STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING

GRETCHEN WHITMER
GOVERNOR

LIESL EICHLER CLARK
DIRECTOR

June 6, 2019

UPS NEXT DAY

Mr. Kurt A. Kissling
Warner Norcross & Judd
2000 Town Center
Suite 2700
Southfield, Michigan 48075-1318

Dear Mr. Kissling:

Enclosed is the final signed copy of the State of Michigan, Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), Stipulation for Entry of Final Order by Consent (Consent Order) AQD No. 2019-12 for Lapeer Plating & Plastics, Inc.

The effective date of this Consent Order was June 5, 2019. Please refer to paragraph 12 for payment information. Payment is due on or before July 5, 2019. To insure proper credit, all payments made pursuant to this Consent Order must include the Payment Identification No. AQD40215.

Thank you for your cooperation. If you have any questions, please feel free to contact me.

Sincerely,

Jason Wolf
Enforcement Unit
Air Quality Division
Wolfj2@michigan.gov

Enclosure

cc/enc: Ms. Sarah Marshall, U.S. Environmental Protection Agency, Region 5
Mr. Neil Gordon, Michigan Department of Attorney General
Mr. Brad Myott, EGLE
Mr. Christopher Ethridge, EGLE
Ms. Jenine Camilleri, EGLE

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
OFFICE OF THE DIRECTOR

In the matter of administrative proceedings against **LAPEER PLATING & PLASTICS, INC,** a corporation organized under the laws of the State of Michigan and doing business at 395 DeMille Road in the City of Lapeer, County of Lapeer, State of Michigan

AQD No. 2019-12

SRN: N1863

_____/

STIPULATION FOR ENTRY OF FINAL ORDER
BY CONSENT

This proceeding resulted from allegations by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) against Lapeer Plating & Plastics, Inc. (Company), a corporation organized under the laws of the State of Michigan and doing business at 395 DeMille Road, City of Lapeer, County of Lapeer, State of Michigan, with State Registration Number (SRN) N1863 (Facility). EGLE alleges that the Company is in violation of 40 CRF, Part 63, Subpart N, National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks; and Permit to Install (PTI) 25-13. Specifically, EGLE alleges that the Company exceeded the maximum surface tension limit on chromium electroplating tank #32 (EU-CHROMEPLATE32), failed to increase the surface tension monitoring frequency after exceeding the surface tension limit as required on EU-CHROMEPLATE32, operated without a functional pressure drop gauge on the packed bed scrubber associated with pre-etch tank #1 and etch tank #2, and operated without a functional dry scrubber fan on the dry scrubber system associated with the copper strike tank and five bright acid copper tanks, as cited herein and in the Violation Notice dated November 15, 2018. The Company and EGLE stipulate to the termination of this proceeding by entry of this Stipulation for Entry of a Final Order by Consent (Consent Order).

The Company and EGLE stipulate as follows:

1. The Natural Resources and Environmental Protection Act (NREPA) MCL 324.101 *et seq.,* is an act that controls pollution to protect the environment and natural resources in this State.

2. Article II, Pollution Control, Part 55 of the NREPA (Part 55), MCL 324.5501 *et seq.*, provides for air pollution control regulations in this State.

3. Executive Order 2019-06 renamed the Michigan Department of Environmental Quality as EGLE, and EGLE has all statutory authority, powers, duties, functions and responsibilities to administer and enforce all provisions of Part 55.

4. The EGLE Director has delegated authority to the Director of the AQD (AQD Director) to enter into this Consent Order.

5. The termination of this matter by a Consent Order pursuant to Section 5528 of Part 55, MCL 324.5528, is proper and acceptable.

6. The Company and EGLE agree that the signing of this Consent Order is for settlement purposes only and does not constitute an admission by the Company that the law has been violated.

7. This Consent Order becomes effective on the date of execution (effective date of this Consent Order) by the AQD Director.

8. The Company shall achieve compliance with the aforementioned regulations in accordance with the requirements contained in this Consent Order.

COMPLIANCE PROGRAM AND IMPLEMENTATION SCHEDULE

Permit

9.A. On and after the effective date of this Consent Order, the Company shall comply with the Malfunction Abatement Plan (MAP) for EU-CHROMEPLATE32 and EU-CHROMEETCH dated February 27, 2019. The MAP shall be an enforceable part of this Consent Order and attached as Exhibit A to this Consent Order. Any future revisions to the MAP shall replace Exhibit A on the date of written approval from the AQD Lansing District Supervisor.

9.B. On and after the effective date of this Consent Order, the Company shall comply with Special Conditions III.2, IV.1, VI.3, and VI.1 for EU-CHROMEPLATE32 of PTI 25-13, as amended.

9.C. On and after the effective date of this Consent Order, the Company shall comply with and Special Conditions III.2, IV.1, and VI.3 for EU-CHROMEETCH of PTI 25-13, as amended.

9.D. On and after the effective date of this Consent Order, the Company shall comply with Special Condition IV.1 and IV.2 for FG-COATING of General Permit 11-13, as amended.

9.E. On and after the effective date of this Consent Order, the Company shall comply with Special Condition III.1 for FG-NONCHROMEPROCESS of PTI 25-13, as amended.

9.F. On and after the effective date of this Consent Order, the Company shall comply with PTI 25-13, as amended.

GENERAL PROVISIONS

10. This Consent Order in no way affects the Company's responsibility to comply with any other applicable state, federal, or local laws or regulations, including without limitation, any amendments to the federal Clean Air Act, 42 USC 7401 *et seq.*, Part 55, or their rules and regulations, or to the State Implementation Plan.

11. This Consent Order constitutes a civil settlement and satisfaction as to the resolution of the violations specifically addressed herein; however, it does not resolve any criminal action that may result from these same violations.

12. The Company shall pay to the General Fund of the State of Michigan, in the form of checks made payable to the "State of Michigan" and mailed to the Michigan Department of Environment, Great Lakes, and Energy, Accounting Services Division, Cashier's Office, P.O. Box 30657, Lansing, Michigan 48909-8157, a settlement amount of $5,000.00, which includes AQD costs for investigation and enforcement. This total sum of $5,000.00 shall be made in two (2) payments as follows: the first payment of $2,500.00 shall be paid within thirty (30) days of the effective date of this Consent Order and the second payment of $2,500.00 shall be paid within 180 days of the effective date of this Consent Order. To ensure proper credit, all payments made pursuant to this Consent Order shall include the "Payment Identification Number AQD40215" on the front of the check and/or in the cover letter with the payment. This settlement amount is in addition to any fees, taxes, or other fines that may be imposed on the Company by law.

13. On and after the effective date of this Consent Order, if the Company fails to comply with paragraph 9.A, 9.B, 9.C, 9.D, or 9.E of this Consent Order, the Company is subject to a stipulated fine of up to $3,500.00 per violation. On and after the effective date of this Consent Order, if the Company fails to comply with paragraph 9.F of this Consent Order, the Company is subject to a stipulated fine of up to $1,000.00 per violation. The amount of the stipulated fines imposed pursuant to this paragraph shall be within the discretion of EGLE. Stipulated fines submitted under this Consent Order shall be by check, payable to the State of Michigan within thirty (30) days after written demand and shall be mailed to the Michigan Department of Environment, Great Lakes, and Energy,

Accounting Services Division, Cashier's Office, P.O. Box 30657, Lansing, Michigan 48909-8157. To ensure proper credit, all payments shall include the "Payment Identification Number AQD40215-S" on the front of the check and/or in the cover letter with the payment. Payment of stipulated fines shall not alter or modify in any way the Company's obligation to comply with the terms and conditions of this Consent Order.

14. The AQD, at its discretion, may seek stipulated fines or statutory fines for any violation of this Consent Order which is also a violation of any provision of applicable federal and state law, rule, regulation, permit, or EGLE administrative order. However, the AQD is precluded from seeking both a stipulated fine under this Consent Order and a statutory fine for the same violation.

15. To ensure timely payment of the settlement amount assessed in paragraph 12 and any stipulated fines assessed pursuant to paragraph 13 of this Consent Order, the Company shall pay an interest penalty to the State of Michigan each time it fails to make a complete or timely payment under this Consent Order. The interest penalty shall be determined at a rate of twelve percent (12%) per year compounded annually, using the full increment of amount due as principal, calculated from the due date specified in this Consent Order until the date that delinquent payment is finally paid in full. Payment of an interest penalty by the Company shall be made to the State of Michigan in accordance with paragraph 13 of this Consent Order. Interest payments shall be applied first towards the most overdue amount or outstanding interest penalty owed by the Company before any remaining balance is applied to subsequent payment amount or interest penalty.

16. The Company agrees not to contest the legal basis for the settlement amount assessed pursuant to paragraph 12. The Company also agrees not to contest the legal basis for any stipulated fines assessed pursuant to paragraph 13 of this Consent Order but reserves the right to dispute in a court of competent jurisdiction the factual basis upon which a demand by EGLE of stipulated fines is made. In addition, the Company agrees that said fines have not been assessed by EGLE pursuant to Section 5529 of Part 55, MCL 324.5529, and therefore are not reviewable under Section 5529 of Part 55.

17. This compliance program is not a variance subject to the 12-month limitation specified in Section 5538 of Part 55, MCL 324.5538.

18. This Consent Order shall remain in full force and effect for a period of at least four (4) years. Thereafter, this Consent Order shall terminate only upon written notice of termination issued by the AQD Director. Prior to issuance of a written notice of termination, the Company shall submit

a request, to the AQD Director at the Michigan Department of Environment, Great Lakes, and Energy, Air Quality Division, P.O. Box 30260, Lansing, Michigan 48909-7760, consisting of a written certification that the Company has fully complied with all the requirements of this Consent Order and has made all payments including all stipulated fines required by this Consent Order. Specifically, this certification shall include: (i) the date of compliance with each provision of the compliance program and the date any payments or stipulated fines were paid; (ii) a statement that all required information has been reported to the AQD Lansing District Supervisor; (iii) confirmation that all records required to be maintained pursuant to this Consent Order are being maintained at the facility; and, (iv) such information as may be requested by the AQD Director.

19. In the event Lapeer Plating and Plastics sells or transfers the Facility, it shall advise any purchaser or transferee of the existence of this Consent Order in connection with such sale or transfer. Within thirty (30) calendar days, the Company shall also notify the AQD Lansing District Supervisor, in writing, of such sale or transfer, the identity and address of any purchaser or transferee, and confirm the fact that notice of this Consent Order has been given to the purchaser and/or transferee. As a condition of the sale, the Company must obtain the consent of the purchaser and/or transferee, in writing, to assume all of the obligations of this Consent Order. A copy of that agreement shall be forwarded to the AQD Lansing District Supervisor within thirty (30) days after assuming the obligations of this Consent Order.

20. Prior to the effective date of this Consent Order and pursuant to the requirements of Sections 5511 and 5528(3) of Part 55, MCL 324.5511 and MCL 5528(3), the public was notified of a 30-day public comment period and was provided the opportunity for a public hearing.

21. Section 5530 of Part 55, MCL 324.5530, may serve as a source of authority but not a limitation under which this Consent Order may be enforced. Further, Part 17 of the NREPA, MCL 324.1701 *et seq.*, and all other applicable laws and any other legal basis or applicable statute may be used to enforce this Consent Order.

22. Upon entry of this Consent Order, the Stipulation for Entry of Final Order by Consent, AQD No. 27-2015, shall be null and void, and of no further force or effect.

23. The Company hereby stipulates that entry of this Consent Order is a result of an action by EGLE to resolve alleged violations of its facility located at 395 DeMille Road, Lapeer, Michigan. The Company further stipulates that it will take all lawful actions necessary to fully comply with this Consent Order, even if the Company files for bankruptcy in the future. The Company will not seek

discharge of the settlement amount and any stipulated fines imposed hereunder in any future bankruptcy proceedings, and the Company will take necessary steps to ensure that the settlement amount and any future stipulated fines are not discharged. The Company, during and after any future bankruptcy proceedings, will ensure that the settlement amount and any future stipulated fines remain an obligation to be paid in full by the Company to the extent allowed by applicable bankruptcy law.

The undersigned certifies that he/she is fully authorized by the Company to enter into this Consent Order and to execute and legally bind the Company to it.

LAPEER PLATING & PLASTICS, INC,

Dean Harlow CEO
Print Name and Title

Dean P. Harlow Dated: 5-3-19
Signature

Subscribed and sworn to by the above signatory before me on this 3 day of June, 2019.

Sandra Sights
Notary Public Signature

Sandra Sights
Notary Public Printed Name

06/21/2020
My Commission Expires

Sandra Sights
NOTARY PUBLIC, Oakland County, MI
My Commission Expires 06/21/2020

Approved as to Content:

Mary Ann Dolehanty
Mary Ann Dolehanty, Director
AIR QUALITY DIVISION
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES,
AND ENERGY

Dated: 6/5/19

Approved as to Form:

Neil Gordon
Neil Gordon, Section Head
ENVIRONMENTAL REGULATION SECTION
ENVIRONMENT, NATURAL RESOURCES,
AND AGRICULTURE DIVISION
DEPARTMENT OF ATTORNEY GENERAL

Dated: June 5, 2019

FINAL ORDER

The Director of the Air Quality Division having had opportunity to review this Consent Order and having been delegated authority to enter into Consent Orders by the Director of the Michigan Department of Environment, Great Lakes, and Energy pursuant to the provisions of Part 55 of the NREPA and otherwise being fully advised on the premises,

HAS HEREBY ORDERED that this Consent Order is approved and shall be entered in the record of EGLE as a Final Order.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Mary Ann Dolehanty

Mary Ann Dolehanty, Director
Air Quality Division

Effective Date: 6/5/19

Lapeer Plating + Plastics, Inc.

Malfunction Abatement Plan

Table of Contents

Surface Tensiometer

The Surface Tensiometer is used to verify compliance on the Emission units listed below

- EU - CHROMEPLATE32 *(not to exceed 33 dynes/cm)*
- EU- CHROMEETCH *(not to exceed 32 dynes/cm)*

1. All Permit to Install (PTI 25-13) required monitoring frequencies will be followed and the data recorded on the appropriate forms. (See *Maintenance Procedure Documentation Section, and Forms Section/Attachments)*

2. . The Surface Tensiometer or another approved method must be used to verify compliance with PTI 25-13.

3. The procedure required for LP&P's plating employees to follow if there is an exceedance over the required dynes/cm is as follows: LP&P shall monitor the surface tension of the EU-CHROMEPLATE32 once every four (4) hours of tank operation for the first 40 hours of tank operation. If there are no exceedances during the first 40 hours of tank operation, then surface tension measurements may be conducted once every eight (8) hours of tank operation for the next 40 hours of tank operation. If there are no exceedances during the 40 hours of tank operation when surface tension measurements are being conducted every eight (8) hours, then surface tension measurements may be conducted once every 40 hours of tank operation on an ongoing basis, until an exceedance occurs. Once an exceedance occurs as indicated through surface tension monitoring, the original monitoring schedule of once every four hours must be resumed and the subsequent decrease in frequency shall follow the schedule as laid out above. The minimum frequency of monitoring allowed is once every 40 hours of tank operation.

   The Surface Tensiometer must be in proper operating conditions at all times. The working condition of the Surface Tensiometer will be verified a minimum of once a quarter. The condition of the equipment and any operating concerns must recorded on the Surface Tensiometer Inspection Checklist. The Plating Chemist or his delegate will conduct the quarterly inspection of this equipment. The instructions for inspection/calibration are as follows:

   a. Instructions

   You'll need: 1. A weight between 500 and 800 mg (0.5-0.8 grams). A paperclip weighed to the closest milligram (0.001g) works well.
   2. A strip of paper that fits on the ring.

   You'll simulate a surface tension test by placing the known weight on the ring and checking the reading on your dial.

Calibration Formula

$$\frac{p=Mg}{2L} \quad or \quad READING = \frac{weight \times gravity}{2 \times Circumference}$$

M = Mass, or weight in grams
g = gravity for your location, in cm/ sec2
L = Ring Circumference, printed on the wood ring case.

Here are a few listings for gravity across the U.S. Choose one closest to your location or contact the National Geophysical Data Center in Bolder, Colorado. (303) 497-6120

Tucson , AZ	979.2	Louisville, KY	979.9
Monterey, CA	979.9	Petuxent, MD	980.88
Chicago, IL	980.3	Minneapolis, MN	980.58
Urbana, IL	980.18	Washington DC	980.1

Check the Calibration

1. Calculate your calibration reading.

$$\text{Example: } \frac{\text{weight x gravity}}{2 \times \text{circumference}} = \frac{0.5 \times 980.3}{2 \times 5.992} = 40.91$$

2. Hang your ring from the hook on the torsion arm.
3. Place the paper strip on the ring.
4. Zero the tensiometer
   a) Line the pointer with the mirror line
   b) Loosen clamp, turn outside dial to line up zeros. Tighten clamp.
5. Place weight on paper strip.
6. Turn Knob A until pointer realigns with mirror line.
7. Your reading should be within 0.5 dynes of calculated value.

If your reading is:	
LOW	**HIGH**
Lengthen the arm.	Shorten the arm.
Tum adjustment nut on torsion arm COUNTER-CLOCKWISE	Tum adjustment nut on torsion arm CLOCKWISE

One complete tum is equal to about 3 dynes / cm.

If you've adjusted the torsion arm length your zero point will change. Re-zero the instrument and check your calibration again.

- If the Surface Tensiometer is not operating properly, the Stalagmometer will be used as an alternative means of monitoring and compliance verification. Outside contractors may also be used as back-ups in cases of malfunction of the surface tensiometer.

4. Operators of the surface tensiometer will follow all manufacturers operation and maintenance procedures. These procedures are listed and located in the Plating Lab in the Precision Tensiometer First Time User Guide by CSC Scientic Company, Inc. Maintenance procedures found in the guide are: occasionally examining the ring for bends, broken contacts and the roundness of the ring, the cleanliness of the ring and sample container is critical to accurate surface tension measurements, and lastly through normal, daily use it may become necessary to replace the torsion wire (torsion wires typically last five to ten tears before requiring replacement) Any concerns or questions regarding the operation of this equipment should be brought to the attention of the Plating Lab Manager/Plating Chemist and the Environmental Coordinator.

5. Any malfunctions of this equipment ***MUST*** be reported to the Environmental Coordinator and the Plating Manager/ Chemist ***IMMEDIATELY.***

6. The time, date, duration and a description of any corrective action are to be recorded for any malfunction of the Surface Tensiometer. This information must be recorded on the Surface Tensiometer Inspection Checklist in the comments section.

7. An outside contractor will perform annual calibration of the Surface Tensiometer. Documentation of this will be tracked by the Calibration Certificates that are received each time a contractor calibrates the Surface Tentsiometer. These certificates will be kept on file in the Plating Lab.

Air Emission Control Equipment

Systems 1 thru S - Chrome Mist Eliminator, Wet Scrubbers, Etch Dual Stage, and Cyclone Separators

All Air Emission Control Equipment MUST be turned on and in proper operating conditions whenever the plating process is in operation. Maintenance and the monitoring of equipment are essential tasks to ensure compliance with Permit, State, and Federal requirements.

Daily and Weekly Monitoring

The Environmental Coordinator will verify activity and compliance of all the Pressure Drop Monitoring requirements for Systems I through 5. The Environmental Coordinator will verify and record the compliance/ activity data daily for Systems I and 5 on weekdays (WWT Operators will record on weekends), and a minimum of once a week for Systems 2 through 4. The Environmental Coordinator, and WWT Operator(s), will initial the log sheets as verification that the Operational and Maintenance Plan is being followed. The daily monitoring of System 1 will be logged on the CMP Chrome Scrubber Form (EMS 4.4051 5F Rev 2) for On-Going Compliance reporting, and also on the Weekly Differential Pressure Reading Log. The log has all the compliance and action level ranges listed on it, and is attached in the Forms Section. These log sheets will be maintained on file for a period of five (5) years.

Work Orders

Work orders are issued by the Maintenance Supervisor bi-weekly, and quarterly for preventative maintenance and as needed for un-scheduled maintenance. Preventive maintenance work orders have a series of tasks that insure the proper operation of the air emissions equipment and un-scheduled maintenance work orders will be recorded as the requirements are identified. There is also weekly maintenance performed by the WWT Operator(s), and they are provided log sheets by the Environmental Coordinator .

Maintenance Procedures

Weekly maintenance procedures:

1. WWT Operators are provided logs by the Environmental Coordinator for Systems I and 5 for recording wash-downs.

2. WWT Operator performs the wash-down of composite mesh pads in accordance with the manufacturer's recommendation of once a week.

3. Operator on duty that day must initial and fill out the appropriate log sheet to show compliance.

4. Document the maintenance activity as per the "Maintenance Procedure Documentation" section

Bi-weekly maintenance procedures:

1. Work order issued by Maintenance Manager to the appropriate maintenance employee.

2. That employee receives the PM Sheet from Maintenance. Manager/Supervisor.

3. Employee does the checks listed on the sheet. If any issues are found they are noted in the comments section, and they'll be assessed and repaired immediately if possible. If not, the issue will be assessed for duration and potential exceedances that could arise, and the Environmental Coordinator will be notified within two hours.

4. Document the maintenance activity as per the "Maintenance Procedure Documentation" section

Quarterly Maintenance Procedures

1. Environmental Coordinator provides the Quarterly logs to the appropriate WWT Operator when it comes to that time of the year, or sooner if the Env. Coordinator is noticing the systems getting closer to their Action Level ranges during daily Pressure Drop recordings.

2. The WWT Operator must do the required activities, which must be recorded on the logs, as laid out in CFR 63.342 Subpart N Table 1-Summary of Operation and Maintenance Practices, in our PTI (25-13), and are as follows:

   a) Visually inspect the CMP system, on a quarterly basis, to ensure there is proper drainage, no chromic acid build up on the pads, and no evidence of chemical attack on the structural integrity of the control device.

   b) Visually inspect the back portion of the mesh pad closest to the fan, on a quarterly basis, to ensure there is no breakthrough of chromic acid mist.

   c) Visually inspect ductwork from tanks to the CMP system, on a quarterly basis, to ensure there are no leaks.

3. Document the maintenance activity as per the "Maintenance Procedure Documentation" section

Maintenance Procedure Documentation

1. All preventive maintenance checks on the air emission control equipment is to be logged on *PM4989400* (Preventive Maintenance Work Order PM49894). This log is to verify that the equipment is being serviced bi-weekly by the Maintenance Department. All repairs, activity, and malfunctions must be logged into maintenance's "Card on File for C-0006" (Desc. PM Wet Scrubbers) sheets, and

persons performing the maintenance must print and sign the document as well as date the log in the following format mm/dd/yyyy.

2. All un-scheduled activity that pertains to any of the Air Emission Equipment must be recorded on the maintenance file C-0006. Activities such as preventive or routine maintenance, adjustments, repairs, and malfunctions ***MUST*** be recorded on the log. Persons performing the activity must print and sign the document as well as date the log in the following format mm/dd/yyyy.

3. All Weekly CMP Wash-Downs for Systems 1 and 5 performed by WWT Operators must be logged on EMS 4.40516F Rev 1 (Composite Mesh Pad Wash-Down Check Sheet). Persons performing the activity must put their initials, the time beginning and ending, and the date on the checklist.

4. All Quarterly Inspections of the CMP Scrubbers for Systems 1 and 5 performed by WWT Operators must be logged on EMS 4.40517F Rev 1 (Quarterly Inspection Checklist for the CMP Scrubber). Persons performing the activity must put the date, time, and their initials on the checklist.

Communication and Coordination

All personnel responsibilities:

1. The Environmental Coordinator is to be notified **IMMEDIATELY** in the event of the malfunction of any air emission control equipment. The Maintenance Department will be contacted and evaluate the equipment for repair time.

Maintenance personnel responsibilities:

1. If a scrubber is malfunctioning, the Environmental Coordinator niust be notified **IMMEDIATELY.**

2. If any preventative maintenance (PM) checks show issues that cannot befixed at the time of inspection than the Maintenance Manager/Supervisor and the Environmental Coordinator must be made aware within two hours of the inspection.

Plating personnel responsibilities

1. If there is ever an exceedance over the dynes/cm limit (33 dynes/cm for EU-ChromeTank32 and 32 dynes/cm for EU-Chrome Etch), then the Environmental Coordinator must be notified **IMMEDIATELY,** and the required procedure of increased testing listed above in the Surface Tensiometer Section must be followed.

2. If there's any issues with the Surface Tensiometer, this includes issues getting readings, and any operational or maintenance issues with the device, then the

Plating Lab Manager/Plating Chemist and Environmental Coordinator must be made aware **IMMEDIATELY.**

3. If the Plating Lab Manager/Chemist has any problems during the inspections (quarterly minimum) that cannot be fixed/corrected at that point in time, the Environmental Coordinator must be made aware within 4 hours.

Wastewater Treatment personnel responsibilities:

1. If the inspecting personnel marks a NO answer in any field other than "Ductwork leaks" on the Quarterly CMP Inspection Checklist they must immediately notify the Maintenance Manager and the Environmental Coordinator. The Maint. Manager and/or Environmental Coordinator must immediately initiate a corrective action to determine the repairs necessary to achieve compliance. All corrective action steps must be documented.

Environmental Coordinator responsibilities:

1. In the event of malfunctions that will take longer than 8 hours to repair Lapeer Plating and Plastics will notify the AQD District Office by phone immediately. Production on the plating operations will cease until the equipment can be properly repaired.

2. LP&P will provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

3. Malfunctions and/or excess emissions will be reported on the Semi- Annual ONGOING COMPLIANCE STATUS REPORT (NESHAP). If exceedances occur, the report must be completed and submitted quarterly.

4. The Lapeer Plating & Plastics will provide notice and a written report of an abnormal condition, start-up, shutdown, or a malfunction that results in emissions of any air contaminant continuing for more than 2 hours in excess of a standard or limitation established by any applicable requirement. (R 336.1912)

5. The notices required by this rule shall be provided to the department as soon as reasonably possible, but not later than 2 business days after the start-up or shutdown or after discovery of the abnormal conditions or malfunction. Notice

will be by reasonable means, including electronic, telephonic, or oral communication. (R 336.1912)

6. The written reports required under this rule shall be submitted within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. (R 336.1912)

7. For malfunctions that last 4 to 8 hours Lapeer Plating & Plastics will notify the AQD District office by phone immediately and within 10 days submit a written explanation of the malfunction.

8. Lapeer Plating and Plastics will provide an explanation as to what procedures are being followed to minimize emissions during the malfunction.

   Procedures such as halting production, lowering production rates, and visual inspections of stacks, vents and rooftops may take place. Other options may also be considered as means of minimizing emissions during extended periods of malfunction.

   Corrective Actions: increased inspections of emission equipment, evaluation of on-hand repair supplies, and revisions to the Operations and Maintenance Plan will be done to lessen the chances of the same malfunction happening in the future.

9. For malfunctions that are expected to last longer than 8 hours, Lapeer Plating & Plastics will cease operations of its plating process and notify the AQD District office immediately by phone. Detailed explanations of why the Operations and Maintenance Plan failed and a detailed report of a Corrective Action plan along with detailed precautions to prevent future excursions will be provided to the AQD in writing within 7 days after the end of the Malfunction Periods that extend past 8 hours.

Malfunction Abatement of Equipment

1. At all times, including periods of startup, shutdown, and malfunction, owners or operators shall operate and maintain any affected source, including associated air pollution control devices and monitoring equipment, in a manner consistent with good air pollution control practices.

2. Malfunctions shall be corrected as soon as practicable after their occurrence.

3. Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

4. Lapeer Plating and Plastics will provide an explanation as to what procedures are being followed to minimize emissions during the malfunction.

    a. Procedures such as halting production, lowering production rates, and visual inspections of stacks, vents and rooftops may take place. Other options may also be considered as means of minimizing emissions during extended periods of malfunction.

    b. Corrective Actions: increased inspections of emission equipment, evaluation of on-hand repair supplies, and revisions to the Operations and Maintenance Plan will be done to lessen the chances of the same malfunction happening in the future.

Exceedance of Emission Limits

1. The Environmental Coordinator and Plating Manager MUST be notified immediately of all PTI regulated emissions that exceed their compliance limits. These exceedances will be reported to the AQD District Office immediately, and be included on the Semi-Annual ONGOING COMPLIANCE STATUS REPORT (NESHAP). If exceedances occur, the report will be completed and submitted quarterly.

2. Lapeer Plating & Plastics will follow the monitoring frequency stated in the PTI for any emission that exceeds their limits and follow the reporting requirements set in PTI 25-13 and 11-13 for all emissions that have exceeded their limits .

3. Determination of what caused the exceedance will be made and the incident will be recorded and reported according to the requirements contained in PTI 25-13 and Subpart A and N.

4. The Environmental Coordinator ***MUST*** be made aware of all activity concerning any PTI regulated Tanks, Ventilation, or Air Emissions Equipment.

    a. The PTI regulated tanks are:
    Decorative chromium electroplating tank, the Etch tanks, the Copper tanks (one copper strike tank and five bright acid copper tanks), the Activator tank(s), and Neutralizer tank(s).

Replacement Parts

Lapeer Plating & Plastics will keep on site spare parts for the air exhaust equipment as mentioned in PTI 25-13 and Subpart N.

These parts are required to be on site and must be maintained in inventory for quick replacement:

- Belts
- Blower Motor Belts
- Spray Nozzles
- Bearings
- Fuses

Part that are not required but desired

- Motors
- Ducting

Pollution Control Equipment Malfunction Contact List

The Plating Supervisor or Chemist on duty and the Senior Plant Management official on duty must be notified of the Malfunction of any of the Pollution Control Equipment.

The Environmental Coordinator **MUST** be contacted immediately. The Environmental Coordinator will advise plant personnel as to what steps must be taken to comply with the companies Operational and Maintenance Plan.

Maintenance and or On-duty Management Official Must contact persons from the list below in this order.

1. John Kuruda - Environmental Coordinator 810 728-3229
2. Rory Sayers - Maint. Manager 810 875-7363
3. Duane Jauch- Plating Manager/Chemist 810 667-4240

Pollution Control Equipment Malfunction Contact List

The Plating Supervisor or Chemist on duty and the Senior Plant Management official on duty must be notified of the Malfunction of any of the Pollution Control Equipment.

The Environmental Coordinator **MUST** be contacted immediately. The Environmental Coordinator will advise plant personnel as to what steps must be taken to comply with the companies Operational and Maintenance Plan.

Maintenance and or On-duty Management Official Must contact persons from the list below in this order.

1. John Kuruda - Environmental Coordinator 810 728-3229
2. Rory Sayers - Maint. Manager 810 875-7363
3. Duane Jauch- Plating Manager- 810 667-4240

enthone

Safety Data Sheet

Safety Data Sheet

Section 1. Identification

Product name	**ANKOR®LF19**
Product code	424601
Uses advised against	Consumer, private households, general public
Product type	Liquid.
Date of issue/Date of revision	April 16 2015.

Manufacturer - Supplier	Telephone no.:	Fax no.	Emergency phone:
Enthone Inc 350 Frontage Road West Haven, CT 06516	Tel. (203) 934-8611	Fax:(203) 799-8179	UNITED STATES AND CANADA: Tel: 800-424-9300 INTERNATIONAL, CALL Tel: +1 703-527-3887 (collect calls accepted) Enthone Chemtrec #7827
Enthone OMI deMexico S.A. de C.V. Norte 59 No. 896 Col. IndustrialVallejo Mexico, D.F. 02300 Mexico	Tel: 52 55 5078 3904	Fax: 52 555 567 6326	Tel: 01 800 002 1400 Tel: (55) 5559 1588
Enthone Brasil Av.: Jose Odorizzi, No. 650 Sao Bernardo do Campo Sao Paulo, CEP098100 000 Brasil	Tel: 55 11 4353 2500	Fax: 55 92 3614-7400	Tel: 55 11 4353 2700

Section 2. Hazards identification

OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	SKIN CORROSION/IRRITATION - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 TOXIC TO REPRODUCTION (Unborn child) - Category 1B

GHS labelelements

Hazard pictograms

Danger

Signal word	Causes severe skin burns and eye damage.
Hazard statement s	May damage the unborn child.

Precautionary statements

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or faceprotection. Wear protective clothing. Wash hands thoroughly after handling.

Section 2. Hazards identification

Response	IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
Storage	Store locked up.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	None known.

[section 3. Composition/information on ingredients

Substance/mixture Mixture

Ingredient name	%	CAS number
polyfluorosulphonic acid	1-10	-
methanol	0.1-1.0	67-56-1

A Trade Secret exemption is pending with the HMIRC for one or more ingredients in this product Registry Number:9136; 2014-01-31

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	Get medical attention immediately. Call a poison center or physician. Check for and remove any contact lenses. Immediately flush eyes with running water for at least 30 minutes, keeping eyelids open. Chemical burns must be treated promptly by a physician.
Inhalation	Get medical attention immediately. Call a poison center or physician Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that mists are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouthresuscitation. If unconscious, placeinrecovery position and getmedical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

Ingestion	Get medical attention immediately Call a poison center or physician Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconsciousplace in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	Causes serious eye damage.
Inhalation	No known significant effects or critical hazards.
Skin contact	Causes severe burns.
Ingestion	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain watering redness
Inhalation	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	Adverse symptoms may include the following: pain or irritation redness blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	Adverse symptoms may include the following: stomach pains reduced fetal weight increase in fetal deaths skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that mists are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds
Special protective actions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fi re-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel."
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Method s and materials for containment and cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contracto.r Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

[section 7. Handling and storage

Precaution s for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep In the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.
Ad vice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled , stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
methanol	**ACGIH TLV (United States, 4/2014). Absorbed through skin. Notes: Substances for which there is a Biological Exposure Index or Indices** STEL: 328 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 262 mg/m³ 8 hours. TWA: 200 ppm 8 hours. **NIOSH REL (United States, 10/2013). Absorbed through skin.** STEL: 325 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 260 mg/m³ 10 hours. TWA: 200 ppm 10 hours. **OSHA PEL (United States, 2/2013).** TWA: 260 mg/m³ 8 hours. TWA: 200 ppm 8 hours.

Appropriate engineering controls	If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/ or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
Skin protection	
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
ot her skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product
Respiratory protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Color	Yellow.-Orange.
Odor	Sweet. [Slight]
Odor threshold	Not available.
pH	1.5
Melting point	-1.6667°C(29°F)
Boiling point	101.67°C (215°F)
Flash point	Closed cup: >93.333°C {>200°F}
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.0149
Solubility	Easily soluble in the following materials: cold water and hot water.
VOE	34.2 g/1
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.

Section 9. Physical and chemical properties

Decomposition temperature	Not available.
Viscosity	Not available.

[Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur .
Incompatibility with various substances	Highly reactive or incompatible with the following materials: acids and alkalis. Reactive or incompatible with the following materials: oxidizing materials, reducing materials, combustible materials, organic materials and metals.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

!section 11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposu re
polyfluorosulphonic acid	LD50 Oral	Rat	1800 mg/kg	-
methanol	LC50 Inhalation Gas.	Rat	145000 ppm	1 hours
	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	64000 ppm	4 hours
	LD50 Oral	Rat	5600 mg/kg	-
	LDLo Oral	Man-Male	6422 mg/kg	-
	TDLo Oral	Man-Male	9450 uUkg	-
	TDLo Oral	Man-Male	3571 uUkg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
methanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	40 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Sensitiza tio n

Not available.

Mutagenicity

Not available.

Carcinogenicity

No applicable toxicity data

Additional information:

Reproductive toxicity

Section 11. Toxicological information

Product/ingredient name	Maternal toxicity	Fertility	Devel opment toxin	Species	Dose	Exposure
methanol	-	-	Positive	Mouse - Female	Oral: 4 g/ kg	-
	Negative	-	Positive	Rat- Female	Oral: 5200 µg/ kg	-

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Targe t organs
methanol	Category 1	Not determined	central nervous system (CNS) and optic nerve

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available

Information on the likely routes of exposure: Not available.

Potent jal acute health effects

Eye contact: Causes serious eye damage.

Inhalation: No known significant effects or critical hazards.

Skin contact: Causes severe burns.

Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:
pain
watering
redness

Inhalation: Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact: Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion: Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Section 11. Toxicological information

Short term exposure

Potential immediate effects	Not available.
Potential delayed effects	Not available.

Long term exposure

Potential immediate effects	Not available.
Potential delayed effects	Not available.

Potential chronic health effects

General	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	May damage the unborn child.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

Numerical measures of toxicity

cute toxicity e stimates

Route	ATE value
Oral	55762.1 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
methanol	Acute EC50 16.912 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 2500000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 3289 to 4395 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 290 mg/l Fresh water	Fish - Danio rerio - Egg	96 hours
	Chronic NOEC 9.96 mg/l Marine water	Algae - Ulva pertusa	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
methanol	-0.77	<10	low

Mobility in soil

Soil/water partition coefficient (Koc)	Not available.
Other adverse effects	No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements . Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers,

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	UN	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper s hipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No. .	No.	No.	No.	No.	No.

Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulation s

TSCA 5(a)2 proposed significant new use rule (SNUR): No products were found.
TSCA 5(a)2 final significant new use rule (SNUR): No products were found.
TSCA 12(b) one-time export notification: No products were found.
TSCA 12(b) annual export notification: No products were found.

United States inventory (TSCA 8b)

All components are listed or exempted.

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 311/312

Classification

Immediate (acute) health hazard
Delayed (chronic) health hazard

California Prop. 65

Section 15. Regulatory information

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.
WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada

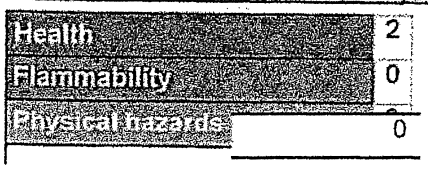
WHMIS (Canada)	Class D-2A: Material causing other toxic effects (Very toxic). Class E: Corrosive material
Canada	At least one component is not listed in DSL but all such components are listed in NDSL.

International lists

National inventory

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Procedure used to derive the classification

Classification	Justification
Skin Corr. 1, H314 Eye Dam. 1, H318 Repr. 1B, H360 (Unborn child)	On basis of test data On basis of test data Calculation method

History

Date of issue/Date of revision	April 16 2015.
Date of previous issue	April 16 2015.
Version	1
Prepared by	**Regulatory Affairs Department** **Enthone Inc** **350 Frontage Road** **West Haven, CT 06516** **Phone: (203) 934-8611** **Fax: (203) 799-8179** **enthonemsds@enthone.com** **www.enthone.com**
Key to abbreviations	ATE= Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow= logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations

V Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

4.5b3271

enthone
an Alent plc Company

enthone

Technical Data Sheet

ANKOR® LF19

PFOS-free low foam chrome wetting agent

ANKOR LF19 is a PFOS, PFOA and PFT free, low-foaming, highly stable wetting agent used to reduce misting in decorative chrome, hard chrome, and anodizing applications. ANKOR LF19 is designed to reduce the surface tension of hexavalent chrome solutions with low foam generation. READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT.

The function, performance and handling of this product are similar to traditional PFOS based chrome surfactants. ANKOR LF19 is formulated to remain heat stable at elevated operating temperatures (>130°F / 55°C).

In addition to prevention of spray by reduction of the surface tension, the ANKOR LF19 will reduce drag-out losses. Consumption is based on drag-out and ampere-hours plated. ANKOR LF19 does not affect the physical or corrosion properties of the resulting chrome deposits.

Wetting agent ANKOR LF19 is supplied as a ready to use liquid and is suitable for use with automatic dosing equipment. ANKOR LF19 can be directly added to the process solution without prior dilution.

MATERIALS REQUIRED

ANKOR LF19 is used for make up and replenishment.

EQUIPMENT REQUIRED

Equipment normally used in chromium plating is compatible with ANKOR LF19.

For ventilation requirements, consult the American Conference of Industrial Hygienists book entitled, "Industrial Ventilation, A Manual of Recommended Practice."

MAKE-UP

Make-up quantity for a new or existing solution: 0.5 to 2.0 mL/L of chromium electrolyte

NOTE: If excessive foam is experienced in applications with an operating temperature below 130°F / 55°C, please contact your Enthone representative.

OPERATION

The recommended additions of ANKOR LF19 reduce the surface tension of the chromium plating solution. It usually takes about 15 to 30 minutes to reduce the formation of spray significantly. Additions of 2 mUL of ANKOR LF19 to a chrome solution will reduce surface tension of the electrolytes from approximately 70 dynes/cm to 31 dynes/cm. When using this type of surfactant the misting or spray from a chrome solution is typically prevented when the surface tension of the solution falls below 40 dynes/cm. Normally it is beneficial to drop the surface tension significantly below 40 dynes/cm for best results. When surface tension is maintained at 30 dynes/cm the consumption rate will be lower than operating the product at 40 dynes/cm as the initial appearance of spray consumes a proportionally larger amount of surfactant from the process solution.

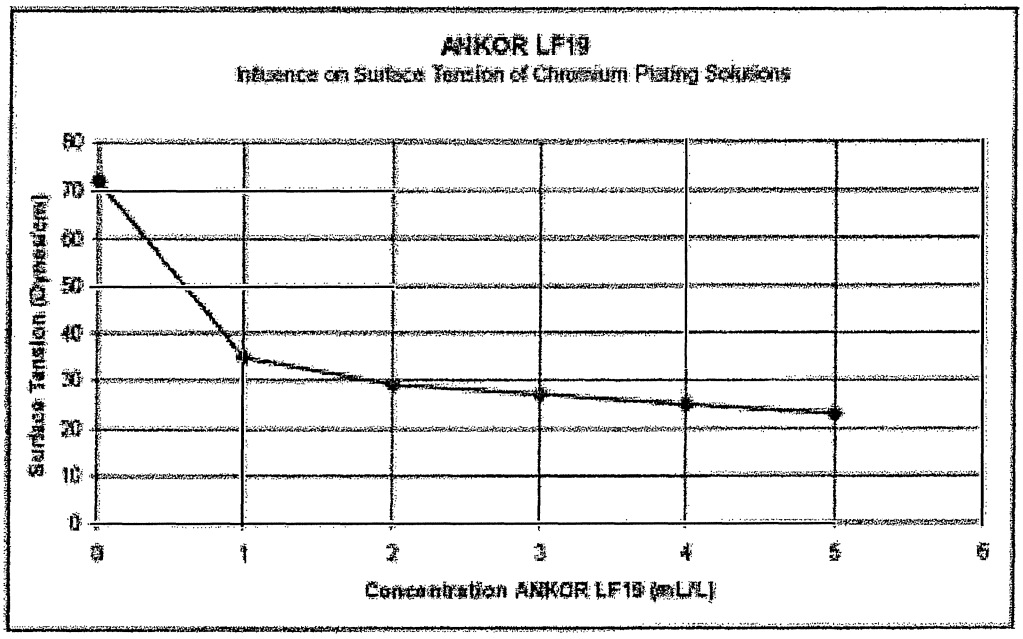
Issued: 26 Jun 2012
Spsds: New

ANKOR®LF19
Technical Data Sheet
Page2 of 4

One of the side effects of using ANKOR LF19 is the formation of oxy-hydrogen gas in the foam layer, even when the layer is very thin. Avoid open flames and sparks. Switch off current prior to loading or removing parts. In case of failure of the exhaust system do not operate the chrome plating tank containing ANKOR LF19.

Replenishment of ANKOR LF19 is best performed based on operating experience and the amount of drag out/drag in. Average consumption values, based on actual operating experience, indicate that approximately 50 to 150 ml (1.7 to 5 fl oz) of ANKOR LF19 is consumed for every 10,000 ampere-hours. Replenishment additions should be made in increments of 0.5 mL/L.

The concentration of ANKOR LF19 in the process solution can be detennined by measuring the surface tension with a ring tensiometer and use of the graph shown below.



ANKOR®LF19
Technical Data Sheet
Page 3 of4

HANDLING AND SAFETY INSTRUCTIONS

WARNING! ANKOR LF19 AND THE OPERATING SOLUTION MAY CAUSE IRRITATION TO THE SKIN, EYES AND RESPIRATORY TRACT.

HAZARDS: ANKOR LF19 and the operating solution may cause irritation to the skin, eyes and respiratory tract. Ingestion may cause irritation to the mouth, throat, esophagus and stomach. DEVELOPMENTAL ABNORMALITIES EFFECTS: Contains material(s), which may cause developmental abnormalities effects. CA PROP 65: Contains material(s) known to the state of California to cause cancer, birth defects and or reproductive harm. Do not get in eyes, on skin or on clothing. Do not inhale or take internally.

FIRST AID: In case of contact of ANKOR LF19 and the operating solution with skin or eyes, flush with plenty of clean, cool water for at least 30 minutes. Remove contaminated clothing and shoes. For eyes and skin contact, get immediate medical attention. If inhaled, remove to fresh air. If exposed person is not breathing, give artificial respiration or oxygen applied by trained personnel. Get immediate medical attention. If ingested, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get immediate medical attention.

HANDLING INFORMATION: When preparing or maintaining solutions, always add ANKOR LF19 and the operating solution slowly and cautiously. Do not get in eyes, on skin or on clothing. Use only with adequate ventilation. Avoid breathing vapors or mist. Do not take internally. When handling ANKOR LF19 and the operating solution wear protective clothing, chemical safety goggles, respirator, face shield and chemical- resistant, impervious gloves. Avoid contact with alkalis and any other foreign materials. Exhaust ventilation is required to remove vapors or mists that may be generated during make-up and operation. Wash thoroughly after handling.

CONTAINER INFORMATION: Keep containers tightly closed. Store indoors in a cool, well ventilated area. Keep away from alkalis, metals, organic materials, acids, oxidizing agents and reducing agents. Loosen containers cautiously when opening. Do not reuse containers, wash thoroughly before disposal. Improper disposal or reuse of containers may be dangerous and illegal.

REFER TO MSDS(s) FOR FURTHER HEALTH, SAFETY AND HANDLING INFORMATION

MATERIAL SAFETY DATA SHEETS

For more detailed information on the toxicological properties of the products described herein, reference can be made to the Material Safety Data Sheet (MSDS) for each product. If you do not have the proper MSDS, it can be requested from: Enthone Inc., attention: Regulatory Affairs Department, 350 Frontage Road, West Haven, CT 06516. For emergency assistance call CHEMTREC (800) 424-9300.

WARRANTY AND DISCLAIMER

The information presented herein is to the best of our knowledge true and accurate and all recommendations and suggestions appearing in this bulletin covering the use of our products are based upon information believed to be reliable. However, since the conditions of use are beyond our control, this information is given on the express condition and agreement that Enthone Inc. will not be liable to any person in contract, tort (including negligence), strict liability or otherwise for any claims, damages or losses whatsoever. Nothing herein shall be deemed a recommendation to use any product or process in violation of any existing patent rights and no warranties, expressed or implied, are made regarding the information, product, processes, recommendations, description and safety notations contained herein. The above includes proprietary information of Enthone Inc. and is furnished to you for your use solely on products or processes supplied by us to you.

CUSTOMER ORDER CENTERS

UNITED STATES
Enthone Inc.
350 Frontage Road
West Haven, Connecticut 06516
(800) 496-8326
Fax(203)933-0249
ctchemorders@enthone.com

MEXICO
Enthone de Mexico S.A. de C.V.
Norte 59 No. 896
02300 Col. Industrial Vallejo
Mexico, D.F.
(011-52-55) 5078-3904
Fax (011-52-5) 567-6326

BRAZIL
Cookson Electronics Brasil Ltda.
Av Jose Odorizzi, 650
Sao Bernardo do Campo - SP - CEP 09810-000
Brazil
(011-55) 11 43532523
Fax (011-55) 43532521
vendas@enthone.com

enthone.com

ATOTECH **SAFETY DATA SHEET**

FUMETROL 21 LF2

Version 2.0
SDS_US_GHS SDS Number: 1684717 Revision Date: 12/21/2016

SECTION 1. IDENTIFICATION

Product name : FUMETROL 21 LF2

Product code : 1684717

Manufacturer or supplier's details

Company name of supplier : Atotech Deutschland GmbH

Address : Erasmusstrasse 20
Berlin 10553
Germany

Telephone : +4930349850

Company name of supplier : Atotech USA

Address : 1750 OVERVIEW DRIVE
ROCK HILL, SC, USA 29730

Telephone : +18038173500

Company name of supplier : Atotech Canada

Address : 1180 Corporate Drive
BURLINGTON L7L 5R6
Canada

Telephone : +19053320111

Prepared by
Product Safety Department (PSD): product-safety@atotech.com

Inquiries
Questions about content of Safety Data Sheets: product-safety@atotech.com

Emergency telephone : CHEMTREC +18004249300

Transport Medical : Rocky Mountain Poison Control Center: 303-623-5716

Recommended use of the chemical and restrictions on use

Recommended use : **Plating agents and metal surface treating agents**
Surface treatment

Restrictions on use : For industrial use only.

ATOTECH **SAFETY DATA SHEET**

FUMETROL 21 LF2

Version 2.0
SDS_US_GHS SDS Number: 1684717 Revision Date: 12/21/2016

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin corrosion : Category 1

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H314 Causes severe skin burns and eye damage.

Precautionary Statements :

Prevention:

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Aqueous solution

Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Polyfluorosulfonic acid	27619-97-2	>= 2.5 - < 5

ATOTECH SAFETY DATA SHEET

FUMETROL 21 LF2

This product may contain component(s) that are not listed under disclosure. All components not listed, do not contain hazardous materials above deminimus disclosure limits as defined by OSHA, NIOSH, ACGIH or Canadian WHMIS 2015 regulations and or guidelines. Please refer to other sections of the SDS for information on safety, health and environmental guidelines and precautions.

SECTION 4. FIRST AID MEASURES

General advice	:	Call a physician or poison control center immediately. Show this safety data sheet to the doctor in attendance.
If inhaled	:	Call a physician or poison control center immediately. Move to fresh air.
In case of skin contact	:	Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Consult a physician.
In case of eye contact	:	In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. Consult a physician.
If swallowed	:	If swallowed, call a poison control center or doctor immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice.
Most important symptoms and effects, both acute and delayed	:	Causes serious eye damage. Causes severe burns.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing
Notes to physician	:	For specialist advice physicians should contact the Poison Control Center.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	No information available.
Hazardous combustion products	:	Carbon oxides Sulphur oxides hydrogen fluoride
Specific extinguishing meth-	:	Use a water spray to cool fully closed containers.

ATOTECH SAFETY DATA SHEET

FUMETROL 21 LF2

ods		Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Environmental precautions	:	Should not be released into the environment.
Methods and materials for containment and cleaning up	:	Avoid formation of aerosol. Dam up. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Handle in accordance with good industrial hygiene and safety practice. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid breathing mist or vapors.
Conditions for safe storage	:	Keep containers tightly closed in a dry, cool and well-ventilated place. May be corrosive to metals.
Recommended storage temperature	:	-5 - 40 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection	:	In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. When workers are facing concentrations above the exposure

ATOTECH SAFETY DATA SHEET

FUMETROL 21 LF2

limit they must use appropriate certified respirators.
In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection
Remarks : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Follow the instructions for use issued by the producer.

Eye protection : Tightly fitting safety goggles
Face-shield
Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection : Impervious clothing
Apron
Boots

Protective measures / Engineering measures : Ensure adequate ventilation, especially in confined areas.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
When using do not eat, drink or smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	colorless, light brown
Odor	:	No information available.
Odor Threshold	:	No data available
pH	:	0.0 - 2.5
Melting point/freezing point	:	not determined
Initial boiling point and boiling range	:	not determined
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapor pressure	:	ca. 23 hPa (20 °C)

ATOTECH SAFETY DATA SHEET

FUMETROL 21 LF2

Relative vapor density	:	No data available
Density	:	0.965 - 1.065 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	completely miscible
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	May be corrosive to metals.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Gives off hydrogen by reaction with metals. Potential for exothermic hazard
Conditions to avoid	:	To avoid thermal decomposition, do not overheat.
Incompatible materials	:	Bases Metals
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Eye contact
Skin Absorption

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Ingredients:

Polyfluorosulfonic acid:

Acute oral toxicity : Acute toxicity estimate: 500 mg/kg

Remark: The acute toxicity estimate (ATE) of the ingredients are derived using the LD50/LC50 values where available.

Skin corrosion/irritation

Causes severe burns.

Product:

Result: Corrosive after 4 hours or less of exposure
Remarks: classification on basis of pH value

Remarks: Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks: May cause irreversible eye damage.

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA specified	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Not classified based on available information.

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

Further information

Product:
Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Product:
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of in accordance with local regulations. Dispose of wastes in an approved waste disposal facility.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 3265
Proper shipping name	:	Corrosive liquid, acidic, organic, n.o.s.
Technical name(s)		(Polyfluorosulfonic acid)
Class	:	8

ATOTECH SAFETY DATA SHEET

FUMETROL 21 LF2

Packing group	:	III
Labels	:	Corrosive
Packing instruction (cargo aircraft)	:	856
Packing instruction (passenger aircraft)	:	852

IMDG-Code

UN number	:	UN 3265
Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
Technical name(s)		(Polyfluorosulfonic acid)
Class	:	8
Packing group	:	III
Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

DOT / 49 CFR

UN/ID/NA number	:	UN 3265
Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
		(Polyfluorosulfonic acid)
Class	:	8
Packing group	:	III
Labels	:	CORROSIVE
ERG Code	:	153
Marine pollutant	:	no

SECTION 15. REGULATORY INFORMATION

TSCA 5a : No substances are subject to a Significant New Use Rule.

TSCA_12b : No substances are subject to TSCA 12(b) export notification requirements.

DEA : Not applicable

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Methanol	67-56-1	5000	(U154)*

*: Calculated RQ exceeds reasonably attainable upper limit.

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

No components are subject to Pennsylvania Right to Know Act.

New Jersey Right To Know

No components are subject to New Jersey Right to Know Act.

California Prop. 65 WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.
WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Methanol 67-56-1

Remarks: Components which are only displayed in Section 15 are being reported for local regulatory purposes. These components are not displayed in Section 3 due to one or more of the following conditions being met: being present in the product at concentration(s) below threshold limit values for reporting, not considered hazardous materials, health hazards or because they do not contribute to the overall GHS Classification of the final product as required by OSHA HazCom 2012 final rule (29 CFR 1910.1200).

Substances currently restricted by WEEE/RoHS (European Directive 2012/19/EC , 2011/65/EC) or ELV (European Directive 2000/53/EC):

PBDE	PBB	CrVI	Hg	Pb	Cd
-	-	-	-	-	-

Please note: Current legislation restricting the use of certain substances applies to „homogeneous material" in finished articles being supplied to the market. Substances deposited during surface finishing may have a composition (weight percent) higher than the weight percent of the substance in the operating solution from which the deposit is made. Atotech encourages its customers to implement systems to ensure their finished products comply with the regulations in force.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response;

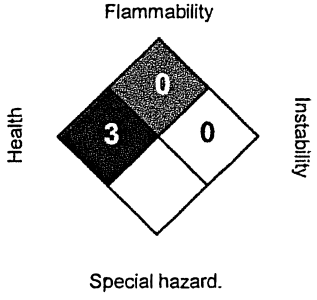
ATOTECH SAFETY DATA SHEET

FUMETROL 21 LF2

EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

Further information

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 12/21/2016

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / EN

Certificate of Manufacturer's Calibration

CSC DuNouy Precision Tensiometer

Serial Number: 15125

The Calibration Formula defines calibrated reading in dynes. Weight X Gravity ÷ 2 X Ring Circumference
Values of variables used in calibration:

a. Weight = 0.5 gram weight, NIST traceable
b. Gravity at Chicago Illinois = 980.3; Circumference of Ring = 6.126
c. Instrument was calibrated to 40.0 dynes.

Authorized Signature _____ Date 12/29/2014

CSC Scientific Company Inc., 2799C Merrilee Drive, Fairfax, VA 22031
1-800-458-2558 info@cscscientific.com **www.cscscientific.com**

Instruction: EMS W.I. 4.40539	Page 1 of2
Issue Date: 3/25/16	Rev. Num: 2
Approved By: **Plating Lab Supervisor**	

Chrome - Calibration of the Tensiometer

1. Purpose and Scope

To calibrate the tensiometer for maintaining proper tank surface readings in the plating tanks.

2. Responsibility

WT / Plating Lab Supervisor
Waste Treatment Operator

3. Instructions

You' Il need: 1. A weight between 500 and 800 mg (0.5-0.8 grams). A paperclip weighed to the closest milligram (0.001g) works well.
2. A strip of paper that fits on the ring.

Yo,u II simulate a surface tension test by placing the known weight on the ring and checking the reading on your dial.

Calibration Formula

$$p = \frac{Mg}{2L} \quad or \quad \text{READING} = \frac{\text{weight} \times \text{gravity}}{2 \times \text{Circumference}}$$

M = Mass, or weight in grams
g = gravity for your location, in cm/ sec2
L = Ring Circumference , printed on the wood ring case.

Here are a few listings for gravity across the U.S. Choose one closest to your location or contact the National Geophysical Data Center in Bolder, Colorado. (303) 497-6120

Tucson, AZ	979.2	Louisville, KV	979.9
Monterey, CA	979.9	Petuxent, MD	980.88
Chicago, IL	980.3	Minneapolis, MN	980.58
Urbana, IL	980.18	Washington DC	980.1

Instruction: **EMS W.I. 4.40539**	Page 2 of2
Issue Date: 3/25/16	Rev. Num: **2**
Approved By: **Plating Lab Supervisor**	

Chrome - Calibration of the Tensiometer

Check the Calibration

1. Calculate yourcalibration reading.

Example: $\frac{\text{weight x gravity}}{2 \times \text{circumference}} = \frac{0.5 \times 980.3}{2 \times 5.992} = 40.91$

2. Hang your ring from the hook on the torsion arm.

3. Place the paper strip on the ring.

4. *Zero the tensiometer*
   a) Line the pointer with the mirror line
   b) Loosen clamp, turn outside dial to line up zeros. Tighten clamp.

5. Place weight on paper strip.

6. Turn Knob A until pointer realigns with mirror line.

7. Your reading should be within 0.5 dynes of calculated value.

If **your reading is:**	
LOW	**HIGH**
Lengthen the arm.	Shorten the arm.
Tum adjustment nut on torsion arm COUNTER-CLOCKWISE	Turn adjustment nut on torsion arm CLOCKWISE

One complete tum is equal to about 3 dynes / cm.

If you' ve adjusted the torsion arm length your zero point will change. Re-zero the instrument and check your calibration again.

LP&P

Surface Tensiometer Inspection Checklist

Date	Time	Initials	Working Condition		Clean		dynes/cm^2
			Broken(√)	Functional (√)	Yes (√)	No (√)	Enter Number

*Please use back of form for comments / corrective actions.

Surface Tensiometer Comments

Applicable Rule(s):

PTI 25-13, our Malfunction and Abatement Plan, and 40 CFR Part 63, Subpart N--National Emission Standards for Chromium Emissions from Hard and Decorative

COMMENTS: The time, date, duration, and description of any corrective action are to be recorded for malfunction of the Surface Tensiometer. This information must recorded below.	
Date Starting Time Ending Time Initials	Date Starting Time Ending Time Initials
Corrective Action Taken (description):	Corrective Action Taken (description):
Date 1starting Time Ending Time Initials	Date 1starting Time Ending Time Initials
Corrective Action Taken (description):	Corrective Action Taken (description):
Date Starting Time Ending Time Initials	Date Starting Time Ending Time Initials
Corrective Action Taken (description):	Corrective Action Taken (description):
Date Starting Time Ending Time Initials	Date Starting Time Ending Time Initials
Corrective Action Taken(description):	Corrective Action Taken (description):

Date: 04-15-16 LAPEER PLATING & PLASTICES Page 1
Preventive Maintenance Work Order PM50032 00

PM50032 00

Equipment: C-0006 Description: PM WET SCRUBBERS
Lvl: 0 Parent: C-0006 Mfg: Type: WET SCRUBBERS PM
Serial #: Model #:

Dept: PLATING Bldg: ONE Area/Room:
Loc: PLATING, BLDG.1 PM Account:

Priority: Risk/Fctr: Cond: Date of Issue: 04-15-16 PM's Printed Through: 04-20-16

Task:	Description and/or Material	Frequency	Mins	Craft
001	Perform PM's Using Std. Procedures	2-Weeks	60	07-NONE
		Last Issued: 04-01-16	Date Due: 04-15-16	

[OLY#3]

DAILY CHECKLIST #8 SCRUBBER / RECTIFIER
Name: Tim Lingley Date: 4/15/16

1. Check to make sure water is spraying out of all nozzles in a cone shape. Are pump bearings noisy? Yes--No N
   Nitric √ Preplate √
2. Check to make sure water make-up valve is open.
   Nitric √ Preplate √
3. Check blower operation - is it running?
   Nitric √ Preplate √ Etch √ Chrome √ Copper √
4. Check the exhaust hoods and stacks for corrosion and breakage.
   Nitric √ Preplate √ Etch √ Chrome √ Copper √

RECTIFIERS

1. Listen for any abnormal noises. OK
2. Check operation of cooling fans in each unit. OK
3. Check operation of room cooling fans and blowers. OK

Any readings above or below the Compliance Range levels must be immediately investigated. The Environmental Coordinator must be contacted immediately.
Readings that are in the action level range must be reported to the Maint. Mgr. and Envir. Coord.

(use comment section for items needing attention)
Comments:

Notes/Comments

Pred Hrs: 1.00 Act Hrs: PM By: TL Date: 4/15/16 Verify

LP&P

Weekly Differential Pressure Reading Log for Scrubbers/ Exhaust/ Rectifier (Systems #1 through 5)

Name: _____

					WWT Operator	
Year:					Initials:	Initials:
Date:	Date:	Date:	Date:	Date:	Date:	Date:
Time:	Time:	Time:	Time:	Time:	Time:	Time:

System # / Description

Record the Differential Pressure On Each Guage, and Amperage for System #2 Acid Copper

#1.) Chrome Mist Eliminator (Daily) _____

Compliance Range 1.0 - 3.0
Action Level 1.2 & below or 2.8 & above

#2.) Acid Copper Cyclone & Seperator (Weekly) _____

Compliance Range 17 - 20 amps
Action Level 0 - 16.9 amps

#3.) Preplate Wet Scrubber (Weekly) _____

Compliance Range 1.0 - 3.0
Action Level 1.2 & below or 2.8 & above

#4.) Nitric Wet Scrubber (Weekly) _____

Compliance Range 1.0 - 3.0
Action Level 1.2 & below or 2.8 & above

#5.) Etch Dual Stage

Total Combined (Daily) _____

Compliance Range 1.7 - 3.3
Action Level 1.8 & below or 3.2 & above

Stage #1 (Daily) _____

Compliance Range 1.0 - 3.0
Action Level 1.2 & below or 2.8 & above

Stage #2 (Daily) _____

Compliance Range .30 - 1.5
Action Level .35 & below or 1.3 & above

* Readings in the Action Level range must be reported to the Maint. Mgr. and Environmental Coordinator for corrective action implementation.
* Any readings above or below the Compliance Range levels must be immediately investigated. The Env. Coord. Must be contacted immediately.

(Use comments section for items needing attention)

Comments: _____

Pressure Drop Monitoring of the CMP Scrubber

This information is required by Article II, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to provide this information may result in penalties and/or imprisonment.

Applicable Rule: 40 CFR Part 63, Subpart N--National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks.

NOTE: Use this form to document the pressure drop across the control device. Records must be maintained on file for five years and made available upon request for inspection by the Michigan Department of Environmental Quality.

1. Plant Name	2. Plant Location
Lapeer Plating & Plastics, Inc.	Lapeer, MI 48446

EU- CHROME PLATE 32

Composite Mesh Pad Scrubber System	Date/Time	Initials	Action Level 1.2 and lower, 2.8 and higher	Is the Scrubber operating properly?
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				
Compliance Range 1.0 – 3.0				

1 If the pressure drop across the control system varies by more then ± 2 inches of water, the employee shall immediately notify his/her supervisor or the environmental coordinator. The supervisor or environmental coordinator must then document the variation and review the operation and maintenance procedures of the Composite Mesh Pad Scrubber.

Corrective Action Documentation of the CMP Scrubber

3. EXCESS EMISSIONS. Record date, beginning and ending time of each period of emissions exceeding emission limit. Excess emissions occur when the scrubber exceeds the operational range as determined during compliance testing. Describe the corrective actions taken during periods of excess emissions.

Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			

LP&P
LAPEER PLATING & PLASTICS, INC.

Composite Mesh Pad Wash Down Check Sheet

This information is required by Article II, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to provide this information may result in penalties and/or imprisonment.

Applicable Rule: 40 CFR Part 63, Subpart N--National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks.

NOTE: Use this form to document the weekly wash down of the composite mesh pad scrubber. Records must be maintained on file for five years and made available upon request for inspection by the Michigan Department of Environmental Quality.

1. Plant Name	2. Plant Location
Lapeer Plating & Plastics, Inc.	Lapeer, MI 48446

CHROME TANK 32

Date	Initials	Time at beginning of wash down	Time at end of wash down.	Total time of scrubber in wash down

1 Employee initiating the weekly wash down procedure must fill out this form completely. Any week that is found to have missing data will initiate a corrective action. The corrective action must include a full wash down procedure of the composite mesh pad scrubber and be fully documented.

Composite Mesh Pad Wash Down Corrective Action

3. EXCESS EMISSIONS. Record date, beginning and ending time of each period of emissions exceeding emission limit. Corrective Action is initiated immediately upon discovery of missing data for the previous week. All corrective action steps must be documented.

Date	Starting Time	Ending Time	Initials

Corrective Action Taken:

Date	Starting Time	Ending Time	Initials

Corrective Action Taken:

Date	Starting Time	Ending Time	Initials

Corrective Action Taken:

Date	Starting Time	Ending Time	Initials

Corrective Action Taken:

Date	Starting Time	Ending Time	Initials

Corrective Action Taken:

Date	Starting Time	Ending Time	Initials

Corrective Action Taken:

LP&P

Composite Mesh Pad Wash Down Check Sheet

This information is required by Article II, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to provide this information may result in penalties and/or imprisonment.

Applicable Rule: 40 CFR Part 63, Subpart N–National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks

NOTE: Use this form to document the weekly wash down of the composite mesh pad scrubber. Records must be maintained on file for five years and made available upon request for inspection by the Michigan Department of Environmental Quality.

1. Plant Name	2. Plant Location
Lapeer Plating & Plastics, Inc.	Lapeer, MI 48446

ETCH

Date	Initials	Time at beginning of wash down	Time at end of wash down	Total time of scrubber in wash down

1 Employee initialing the weekly wash down procedure must fill out this form completely. Any week that is found to have missing data will initiate a corrective action. The corrective action must include a full wash down procedure of the composite mesh pad scrubber and be fully documented.

Composite Mesh Pad Wash Down Corrective Action

3. EXCESS EMISSIONS. Record date, beginning and ending time of each period of emissions exceeding emission limit. Corrective Action is initiated immediately upon discovery of missing data for the previous week. All corrective action steps must be documented.

Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			

LP&P

Quarterly Inspection Checklist for the CMP Scrubber

This information is required by Article 5, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the federal Clean Air Act of 1990. Failure to provide this information may result in penalties and/or imprisonment.

Applicable Rule: 40 CFR Part 63, Subpart N--National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks.

NOTE: Use this form to document the inspection of the Composite Mesh Pad Scrubber. Records must be maintained on file for five years and made available upon request for inspection by the Michigan Department of Environmental Quality.

1. Plant Name Lapeer Plating & Plastics, Inc.	2. Plant Location Lapeer, MI 48446

TANK 32

Date/Time Initials	Proper drainage from the CMP system to the pit.	Chromic Acid Build up on Composite Mesh Pads	Chemical attack on the structural integrity of the scrubber.	Ductwork leaks a) at the tank b) from the tank to the scrubber
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO

1 Inspecting personnel who mark a no answer in any field must immediately inform his/her supervisor or the environmental coordinator. The supervisor or environmental coordinator must immediately initiate a corrective action to determine the repairs necessary to achieve compliance. All corrective action steps must be documented.

Corrective Action Sheet for the Composite Mesh Scrubber

3. EXCESS EMISSIONS. Record date, beginning and ending time of each period of emissions exceeding emission limit. Describe the corrective actions taken during periods of excess emissions.

Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			

LP&P

Quarterly Inspection Checklist for the CMP Scrubber

This information is required by Article II, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to provide this information may result in penalties and/or imprisonment.

Applicable Rule: 40 CFR Part 63, Subpart N--National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks.

NOTE: Use this form to document the inspection of the Composite Mesh Pad Scrubber. Records must be maintained on file for five years and made available upon request for inspection by the Michigan Department of Environmental Quality.

1. Plant Name Lapeer Plating & Plastics, Inc.	2. Plant Location Lapeer, MI 48446

CHROME ETCH

Date/Time Initials	Proper drainage from the CMP system to the pit.	Chromic Acid Build up on Composite Mesh Pads	Chemical attack on the structural integrity of the scrubber.	Ductwork leaks a) at the tank b) from the tank to the scrubber
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO
	YES NO	YES NO	YES NO	A) YES NO B) YES NO

[1] Inspecting personnel who marks a no answer in any field other than "Ductwork leaks" must immediately inform his/her supervisor or the environmental coordinator. The supervisor or environmental coordinator must immediately initiate a corrective action to determine the repairs necessary to achieve compliance. All corrective action steps must be documented.

Corrective Action Sheet for the Composite Mesh Scrubber

3. EXCESS EMISSIONS. Record date, beginning and ending time of each period of emissions exceeding emission limit. Describe the corrective actions taken during periods of excess emissions.

Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			
Date	Starting Time	Ending Time	Initials	Date	Starting Time	Ending Time	Initials
Corrective Action Taken:				Corrective Action Taken:			

LP&P

DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY, AIR QUALITY DIVISION

DAILY PROCESS OPERATIONS RECORD

This information is required by Article II, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended and the Federal Clean Air Act of 1990. Failure to provide this information may result in penalties and/or imprisonment.

Applicable Rule: 40 CFR Part 63, Subpart N--National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks.

All affected facilities must maintain records of the amount of time each affected tank is in operation. If an affected facility is using a nonwetting surfactant to demonstrate that it is a small, hard chromium electroplating facility, records of the actual rectifier usage (amp-hrs) must be maintained. Records must be maintained on file for five years and made available upon request for inspection by the Michigan Department of Environmental Quality.

1. Plant Name and Location: Lesser Plating & Plastics, Inc Lapeer MI 48446

Tank ID #	Date	Hours of Operation
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		
EG-Chrometank32		