

B3366
MAWILA

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B336633558

FACILITY: HAJJAR PLATING SERVICE INC		SRN / ID: B3366
LOCATION: 38300 VAN BORN ROAD, WAYNE		DISTRICT: Detroit
CITY: WAYNE		COUNTY: WAYNE
CONTACT: Walt Cisco , Plant Manager		ACTIVITY DATE: 01/08/2016
STAFF: Usama Amer	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Targeted Inspection of a Minor Source		
RESOLVED COMPLAINTS:		

On January 8, 2016, I conducted a targeted inspection of Hajjar Plating Service, Inc. (facility), located at 38300 Van Born Rd., Wayne, Wayne County. The purpose of this inspection was to determine the facility's compliance with the state and federal air quality regulations. Mr. Walt Cisco, Plant Manager, represented the facility during the inspection. The facility was not issued any air quality permits.

Permit No. C-6486 was issued by Wayne County Air Pollution Control Division on 1/31/1984 for a Buffing Wheel Dust Collection and Sand Blasting Collection Cyclone and a Baghouse. The said equipment are still installed and in operational conditions; however, Permit No. C-6486 did not stipulate specific conditions to be met by the processes.

BACKGROUND

Hajjar Plating Service, Inc. transferred ownership of the business and building to Micro Platers in 1986. Since then the facility has been operating under the name Micro Platers DBA / Hajjar Plating.

The facility is a small job shop that provides decorative nickel-chrome plating and powder coatings services. The facility plates/coats different metal parts such as auto bumpers and slot machines. The plating takes place in plating and rinse tanks that are installed in series and split into 2 parallel lines. The powder coating takes place in a small booth, which is not exhausted to the outside air. The facility has grinding and polishing operations equipped with a dust collector. There is no control equipment installed to control the emissions of air pollutants. There is no spray painting booth, nor part washers or degreasers.

The facility runs 1 8-hour shift per day, 5 days, occasionally 6 days, per week, and employs about 15 people.

APPLICABLE REGULATIONS & THE INSPECTION

- As a decorative Chromium (Cr) plating shop, the facility is subject to the provisions of R 941 and the National Emission Standards of Hazardous Air Pollutants (NESHAP), Subpart N (40 CFR Part63, Subpart N) for Hard & Decorative Chromium Electroplating and Chromium Anodizing Tanks. However, the Cr electroplating process tank, which its emissions are released into the general in-plant environment, is exempt from the provisions of R 201(1) pursuant to the provisions of R 285(r)(vii). Therefore, the facility does not have to obtain a Permit To Install (PTI), from the MDEQ/AQD, for the Cr electroplating process tank.

- The decorative Chromium (Cr) plating tank contains **hexavalent** Cr with a wetting agent called Mist Eliminator PF Free. A copy of the said wetting agent's MSDS is included, herewith, as Attachment A.

- The NESHAP contains the following six requirements:

1. Emission limits
2. Work practice standards
3. Performance testing
4. Monitoring
5. Recordkeeping
6. Reporting

- The facility is classified as an *existing area source* chrome electroplating facility, as it started Cr electroplating process, before Micro Platters took over Hajjar Plating, Inc. in 1986, prior to 12/16/93. Therefore, it had to

comply with the Chrome NESHAP by January 25, 1997. On an average, the facility purchases around 900 lbs of chrome (Cr) per year and plates out 90% of the charged Cr. In 2015, the facility purchased 1,815 lbs Cr, because of the need to charge a new Cr plating tank. Consequently, the Cr annual emissions are very insignificant. Attachment A.1 shows the Cr purchase data on a monthly basis.

1. EMISSION LIMITS

The Chrome NESHAP 40 CFR 63.342(d)(1) specifies that the concentration of total chromium in the exhaust gas stream discharged to the atmosphere not to exceed 0.007 milligrams/dry standard cubic meter (mg/dscm). Facilities can typically achieve this limitation by using a certain control and monitoring technique to reduce emissions. Demonstrating compliance with this emission limit is typically achieved through monitoring of the surface tension (force/unit length) of the chromium electroplating tanks bath. Pursuant to the provisions of 40 CFR 63.342(d)(3), the facility can demonstrate compliance with the emission limit of 0.007 mg/dscm by not allowing the surface tension of the decorative chrome electroplating bath to exceed 40 dynes/centimeter, as measured by a stalagmometer.

- Attachment B is a copy of the most recent, 1/11/16, surface tension test of the chromium electroplating tanks bath that shows a surface tension value of 39 dyne/cm as measured by a stalagmometer. This result is less than the required limit of 40 dyne/cm.

2. WORK PRACTICE STANDARDS

The Cr NESHAP specifies that the facility must prepare an operation and maintenance plan including the following requirements:

- Specify the operation and maintenance criteria for the tank, control technique, and monitoring equipment.
- Provide a checklist to document the operation and maintenance of the tank, control technique, and monitoring equipment.
- Incorporate work practice standards.
- Include a step-by-step procedure for identifying and correcting malfunctions.
- Specify procedures to be followed that will prevent malfunctions.

- The facility provided the followings:

See Attachment D

3. PERFORMANCE TESTING

Since the facility opted to demonstrate compliance using the surface tension limit, it is not subject to initial performance testing requirements.

4. MONITORING

The facility must demonstrate continuous compliance by monitoring an operating parameter value for its control technique. In this case, the facility is to show compliance as described in the following table:

<i>CONTROL TECHNIQUE</i>	<i>OPERATING PARAMETER</i>	<i>MONITORING FREQUENCY</i>	<i>OPERATING LIMIT</i>
Wetting agent-type fume suppressant	Surface Tension	Every 40 hours of operation	33 dynes/cm with tensiometer 40 dynes/cm with stalagmometer

Surface tension tests of the facility's Cr tank were conducted by the facility's chemical vendor on a monthly basis. However, the said vendor testing did not comply with the specified monitoring frequency of every 40 hours of operation. As shown in Attachment B, the facility's surface tension value was reported at 39 dyne/cm in January, 2016. I also examined the surface tension test reports for the year 2015 and kept copies thereof in the facility's file. They all showed compliance with the required 40 dynes/cm limit, except for:

- 1) February, 2015 - The reported value was 47 dynes/cm
- 2) May and July, 2015 - No testing was performed

- The facility started conducting its own surface tension testing 3 times per day as of January 18, 2016.

5. RECORDKEEPING

The facility must keep following records to document compliance:

- Inspection records;
- Maintenance records;
- Malfunction records;
- Performance test results;
- Monitoring data;
- Excess emission records; and

- The facility provided the followings:

See Attachment E

Process records, including the following:

- Operating time for the chromium electroplating tank
- The date and time that fume suppressants are added.

- The facility provided the followings:

6. REPORTING

The facility must fulfill several reporting requirements. The table below summarizes what reports are required for the facility and the reporting deadline.

<i>TYPE OF REPORT</i>	<i>FACILITIES THAT MUST REPORT</i>	<i>REPORTING DEADLINE</i>
1) Ongoing compliance status report	Area sources	Complete once a year, or two times a year if exceedances occur or if requested.
2) Notification of construction or reconstruction	All facilities	As soon as practical before construction or reconstruction is planned to begin.
3) Notification of when construction or reconstruction is commenced	All facilities	Within 30 days of beginning construction
4) Notification of actual startup	All facilities	Within 30 days of startup
5) Notification of process change	All facilities	No later than 30 days after the process change

- Table Item #1:

The facility conducts surface tension tests, using a stalagmometer, on the Cr tank on a daily basis and keeps the testing results in a daily log. Attachments 2-1 and 2-3

- Table Items #2 - #5: Not Applicable

Hydrochloric Acid (HCl) Tank

This is a 700 gal water solution bath of 32.4% HCl, which is used for metal cleaning, degreasing and descaling. The bath is made up of 30% HCl by volume. Therefore,

$$(30\%) * (700 \text{ gal}) = 210 \text{ gal of HCl}$$

This means that the bath contains 490 gal of water, which is equal to 3,665 lbs.

Attachment C is a copy of the MSDS of HCl solution. According to this MSDS, the HCl concentration is 31.45% - 33.3% by weight; thereby, averaging 32.4% by weight, and has a specific gravity of 1.16.

$(210 \text{ gal HCl}) * (1.16) * (7.48 \text{ lb/gal H}_2\text{O}) = 1,822 \text{ lb of diluted HCl}$

$(1822 \text{ lb}) * (32.4\%) = 590 \text{ lbs of pure HCl}$

Total weight of the 700 gal HCl bath = $3665 + 1822 = 5,487 \text{ lbs}$

HCl concentration in the HCl bath:

$(590/5487) * (100\%) = 10.8\%$

Since $10.8\% < 11\%$, the HCl bath is exempt from the provisions of R 201(1) pursuant to the provisions of R 284 (h)(iv).

CONCLUSION

The facility appears to be in compliance with the state air quality regulations and the federal provisions of the National Emission Standards of Hazardous Air Pollutants (NESHAP), Subpart N (40 CFR Part 63, Subpart N) for Hard & Decorative Chromium Electroplating and Chromium Anodizing Tanks.

NAME Sam Amer

DATE 4/11/16

SUPERVISOR JK