

Conoco Chemicals  
Continental Oil Company  
P.O. Box 91, New Highway 25  
Aberdeen, Mississippi 39730

February 19, 1979

United States Environmental Protection Agency  
345 Courtland Street  
Atlanta, GA 30308

Attn: Mr. Thommie A. Gibbs, Chief  
Air Engineering Branch

Dear Sir:

At approximately 7:15 a.m. on February 10, 1979, our plant experienced a vinyl chloride discharge from a relief valve on one of the polyvinyl chloride reactors. Pursuant to the National Emission Standard for Vinyl Chloride (40 CFR, Part 61, Subpart F, paragraph 61.65 a), we are reporting this to your office.

The vessel involved was polymerization reactor D-300. The release occurred thru a 4" x 6" relief valve which had a 4" rupture disc between it and the reactor. The relief valve setting was at 185 PSIG and the rupture disc was rated at 185 PSIG at 200°F. The reactor design pressure is 200 PSIG at 200°F.

The release was due to premature failure of the rupture disc and the opening of the relief valve at less than its rated pressure. The reactor was in the polymerization phase of the cycle and the pressure was 148 PSIG at the time of the release. The cause for the rupture disc relieving below its rated pressure is likely due to faulty manufacture rather than metal fatigue since the disc had been in service for less than a week. The failure of the rupture disc apparently induced a pressure wave which caused the relief valve to open.

The reactor batch was equalized with an empty reactor. Equalization reduced the pressure in the relieving reactor and the relief valve reseated when the pressure reached 138 PSIG. The duration of the release was five (5) minutes. The amount of the release was calculated from the relief valve design to be 7100 pounds of vinyl chloride. No personnel were exposed to vinyl chloride during the incident.

The plant will conduct a survey of rupture disc manufacturers and rupture disc types to determine if a better rupture disc is available for this service.

If there are any questions on this matter, please contact me at 601-369-8111, Extension 239.

Sincerely,

*R. A. Frohreich*

R. A. Frohreich

jf

c: CLM, ELK, SJV  
Wayne B. Anderson - Mississippi Air and Water  
Pollution Control Commission