

WORK PRACTICE CONTROLSOSHA VCM STANDARDIII. REACTOR AREAS

The purpose of the vinyl reactors is to convert vinyl chloride monomer into polyvinyl chloride resin (PVC).

Several of the operator functions in the large reactor area can result in VCM exposure. The following relates to those work practices which are affected by potential VCM emissions.

A. Opening Manhead on Empty Reactor

1. Check the external pressure gauge to insure that the reactor is not under pressure.
2. Put on the continuous flow fresh air breathing mask.
3. Unlatch the manhead roll bar.
4. Radio panel operator to open evacuation jet to the reactor. This will move air inward and disperse VCM vapors.
5. Open manhead completely.
6. Inspect reactor.

NOTE: The manhead is not opened after every reaction but only periodically to check the internal condition.

B. Manual Reactor Entry

1. Open manhead using the procedure described in A.
2. Follow equipment entry procedure as described in Attachment "A" of Safety and Health Manual.
3. Close the top manhead.
4. Hydrostatically test reactor for leakage.

C. Reactor Recovery

Unreacted VCM is removed from the polymerization reactor slurry by the recovery system. The recovery system consists of vacuum pumps, compressors and condensers which remove the VCM from the reactor, compress, and condense it so that it can be recycled to the process. Operating personnel

### III. REACTOR AREAS - CONTINUED

#### C. Reactor Recovery - Continued

are required in the recovery area during system start-up and for periodic checks during the recovery. The recovery area is monitored for VCM levels from the Control Room. The operator is alerted by radio before entering the area if the VCM level is above 1.0 ppm.

#### D. Reactor Dumping

Dumping of the reactor slurry occurs at the end of the VCM stripping operation. The operator observing the dump does not need to wear a CFFAM under normal condition. This area is monitored from the control room and the operator is notified if the VCM level is above 1.0 ppm. Abnormal conditions requiring a CFFAM are:

1. Plugged reactor dump valve or line.
2. Dumping a coarse batch.
3. Cleaning dump Sweco.
4. Inoperative Sweco exhaustor.

#### E. Filter Cleaning, Removal and Replacement

The following information applies to the:

Recovered VCM Filters  
Fresh VCM Filters  
Seal Water Filters (Compressors)

These filters come in contact with VCM and therefore are potential exposure sources.

The filter pack is steam purged and recovered to the process. The recovery system pulls a vacuum on the filter pack prior to opening.

The operator then puts on a CFFAM, impervious gloves and an impervious suit.

#### F. Condenser, Subcooler, Line and Vessel Maintenance

The following precautions are required to prevent VCM exposure while performing maintenance on lines, vessels, subcooler and condensers.

III. REACTOR AREAS - CONTINUEDF. Condenser, Subcooler, Line and Vessel Maintenance - Continued

1. The equipment must be blinded at all inlets and outlets.
2. The unit is to be flushed or evacuated until free of VCM as detected by the HNU OVA instrument.

## G. The reactor operating area and tank farm are continuously monitored for high VCM concentrations by the Honeywell unit located in the reactor control room.