



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

Report:	MFG Chemical Toxic Gas Release
Recommendation Number:	2004-09-I-GA-R7
Date Issued:	April 11, 2006
Recipient:	Lyondell Chemical Company
New Status:	R7: Closed – Acceptable Action
Date of Status Change:	June 17, 2013

Recommendation Text:

Revise the customer site safety assessment process, clearly addressing both PSM and Risk Management Program applicability before shipping allyl alcohol to a new customer. Include a requirement to review the customer's program documents, including the (draft) RMP, and internal and external safety audit or assessment records. Require that appropriate Lyondell health, safety, and environmental personnel review the written customer safety assessment before approving the shipment of allyl alcohol.

Board Status Change Decision:

A. Rationale for Recommendation

On April 12, 2004, MFG Chemical (MFG), a small chemical manufacturing company, was attempting to make a first full-scale production batch of triallyl cyanurate (TAC) at its Callahan Road Plant in Dalton, Georgia. Shortly after starting, a runaway chemical reaction over-pressurized the 4000-gallon reactor and caused the release of highly toxic, flammable allyl alcohol and toxic allyl chloride into the nearby community. More than two hundred families were evacuated; one employee received chemical burns and 154 people, including 15 police and ambulance personnel, required decontamination and treatment for chemical exposure at the local hospital.

Hours before the incident, Lyondell Chemical Company had supplied MFG Chemical with an isotainer containing 35,000 pounds (4940 gallons) of allyl alcohol for use in the TAC-production process. Pursuant to Lyondell's product stewardship program, Lyondell personnel had conducted a 3-hour site safety assessment at MFG three months prior to the delivery, using an audit checklist originally developed by the Lyondell European business unit, and also had provided the company with a copy of its Allyl Alcohol Safety Bulletin. Lyondell personnel did not, however, clearly communicate to MFG that both the OSHA Process Safety Management (PSM) and the EPA Risk Management Program (RMP) regulations could apply to the TAC process. Had MFG been made aware of and applied the requirements of these regulations prior to initiating production, this incident may have been prevented or its consequences mitigated. Compliance would also have contributed to a more effective emergency response by both the facility and local emergency responders, since the site's Risk Management Plan could have been used by local emergency responders to better plan for and respond to emergencies at MFG's facility. Based on these findings, the CSB recommended that Lyondell improve its customer site safety assessment to clearly address potential PSM and RMP applicability to processes containing allyl alcohol.

B. Response to the Recommendation

Lyondell indicated that the company expanded its customer site assessment protocol to “evaluate a customer’s ability to receive, store and handle allyl alcohol safely.” Potential allyl alcohol customers are asked to complete a self-assessment prior to an on-site assessment conducted by Lyondell personnel. The updated protocol includes a statement about potential applicability of the PSM and RMP standards and asks whether a Risk Management Plan has been filed. The document was also revised to incorporate a number of questions regarding the site’s emergency response capabilities. Lyondell also reported that existing allyl alcohol customers are re-evaluated at least every five years to ensure they are capable of handling the product safely.

C. Board Analysis and Decision

As the actions reported by Lyondell appear to meet the intent of CSB Recommendation No. 2004-9-I-GA-R7, the Board voted to change the status of this recommendation to: “Closed – Acceptable Action.”