



SAFETY FIRST

By Jan Locander

Glass Beadmaking has been around for many years but it can be a hazardous activity if safety precautions are not taken seriously. Beadmakers must make a conscious effort to work under the safest conditions possible and since this industry is not regulated, it falls on the individual to monitor their own safety.

It is against the law to store or use Propane tanks larger than one pound inside a residence. (That applies to Mapp gas also). If your garage is attached to your home, this is part of your residence. U.S. Fire departments responded to an average of 1,390 home structures fires involving LP gas in 2000-2004. These fires resulted in twenty-three civilian deaths, one hundred ninety three civilian injuries and \$40 Million in property damage. (From the National Fire Protection Association). Propane is heavier than air, which means that it sinks to the lowest part of the room and hangs there until it is vented out of the room or ignites and explodes. Something as simple as your furnace or water heater pilot light could ignite the pooled propane and blow up your house and your neighbor's house.

Glass Beadmakers work with flames as hot as 3000 degrees. A glass rod that has been in the flame and then set on your work surface remains hot enough to burn you long after you lay it down. Even a stringer can burn you if you pick it up too soon. Thermal shock will cause glass rods to pop and tiny slivers can stick to your skin as they burn you. A bead or a part of a bead that has been left out of the flame too long can explode. Keep a bowl of clean cold water next to you while you work in case you do burn yourself. The faster you get a burn into cold water, the less severe the burn will be. Lavender oil is also good for burns. Keep another bowl of water near your torch to drop small bits of glass in and to cool your tools. Pay attention to where you lay your hot glass and tools and make it a habit to lay them in one direction so you will not ever pick up the wrong end. Keep all flammable objects away from your torch area. A working fire extinguisher should be in your work area by the exit door not by your torch. Never leave the room while your torch is lit.

A heatproof work surface and floor surface are imperative. Have your torch securely fastened to your work surface and hoses should be kept out of the way to avoid tripping or pulling over your torch. Keep your torch far away from the wall and the wall should be made of fireproof material. Your chair should have wheels on the legs so you can quickly push yourself away from the torch in case of an emergency.

Wear natural fiber clothing, closed toe shoes and pull long hair back. Many beadmakers use a leather apron over their lap for protection. You can even make one from an old leather jacket or from scrap leather. Do not wear rings, watches or bracelets that glass rods and mandrels could get hung on.

Proper ergonomics can help to prevent repetitive motion injury. Pay attention to how you hold your hands, wrists, arms and shoulders while gripping glass rods and mandrels. The height of your chair or table should be adjustable to the position that is comfortable for you. Use elbow rests to avoid nerve pressure as well as shoulder and neck pain. Computer mouse pads work well but be aware that they are not flame retardant. Use good posture when sitting and take frequent stretching breaks. Stay hydrated and cover your drinking water container.

Precaution is necessary to protect your eyes from flying pieces of glass, the harmful rays emitted from melting glass, and sodium flare that decreases your visibility. Different glass types emit specific rays and require adequate protective lenses. Plain safety glasses are not proper eye protection. Didymium

lenses are the minimum protection for use with small soft glass only and Borosilicate glass requires a higher filtration due to higher Infrared Radiation rays. Please see www.auralens.net for a chart of protective eyewear in comparison to glass types and glass working forms. Sodium flare emits a yellow glare that prohibits visibility when working at the torch. The lenses mentioned will block the flare so you can see what you are working on in the flame.

Bead release contains powdered compound materials that produce respiratory hazards when dry. Other loose particles of refractory materials such as brick or ceramic fiber insulated kilns can also be a respiratory danger. Take care not to inhale any of these dust particles. When cleaning the bead release, work in a container of water so these particles will not permeate the air. Do not pour this down your plumbing or it will clog your drains.

Ventilation is a subject that requires mathematical calculations in order to install a sufficient system. A box fan and an open window are not adequate. A proper ventilation system requires: removal, replacement and circulation. A vent hood installed over your torch with an adequate CFM fan in a concentrated area is needed to remove the hazardous fumes. Makeup air should come across and up to pull the bad air away from you. Burning fuel and glass emits fumes that are hazardous to your lungs. Using frit, enamels, and metals add an extra layer of danger. You can actually get metal poisoning from breathing in vaporized metal. Using frit, enamels or metal also requires the use of a N100 respirator that fits your face in addition to your ventilation system.

Working with fuel and oxygen is dangerous. Learn how to use and treat your equipment with respect. Drain all your hoses when you are finished with a bead making session. Check for leaks with lead detector every time you turn on your torch. If you discover a leak, turn everything off, tighten all connections and check for leaks again. If a fire starts, leave at once and call 911.

We only have one set of eyes and lungs and must do everything that we can to keep them healthy. It is recommended that a person interested in learning how to make beads, take a class from an experienced and informed teacher. There are many books, DVD's and websites with information but there is nothing that will substitute for a hands-on class with a professional.

Following is a list of websites where additional information may be obtained.

www.isgb.org

www.lampworketc.com

www.wetcanvas.com

www.sgb-midatlantic.org

www.islaga.org

www.auralens.net

www.insideoutbeads.com an article by Stan Wolfersberger

mikeaurelius.wordpress.com – controversial but good safety information

www.propanesafety.com

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