



U. S. Chemical Safety and Hazard Investigation Board

RECOMMENDATIONS STATUS CHANGE

SUMMARY

Report:	Bayer CropScience Pesticide Waste Tank Explosion
Recommendation Number:	2008-08-I-WV-R1
Date Issued:	January 20, 2011
Recipient:	Bayer CropScience (BCS)
New Status:	Closed – Acceptable Action
Date of Status Change:	July 5, 2017

Recommendation Text:

Revise the corporate PHA policies and procedures to require:

- a) *Validation of all PHA assumptions to ensure that risk analysis of each PHA scenario specifically examines the risk(s) of intentional bypassing or other nullifications of safeguards,*
- b) *Addressing all phases of operation and special topics including those cited in chapter 9 of "Guidelines for Hazard Evaluation Procedures" (CCPS, 2008), and*
- c) *Training all PHA facilitators on the revised policies and procedures prior to assigning the facilitator to a PHA team.*

Ensure all PHAs are updated to conform to the revised procedures.

Board Status Change Decision:

A. Rationale for Recommendation

On August 28, 2008, an explosion occurred at the Bayer CropScience (BCS) facility in Institute, West Virginia. A runaway chemical reaction inside a residue treater containing the pesticide methomyl caused a vessel to overpressurize and catastrophically rupture during an attempted restart of a pesticide manufacturing unit. Highly flammable solvent sprayed from the ruptured vessel and immediately ignited, resulting in an intense fire. Two Bayer employees died, one from injuries sustained as a result of the vessel rupture and one from burns received in the fire. In addition, two contract workers and six volunteer firefighters were medically treated for possible toxic chemical exposure. More than 40,000 residents were advised by fire officials to shelter-in-place for more than three hours as a precaution.

As a part of its investigation, the U.S. Chemical Safety and Hazard Investigation Board (CSB) reviewed the process hazard analyses (PHAs) conducted for the methomyl unit at the BCS Institute facility along with site and corporate policies and procedures pertaining to conducting PHAs within Bayer. The CSB concluded that the PHAs failed to identify hazard scenarios created by bypassing or otherwise nullifying safeguards during startup due to shortcomings in site and corporate PHA policies and procedures. The CSB therefore recommended that BCS revise corporate PHA policies, conduct additional training, and update facility PHAs.

B. Response to the Recommendation

In July of 2011, BCS provided appropriate documentation to the CSB to show that it had completed items a) through c) of the recommendation and advised the CSB that due to the five year revalidation cycle for PHAs that they would not be completed for all of its U.S. facilities until

the end of 2016. In March of 2017, BCS provided appropriate documentation to the CSB to show that all the PHAs at its U.S. based facilities had been updated to conform to the revised procedures outlined in the recommendation.

C. Board Analysis and Decision

Based on the above actions taken by BCS, the Board voted to change the status of CSB Recommendation No. 2008-08-I-WV-R1 to: "**Closed – Acceptable Action**"