



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

Report:	Kuraray Pasadena Release and Fire
Recommendation Number:	2018-03-I-TX-R6
Date Issued:	December 21, 2022
Recipient:	Kuraray America, Inc.
New Status:	Closed – Acceptable Action
Date of Status Change:	September 11, 2023

Recommendation Text:

Clarify the lower equipment design pressure of the EVAL Reactor 2 within the operator training systems, written procedures, and in the control system interface.

Board Status Change Decision:

A. Rationale for Recommendation

On the morning of May 19, 2018, the pressure relief devices of a reactor used to make ethylene and vinyl alcohol copolymer (EVAL) activated and discharged ethylene into the air through horizontally oriented discharge piping. The resulting flammable vapor cloud found a heat source and ignited. The fire burned for approximately three minutes until enough ethylene was released to reduce the pressure inside the reactor to allow the pressure relief valve to close. Kuraray American, Inc. (Kuraray) reported releasing 2,347 pounds of ethylene. Several workers sustained injuries resulting from the fire as well as from trying to escape the fire. Twenty-one injured workers were transported to off-site medical facilities for treatment. Additionally, two workers were life-flighted from the Kuraray facility.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated the incident and found several safety issues including failures in pressure-relief system discharge design, excluding non-essential personnel during transient operations, and weakly implemented process safety management system elements. As a result of these findings, the CSB issued twelve recommendations to Kuraray. This status change summary addresses CSB Recommendation No. 2018-03-I-TX-R6.

B. Response to the Recommendation

Kuraray notified the CSB that the lower equipment design pressure of the EVAL Reactor 2 was clarified per the requirements of the recommendation and provided supporting documentation. The CSB requested additional information pertaining to how the lower equipment design pressure was clarified within the control system interface. Kuraray responded with additional documentation that satisfied the CSB's request.

C. Board Analysis and Decision

Based upon the information above, the Board voted to change CSB Recommendation No. 2018-03-I-TX-R6 to: “Closed – Acceptable Action.”