



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

Report:	Yenkin-Majestic Paint and OPC Polymers Corporation
Recommendation Number:	2021-04-I-OH-R7
Date Issued:	November 30, 2023
Recipient:	American Society of Mechanical Engineers (ASME)
New Status:	Open – Awaiting Response or Evaluation/Approval of Response
Date of Status Change:	Not Applicable – Initial Status

Recommendation Text:

Assist API in developing design, construction, and alteration guidance for low-pressure vessels in flammable and other highly hazardous chemicals service not exceeding an internal pressure of 15 psig. If any new design and construction guidance is specifically developed for pressure vessels in flammable and other highly hazardous chemicals service not exceeding an internal pressure of 15 psig, reference the design and construction guidance in the Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code (BPVC).

Board Status Change Decision:

A. Rationale for Recommendation

On April 8, 2021, a flammable liquid mixture and its vapors became pressurized and then released through the seal of a closed manway of an operating kettle at the Yenkin-Majestic Paint Corporation (Yenkin-Majestic) OPC Polymers resin plant in Columbus, OH. The vapor spread throughout the facility, forming a flammable cloud which found an ignition source and exploded resulting in a fire.

One Yenkin-Majestic employee was fatally injured due to burns and smoke inhalation. This employee was found partially covered by rubble inside the second floor of the resin plant. Eight other employees were transported to area hospitals for treatment of their injuries, which included third-degree burns and limb fractures. One employee required a leg amputation after being crushed under debris.

As a result of the incident the severely damaged facility was demolished. Yenkin-Majestic estimated the total property damage from the incident to be over \$90 million. In addition to the demolished facility, firefighting water runoff contaminated the nearby Alum Creek, and the Ohio Environmental Protection Agency reported observations of offsite impact through at least April 11, 2021.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated the incident and found several safety issues including ineffective guidance on mechanical integrity of low-pressure vessels, ineffective safeguard selection, and a lack of emergency preparedness. As a

result of these findings, the CSB issued one recommendation to the American Society of Mechanical Engineers (ASME). This status change summary addresses **CSB Recommendation No. 2021-04-I-OH-R7**.