

PURPOSE:

To establish a written plan to ensure the safety of our employees from any hazards arising from the production, storage, and shipment of Vinyl Chloride Monomer (VCM)

SCOPE:

This plan applies to the VCM II, Tri-II, VCM Tank Car Loading Rack, and VCM Ship Loading ('A' Dock)

RESPONSIBILITIES:

The responsibilities for compliance are as follows.

- i) VCM-II -- *Area Supervisor*
- ii) Tri-II -- *Area Supervisor*
- iii) VCM Tank Car Loading Rack -- *Area Foreman Derivatives Shipping*
- iv) 'A' Dock -- *Area Foreman-Docks Shipping*

The responsibility for ensuring that this plan is reviewed every 6 months belongs to *Derivatives' Safety Supervisor*

CONTROLS:**ENGINEERING CONTROLS****DOUBLE SEALS OR SEALLESS EQUIPMENT**

All Equipment (pumps, agitators, compressors) in Vinyl Chloride service* have double seals or are sealless (sealless equipment have magnetic drives)

Need to get low-temp vent compressors and blowers switched to double seals.

FIXED POINT MONITORING SYSTEM

Tri-II, VCM-II, and the Vinyl Shipping rack have fixed point monitoring systems that continually check the atmosphere for high concentrations of Vinyl Chloride. These systems alarm when they detect concentrations of 5 ppm or greater in the air. The computer is set up to benchmark its calibration three times a day (all three in the morning), and if it has greater than 5% deviation (plus or minus) the analyzer group is called to calibrate the machine. Each unit has SOPs for the follow-up investigation to an alarm.

Tri-II 6904-00-2001

VCM-II ~~5001-2009-SOP~~ 5001-2009.00

VCM Tank Car Loading Rack 1163-00-2009.00

VCM Ship Loading ('A' Dock) 1164-00-2002.00

SRV DISCHARGES TO PROCESS

Where possible SRVs on streams or equipment in Vinyl Chloride service* relieve back to the system.

RUPTURE DISKS

All Vinyl Chloride service* SRVs that relieve to the atmosphere have Rupture Disks underneath to prevent fugitive VC emissions. Operators make a SRV rupture disk round at least quarterly to determine which rupture disks, if any, are blown, and make all possible attempts to repair those that are

INCINERATOR STACK MONITORING

The Incinerator stacks are equipped with a continuous monitoring system to verify that all Vinyl Chloride entering the incinerator is burned completely (< 10 ppm exhaust). There are unit and Derivatives-wide SOPs (*Greenbook SOP #15*) that outline what the response should be to Vinyl Chloride incineration bypasses.

* Vinyl Chloride service is defined as equipment used on process streams with a VCM concentration of > 10%

VALVE STANDARDS

PPG has valve specifications that prevent the use of gate valves in Vinyl Chloride service*

*Must get rid of
valves @ day tanks.*

CLOSED LOOP SAMPLING

All samples of streams in Vinyl Chloride service* are collected by operators in closed-loop sample systems, with nitrogen tie-ins provided to purge sample connections before removing the sample coil

CLOSED DOME LOADING

All VCM tank cars and water vessels are loaded in a closed-dome system with all vents incinerated. Nitrogen and vent header tie-ins are provided to purge loading hoses to the incinerator before disconnecting

WORK PRACTICE CONTROLS

VCM EQUIPMENT CLEARING

Each unit has its own SOPs outlining the proper way to clear equipment or pipelines in Vinyl Chloride service*. Shipping also has an SOP for clearing VCM tank cars for maintenance

Tri-II 6904-00-7002

VCM-II 5601-7012 ~~SOP~~ 00

VCM Tank Car Loading Rack 1163-00-7001 00

VCM Ship Loading ('A' Dock) 1164-00-2001 00

SAMPLING VINYL CHLORIDE STREAMS

Each unit that samples Vinyl Chloride has SOPs explaining the proper way to collect samples using the closed-loop system

VCM-II ~~5605-020 SOP~~ 5605-2020.00

VCM Tank Car Loading Rack 1163-00-2007 00

LOADING TANK CARS

The Shipping department has SOPs for loading VCM tank cars properly, including monitoring tank car fittings for leaks

VCM Tank Car Loading Rack 1163-00-2001 00

VCM Ship Loading ('A' Dock) 1164-00-2000 00

YEARLY VALVE MONITORING

Once per year VCM-II and Tri-II must check 200 random valves in Vinyl Chloride service*

This is usually done by an operator with an HNU meter that was calibrated the day of the inspection.

The operator logs the VC concentration right at the valve. Regulations define a leak as a concentration of 10,000 ppm or more right at the valve. PPG has defined a leak as 1500 ppm or more right at the valve. An immediate attempt to fix is made on those valves that are proven to be leaking, if the valve is unable to be repaired while in service, it is to be changed at the next available time

HNU ROUNDS

A weekly round is conducted with the HNU meter of all equipment in Vinyl Chloride service*. The logsheet provides a place to log the leakage and comments

* Vinyl Chloride service is defined as equipment used on process streams that have a VCM concentration of > 10%.

DOUBLE VALVE/PLUG BLEEDS

All bleed valves in Vinyl Chloride service* must be plugged or valved past the first valve. Both the first and second valve must be closed if the bleed is double valved. If it is not double valved it must have a closed valve on the process and a plug/cap at the end. A weekly round is made through the VC unit at TE-II to determine which bleeds need plugs or valves and immediate action is taken accordingly.

SRV/RUPTURE DISK INSPECTIONS

A round is conducted through the units by the operators (at least quarterly) to determine and log the status of the rupture disks (blown?), gauge (operable?), and the bleed (double blocked?).

EQUIPMENT INSPECTIONS

Operators inspect equipment and piping externally on a quarterly basis and document any problems. The PPG inspection group also makes external and internal inspections periodically and documents problems.

PERSONAL PROTECTIVE EQUIPMENT - RESPIRATORY

Safety procedures specify that self-contained breathing equipment must be worn when responding to leaks of unknown concentrations of VCM. When VCM concentrations are shown to be less than 10 ppm by fixed point monitors, or portable meters, use of an approved organic cartridge half-mask respirator is permitted. Both the Supervisor and the wearer have the responsibility to ensure that the correct protection is selected and used properly. Safety procedure #12 -- *Respiratory Protection Program* -- provides general information on the use of respiratory protection and the operation of the program and is reviewed annually. Contents include responsibilities, medical review and approval, training, fit testing, selection, cleaning, inspection, and storage. Also included is a list of PPG IPELs and NIOSH IDLHs.

ANNUAL VC TRAINING

Training is conducted annually by qualified instructors. The training is documented and kept in the PPG Training department. Training includes the hazards associated with vinyl, first aid, handling, physical and chemical properties, acute and chronic signs and symptoms, and a review of the additional information in the MSDS.

VINYL CHLORIDE MONITORING PROGRAM

The purpose of the PPG Lake Charles Vinyl Chloride monitoring program is to evaluate potential employee exposures to vinyl chloride and assess the need for engineering, administrative and/or personal protective equipment controls.

The annual Industrial Hygiene Monitoring strategy contains the sampling frequencies established for each job class potentially exposed to vinyl chloride. These frequencies are based upon a statistical analysis of past monitoring results and all samples are randomly acquired from different shifts on different days over the time period of interest. Investigative samples are obtained on an as needed basis.

In the event that any sample taken shows an exposure level in excess of the IPEL of 1.0 ppm, a second, follow-up sample is collected within 7 working days of receipt of the analysis. If the second sample verifies an exposure problem or potential problem, the Area Supervisor is notified that corrective actions are necessary. If any sample taken shows an exposure level in excess of the Action level but below the IPEL, a second follow-up sample is collected within 3 months from receipt of the analysis.

Additional monitoring is also conducted whenever there has been a production, process or control change resulting in the possibility of employees be exposed above the action level.*

* Vinyl chloride service is defined as equipment used on process streams that have a VCM concentration of > 10%.

To: Allen Pride
From: Steve Hellen *SH*
Date: 5/5/93
Subject: VCM Safety Compliance Procedure

A meeting was held on 4/5/93 to discuss the existence of a written VCM Safety Compliance Program. In attendance were John Cobb, Bobby Chiasson, Don Pearson, and myself. It was a general consensus that our program to ensure the safety of those who work around Vinyl Chloride was not written down in a centralized location, but incorporates items from various sources.

Enclosed, please find a list and brief explanation of what we feel is Operations' and Plant 'B' Technical's contribution to this program.

If you have any questions, call me at 4742

cc. Dick Holliday
Clark Graybill
Don Pearson
John Cobb
Mike Gудdry

SL 088670

ENGINEERING CONTROLS

DOUBLE SEALS OR SEALLESS EQUIPMENT

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FIXED POINT MONITORING SYSTEM

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RUPTURE DISKS

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INCINERATOR STACK MONITORING

The Incinerator stacks are continuously monitored to verify that all Vinyl Chloride entering the incinerator is burned completely (<10 ppm exhaust). There are unit and Derivatives-wide SOPs that outline what the response should be to Vinyl Chloride incineration bypasses.

VALVE STANDARDS

PPG has valve specs that limit the types of valves allowed in Vinyl Chloride service*.

LIST ALL VALVES THAT ARE ALLOWED.

CLOSED LOOP SAMPLING

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logsheet provides a place to log the leakage and comments. WHO MAKES ROUND? WHO REVIEWS? WHAT

ACTION TAKES PLACE IF READING IS HIGH?

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(blown?), gauge (operable?), and the bleed (double blocked?). WHO REVIEWS AND WHAT ACTION IS TAKEN?

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