

## **GENERAL INSTRUCTIONS FOR CLEANING A VAPOR DEGREASER**

1. Unplug any and all electric connections to machine. A notice should be placed on the switches stating that personal are in the unit and the control unit must not be touched. Following approved company safety standards open and drain all solvent from all tanks, reservoirs, and lines, and sumps.
2. Remove all dirt, sludge, and metal chips from the bottom of each compartment with a scraper or hoe. It may be necessary for company maintenance personnel to enter some units. Such entry should be permitted only when the degreaser is thoroughly ventilated and maintenance personnel suitably protected. Always follow the manufacturers approved standards for ventilation and maintenance.
3. When your degreaser is thoroughly empty and ventilated a maintenance worker wearing a harness, lifeline, and equipped with approved respiratory protection may enter the degreaser (under the constant observation of a second person in attendance outside the degreaser) and clean out the condensate trough, condensing coils, and walls of each compartment. Care should be exercised to avoid damaging the corrosion resistant finish on the interior of the unit. The unit should be checked for rusted areas and the conveyor systems inspected for defects.
4. Brush or scrape all surfaces to remove residues. Clean condensate trough, condensing coils and walls of the tank. Take care during scraping operations to avoid damage to heaters and sensors.
5. Re-assemble the clean out door, preferably with new joints and sealing compound. Check all valves and drain plugs are in place.

### **NEUTRALIZING THE DEGREASING TANK**

This procedure must be used to remove any acidic residues in the bath.

1. Mix a solution of 1% by weight of sodium carbonate (soda ash) in water and fill the tank. **DO NOT USE CAUSTIC SODA SOLUTION OR OTHER STRONG ALKALI.**
2. Heat the unit to approximately 125°F and maintain this temperature for 3 hours, then allow the tank surfaces, pipe work, water separators, filters and any other solvent wetted areas.
3. When complete, remove all the soda ash solution and discard in an approved manner. Rinse with water, and dry the unit completely, including all pipe work, pumps, filters and water separators.
4. If leaks have appeared during the neutralizing process, remake joints and seals. This is particularly important, as the surface tension of solvent is much lower than water.

**FILLING THE TANK**

1. Fill the water separator and/or rinse tanks and reservoirs with *ECOMAX™* solution until they over flow into the degreasing tank.
2. Charge the main tank with *ECOMAX™* solution. The bath level should be identified accurately in order to maintain it at a constant level. Preferably the liquid should be filled to touch the bottom of the work support grid.
3. Adjust the boiling sump thermostat to 165°F (this is the approximate boiling temperature) of solvent with 30% oil content).
4. Adjust freeboard or upper safety thermostat to operate at 50°C.
5. If the vapor degreasing tank has previously been used for trichloroethylene, it may be necessary to reduce the heat input to the machine, the Enviro Tech Representative will advise on the requirements, the boiling rate should be maintained without excessive agitation, and should maintain the vapor level within the tank with the cooling coils operating. The heating system should preferably be fitted with some form of energy control, which is activated when the vapor level is established on the coils.

**RECOMMENDATIONS**

It is strongly recommend that the tank is fitted with a refrigeration cooled recirculated water chiller operating at 40°F, this should be run continuously when the tank is in operation.

When the tank is operating solvent losses by diffusion will be reduced and when the tank-heating switch is off, the cold air layer reduces evaporation losses.

Details of these systems are available from the Enviro Tech Representative or *ECOMAX™* approved distributors.

**WARNING**

Use only *ECOMAX™* for filling and topping of the bath. *ECOMAX™* is specially formulated to ensure long term stability in use and the addition of any other material will seriously effect its performance in compatibility, and may result in rapid deterioration in the cleaning process, and could lead to the formation of corrosive and toxic by-products.

**DAILY OPERATION**

1. Turn on the cooling / condensation system. Check that it is operating.
2. Switch on the lip extraction system.
3. Turn on the heating.
4. Remove the covers or lid.
5. When the solvent has begun to boil and not before, check the bath levels and add *ECOMAX™* as necessary.
6. Check cooling water temperature. The outlet temperature should always be less than 55°F.

**SHUTTING DOWN**

Proceed in the following order:

1. Turn off the heating.
2. When the vapor level has fallen below the coils, turn off the cooling system. Whenever ambient temperature is above 65°F it is recommended that cooling be maintained to minimize losses by evaporation. See RECOMMENDATIONS.
3. Switch off rim extraction.
4. Cover or close the tank.
5. If the bath has a sump cooling system, switch it on.

The information above is believed to be correct, but Enviro Tech International, Inc., can not guarantee its completeness or accuracy. Enviro Tech International Inc. does not assume or undertake any duty imposed on any other party by law or regulation. It is the user's responsibility to determine the suitability of the process mentioned in the paper.

For additional information, consult ASTM Standards D4579: Standard Practice for Handling an Acid Degreaser or Still and ASTM D3698: Standard Practice for Solvent Vapor Degreasing Operations.