PRECAUTIONS

Always wear eye protection to protect against lead spatters. Wear gloves, leather shoes and long sleeve shirt and pants to protect against burns and lead spatters. Never let water or moisture come in contact with molten lead. Moisture will turn to steam violently when it contacts molten metal, spattering the hot metal with explosive force. Use care to prevent burns when handling hot tools and castings. Work in a well-ventilated area. Lead can vaporize at elevated temperatures. Exhaust fumes to the outside. Always wash your hands after handling lead so that lead is not transferred to food or tobacco products that could be ingested.

DO NOT allow small children in your work area or permit them to handle your lead products. Keep your work area clean. Vacuuming is the preferred method of removing lead dust.

LEAD INFORMATION

LEAD ALLOYS

There are two general types of lead alloy, -soft lead- (mostly pure lead) and -hard lead- (an alloy of lead and a harder metal.) Pure lead melts at 621 degrees F. and has excellent pouring characteristics at 700-800 degrees. A hard lead alloy may solidify too quickly and require more effort to mold good parts.

SOFT LEAD

Soft lead can usually be identified by pressing or scratching your thumb nail into it. If it scratches easily, it is probably soft lead. If you can not scratch it at all or only with pressure, it is not soft lead. Since soft lead has a relatively low working temperature (700-800 degrees for most applications), it is easy to use. Small jigs and sinkers, as well as spinner jig lures, are much easier to cast when using soft lead. Soft lead is a necessity for use with bendable type sinkers such as split shot or pinch-on sinkers.

HARD LEAD (Tire Weights, etc.)

Hard lead is difficult to mold with and is not recommended. Hard lead is a combination of lead and other added metals that make the lead harder than pure lead. The other metals can cause the alloy, when poured into a mold, to solidify at temperatures where pure or soft lead is still fluid. Because of this, more heat or a faster rate of pour may be necessary to get complete castings with hard lead. The main appeal of a hard lead alloy for sinker and lure making is that it can often be purchased at less cost than soft lead. This advantage can be offset by difficulty in molding the metal. Wheel weights are a common source of hard lead. Since the main function of wheel weights is weight, they often contain a lot of tramp elements. Wheel weight compositions vary widely. If you acquire hard lead, remember that it will require more experimentation and effort than soft lead to pour complete castings. Hard lead may work well for some medium and large sinkers and lures, but avoid its use in the more difficult to mold small jigs and spinner baits. Do not use hard lead to make sinkers like split shot or pinch-on types. These sinkers must be easily bendable to work correctly. A hard lead alloy will make these sinkers too stiff to bend.

Best molding results will be obtained using soft lead or a lead alloy that is at least 98% lead.

TROUBLESHOOTING YOUR LEAD POURING PROBLEMS

BEFORE USING

Oil the hinges of the mold before each molding session. Put a drop of oil in the spring pins on the hinges. Oil occasionally during use. 20W or 30W motor oil works well

CAUTION!

Carelessness when working with molten metal may result in a nasty burn. Be alert! Wear eye protection. A pair of gloves will protect your hands from lead spatters or contact with hot tools. Remember that during use your mold can become very hot. WATER COMING IN CONTACT WITH MOLTEN LEAD WILL CAUSE IT TO POP AND SPATTER VIOLENTLY. Pre-heat any ladles or dippers before immersing in molten lead. Pre-warming will evaporate any condensed moisture. Observe ventilation and lead handling procedures to minimize harmful exposures to lead.

USE THE CORRECT INSERT

The proper style and size of hooks are listed on all jig molds. While other similar styles or sizes sometimes can be used, best results will be obtained with the inserts recommended. Lure molds that require wire inserts should be used with wire closest to the maximum wire diameter.

GENERAL POURING SUGGESTIONS

- Let the melting pot heat up longer before using
- Preheat the mold by making several casting with no inserts

- Pour a fine stream of lead directly into the cavity gate. The Sprue area should fill only after the cavity is full.

CAUSED OF WRINKLED CASTINGS

- Hard Lead (Wheel weights)
- Low lead temperature
- Slow filling of the cavity

Flashing around the lure cavity is caused by using the wrong sized insert or material building up on the machined surface of the mold. Look for small speck of lead and other particles that may stop the mold from closing completely.

New molds will sometimes trap air preventing a cavity from filling. A small piece of tape applied to the machined portion of the mold near the handles will allow trapped air to escape and the cavity to fill. After 100-200 pours, the mold will break in and the tape will no longer be required.

When using molds that require pull pins, oil them lightly or smoke with a candle before use. Remove the pull pin quickly before the lead cools and shrinks.