

Transfer of Flammable Solvents

Lab Safety Incident

UCLA 2016 – Solvent Fire

Incident: A student was pouring pentane from a 20 L drum into a smaller glass bottle on the floor when it ignited. The fire department was called to extinguish the fire. The incident resulted in approximately \$100,000 in damages.

Hazard: When transferring flammable liquids from large containers (>4 L), to a smaller container, the flow of the liquid can create static electricity which could result in a spark. Static electricity build-up is possible whether using a pump or pouring the liquid.

Safety: If the bulk container and receiving vessel are both metal, bond the two by firmly attaching a metal bonding strap or wire to both containers. Ground one of the containers by connecting it to a building ground. Ask your facility manager about ground options in your lab. If the receiving vessel is made of a non-conductive material such as glass or plastic, use a metal pipe or wire to ground the liquid in the receiving vessel. Also ground any conductive surfaces in contact with the container including the bulk vessel. Always transfer the liquid slowly as splashing and sloshing creates more static electricity.

Contact the Office of Research Safety at ext. 8-6114 or labsafety@uthsc.edu or to determine whether bonding and grounding is necessary for the solvent transfer practices employed in your lab.

Safe Flammable Liquid Transfers

Bonding and grounding a 20L flammable liquid pail and glass, metal and plastic receiver cans.



GLASS

METAL

PLASTIC

