**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 5**
**77 WEST JACKSON BOULEVARD**
**CHICAGO, ILLINOIS 60604**

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| **SUBJECT:** | CLEAN AIR ACT INSPECTION REPORT<br>American Renolit Corporation, La Porte, Indiana |
| **FROM:** | Linda H. Rosen, Environmental Engineer<br>AECAB (IL/IN) |
| **THRU:** | Nathan Frank, Section Supervisor<br>AECAB (IL/IN) |
| **TO:** | File |

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## BASIC INFORMATION

**Facility Name:** American Renolit Corporation

**Facility Location:** 1207 East Lincolnway, La Porte, Indiana

**Date of Inspection:** 05/19/2023

**EPA Inspector(s):**
1. Linda H. Rosen, Environmental Engineer
2. Jason Schenandoah, Environmental Engineer

**Other Attendees:**
1. Dr. Lucas Kromer, Health, Safety & Environment, American Renolit Corporation
2. Nils Dietz, President, American Renolit Corporation
3. Ron Grinka, Director of Manufacturing, American Renolit Corporation
4. Thalia Hobson, Air Compliance Inspector, Indiana Department of Environmental Management-Northwest Regional Office

**Contact Email Address:** Nils.dietz@renolit.com; Lukas.Kromer@renolit.com; Ron.Grinka@renolit.com

**Purpose of Inspection:** We inspected American Renolit Corporation (American Renolit) in relation to Clean Air Act requirements with an emphasis on volatile organic compound (VOC) emissions.

**Facility Type:** flexible film manufacturing

**Regulations Central to Inspection:** Standards of Performance for Flexible Vinyl and Urethane Coating and Printing, 40 C.F.R. Part 60, Subpart FFF (NSPS Subpart FFF) and the National Emission Standards for the Printing and Publishing Industry, 40 C.F.R. Part 63, Subpart KK (NESHAP Subpart KK).

**Arrival Time:** 11:10 a.m.
**Departure Time:** 1:25 p.m.

**Inspection Type:**
☒ Unannounced Inspection
☐ Announced Inspection

**OPENING CONFERENCE**

☒ Presented Credentials
☒ Stated authority and purpose of inspection
☒ Provided Small Business Resource Information Sheet
☐ Small Business Resource Information Sheet not provided. Reason:
☒ Provided CBI warning to facility

The following information was obtained verbally from representatives of American Renolit unless otherwise noted.

**Process Description:**
The facility manufactures polyvinyl chloride (PVC) film for various industries including: the sign and graphic, furniture film, and recreational vehicle (RV) industries. Raw materials include PVC powder and additives such as: pigments, processing aides (e.g., acrylic), soybean oil, plasticizers (which make the product flexible), and heat stabilizers. The solid materials are stored in silos and most of the silos are for PVC powder. Operations occur in two buildings. Building A operates three calender lines and Building B operates two calender lines.

In Building A, pots are wheeled to a PVC powder distribution system which gravity feeds PVC powder from the silos into the pots; the distribution system uses a lid to seal the pot and prevent the PVC powder from being entrained in the air. After the pot is filled with PVC powder, the lid is removed, and additional dry ingredients, such as pigment, are manually added. The pots are wheeled to the mixer and they are sealed as one unit. The pot and mixer turn over and agitation begins. Liquid additives are injected into the mixer through injector valves. The mixers operate based on either time or temperature. The maximum temperature is about 212 °F. The mixing time is about 10 minutes. Each batch is about 450 pounds. There are 35-40 batches per calender up to 60 batches for one line per day. There is one mixer per calender.

The main difference between Building A and Building B is that the mixing process in Building B is more automated. Pots are typically not used and all materials are added directly to the mixer. The only manual operation is the weighing of the color materials. Weighed color materials are sealed in a bag

and fed to the mixer via a conveyor. The equipment in Building B also operates at a faster rate and all the mixers in Building B operate based on temperature.

When the batch is completed in either building, the material, which is the consistency of sand, is transferred to a hopper that feeds into an extruder. The transfer operation is mostly enclosed and the facility claims there is little dust emitted throughout it.

In the extrusion process, friction and heat are applied to make the material solid with the consistency of taffy. The material temperature rises to about 320 °F. The heat is generated by process steam generated by oil and natural gas heaters in Building A and by electrical heaters in Building B. The extrusion process is a closed operation except when the material exits to a conveyor belt.

Next, the taffy like material enters the mill. Two rolls flatten the material to a specified uniform thickness. The material is cut into a strip and fed through the calender lines to produce film. Trimmings are recycled back to the extrusion process. Most calender lines have a 4-roll configuration except one calender line has a 5-roll configuration. Between rolls 2 and 3, the material becomes nearly liquid and the temperature increases to 450 ºF. The remaining rolls emboss the film and cool it to room temperature. The film is then removed from the calendar line and wound up.

The facility operates a lacquer line, L24, installed in 2003, that applies a coating on the top (embossed side) of the roll. The lacquer protects the substrate so that it is stain and scratch resistant. A primer is applied on the back side. The primer helps customers who purchase the rolls to apply adhesive to the back of the rolls. One type of lacquer is used but the facility adds materials such as crosslinkers and matting agents to produce four different finishes with varying VOC contents. One primer is used.

**Staff Interview:** American Renolit has owned the facility for the last 25 years. There are 220 employees that work at the facility. The operating schedule is 24 hours per day, in two 12-hour shifts, and 7 days a week, with some days off for holidays. There was a major capital expenditure in 2018, the installation of new calender line #5, that was completed in 2021. The facility employs an Environmental Compliance Specialist, Tracy LeVay, who was not at the facility at the time of the inspection.

In Building A, cleaning is done manually. The pots and mixer are scraped and wiped down. The facility uses soybean oil and “Blaze 8” which consists of butyl alcohol. American Renolit wants to replace the Blaze 8 with “Dilute and Clean”, a butyl-free product. The facility tracks the cleaner usage by inventory.

The most recent stack testing was conducted 4-5 years ago. The facility did not know what process was tested. The facility used to have a Federally Enforceable State Operating Permit (FESOP), but recently obtained its initial Title V permit.

## TOUR INFORMATION

**EPA Tour of the Facility:** Yes

**Data Collected and Observations:**

We started our tour in Building A and observed empty PVC pots and a dust collector on the silo loadout. We observed an operator manually loading a pot with various solid materials and then placing the pot on the mixer where it flipped over to fill the mixer. We observed mixed materials entering the extruder hopper. After extrusion, the material exiting the extruder was released onto a conveyor. We observed a calender line operation which was equipped with 4 rolls. The capture of emissions occurred above the calender at about rolls 1 and 2. We saw a defective roll being recycled in the mixer mill. According to the facility, the emissions from this operation go to an electrostatic filter. We saw the tempering area which is an enclosed room that is kept cool. We saw the final wound up product film.

We observed the lacquer line, also in Building A, but it was not operating at the time of the inspection. The primer is applied at the first station using rotogravure application and an infrared heater to cure the coating. The second station is where the lacquer is applied using rotogravure application followed by another infrared dryer/oven.

We walked through Building B. Line 5 was not operating so we observed Line 4. The extruder, mill, and calender systems were basically the same as in Building A, but the mixing was more automated. We observed a storage container for used cloths and rags that was open. There is no lacquer application or milling in Building 5.

Each building is equipped with a dust collector. We observed the display of the differential pressure for the dust collector on Building B. The range was 10.7-11 mbar with spikes up to 13.

**Photos and/or Videos:** were taken during the inspection.[1]

**Field Measurements:** were not taken during this inspection.

## CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility

**Requested documents:**

- Technical Data Sheet (TDS) for Blaze 8 and "Dilute and Clean" Cleaners;
- TDS for all lacquers;
- Formula and Calculations of VOC content for lacquer variations (as-applied);
- TSD for primer coating(s);
- Stack tests for emissions from mixing/calender/extruder area;
- VOC content of all lacquers and primers;
- Annual Emission Report for 2022 and 2023 if available; and
- Initial Notification and/or Notification of Compliance for NESHAP Subpart KK.

[1] Although photos were taken during the inspection and they were claimed Confidential Business Information (CBI) by the facility, the photos were inadvertently deleted from the camera upon return from the office. Therefore, this report contains no CBI.

An email was sent on July 9, 2023 to American Renolit, requesting the above listed information along with a link to upload the information. We asked American Renolit to submit the information within 14 days.

## DIGITAL SIGNATURES

Report Author: Linda H. Rosen

Section Supervisor: JASON SCHENANDOAH Digitally signed by JASON SCHENANDOAH Date: 2023.07.14 07:52:19 -05'00'