



# 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-R14
<b>Date Issued:</b>	July 6, 2023
<b>Recipient:</b>	National Center for Biotechnology Information
<b>New Status:</b>	Closed – Acceptable Action
<b>Date of Status Change:</b>	November 9, 2023

#### Recommendation Text:

*Update the safety information in PubChem for sodium dichloroisocyanurate (NaDCC) dihydrate, to include publicly available reactivity and decomposition information including but not limited to the Self Accelerating Decomposition Temperature (SADT), the explosion hazard when heating metal containers containing NaDCC dihydrate, and the Differential Scanning Calorimetry (DSC) and Accelerating Rate Calorimetry (ARC) results presented in this report. When compiling this information, review sources including the Registration, Evaluation, Authorization, and Restriction of Chemicals Regulation (REACH) dossier and other publications.*

#### 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 that PubChem, a publicly available online resource maintained by the National Institutes of Health through the National Center for Biotechnology Information (NCBI), and used by Optima Belle prior to the incident, did not contain sufficient information to indicate the hazardous decomposition potential of sodium dichloroisocyanurate (NaDCC) dihydrate. As a result of this finding, the CSB issued one recommendation to NCBI. This status change summary addresses CSB Recommendation No. 2021-02-I-WV-R14.

## B. Response to the Recommendation

NCBI and the CSB met to determine what information should be added to PubChem on NaDCC dihydrate. Following the meeting, PubChem was updated to provide information on NaDCC dihydrate including explosion hazards, reactivity and decomposition data, and incident history, including the CSB's investigation report. This information is now publicly available in the following links:

[https://pubchem.ncbi.nlm.nih.gov/source/U.S.%20Chemical%20Safety%20and%20Hazard%20Investigation%20Board%20\(CSB\)](https://pubchem.ncbi.nlm.nih.gov/source/U.S.%20Chemical%20Safety%20and%20Hazard%20Investigation%20Board%20(CSB))

<https://pubchem.ncbi.nlm.nih.gov/compound/23667638#source=U.S.%2520Chemical%2520Safety%2520and%2520Hazard%2520Investigation%2520Board%2520%28CSB%29>

## C. Board Analysis and Decision

Based upon the information above, the Board voted to change CSB Recommendation No. 2021-02-I-WV-R14 to: "Closed – Acceptable Action."