

PROTECTIVE CLOTHING & EQUIPMENT REQUIREMENTS & VINYL ALARMS

INTRODUCTION

Vinyl Chloride is a relatively sweet smelling flammable gas. Its explosive limit in air is 4% to 22% by volume. Excessive inhalation of Vinyl Chloride can lead to dizziness and unconsciousness. Vinyl Chloride is an alleged carcinogenic substance. Case studies have indicated a link between long term exposure to Vinyl Chloride and development of Angiosarcoma, a malignant liver tumor.

This procedure outlines the safety requirements within the Geon West Department due to the potential carcinogenic nature of Vinyl Chloride. A continuing top priority program is underway to further minimize ALL exposure to Vinyl Chloride within & surrounding the plant.

DETECTING & HANDLING VCL RELEASES IN B/451 & B/461

A Bendix 10 point recording organic vapor monitor has been installed in B/451 & B/461. These units will record the organic vapor concentration (principally Vinyl Chloride) in the building atmosphere, drawing samples from 10 pre-determined points within the building, and recording every minute: i.e. each of the 10 sampling locations within the building will have contaminating organic vapor concentration recorded by the Bendix unit every 10 minutes. Currently, in B/451, the sample locations being monitored are: the inlet air plus 3 points on the 3rd floor, 2 points on the 2nd floor, the inlet air plus 1 point on the 1st floor, the control room & the stairwell. The sample locations being monitored in B/461 are: the inlet air plus 2 points on the 3rd floor, 2 points on the 2nd floor,

2 POINTS ON THE 1ST FLOOR, THE CONTROL ROOM, STAIRWELL AND THE BREATHING AIR. THE BENDIX MONITOR INCLUDES AN ALARM SYSTEM. IF ANY MONITORING SAMPLE EXCEEDS 1 PPM CONCENTRATION, A FLASHING LIGHT SYSTEM WILL INDICATE THE AFFECTED FLOOR LEVEL SO THAT IMMEDIATE ACTION CAN BE TAKEN TO CORRECT THE PROBLEM. TWO LIGHTS ARE INCORPORATED INTO THE WARNING SYSTEM. A FLASHING YELLOW LIGHT WHEN CONCENTRATIONS ARE 1 PPM OR GREATER BUT LESS THAN 5 PPM, A FLASHING RED LIGHT WHEN CONCENTRATIONS ARE 5 PPM OR GREATER BUT LESS THAN 100 PPM. IF THE CONCENTRATION IS 100 PPM OR GREATER, BOTH RED & YELLOW LIGHTS WILL FLASH AND A PULSATING SIREN WILL SOUND.

WHEN THE BENDIX ALARM SOUNDS, IMMEDIATE ACTION MUST BE TAKEN TO LOCATE & CORRECT THE LEAK. IF THE LEAK IS SERIOUS OR THE LEVELS ARE ABOVE 1,000 PPM, CONSIDERATION SHOULD BE GIVEN TO ACTIVATING THE GAS ALARM.

AS MUCH VENTILATION AS POSSIBLE SHOULD BE USED TO TRY TO CLEAR THE VCL FROM THE AREA. WHEN THE GAS ALARM IS SOUNDED, ALL THE BLOWERS WILL BE ACTIVATED GIVING MAXIMUM AIR FLOW.

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WHEN THE RED FLASHING LIGHT IS ACTIVATED SIGNALLING A READING OVER 5 PPM, AIR LINE RESPIRATORS MUST BE WORN OR THE ACTIVATED AREA VACATED. THE CONTROL ROOMS AND BREAKER ROOMS ARE NOT REGULATED AREAS. THESE AREAS SHOULD BE USED AS A SHELTER OR SAFE HAVEN FROM VCL.

IF A SERIOUS LEAK OR EXCURSION OVER 1,000 PPM IS DETECTED, ONLY THE PERSONS NEEDED FOR LOCATING AND CORRECTING THE LEAK SHOULD REMAIN IN THE AREA. THIS

WOULD INCLUDE SOMEONE RESPONSIBLE FOR THE SAFE OPERATION, AS WELL AS TO REPAIR THE LEAKS. AT NO TIME SHOULD EVERYONE LEAVE THE WORK AREA -- UNLESS THE PLANT EVACUATION ALARM IS SOUNDED. PERSONS REMAINING IN THE AFFECTED AREA MUST WEAR SCOTT AIR PACKS.

SCOTT AIR PACKS ARE NOT NECESSARY UNTIL THE LEVEL REACHES 1,000 PPM, BUT SINCE THE BENDIX ONLY RECORDS TO 100 PPM, THIS IS THE CUT OFF POINT. IF AN OPERATOR IS TRYING TO LOCATE THE SOURCE OF A LEAK USING AN OVA OR HNU PORTABLE DETECTOR, HE MAY WEAR AN AIR LINE RESPIRATOR AS LONG AS THE READINGS ARE UNDER 1,000 PPM.

PERSONAL MONITORING

ON A REGULAR BASIS, EMPLOYEES WILL BE ASKED TO WEAR A PERSONAL MONITOR THROUGH THE COURSE OF A WORKDAY. THIS TYPE OF SYSTEM WILL SIMULATE AND MONITOR THE COMPLETE BREATHING AIR INTAKE OF THAT EMPLOYEE FOR THE PERIOD OF TIME HE/SHE IS WEARING THE MONITOR.

PROTECTIVE CLOTHING AND EQUIPMENT

PROTECTION AGAINST EXPOSURE TO VINYL CHLORIDE IS PROVIDED BY THE FOLLOWING AVAILABLE CLOTHING AND/OR EQUIPMENT:

1. A FORCED VENTILATION SYSTEM THAT SUPPLIES 6-12 BUILDING AIR CHANGES PER HOUR WITH NORMAL VENTILATION AND 20 AIR CHANGES PER HOUR WITH THE EMERGENCY FANS OPERATING.
2. AIR RESPIRATORS, BOTH AIR LINE SUPPLY & PORTABLE SCOTT AIR PACKS.
3. PORTABLE EXHAUST BLOWERS TO BE USED TO CLEAR CONTAMINATED AIR FROM LOCALIZED WORK AREAS.
4. A POLY EVACUATION SYSTEM TO BE USED TO "AIR OUT" POLYS BEFORE HRC'ING AND ENTRY.

5. IMPERVIOUS SUITS TO BE WORN WHEN MANUALLY CLEANING HARD CHARGES OR HEELS WHERE CONTACT WITH LIQUID VINYL CHLORIDE IS POSSIBLE.

6. GLOVES AND RUBBER SHOE COVERINGS. CANVAS GLOVES MAY BE WORN IN DRY AREAS, BUT RUBBER OR IMPERVIOUS GLOVES MUST BE WORN WHERE THE HANDS MAY COME IN CONTACT WITH VINYL CHLORIDE.

AIR LINE RESPIRATORS REQUIRED WHILE PERFORMING THE FOLLOWING JOBS

<u>JOB</u>	<u>ADDITIONAL REQUIREMENTS</u>
ENTRY INTO POLYS - ROUTINE CLEANING	EVACUATION HOSE & GLOVES
ENTRY INTO POLYS - HARD CHARGES	EVACUATION HOSE, IMPERVIOUS SUIT, GLOVES, RUBBER FOOT COVER
BREAKING CHARGE, RECOVERY AND STRIPPING LINES.	GLOVES, EVACUATION HOSE OR PORTABLE EXHAUST BLOWER.
EMPTYING STRIPPER STRAINERS	GLOVES.
OPENING VCL STORAGE TANKS	GLOVES, EVACUATION HOSE OR PORTABLE EXHAUST BLOWER.

THERE ARE SOME IRREGULARLY PERFORMED JOBS (NOT LISTED) THAT MAY INVOLVE CONTACT WITH VINYL CHLORIDE OR SLURRY. SOUND JUDGEMENT SHOULD BE EXERCISED IN DETERMINING THE PROTECTIVE EQUIPMENT & CLOTHING NEEDED FOR THESE JOBS.

THE ABOVE LIST MAY SERVE AS A GUIDE IN DETERMINING REQUIREMENTS FOR SIMILAR JOBS.