ADEQ
MINOR SOURCE
AIR PERMIT

Permit #: 1686-AR-2

IS ISSUED TO:

Molex, Inc.
801 Murphy Drive
Maumelle, AR 72113
Pulaski County
CSN: 60-0951

THIS PERMIT IS YOUR AUTHORITY TO CONSTRUCT, MODIFY, OPERATE, AND/OR MAINTAIN THE EQUIPMENT AND/OR FACILITY IN THE MANNER AS SET FORTH IN THE DEPARTMENT'S MINOR SOURCE AIR PERMIT AND YOUR APPLICATION. THIS PERMIT IS ISSUED PURSUANT TO THE PROVISIONS OF THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT (ARK. CODE ANN. SEC. 8-4-101 ET SEQ.) AND THE REGULATIONS PROMULGATED THEREUNDER, AND IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

Keith A. Michaels

Date

SECTION I: FACILITY INFORMATION

PERMITTEE:	Molex, Inc.
CSN:	60-0951
PERMIT NUMBER:	1686-AR-2
FACILITY ADDRESS:	801 Murphy Drive Maumelle, AR 72113
COUNTY:	Pulaski
CONTACT POSITION:	Mike Hoylman
TELEPHONE NUMBER:	(501) 803-1134
REVIEWING ENGINEER:	Siew Low
UTM North-South (X):	Zone 15 3858.20 km
UTM East-West (Y):	Zone 15 555.20 km

SECTION II: INTRODUCTION

Summary

Molex, Inc., owns and operates a facility in Maumelle, Arkansas, which manufactures data/communication connectors. This De Minimis modification includes the installation of a new plating line with a wet scrubber system used to control the acid emissions (SN-03). The new plating line consists of tank sets #4, 7, 9, 10, 11, and 12. This modification results in an increase of permitted volatile organic compound (VOC) emissions from 81.0 tons/year to 81.3 tons/year. Non-criteria pollutants emissions from this source are 0.1 tpy sulfuric acid, 0.1 tpy of acetic acid, 0.5 tpy of ammonia, 0.3 tpy of formaldehyde, and 0.1tpy of hydrogen chloride. The modeled air quality impacts for sulfuric acid and formaldehyde are 0.31 ug/m^3 and 1.25 ug/m^3, respectively. These values are less than the Presumptively Acceptable Impact Level (PAIL) for each pollutant.

Process Description

The facility receives reels of bronze and copper ribbon by truck. The bronze and copper ribbon is run through a stamping process in which it is cut into various shapes in a continuous chain. These are plated and then formed into metal pins and terminal contacts. The contacts are then joined with molded plastic holders to produce complete connectors.

Stamping Room

All bronze and copper stamping is performed in the stamping room which contains twenty-two (22) terminal stamping presses (numbered 1-6, 8-13, 15-19, and 22-26) and five (5) pin stamping presses (numbered 1-5). Each press is fully enclosed in a vented compartment. The presses are lubricated by spraying a mist of an aliphatic hydrocarbon lubricating solution. Some of the lubricating solution is evaporated by heat generated during the stamping process.
This evaporated solution is carried away by the stamping room venting system.

The venting system consists of:

a.) Three active ducts serving the terminal stamping presses. These fan powered ducts pass through the south wall of the stamping room at a height of approximately fifteen feet and then rise vertically to discharge above the plant roof. A filter in each duct removes solids from the vented air stream.

b.) One duct serving the pin stamping presses. This fan powered duct discharges through the roof near the center of the pin stamping press line. A filter in this duct removes solids from the vented air stream.

c.) One additional inactive duct is installed in the terminal stamping area. This duct is similar to those described in a.) above and is to be used during planned expansion.

A vacuum system is used to remove metal waste from the stamping dies. The metal waste contains some lubricating solution, and a small amount of solution mist is pulled into the vacuum system. The vacuum stream is filtered to remove most of the solution, but some solution may discharge through two ducts which pass through the roof near the east wall of the stamping room.

A parts cleaner uses cleaning naphtha which is a source of minor emissions. The stamping room is the principal source of VOC emissions from this facility. VOC emissions are based on the amount of lubricating solution and cleaning solvent purchased each year, less the amount of waste solution and solution removed from the process on formed metal and waste metal. Lubricating solution is discharged to the atmosphere through entrainment and evaporation in the stamping processes and entrainment in the exhaust from the vacuum system. The material is vented through SN-01. Cleaning solvent is lost in the stamping area and emitted through SN-01.

Plating Room

The chains of formed bronze and copper parts are moved to the plating room where they are washed and plated with nickel, gold, palladium, and solder (95% tin/ 5% lead) layers. The plating process consists of seven lines of small enclosed baths containing plating and rinse solutions. The plating lines are vented through a duct system which discharges through a scrubber on the roof of the plant. The low velocity of the venting system, the low volatility of the inorganic chemicals in the plating baths, and the discharge through a scrubber eliminates this process as a source of significant air emissions.
Various small plastic parts are plated in a series of small enclosed baths (SN-03). The series of baths are included several rinsing tanks in addition to the tanks where the parts are plated with copper or nickel. The baths are vented through a duct system to a wet scrubber system. The wet scrubber is used to control the acid emissions.

Molding Room

Polyethylene plastic is molded in injection machines to form the holders for pins and terminals. Emissions in this process occur from the use of chemicals to clean and protect the molds and ink as well as thinner used on the finished plastic parts for labeling and identification.
Assembly Area

In this area the metal contacts are joined with the plastic holders to form connector assemblies, the final products manufactured in this plant. Emissions in this process result from cleaners and

lubricants used during assembly operations.

Regulations

This facility is regulated under Regulation 18, the *Arkansas Air Pollution Control Code*, and Regulation 19, the *Arkansas Plan of Implementation for Air Pollution Control*.

The following table is a summary of the facility's total emissions.

TOTAL ALLOWABLE EMISSIONS		
Pollutant	Emission Rates	
	lb/hr	tpy
VOC	107.0	81.3
Acetone	0.8	0.1
Sulfuric Acid	0.1	0.1
Acetic Acid	0.1	0.1
Ammonia	0.5	0.5
Formaldehyde	0.3	0.3
Hydrogen chloride	0.1	0.1
Perchloroethylene	6.0	0.2
Trichloroethylene	4.5	0.2
Xylene	1.5	0.1
Toluene	0.8	0.1
Methanol	0.2	0.1
Hexane	0.6	0.1
Glycol Ether	1.8	0.1

Italics - indicates all Hazardous Air Pollutants (HAP's)

SECTION III: PERMIT HISTORY

Permit 1686-A was the initial permit for the facility. Total permitted VOC emissions for the facility were 56.8 tons/year.

Permit 1686-AR-1 was issued on May 4, 2000. The modification involved increasing throughput limits of lubricating solutions, inks, thinners, and cleaners. Also, the permit modification quantified emissions associated with the Molding Room (SN-02) as well as quantifying all HAP emissions associated with this area. The predominate pollutant was volatile organic compounds (VOCs), which were emitted at a rate of 81.0 tons per year.

SECTION IV: EMISSION UNIT INFORMATION

Specific Conditions

1. Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, effective February 15, 1999 (Regulation 19) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. The lb/hr limits will be demonstrated by maximum operating capacity of the equipment. Ton per year limits are demonstrated by Specific Condition #5.

SN	Description	Pollutant	lb/hr	tpy
01	Stamping Operations + Filters	VOC	23.4	81.3
02	Non-Point Sources (Molding, Assembly, Cleaning)	VOC	83.6	
03	Plating Line (Scrubber)	VOC	0.3	

2. Pursuant to §18.801 of the Arkansas Air Pollution Control Code, effective February 15, 1999 (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. The lb/hr limits will be demonstrated by maximum operating capacity of the equipment. Ton per year limits are demonstrated by Specific Condition #6 and 7.

SN	Description	Pollutant	lb/hr	tpy
02	Non-Point Sources (Molding, Assembly, Cleaning)	Acetone	0.8	0.1
		Perchloroethylene	6.0	0.2
		Trichloroethylene	4.5	0.2
		Xylene	1.5	0.1
		Toluene	0.8	0.1
		Methanol	0.2	0.1
		Hexane	0.6	0.1
		Glycol Ether	1.8	0.1
		Sulfuric Acid	0.1	0.1

SN	Description	Pollutant	lb/hr	tpy
03	Plating Line (Scrubber)	Acetic Acid	0.1	0.1
		Ammonia	0.5	0.5
		Formaldehyde	0.3	0.3
		Hydrogen chloride	0.1	0.1

Italics - indicates all Hazardous Air Pollutants (HAP's)

3. Pursuant to §18.801 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not cause or permit the emission of air contaminants, including odors or water vapor and including an air contaminant whose emission is not otherwise prohibited by Regulation #18, if the emission of the air contaminant constitutes air pollution within the meaning of A.C.A. §8-4-303.

4. Pursuant to §18.901 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not conduct operations in such a manner as to unnecessarily cause air contaminants and other pollutants to become airborne.

5. Pursuant to §19.705 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall maintain records of all required measurements and calculations needed to demonstrate compliance with ton per year emission rates in Specific Condition # 1, including the mass of all VOC containing materials used and the mass fraction of VOC present in each VOC containing material used, on a rolling twelve month total. The permittee shall use a format similar to the following table to maintain records of each VOC used during each calendar month. The total allowable limit for annual VOC emissions is 81.3 tons per year.

Material **(a)**	**Material Density (lb/gal) (b)**	**VOC Weight Fraction** **(c)**	**Gallons used this month (gallons) (d)**	**VOC Emissions this month (lbs/month) (e)=b x c x d**

6. Pursuant to §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall maintain records of all required measurements and calculations needed to demonstrate compliance with ton per year emission rates in Specific Condition # 2, including the mass of all HAP containing materials used and the mass fraction of HAP present in each HAP containing material used, on a rolling twelve month total. The permittee shall use a format similar to the following table to maintain records of each HAP used during each calendar month.

Material **(a)**	**HAP** **(b)**	**Material Density (lb/gal)** **(c)**	**HAP Weight Fraction** **(d)**	**Gallons of material used this month (gallons)** **(e)**	**HAP Emissions this month (tons/month)** **(f) = c x d x e / (2000)**

7. Pursuant to §18.1004 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall maintain records of all required measurements and calculations needed to demonstrate compliance with acetone ton per year emission rates in Specific Condition # 2, on a rolling twelve month total. The permittee shall use a format similar to the following table to maintain records of each material used during each calendar month.

Material Density (lb/gal) **(a)**	**Material Density (lb/gal)** **(b)**	**Gallons of material used this month (gallons)** **(c)**	**Emissions this month (tons/month)** **(d) = c x d x e / (2000)**

8. Pursuant to §18.1004 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not use materials which exceed the content and production limits outlined in the following table at the plating line (SN-03).

Tank Set	Solution	Pollutant	Percent by Weight	Make up Gallons per Year
4	Neutralizer	Sulfuric Acid	48	100
7	Cataposit	Hydrogen Chloride	15	100
9	Cuposit A	Hydrogen Chloride	2	234
	Cuposit Y	Formaldehyde	29	117
10	Circuposit	Formaldehyde	29	55.4
11	Activator	Hydrogen Chloride	10	100
Tank Set	Solution	Pollutant	Percent by Weight	Make up Gallons per Year
	Niposit M	Acetic Acid	4	1560

12		Ammonia	5	
	Niposit R	Sulfuric Acid	2	520
	Niposit S	Ammonia	2	520

9. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall maintain monthly records which demonstrate compliance with Specific Condition #5, 6, 7, and 8. Records shall be updated by the fifteenth day of the month following the month to which the records pertain. These records shall be kept on site, and shall be made available to Department personnel upon request. A twelve month rolling total and each individual month's data shall be kept on site.

10. Pursuant to §18.1004 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the scrubber shall be kept in good working condition at all times and shall meet the conditions shown in the following table. The recirculating scrubber liquid flow rate, the gas pressure drop across the unit, and the scrubber water pH shall be measured and recorded daily. The results shall be kept on site and be available to Department personnel upon request.

SN	Description	Parameter	Units	Operation Limits
03	Plating line (Scrubber)	Recirculating Scrubber Liquid Flow Rate	gal/min	90 (minimum)
		Gas Pressure Drop Across unit	in. H_2O	2 (minimum)
		Scrubber water pH	-	6-9

SECTION V: INSIGNIFICANT ACTIVITIES

The following types of activities or emissions are deemed insignificant on the basis of size, emission rate, production rate, or activity in accordance with Group A or Group B of the

Molex, Inc.
Permit #: 1686-AR-2
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Insignificant Activities list found in Regulation 18 and 19 Appendix A. Insignificant activity emission determinations rely upon the information submitted by the permittee in an application dated August 30, 2001.

Description	Category
Nickel, gold, palladium, and solder plating (ducted to three wet scrubbers)	Group A9
Electroplating sludge drying	Group A13
Plastic extrusion	Group A13
Emissions from laboratory equipment/vents	Group A5
Plating Bath Tanks (no VOC or HAPs)	Group B21

SECTION VI: GENERAL CONDITIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq*.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq*.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq*.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute.

2. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit shall not relieve the owner or operator of the equipment and/or the facility from compliance with all applicable provisions of the Arkansas Water and Air Pollution Control Act and the regulations promulgated thereunder.

3. Pursuant to §19.704 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19) and/or A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the Department shall be notified in writing within thirty (30) days after construction has commenced, construction is complete, the equipment and/or facility is first placed in operation, and the equipment and/or facility first reaches the target production rate.

4. Pursuant to §19.410(B) of Regulation 19 and/or §18.309(B) of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, construction or modification must commence within eighteen (18) months from the date of permit issuance.

5. Pursuant to §19.705 of Regulation 19 and/or §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, records must be kept for five years which will enable the Department to determine compliance with the terms of this permit--such as hours of operation, throughput, upset conditions, and continuous monitoring data. The records may be used, at the discretion of the Department, to determine compliance with the conditions of the permit.

6. Pursuant to §19.705 of Regulation 19 and/or §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, any reports required by any condition contained in this permit shall be certified by a responsible official and submitted to the Department at the address below.

   Arkansas Department of Environmental Quality
   Air Division
   ATTN: Compliance Inspector Supervisor
   Post Office Box 8913
   Little Rock, AR 72219

7. Pursuant to §19.702 of Regulation 19 and/or §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, any equipment that is to be tested, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, shall be tested with the following time frames: (1) Equipment to be constructed or modified shall be tested within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source or (2) equipment already operating shall be tested according to the time frames set forth by the Department. The permittee shall notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. Compliance test results shall be submitted to the Department within thirty (30) days after the completed testing.

8. Pursuant to §19.702 of Regulation 19 and/or §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the permittee shall provide:

   a. Sampling ports adequate for applicable test methods
   b. Safe sampling platforms
   c. Safe access to sampling platforms
   d. Utilities for sampling and testing equipment

9. Pursuant to §19.303 of Regulation 19 and/or §18.1104 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the equipment, control apparatus and emission monitoring equipment shall be operated within their design limitations and maintained in good condition at all times.

10. Pursuant to §19.601 of Regulation 19 and/or §18.1101 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, if the permittee exceeds an emission limit established by this permit, they shall be deemed in violation of said permit and shall be subject to enforcement action. The Department may forego enforcement

action for emissions exceeding any limits established by this permit provided the following requirements are met:

a. The permittee demonstrates to the satisfaction of the Department that the emissions resulted from an equipment malfunction or upset and are not the result of negligence or improper maintenance, and that all reasonable measures have been taken to immediately minimize or eliminate the excess emissions.

b. The permittee reports the occurrence or upset or breakdown of equipment (by telephone, facsimile, or overnight delivery) to the Department by the end of the next business day after the occurrence or the discovery of the occurrence.

c. The permittee shall submit to the Department, within five business days after the occurrence or the discovery of the occurrence, a full, written report of such occurrence, including a statement of all known causes and of the scheduling and nature of the actions to be taken to minimize or eliminate future occurrences, including, but not limited to, action to reduce the frequency of occurrence of such conditions, to minimize the amount by which said limits are exceeded, and to reduce the length of time for which said limits are exceeded. If the information is included in the initial report, it need not be submitted again.

11. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the permittee shall allow representatives of the Department upon the presentation of credentials:

a. To enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of this permit

b. To have access to and copy any records required to be kept under the terms and conditions of this permit, or the Act

c. To inspect any monitoring equipment or monitoring method required in this permit

d. To sample any emission of pollutants

e. To perform an operation and maintenance inspection of the permitted source

12. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit is issued in reliance upon the statements and presentations made in the permit application. The Department has no responsibility for the adequacy or proper functioning of the equipment or control apparatus.

13. Pursuant to §19.410(A) of Regulation 19 and/or §18.309(A) of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit shall be subject to revocation or modification when, in the judgment of the Department, such revocation or modification shall become necessary to comply with the applicable provisions of the Arkansas Water and Air Pollution Control Act and the regulations promulgated thereunder.

14. Pursuant to §19.407(B) of Regulation 19 and/or §18.307(B) of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit may be transferred. An applicant for a transfer shall submit a written request for transfer of the permit on a form provided by the Department and submit the disclosure statement required by Arkansas Code Annotated §8-1-106 at least thirty (30) days in advance of the proposed transfer date. The permit will be automatically transferred to the new permittee unless the Department denies the request to transfer within thirty (30) days of the receipt of the disclosure statement. A transfer may be denied on the basis of the information revealed in the disclosure statement or other investigation or, if there is deliberate falsification or omission of relevant information.

15. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit shall be available for inspection on the premises where the control apparatus is located.

16. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, this permit authorizes only those pollutant emitting activities addressed herein.

17. Pursuant to Regulation 18 and 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, this permit supersedes and voids all previously issued air permits for this facility.

INVOICE REQUEST FORM

PDS-_____

Date January 17, 2002

X	Air
	NPDES
	Stormwater
	State Permits Branch
	Solid Waste

CSN 60-0951

Facility Name Molex, Inc.

Invoice Mailing Address 801 Murphy Drive, Maumelle, AR 72113

	Initial
x	Modification
	Annual

Permit Number 1686-AR-2
Permit Description Minor Source
Permit Fee Code A

Amount Due $ 400.00

Engineer Siew Low

Paid? GNo GYes Check #_____

Comments: Air Permit Fee Calculation Minimum Fee