B3366
MANILA

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

B336642571

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:** 11/06/2017
STAFF: Terseer Hemben	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Chrome/Nickel plating and anodizing		
RESOLVED COMPLAINTS:		

INSPECTED BY : Terseer Hemben, MDEQ
PERSONNEL PRESENT : Walter Cisco (Supervisor)
FACILITY PHONE NUMBER : (734)-718-2953
FACILITY FAX : (734)-729-4869
DATES OF INSPECTION : 11/06/2017
Micro Platers Sales, Inc.
38300 Van Born road, Wayne, MI 48184
SRN: B3366

FACILITY BACKGROUND:

The Micro Platers Sales Inc. (MPS) is a decorative nickel-chrome plating and powder coatings service. The facility was registered as Hajjar Plating service since 1986 and changed to Micro Platers Sales, Inc in 1999. The facility is a small job shop that coats different metal parts such as auto bumpers and slot machines. The operation uses plating and rinsing tanks that are installed in series and set up in 2 parallel lines. The powder coating takes place in a small booth, which is exhausted in the manufacturing area. The operation involves grinding and polishing. The facility is equipped with a dust collector for particulate emission management. There is no designated spraying, washing or degreasing units at the facility. The facility operates an 8-hour shift per day, occasionally 6 days per week. The facility has 15 employees.

INSPECTION NARRATIVE

I arrived at the premises of the MPS on November 6, 2017 at 1140 hours. The purpose of visit was to conduct a scheduled regulatory compliance inspection of the plating facility according to the state and federal rules. Temperature at the hour was 45 F. Wind speed was 10 mph coming from the North, and humidity was 58%. I met with Mr. Walter F. Cisco, the Supervisor. Mr. Cisco and I went over the pre-inspection agenda and discussed the state of the operation. We inspected the plating line and surface finishing equipment area including the dust collection system. We concluded the inspection with post-inspection conference. I left the area at 1305 hours.

COMPLAINT/COMPLIANCE HISTORY:

MPS has not been a source of citizen air quality complaints.

OUTSTANDING CONSENT ORDERS:

None

OUTSTANDING LOV'S:

None

OPERATING SCHEDULE/PRODUCTION RATE:

The facility operates a regular 8-hour shift, 5-6 days a week.

PROCESS DESCRIPTION:

The MPS was issued Wayne County Air Pollution Control Division Permit# C-6486 for a Buffing Wheel, Sand Blasting Collection Cyclone and Baghouse. The equipment is still installed and operational under Permit# C-6486. The permit did not come with specific operating conditions for enforcement.

The equipment control is built in the process itself. The process uses alkaline wash for cleaning. The plating tanks are equipped with mesh pads, and the nickel-chromium tanks are controlled with mist eliminating fume suppressant that is Perfluoro-alkyl free. The pollutant in this process is Cr+6. Details of fume suppressant use and monitoring for compliance with surface tension limit as well as MSDS are attached. The MSDS information submitted by the MPS following the 2018 emission regulatory inspection shows the surface tension reducing agent is Ethoxylated Coconut Oil, chemically known as Alkyl Amine. The MSDS document is attached.

APPLICABLE RULES AND CONDITIONS:

The MPS, as a decorative chromium electroplating source, is subject to the provisions of Rule 941 and NESHAP, of 40 CFR Part 63, Subpart N for Hard & Decorative Chromium Electroplating and Chromium Anodizing tanks. However, the Cr. Electroplating process tank, whose emissions are released into the general in-plant environment, is exempt from the provisions of Rule 201(1) pursuant to the provisions of Rule 285(2)(r)(vii). Gaseous discharge from Nickel process are also released into the general in-plant environment.

The NESHAP requirements for the facility include:

a) Emission limits
b) Work practice standards
c) Performance testing,
d) Monitoring
e) Recordkeeping, and
f) Reporting

The MPS is classified as an existing area source decorative chrome electroplating operation because it was commissioned as Hajjar plating in 1986. Typically, the facility purchases 900 lbs. of chrome per year and plates out 90% of the charged Cr. In 2015, the facility purchased 1,815 lbs. Chromium to satisfy the need to charge a new Cr plating tank. In 2016, the purchases amounted to 4,409 lbs. of Nickel, and in 2017, the purchase was 4,409 lbs. [Attachment Pg. 43].

a) 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 control and monitoring of the surface tension (force/unit length) of the chromium electroplating tanks. 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 pgs. 20-37 are the copies of the recent 12 months surface tension test results (11/2016-10/2017) of the chromium electroplating tanks bath that showed a maximum surface tension value of 37.5 dynes/cm as measured by a stalagmometer. This result is less than the required limit of 40 dynes/cm.

USE OF PERFLUORO ALKYL CONTAINING CHEMICALS FOR FUME SUPPRESSION

Fume suppressants popularly used in electroplating processes are known to contain Polyfluoroalkyl compounds and its homologous series. The EPA recently classified Perfluoroalkyl and polyfluoroalkyl substances (PFAS) also known as PFCs as emerging containment on the national level. PFAS are chemicals widely used in thousands of applications throughout the industrial, food, and textile industries. The substances are very stable with a slow rate of breaking down in the environment. The compounds are highly soluble in water and organic solvents with easy transfer of radicals throughout soil and ground water. PFAS contamination has been noted in many several locations across the state of Michigan. The PFAS are also used in fire-fighting foams, food packaging, cleaning products and various other products. PFAS found uses in plating, tanneries or cloth manufacturing industries where waterproofing or protecting film is required in manufacturing processes. The Michigan Governor Snyder issued a directive to create a PFAS action response team. The DEQ is delegated to investigate, through field inspection, the scope of PFAS usage and disposed quantity for purposeful determination of PFAS contamination extent in the State of Michigan following the compliance requirements set up in NESHAP chromium section 40 CFR 63.342(d)(4). This NESHAP section prohibits the use of fume suppressants containing perfluorooctane sulfonic acid (PFOS) and homologous series in decorative chromium plating baths. Every chrome plating facility is required to report the PFs content of their fume suppressant to the MDEQ. Details of

the requirements are listed in www.michigan.gov/pfasresponse website.
The MSDS information provided by MPS indicated the fume suppressant consisted of Ethoxylated coconut oil (Alkyl Amine). MPS does not use fume suppressant with PFs content [Attachment, Pg. 41]. The facility is in compliance with the PFs-free requirement.

b) WORK PRACTICE STANDARDS
The chromium 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 followed the compliance provisions of 40 CFR Part 63 listed in Attachment Pg. 18-19

c) PERFORMANCE TESTING
The facility opted to demonstrate compliance using surface tension limit. Thus, the source is not subject to initial performance testing requirements.

d) 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:

Control Technique	Operating parameter	Monitoring Frequency	Operating Limit
Wetting agent-type fume suppressant	Surface Tension	Every 40 hours of operation	35 dynes/cm with tensiometer 40 dynes/cm with stalagmometer

Surface tension tests of the facility's chromium tank were conducted by the facility's chemical vendor on a monthly basis. Records indicate the vendor testing complied with the specified monitoring frequency of every 40 hours of operation. Vendor tested at every 25.5-32 hours < 40 hours of operation. Attachment Pgs. 20-26 shows the facility's monitored surface tension values. The maximum surface tension value was reported at 37.5 dyne/cm in September 2016. Records of surface tension measurement reports covering the last 12 months period of June 9, 2016-November 10, 2017 are attached to this report and indicate compliance with the required 40 dynes/cm limit.

e) RECORDKEEPING
The facility must keep records to document compliance with:

- Inspection records;
- Maintenance records;
- Malfunction records;
- Performance test results;
- Monitoring data;
- Excess emission records, and
- The facility provided a standard operating procedure information (Attachment Pgs. 19, 28, and 38-42);
- Process records include (i) operating time for the chromium electroplating tank, (ii) the date and time that fume suppressants are added.

The records well kept in a satisfactory manner [Attachment Pgs. 38-42].

f) REPORTING
The facility must fulfill several reporting requirements. The table below summarized what reports are required for the facility and the reporting deadline:

Type of report	Facilities That Must Report	Reporting Deadline
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 construction 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 conducted surface tension tests, using a stalagmometer, on the chromium tank on a daily basis and kept the testing results in a daily log [Attachment Pgs. 20-26]

Table Item#2-#5: Not applicable

HYDROCHLORIC ACID (HCl) TANK

Previous calculations made in 2016 following emissions regulatory compliance inspection established the concentration of dilute HCl in the tank was 10.8%. Since the process had not been changed or modified, the 10.8% is determined to be less than the SIP limit of 11% by volume. Conversion of the volume concentration to weight% shows the concentration is not more than 11% by weight. Hence the tank is exempt from the provisions of Rule 201(1) pursuant to the provisions of Rule 284(2)(h)(iv).

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS:

This facility does not have nor needs a fugitive dust plan.

FINAL COMPLIANCE DETERMINATION:

The facility management maintained satisfactory recordkeeping requirement of the federal and SIP regulations. There have been no complaints or concerns from the neighbors. The inspection determined the facility operated in compliance with federal and state regulatory requirements.

NAME TH DATE 8/24/2018 SUPERVISOR JK