**Standard Operating Procedure for Formvar**

**Dr. Celal Con May 22, 2019**

**This chemical consists of 1% Formvar in 1,2-Dichloroethane (Ethylene dichloride)**

**(CAS for Vinylec K: 63148-64-1, CAS for Ethylene dichloride: 107-06-2)**

**SAFETY:** This material is toxic, corrosive, highly flammable, carcinogen. Use with adequate ventilation (always under fume hood or inside glove box). Wear gloves (nitrile gloves) and other appropriate protective apparel (Face shield AND safety glasses).

**IMPORTANT NOTE: Don’t touch the substance. When peeling off the gloves, avoid skin touch with substance. Avoid inhalation and ingestion. Wash your hands thoroughly after you are done.**

**Storage:** Keep away from sources of ignition, prevent the build-up of electrostatic charge. Keep in a cool, dry, well-ventilated area. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

**Waste disposal:** Do not dispose waste into sewer. Ethylene Dichloride is a very strong solvent for polymers and plastics. Dispose generated liquid waste from Ethylene Dichloride only in glass containers and avoid mixing it with other solvents. Double-bag generated dry waste (samples, wafers, etc.) using sealable transparent bags.

**Spill and Accident Procedure:** Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Do not attempt clean-up without minimum PPE. Contact Uwaterloo’s Spill control ext. 519-888-4911 or ext. 22222.

**Operating Procedure:**

This material is going to be used primarily to coat samples to protect them from the environmental effects.

1. Wear proper PPE (face shield, safety goggles, nitrile gloves and flame-resistant lab coat preferably made of antistatic material).
2. The solvent will be transferred to small vials with close and tight caps. The transfer should be done under fume hood with proper protective equipment (PPE) such as googles, face shield, nitrile gloves. In the case of poor ventilation, a proper respiratory should be worn or the transfer should happen inside glove box. On original container, lift tab to rim of the can, and then pull up and back to open, and then slowly pour into the small vial using funnel. Dry the cap and funnel using cleanroom wiper. Make sure you dry the original container and close the cap of the vial. Once all ethylene dichloride evaporated, take the container to the proper wasting area.
3. You may want to dilute it using ethylene dichloride. Please follow the same safety procedure.
4. When working on samples, open the cap of the vial under the fume hood with proper ventilation and put your sample inside the vial. Either dip your sample into the vial or get very small amount of formvar solution onto your sample, where your sample is on cleanroom wipes, and then leave it to dry under ventilation. Make sure that the ventilation system works and there is enough air flow. If the ventilation is poor, use glove box to do this.
5. If necessary, dispose the leftover Formvar solution in a designated glass waste disposal container. Don’t mix it with other solvents.