

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection**

N589863574

<b>FACILITY:</b> MASTER FINISH COMPANY		<b>SRN / ID:</b> N5898
<b>LOCATION:</b> 2020 NELSON SE, GRAND RAPIDS		<b>DISTRICT:</b> Grand Rapids
<b>CITY:</b> GRAND RAPIDS		<b>COUNTY:</b> KENT
<b>CONTACT:</b> Aaron Mulder , CEO		<b>ACTIVITY DATE:</b> 06/28/2022
<b>STAFF:</b> April Lazzaro	<b>COMPLIANCE STATUS:</b> Non Compliance	<b>SOURCE CLASS:</b> MINOR
<b>SUBJECT:</b> Unannounced, scheduled inspection.		
<b>RESOLVED COMPLAINTS:</b>		

Staff, April Lazzaro arrived at the facility to conduct an unannounced, scheduled inspection and met with Aaron Mulder, Chief Executive Officer. As I approached the facility no odors or visible emissions were identified.

**FACILITY DESCRIPTION**

Master Finish Company is a plating facility that conducts chrome and nickel plating on metal substrates which is located in an Environmental Justice community. There are five areas or departments, pre-plate, barrel plating of nickel alloy onto steel, auto rack plating line also called the Cyclmaster Line, the Hoist Line, and the nitric acid rack cleaning operation. Master Finish continues to be involved in national PFOS meetings representing the plating/finishing industry. We talked briefly about the surfactants on the market that do not contain any fluorinated materials, and how other companies in the area have successfully transitioned to their use. The facility operates pursuant to three Permits to Install (PTI). PTI No. 76-94 is for the existing nitric acid rack stripping operation. PTI No. 75-94B covers two decorative hexavalent chrome plating tanks known as EUCHROME1, three decorative trivalent chrome plating tanks known as EUCHROME2, an electrolytic passivation bath that meets the definition of chromium anodizing known as EUPASSIVATION which are part of the Hoist Line and a woods nickel electroplating tank and nickel strip tank controlled by a shared packed bed scrubber. The hexavalent chrome emissions are controlled through the use of mist suppressant and a composite mesh pad scrubber and the trivalent chrome emissions are limited through use of mist suppressant. PTI No. 74-94A is for the single hexavalent chrome plating tank known as chrome tank 6 which is exhausted to a composite mesh pad scrubber; acid tank 7 and cleaner tank 88. The barrel plating of nickel alloy is internally vented and exempt from permitting pursuant to Rule 285(2)(r).

Master Finish Company continues to increase their usage of trivalent chromium, with the hope to one day phase out the use of hexavalent chromium completely.

**COMPLIANCE EVALUATION**

The Cyclmaster Line (PTI No. 74-94A) scrubber was visually inspected for leaks, and none were observed. This line has not operated in several months and was not operating at the time of the inspection. The pressure drop gauge had water sitting in it and was not operational. Since the line was not and has not been operating this is not considered a violation. However, the gauge must be replaced prior to operating the line. During the 2018 inspection, the inlet pressure drop gauge read 0.8" H<sub>2</sub>O and the outlet pressure drop gauge read 2.8" H<sub>2</sub>O. At the time of the 2018 inspection, the acceptable range as listed in the O&M Plan was listed as 0.04-3.0" H<sub>2</sub>O. The scrubber pressure drop in 2018 was within the parameters of the O&M Plan. During a review of the scrubber inspection log, I learned that while the company indicates they have been completing the monthly maintenance, the information associated with the inspections is not being tracked as required by the O&M Plan. As such, this is a violation of PTI No. 75-94B, Special Condition VI.2 for failure to properly implement the O&M Plan for the Cyclmaster Line scrubber. A Violation Notice will be issued. Past pressure drop readings were also requested and reviewed. Since the Cyclmaster Line has not been operated very often, limited information is available.

The Hoist Line (PTI No. 75-94B) scrubber was visually inspected for leaks. A small liquid leak was occurring at a seal on the lower left face of the unit, which was also present during the 2018 inspection. This was miniscule and no drip of liquid was occurring. The inlet pressure drop gauge read 0.9" H<sub>2</sub>O and the outlet pressure drop gauge read 4.4" H<sub>2</sub>O. Both gauges contained moisture, which indicates that they are failing and should be replaced. During the 2018 inspection, the inlet pressure drop gauge read 0.1" H<sub>2</sub>O and the outlet pressure drop gauge read 3.6" H<sub>2</sub>O. The acceptable range as listed in the O&M Plan is listed as 0.01-3.8" H<sub>2</sub>O +/-1" H<sub>2</sub>O. During a review of the scrubber inspection log, I learned that while the company indicates they have been completing the monthly maintenance, the information associated with the inspections is not being tracked as required by the O&M Plan. This is a violation of PTI No. 74-94B, Special Condition VI.4 for failure to properly implement the O&M Plan for the

Hoist Line. A Violation Notice will be issued. Past pressure drop readings were also requested and reviewed. Fluctuations of the pressure drop over time is noted based on the data. The allowable system pressure drop range identified on the inspection log is 0.4-3.5" H<sub>2</sub>O +/-1". The system pressure drop is a combination of the inlet and outlet pressure drop gauge values. Those are added together to generate an overall pressure drop reading as directed by the scrubber manufacturer. Since the overall pressure drop of the system on multiple days is greater than 4.5" H<sub>2</sub>O, (see attached data) this is a violation of Rule 910 for failure to properly operate the Hoist Line scrubber. A Violation Notice will be issued and will include a request for a full complete inspection of this scrubber, along with submittal of the findings.

Both Woods Nickel scrubbers were visually inspected for leaks, and none were observed. There is limited pressure drop reading data for the Woods Nickel process scrubber, and the permit and the O&M Plan states that daily readings will be taken and recorded for both. During a review of the scrubber inspection log, I learned that while the company indicates they have been completing the monthly maintenance, the information associated with the inspections is not being tracked as required by the O&M Plan. This is a violation of PTI No. 74-94B, Special Condition VI.5 for failure to properly implement the O&M Plan for the Woods Nickel scrubber. A Violation Notice will be issued.

The Nitric Line (PTI No. 76-94) scrubber was visually inspected for leaks, and none were observed. During the 2018 inspection I was told that the stack and fan were recently replaced due to failure of the fan. Master Finish stated that they were replaced with identical equipment. Records of daily pressure drop readings for the Nitric Line scrubber were acceptable.

Master Finish plans to update the O&M Plan to include information obtained from the manufacturer related to acceptable system pressure drop values. The manufacturer has indicated that for the Cyclemaster Line and Hoist line scrubbers, the overall target pressure drop value is 2.5" H<sub>2</sub>O, +/-2" H<sub>2</sub>O. Master Finish will correct and resubmit the O&M Plan. It is also suggested that if any of the lines are not operating, and the scrubber is off, the company should develop a protocol to identify that instead of leaving the information blank in the recording system.

The Cyclemaster Line and the Hoist Line process tanks were visually inspected inside the facility although the Cyclemaster Line was not plating at the time of the inspection. During the last inspection Mr. Mulder stated that there have been no recent tank replacements, however, there have been various tank liner replacements. No issues were noted on the roof related to the uncontrolled equipment stacks, except one fan motor that was noisy that maintenance staff have worked on multiple times and have been watching closely. A new fan motor is on site for quick replacement when needed.

Copies of the 2020-2021 Chrome NESHAP annual compliance statements were requested and received but they were not signed or dated. I requested copies that were signed and dated and the reports for 2020 and 2021 were received with a signature date of July 12, 2022. 40 CFR 63.347(h)(1) of the Chrome NESHAP requires that the owner or operator of an affected source that is located at an area source site shall complete a compliance report annually. Since both reports were not completed until July 12, 2021 they were not conducted annually as required. This is a violation of 40 CFR 63.347(h)(1) and will be included in the Violation Notice. For future reference, in accordance with 40 CFR 63 Subpart A, the reports should be completed within 30 days following the end of the previous calendar year.

The trivalent chromium includes the surfactant/wetting agent as part of the package of ingredients, which appears acceptable. The term package does not literally mean in the same container, it is synonymous to the proper combination of different chemicals that are used to make up the correct balance in the tank to conduct quality plating.

A preliminary discussion via email was conducted related to the issues identified above. Mr. Mulder indicated that Master Finish will take all corrective actions needed.

## CONCLUSION

Master Finish was in non-compliance at the time of the inspection.



**Image 1(Hoist Line)** : Hoist Line pressure drop gauge with water in it. Image should be viewed rotated one turn clockwise.

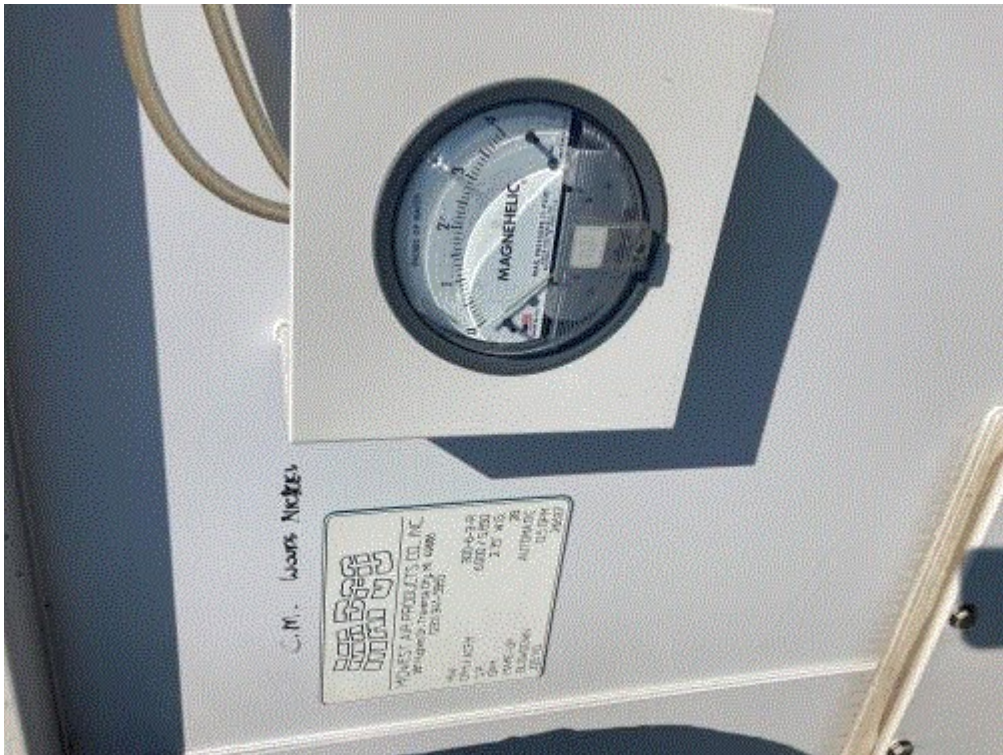


**Image 2(Cyclomaster Line)** : Cyclomaster Line inlet pressure drop gauge with moisture. Image should be viewed rotated one turn clockwise.





**Image 3(Cyclmaster Line) :** Cyclmaster Line outlet pressure drop gauge with moisture. Image should be viewed rotated one turn clockwise.









**Image 6(Nitric Line)** : Nitric Line pressure drop gauge.

NAME April Lazzaro

DATE 07/22/2022

SUPERVISOR HH Revised version