



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

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
American Axel & Manufacturing (AAM), previously Metaldyne

FROM: Ethan Chatfield, Environmental Engineer
AECAB (IL/IN)

THRU: Nathan Frank, Section Supervisor
AECAB (IL/IN)

TO: File

BASIC INFORMATION

Facility Name: American Axel & Manufacturing (AAM), aka Metaldyne

Facility Location: 8001 Bavaria Rd, Twinsburg, Ohio 44087

Date of Inspection: April 24, 2023

EPA Inspector(s):

1. Ethan Chatfield, Environmental Engineer
2. Brianna Fenzl, Environmental Engineer

Other Attendees:

1. Alexander Chrusic, EHS Representative
2. Jeffery Nutter – Plant Maintenance Manager

Contact Email Address: alexander.chrusic@aam.com

Purpose of Inspection: Clean Air Act Inspection, including but not limited to compliance with any lead emission limits and associated health impacts.

Facility Type: Foundry

Arrival Time: 11:22 am (ET)

Departure Time: 1:15 pm (ET)

Facility Name: AAM/Metaldyne
Facility Location: Twinsburg, Ohio
Date of Inspection: April 24, 2023

Inspection Type:

- ☒ Unannounced Inspection
- ☐ Announced Inspection

OPENING CONFERENCE

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☐ Provided Small Business Resource Information Sheet *Check the box if you provided during the inspection, or emailed after return to the office. If you are unsure whether the company is small, simply provide it.*
- ☒ Small Business Resource Information Sheet not provided. Reason: does not appear to fit criteria as small business
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Alex Chrusic unless otherwise noted.

Company Ownership: American Axel purchased Metaldyne Performance Group Inc. in or around 2017. The company continues to use the name Metaldyne as well as AAM.

Process Description:

The company has roughly 170 employees in the Twinsburg, Ohio location and operates 3 shifts, 24 hr/7 days: 7am-3pm, 3pm-11pm and 11pm-7am. Mr. Chrusic provided a map of the facility. The company uses aluminum alloys to make die cast parts for Ford and GM vehicles. There are four melting furnaces; two on the north end (referred to as Phase 1 furnaces) and two on the south end (Phase 2 furnaces). Generally, only one furnace on each end operates at any given time. Raw aluminum alloy, clean scrap material and some power 'flux' material (as needed) is fed into each of the furnaces and the melted alloy is used in a series of die casting machines at high pressure (12 on Phase 1 and 12 on Phase 2 for a total of 24 die casting machines). The die cast parts are further processed (as needed) in one of two Shot Blasts (Phase 1 shot blast is controlled with a baghouse, but Phase 2 is not). None of the furnaces have PM controls. Two of the Die Cast machines have some internal emission controls, no details provided. All emissions from the die cast machines are exhausted directly into the Phase 1 (north) and Phase 2 (south) die casting machine rooms, respectively, and all fumes are evacuated to and through a series of roof vents. There is also closed loop water processing done onsite. The company makes approximately 17,000 parts per day. Any wet, oily scrap is sent offsite and any non-oily scrap is fed back into the furnaces.

There is a "stack inspection" completed each day on the roof stacks to check for any opacity; with a simple 'yes' or 'no' on opacity logged.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:

EPA inspectors walked through each of the Phases production lines and noted high opacity inside each of the die casting rooms. Furnace 1 was in the process of being rebuilt during the inspection, but Furnaces 2, 3, and 4 were operating. The facility noted that they were getting ready to rebuild Furnace 4. Die casting machines 42 and 43 that make vehicle differential covers have been recently upgraded to newer machines with some internal PM controls. EPA noticed that these newer machines were significantly less emissive. The shot blast machines were not operating during the inspection. EPA then climbed a ladder to the roof to observe the roof exhaust vents. No visible emissions readings were taken.

Photos and/or Videos: were taken during the inspection.

CLOSING CONFERENCE

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

Requested documents:

- Estimate of aluminum alloy usage (tons per month) past year.
- Specification of aluminum alloy.
- Specification of flux material used.
- Estimate of air emissions for PM, HAPs, Lead, etc. for 2022.
- Most recent air operating permit for the facility.
- Copies of any PM and/or lead stack tests (especially on any of the furnaces)
- Copy of the opacity check logs for past month.

DIGITAL SIGNATURES

Report Author: **Chatfield,
Ethan**  Digitally signed by
Chatfield, Ethan
Date: 2023.05.24
07:23:53 -05'00'

Section Supervisor: **Frank,
Nathan**  Digitally signed by Frank,
Nathan
Date: 2023.05.24
15:41:11 -05'00'

Facility Name: AAM/Metaldyne
Facility Location: Twinsburg, Ohio
Date of Inspection: April 24, 2023

APPENDICES AND ATTACHMENTS

- I.* Appendix A: Digital Media Log

Facility Name: AAM/Metaldyne
Facility Location: Twinsburg, Ohio
Date of Inspection: April 24, 2023

APPENDIX A: DIGITAL IMAGE LOG

1. Inspector Name: Ethan Chatfield	2. Archival Record Location: Region 5 Electronic Records Center
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Image Number	File Name	Date and Time (incl. Time zone and DST)	Description of Image
1	P4240047.JPG	2023:04:24 10:16:03	Alloy melt Furnace #1 and 2
2	P4240048.JPG	2023:04:24 10:16:09	Scrap material to be melted
3	P4240049.JPG	2023:04:24 10:16:37	flux in front of bars of aluminum alloy for melting
4	P4240050.JPG	2023:04:24 10:16:40	Alloy melt Furnace #1 and 2
5	P4240051.JPG	2023:04:24 10:22:26	Foundry Casting Unit 11
6	P4240052.JPG	2023:04:24 10:22:30	Opacity in foundry
7	P4240053.JPG	2023:04:24 10:23:31	Casting unit from back
8	P4240054.JPG	2023:04:24 10:34:03	
9	P4240055.JPG	2023:04:24 10:34:12	Opacity in second foundry area
10	P4240056.JPG	2023:04:24 10:39:13	Alloy melt Furnace #3
11	P4240057.JPG	2023:04:24 10:39:17	Alloy melt Furnace #3 and 4
12	P4240058.JPG	2023:04:24 10:50:36	Roof vents
13	P4240059.JPG	2023:04:24 10:50:43	Roof vents
14	P4240060.JPG	2023:04:24 10:51:17	Roof vents
15	P4240061.JPG	2023:04:24 10:54:08	Roof vents
16	P4240062.JPG	2023:04:24 10:54:30	Roof vents
17	P4240063.JPG	2023:04:24 10:54:32	Roof vents
18	P4240064.JPG	2023:04:24 10:54:33	Roof vents