

**CLEAN AIR ACT (CAA) § 112(r)(1) AND EMERGENCY PLANNING,
COMMUNITY RIGHT-TO-KNOW ACT (EPCRA) §§ 312 & 313
INSPECTION REPORT**

**Golden Aluminum
Fort Lupton, Colorado**

Facility Name and Address: Golden Aluminum, Inc. 1405 East 14 th Street Fort Lupton, Colorado 80621 Contact/Telephone: Amanda Harderson, EHS Manager 303-654-8309 Mailing Address: Same as above	Date of Inspection: 8/30/2023 RMP EPA ID #: NA TRIFID #: 80621GLDNL1405E NAICS: 331315 Aluminum Sheet, Plate, and Foil Manufacturing # Employees at this location: 190
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INTRODUCTION

This report presents the observations of the CAA section 112(r)(1) and EPCRA sections 312 & 313 inspection conducted by the Environmental Protection Agency Region 8. The purpose of this inspection was to determine compliance with the General Duty Clause (GDC) requirements of CAA section 112(r)(1), the Tier II reporting requirements of EPCRA section 312, and the Toxic Release Inventory (TRI) reporting requirements of EPCRA section 313.

The Facility produces, processes, handles, or stores chlorine which is a regulated substance covered by the General Duty Clause as specified in the CAA § 112(r)(1). The facility was chosen to be inspected to confirm the quantity of chlorine was below the threshold quantity listed in §68.130, under the 40 CFR Part 68 Chemical Accident Prevention Provisions.

Nature of Business: Golden Aluminum, Inc. is an aluminum manufacturer that uses a block caster to produce aluminum sheet coils using recycled aluminum for the food/beverage packaging, automotive, and building products industries.

The CAA section 112(r)(1) General Duty Clause states:

“It shall be the objective of the regulations and programs authorized under this subsection to prevent the accidental release and to minimize the consequences of any such release of any substance listed pursuant to paragraph (3) or any other extremely hazardous substance. The owners and operators of stationary sources producing, processing, handling or storing such substances have a general duty, in the same manner and to the same extent as section 654, title 29 of the United States Code [the general duty clause in the Occupational Safety and Health Act], to identify hazards which may result from such releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur.”

OBSERVATIONS

CAA § 112(r)(1) (GDC):

Section 1. Identify hazards which may result from such releases using appropriate hazard assessment techniques.

1. The facility conducted a hazard assessment, Chlorine PHA, dated 3/5/2013 and reviewed on 8/11/2023, after the facility received the Notice of Inspection (NOI) and Request for Information letter. The Chlorine PHA is a simplified checklist that provides information on potential failure modes, potential effects of failures, current design controls prevention, and recommendations. The Chlorine PHA does not include the following information discussed in the *EPA Guidance for Implementation of the General Duty Clause, May 2000*, and appropriate hazard assessment techniques:
 - a. The hazards of the chlorine.

Examples of the hazards of chlorine can be found in the Chlorine Institute Pamphlet 1 *Chlorine Basics*, Pamphlet 65 *Personal Protective Equipment*, and Pamphlet 85 *Recommendations for Prevention of Personal Injuries for Chlorine Production and Use Facilities*, three industry standards employed by Golden Aluminum.
 - b. There was no documentation of tracking the resolutions of the recommendations. Five recommendations appeared numerous times:
 - i. Annual leak checks for whole system – no records of this
 - ii. Annual calibration on gauges – no records of this
 - iii. Check all procedures current and accurate – no records of this
 - iv. Ensure personnel are properly trained in event of leaks or exposure – the facility provided WI-370-110 Chlorine Emergency Shut Down procedure with a training sign off sheet. WI-370-110 does not contain any information about what to do in the event of exposure to chlorine.
 - v. Check ChlorAlert regularly – the inspector requested copies of the functional tests of the ChlorAlert System for 2021, 2022, and 2023. The facility provided no copies of the monthly checklists for 2021, two monthly checklists for 2022, and five monthly checklists for 2023.
 - c. The Chlorine PHA was dated 3/5/2013, 10 years prior to this inspection. There was no documentation that the hazard assessment of the chlorine process at the facility had been updated or revalidated on a periodic basis.
 - The Center for Chemical Process Safety (CCPS), developed by the American Institute of Chemical Engineers (AIChE), produced *Guidelines for Hazard Evaluation Procedures*. The *Guidelines* state that hazard evaluations should be performed throughout the life of a facility by updating or revalidating them on a periodic basis.

- The Chlorine Institute Pamphlet 85, *Recommendations for Prevention of Personal Injuries for Chlorine Production and Use Facilities* is on the list of industry standards employed by Golden Aluminum. Pamphlet 85 also discusses that the initial PHA must be updated and reevaluated every 5 years, and a facility should retain these PHAs for the life of the chlorine process.

Section 2. Design a safe facility taking such steps as are necessary to prevent releases.

A limited review of the design of the facility was conducted during this inspection. At the time of the inspection, the chlorine system was shut down and modification to the process was currently happening. The modifications include decreasing the amount of chlorine on site and installation of a chlorine scrubber. The Management of Change action items were still in progress, so further review could not be completed.

- 2. The Chlorine Room does not meet industry standards for safe design:**
 - a. The two exit doors are not equipped with anti-panic hardware.**
 - b. There is a window on one of the doors with numerous cracks. All windows should be made of fire-resistant, non-shattering material.**
 - c. The Danger/warning signs on the door with the window are in disrepair or illegible.**
 - d. Buildings in which chlorine is stored should be free of combustible materials. There were various combustible materials and a flammable cabinet with its door ajar.**

Photo 1. Door to Chlorine Building (right-side door)



Photo 2. Door to Chlorine Building (Left side door)



Photo 3. Inside Chlorine Building



An applicable standard that addresses these safe design requirements for chlorine buildings include The Chlorine Institute Pamphlet 155 *Water and Wastewater Operators Chlorine Handbook, Edition 2, January 2008, Section 7*, which is an industry standard employed by Golden Aluminum.

Section 3. Maintain a safe facility taking such steps as are necessary to prevent releases.

The *Guidance for Implementation of the General Duty Clause Clean Air Act Section 112(r)(1)*, EPA 550-800-002, May 2000 states, “An aspect of maintaining a safe facility is a review of information developed to ensure the safe operation of the facility. The Regional inspector should request and review standard operating procedures, evaluate the existence and implementation of employee training programs, review managing change procedures and evaluate the effectiveness of a facility’s incident investigation program.”

- 3. The facility provided a list of 11 maintenance and operating procedures in response to the Notice of Inspection (NOI) and Request for Information letter sent by the EPA Region 8 office prior to the inspection. After the inspection, the inspector requested copies of 10 of these procedures, 4 of which were standard operating procedures (SOPs):**
- a. WI-370-102 Alpur Production Procedure**
 - b. WI-370-106 Purge Procedure for Chlorine Mix**
 - c. WI-370-110 Emergency Shutdown Procedure**
 - d. WI-370-111 Changing the Vessel Chlorine Cylinder**
- None of these procedures identify safe upper and lower limits for process variables and identify corrective measures and emergency situations. The procedures do not clearly warn about conditions likely to cause a release as identified in the PHA and steps that the operator must take to prevent a release if these conditions are encountered.**

The *Guidance for Implementation of the General Duty Clause Clean Air Act Section 112(r)(1)*, May 2000 states these elements should be included in the SOPs.

- WI-370-111 Changing the Vessel Chlorine Cylinder contains discrepancies regarding how many doors to the chlorine building must remain open when gas carrying line is opened, chlorine system component is replaced, and opening of containment vessel. Page 2 states both doors must remain open. Page 4 states one door must remain open. The other SOPs and maintenance procedures also state one door must remain open.**
- 4. The EPA inspector requested a list of incidents/accidents/near misses involving chlorine for the past five years and incident investigations reports for them. The facility provided a table that included brief summaries of 3 near misses and incidents involving heavy chlorine leaks/smells. There were no investigation reports, no documented recommendations designed to prevent future similar occurrences, and no documentation on how these recommendations were evaluated.**

These are standard practices found in the *Guidance for Implementation of the General Duty Clause Clean Air Act Section 112(r)(1)*, May 2000. Chlorine Institute Pamphlet

85, *Recommendations for Prevention of Personal Injuries for Chlorine Production and Use Facilities, Edition 5, November 2010* also includes these requirements. Chlorine Institute Pamphlet 85 is one of the industry standards employed by Golden Aluminum.

5. **The facility does not perform inspections on the chlorine process piping. Corrosion of the chlorine piping and associated valves were observed during the inspection. A facility maintenance representative also stated the chlorine piping coming from the back of the chlorine building into the production areas had to be replaced due to corrosion. This occurred when production staff complained of a heavy smell of chlorine.**

Applicable industry standards such as the Chlorine Institute Pamphlet 1 *Chlorine Basics, Edition 7, October 2008 Section 8.9* and Pamphlet 6 *Piping Systems for Dry Chlorine, Edition 16, March 2013 Section 12* requires inspection of all chlorine piping and equipment on a regular basis. These industry standards are employed by Golden Aluminum.

6. **The facility could not provide preventive maintenance (PM) records for 2021 and part of 2022. During this time, a maintenance employee converted the PM paper checklists to laminated sheets for reuse, so there are no paper records for review.**

Section 4. Minimize the consequences of accidental releases which do occur.

7. **The facility provided a document titled Golden Aluminum Emergency Response Guide in response to the EPA's request for a copy of the Emergency Response/Action Plan. The Golden Aluminum Emergency Response Guide gives general information to guide users through different emergency situations:**
 - a. Fire
 - b. Cold Mill Fire
 - c. Spill Response
 - d. Power Failure
 - e. Lock Out and Lock Down
 - f. Shelter – Tornado
 - g. Evacuate Building
 - h. Chlorine
 - i. Bomb Threat
 - j. Active Shooter

The Chlorine section only contains simplified instructions on how to evacuate when if personnel hear an alarm or smell chlorine. The Emergency Response Guide does not address mitigating the effects of chlorine releases, notification process for local responders, and training and exercises for employees, including the emergency response personnel.

These are standard practices found in the *Guidance for Implementation of the General Duty Clause Clean Air Act Section 112(r)(1)*, May 2000. The required elements of an Emergency Response Plan, which are lacking in Golden Aluminum's Emergency Response Guide, are also discussed in detail in the Chlorine Institute Pamphlet 64 *Emergency Response Plans for Chlor-Alkali, Sodium Hypochlorite, and Hydrogen Chloride Facilities* Edition 6 – Revision 1, October 2008. Chlorine Institute Pamphlet 64 is one of the industry standards employed by Golden Aluminum.

8. **During the site tour of the facility, the inspector observed the closest safety eyewash/safety shower to the Acid & Bases storage areas in the production building was in a location that would require more than 10 seconds to reach and did not have a clear path from where the chemicals are stored. (Photos 4 and 5)**

Applicable industry standards such as ANSI/ISEA Z358.1-2014 American National Standard for Emergency Eyewash and Shower Equipment requires an eyewash/safety shower be in a location that requires no more than 10 seconds to reach, and the path of travel shall be free of obstructions.

Photo 4. Safety eyewash/shower location nearest to the Acids & Bases Storage



Photo 5. Zoomed in view of safety eyewash/shower



EPCRA § 312:

1. Requirement found at Part 370 – Hazardous Chemical Reporting: Community Right-To-Know - Subpart B – What hazardous chemicals must I report under this part? [40 CFR 370.12]:

- (a) You must report any hazardous chemical for which you are required to prepare or have available an MSDS (or SDS) under OSHA HCS that is present at your facility equal to or above the applicable threshold specified in [§ 370.10](#). (Specific exemptions from reporting are in [§ 370.13](#).)
- (b) The EPA has not issued a list of hazardous chemicals subject to reporting under this part. A substance is a hazardous chemical if it is required to have an MSDS (or SDS) and meets the definition of hazardous chemical under the OSHA regulations found at [29 CFR 1910.1200\(c\)](#).

- *Golden Aluminum did not report the hazardous chemical Magiesol 47 in the Tier II report submitted for calendar year 2022. Magiesol 47 met the Hazardous Chemical Reporting requirements of 40 CFR Part 370.*
- *The SDS for Magiesol 47 states it is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).*
- *Magiesol 47 was on-site at any one time in an amount equal to or greater than the 10,000 pound threshold quantity.*
- *At the time this inspection report was written, the facility was still in the process of determining if two other hazardous chemicals, T-900 and QH Everoll, needs to be reported on the 2022 Tier II report.*

EPCRA § 313:

- 1. Requirement found at Subpart B – Reporting Requirements [372.30(a)]:** For each toxic chemical known by the owner or operator to be manufactured, processed, or otherwise used in excess of an applicable threshold quantity...for a calendar year, the owner or operator must submit to EPA and to the State in which the facility is located a completed EPA Form R (EPA Form 9350-1) ...in accordance with the instructions referred to in subpart E of this part.
- **The facility submitted TRI data to the EPA from 2016 – 2021 for the following chemicals. At the time of the inspection, TRI data has not been submitted for calendar year 2022, which was due on July 1, 2023.**
 - 1,2,4-Trimethylbenzene
 - Aluminum (fume or dust)
 - Chlorine
 - Chromium
 - Dioxin and dioxin-like compounds
 - Ethylbenzene
 - Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)
 - Lead compounds
 - Manganese
 - Methyl isobutyl ketone
 - Xylene (mixed isomers)
 - N-Butyl alcohol

INSPECTION REPORT REVIEW RECORD		
		<i>Date:</i>
<i>Author:</i>	<i>Toxics and Pesticides Enforcement Section Inspector</i>	<i>11/7/2023</i>
<i>Final Reviewer:</i>	<i>Section Supervisor</i>	<i>12/6/2023</i>