Disposal of waste solvents

RISK ASSESSMENT: DISPOSAL OF WASTE SOLVENTS

This Risk Assessment should be read in conjunction with that for “Transport, Storage and Use of Solvents and other Flammable Liquids.”

**Additional Hazard**

Waste solvents are most likely contaminated with unknown substances and as such should be treated with extreme care.

**Risks**

The additional risks in waste solvent disposal are mainly to the personnel who have to "bulk up" the material into metal drums. The risks arise from contamination within the solvents.

**Precautions**

- **Containers.** The accepted container for transfer of waste solvent to the Store is a clearly labelled Winchester with a ventilated cap. No other containers are acceptable. The containers must be filled only to the 80% level with approved solvents, sealed with their ventilated caps, not leaking vapour or liquid or excessively contaminated on the outside.

- **Labelling.** The container must be accurately labelled Chlorinated or non-Chlorinated.

- **Storage.** Separate containers for Chlorinated and non-Chlorinated solvents should ideally be kept in a fume-hood.

- **Transport.** Waste solvents should be transported on a suitable trolley or using a carrier.

- Waste solvent containers are not dumps and may contain only approved waste organic solvents with limited amounts of solute none of which must pose a health risk.

- Reaction mixtures, oxidants or solutions of oxidants must never be put into the waste solvent containers.

- No carcinogen substance may be disposed of in the waste solvents in any form.

- The waste solvent containers must never contain paper tissue, glass pipettes, vials, hypodermic needles or any other extraneous material.

**Returned Solvent Bottles.**

- These should be totally empty of any solvent, thoroughly dried and have the contents label struck through with black marker pen.

**Organic liquids acceptable as Waste Solvents**

**Non-chlorinated**

- hydrocarbons: alkanes C5-C12, cyclohexane, toluene, xylene
- C1-C3 alcohols, ethylene glycol
- diethyl ether and tetrahydrofuran
- acetone, ethyl and n-butyl acetate

**Chlorinated**

- C1: dichloromethane, chloroform
- C2: trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1,-trichloroethane
- C3: 1-chlorobutane plus small amounts of non-chlorinated materials but no water.

Other solvents may be acceptable...

**Training**

Training in these procedures should be given by a competent person within each laboratory.

**Level of Risk Remaining**

With careful handling, the level of risk should be low. However, waste solvent remains flammable and of unknown toxicity and should be treated with great caution.
Emergency Procedure

- **Personal injury or fire:** see "What to do in case of..."

- **Spillage, no fire**
  - **Serious** - toxic or large quantities. Evacuate and ventilate the affected area, closing doors and eliminating sources of ignition if it is safe to do so. Telephone the Technical Manager (6531) or SECURITY out of hours (5349) and **OPERATE THE NEAREST FIRE ALARM POINT. DO NOT ATTEMPT TO CLEAN UP A MAJOR SPILLAGE BY YOURSELF.**

  - **Minor.** Ventilate the affected area and eliminate any sources of ignition. The liquid may be absorbed onto absorption granules. In a well ventilated area such as a laboratory, the best procedure may be simply to turn off sources of ignition, ventilate, evacuate and seal and secure the room.