Safetygram

NCI-Frederick

ISM-137 Laboratory Personnel February 2012

Chromic Acid Cleaning Mixtures

EHS strongly urges against using potassium dichromate/sulfuric acid mixtures to clean glassware. These mixtures are very effective cleaners, but because of their strongly corrosive and oxidizing characteristics they can cause serious injuries. Skin contact with chromic acid can cause ulcerations, which heal slowly, and hexavalent chromium is a known human carcinogen. Chromic acid reacts with organic substances and can generate enough heat to cause a laboratory fire. Tests have shown that chromate residues are retained on glassware even after repeated rinsing; residual contamination may interfere with analytical procedures. Disposal of spent chromic acid cleaning mixtures in the sink or other drains violates federal and state laws governing hazardous waste disposal.

There are a number of commercial non-oxidizing, alkaline cleaning solutions (Micro, Fisher FL-70, Kern DeContam) that are being used at this facility. EHS maintains a file of product literature on these glassware cleaners. A number of our laboratories have had success using these replacements. If these cleaners are not effective, a strongly oxidizing solution of ammonium peroxydisulfate in concentrated sulfuric acid (NOCHROMIX) will provide all of the efficacy without the heavy metal hazard of chromium.

All NCI-Frederick laboratories currently using chromic acid mixtures are urged to switch to one of the options listed above. No chromic acid mixture, spent or otherwise, may be discarded in sinks. EHS will pick up for disposal all such mixtures upon request.

For further information please call Waste Management at x5718.