



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

<b>Report:</b>	Optima Belle LLC Explosion and Fire
<b>Recommendation Number:</b>	2021-02-I-WV-R10
<b>Date Issued:</b>	July 6, 2023
<b>Recipient:</b>	Richman Chemical Inc. (RCI)
<b>New Status:</b>	Closed – Acceptable Action
<b>Date of Status Change:</b>	August 15, 2024

### Recommendation Text:

*Develop and implement a formalized program for the development of toll manufacturing agreements using resources such as the Center for Chemical Process Safety's Guidelines for Process Safety in Outsourced Manufacturing Operations and Guidelines for Risk Based Process Safety. Ensure that the program provides for the following:*

- a) Identification of roles and responsibilities of all parties, including the client, toller, and any third-party technical service providers, for all phases of a proposed arrangement; and*
- b) Participation by all parties in tolling process development, including process hazards analysis and emergency planning, and appropriate stages of the pre-planning, pre-startup, and production phases.*

### Board Status Change Decision:

#### A. Rationale for Recommendation

On December 8, 2020, a metal rotary cone double dryer containing a chlorinated isocyanurate compound (trade name CDB-56®) exploded following a decomposition reaction that resulted in a fire and toxic chlorine release at the Optima Belle LLC (Optima Belle) facility in Belle, West Virginia. The explosion occurred while Optima Belle, a toll manufacturer, was dehydrating CDB-56® on behalf of Clearon Corporation through a contractual agreement with Richman Chemical Inc.

One Optima Belle employee was fatally injured in the explosion, two others were evaluated for respiratory irritation, and one member of the public reported a minor leg injury. Debris from the explosion was found almost a half-mile from the incident. Local authorities issued a shelter-in-place order for a two-mile radius for over four hours. The facility experienced an estimated \$33.1 million in property damage.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated the incident and found several safety issues including ineffective process knowledge management, a lack of thermal hazard assessment, ineffective selection of process equipment, shortcomings in industry

practices related to tolling hazardous materials, and a lack of regulatory coverage of reactive hazards under the Occupational Safety and Health Administration's (OSHA's) Process Safety Management standard (PSM) and the Environmental Protection Agency's (EPA's) Risk Management Program rule (RMP). As a result of these findings, the CSB issued one recommendation to Richman Chemical Inc. (RCI). This status change summary addresses CSB Recommendation No. 2021-02-I-WV-R10.

B. Response to the Recommendation

RCI notified the CSB that the company has implemented a program for developing toll manufacturing agreements in accordance with the requirements of the recommendation. Upon review of relevant documentation provided, the CSB concluded that RCI's actions satisfy all elements of the recommendation.

C. Board Analysis and Decision

Based upon the information above, the Board voted to change CSB Recommendation No. 2021-02-I-WV-R10 to: "Closed – Acceptable Action."