



## U. S. Chemical Safety and Hazard Investigation Board RECOMMENDATIONS STATUS CHANGE SUMMARY

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|-------------------------------|---|
| <b>Report:</b>                | <b>Explosion at ASCO: Dangers of Flammable Gas Accumulation</b> |
| <b>Recommendation Number:</b> | <b>2005-3-I-NJ-R3 and R4</b>                                    |
| <b>Date Issued:</b>           | <b>January 19, 2006</b>   |
| <b>Recipient:</b>             | <b>Rexarc International, Inc.</b>                               |
| <b>New Status:</b>            | <b>Closed- Acceptable Action</b>                                |
| <b>Date of Status Change:</b> | <b>January 30, 2013</b>   |

### Recommendation Text:

Recommendation No. 2006-03-I-NJ-R3:

*Immediately inform existing acetylene generator users that the check valve did not prevent acetylene gas backflow in this incident. Recommend interim actions be taken to ensure that Rexarc check valves in service on acetylene production equipment will operate reliably.*

Recommendation No. 2006-03-I-NJ-R4:

*Replace check valves of this or similar design supplied by Rexarc with valves that will perform more reliably in recycle water service.*

### Board Status Change Decision:

#### A. Rationale for Recommendation

The recommendation was issued pursuant to the CSB's investigation of the January 25, 2005 explosion at Acetylene Services Company (ASCO), an acetylene manufacturing and packaging company in Perth Amboy, NJ. The CSB's investigation found that acetylene produced in a generator flowed back past a check valve through a recycled water line and accumulated in a shed, where it ignited and exploded. The CSB concluded that the design of the check valve, which was supplied by Rexarc International, Inc. (Rexarc), made it susceptible to malfunction.

#### B. Response to the Recommendation

Rexarc informed the CSB that they identified customers who used the check valve in service at ASCO and provided them with a different model. Rexarc staff also provided copies of Failure Mode Effect Analyses conducted for both the obsolete and replacement check valves and explained how the new valve is designed to operate more reliably than its predecessor.

#### C. Board Analysis and Decision

Because Rexarc reported actions that are consistent with the intent of these two recommendations, the Board designated both with the status "Closed- Acceptable Action."