



UNION CARBIDE CORPORATION
CHEMICALS AND PLASTICS DIVISION
TEXAS CITY PLANT 515

ACCIDENT INVESTIGATION REPORT

Please route and review as shown. Signify your H/A by initialing or attach comments.

Dept. Hd (s)	Mgrs. Dept	S & FP or H & EP Depts
1. <u>W. A. Mazzolini</u>	3. <u>F. S. Provenzano</u>	5. <u>J. B. Leverton</u>
2. <u>[Signature]</u>	4. <u>[Signature]</u>	6. <u>R. J. Taylor</u>

Accident Report #: 11107 Loss Description: B-5 Rupture Disc Failure

Accountable Department: Solvent Vinyl Resins Building#: 115 Date of Accident: 10/6/78

Potential Accident Classification: ☐ 1 ☐ 2 ☐ 3 ☒ 4 Actual Accident Classification: ☐ 1 ☐ 2 ☒ 3 ☐ 4

Probability Recurrence: ☐ 1 Remote ☐ 2 Low ☒ 3 Moderate ☐ 4 High

Loss Analysis A. \$ 4,100 Material Loss (\$ Loss/Unit x # Units X in lbs; gals; etc.)

+ B. \$	Product Mixup (Rerun, Devaluation, etc.)
+ C. \$ <u>100</u>	Equipment Damage (\$ to Replace/Repair)
+ D. \$	Business Interruption (\$ V-M Loss)
+ E. \$	Med./Comp. Constant
+ F. \$ <u>100</u>	Productivity Loss (Est. Manhours x \$/Manhour) and/or Cleanup Costs
= \$ <u>4,300</u>	Total Loss

DETAILED REPORT

Accident Summary

The 8-inch S-90 rupture disc on B-5 autoclave, Bldg. 115, ruptured following a routine transfer with a partial release of the autoclave contents.

Investigation

The Operator transferred the contents of B-6 into B-5 per S.O.P. He applied heat to the autoclave. The temperature rose to 59° and the pressure to 79 psig. At this point an 8", S-90 rupture disc rated at 105 psig blew causing some vinyl chloride and varnish in the autoclave to be released out the vent. After the Operator confirmed a premature failure, he closed the hand valve under the rupture disc from ground level. The venting lasted approximately 30 seconds with the loss of 16,000 pounds of varnish and 250 pounds of vapor. The incident was reported to EP and IH Departments. Unit procedure was followed but no toxic gas or fire alarms were turned in. The rupture disc had been in service for about 8 months.

UCC 093545

Use (Include Contributing Factors)

1. Cause of the release was due to premature failure of an S-90 rupture disc. Cause of the premature failure is still under investigation.

NOTE:

This release highlighted some deficiencies in our Unit Flammable Vapor Cloud procedure. Some of the Action Plans below will eliminate those deficiencies.

PREVENTATIVE AND CORRECTIVE ACTIONS (INCLUDE RESPONSIBILITY AND COMPLETION DATE)

- | | | |
|--|-----|--------------------|
| 1. Revise unit procedure concerning premature failure.
(Consider actuation of sprinkler system; sounding alarm;
mini- Air Pak; etc.) | PDS | 12/1 |
| 2. Inquire into risks of higher pressure tests w/Otto Cox. | PDS | 11/20 |
| 3. Send the disc to BS&B. | JDV | complete
10/27. |
| 4. Review incident with BS&B experts. | JDV | complete
10/27 |
| 5. BS&B analysis obtained. | PDS | 12/1 |
| 6. Install sprinkler system actuators inside Bldg. 115
Control Room | JRR | 1/1/79 |
| 7. Review & strengthen rupture disc installation procedures. | PDS | 1/1/79 |

Prepared by: Chairperson P.D. Smith
A.P. Yalcinkaya
Member: J. D. Summers
Member: _____

Date of Investigation: Oct. 19, 1978
Member: W. A. Mazzolini
Member: _____

UCC 093546