Dept. 246

Start-Up Instructions

Section V

Off-Gas Purification

I. Off-Gas (HCL) Condenser.

1. Align valves to circulate water through the condenser.
2. Adjust the temperature controller (TIC-19) to allow water into the circulating line.
3. Set the temperature controller in automatic with the set point at 40°C.
4. Start the circulating pump.
5. Open the manual steam valve to the circulating line. When the water temperature reaches 40°C. close this valve.

II. Off-Gas (HCL) Storage Tank

1. Line up the steam supply line and trap lines for the heating plate coils.
2. Set the temperature controller (TIC-20) on automatic with the set point on 50°C.
3. Check all valves.

   Close - bottom outlet valve
   sample tank outlet valve
   circulating line valve
   vent line valve
   all drain valves

   Open - All valves between the header and condenser.
   Main valve on discharge side of the storage tank.
4. Close the valve to the drowning jet.

Note: Always notify the operator at Dept. 218 before sending or shutting off the flow of HCl gas to them.

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Dept. 246 - Start-Up Instructions

Section V (continued)

Off-Gas Purification

III. To Pump From Off-Gas (HCL) Storage Tank to the Batch Chlorinator Head Tank.

The storage tank will hold approx. 3,000 gallons of material, maximum. A % gauge is provided to indicate the material level and reads 0-100%. The material in this tank will be pumped to the batch chlorinator head tank to be used for making non-electrical Aroclors. Use the following procedure to make this transfer:

1. Have the head tank empty.
2. Close valves on charge lines to all batch chlorinators.
3. Open valve on top the head tank. Make sure the feed valves at the head tank from the intermediate storage tank and biphenyl storage tank are closed.
4. Close drain valve on line from the storage tank to the pump, and bottom outlet valve on sample tank.
5. Open bottom outlet valve under the storage tank.
6. Start the pump.
7. Watch the sight glass in the overflow line on the second floor. When material overflows shut off the pump, Immediately.
8. Close valves under the storage tank and above the head tank.

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IV. Safety Features

1. A level instrument is located at the bottom of the storage tank to indicate level of material in the tank.
2. A manometer is provided to measure the pressure drop across the Brink demister.
3. A rupture disc with a bursting pressure of 27 PSIG is located on the storage tank.
4. An alarm will be activated if the pump, used to circulate water through the condenser, is shut off. Alarm panel "Off-Gas Cond. Water Pump Shutdown" will light when the alarm is sounded.

V. Emergency Shutdown

1. Open manual valve to direct HCL gas to the drowning jet.
2. Close a manual valve to shut off the flow of gas to the condenser, storage tank and Dept. 218.
3. Stop the water circulating pump under the condenser.
4. In cold weather drain the water from the condenser circulating lines to prevent freezing.

VI. Critical Control Points & Expected Readings

Critical Points	Expected Readings	Read At
Circulating water temperature	40°C.	TIC-19 - 1st Floor
Off-gas Temperature	40-50°C.	TR-48 (11) - Panel Board
Storage Tank Temperature	50°C.	TIC-20 - 2nd Floor
Storage tank level	0 - 100%	At Tank - 1st Floor
Storage Tank Pressure	5#	At Tank - 2nd Floor
Pressure Drop Across Brinks	4.5"	At Tank - 2nd Floor

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