

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - REVISED
NESHAP SOURCE

PERMITTEE

Stimsonite Corporation
Attn: Ed Kolozsy
6565 West Howard
Niles, Illinois 60714

Application No.: 89030068 I.D. No.: 031201ACZ
Applicant's Designation: 85-273 Date Received: August 26, 1999
Subject: Reflector Manufacturing Facility
Date Issued: November 5, 1999 Expiration Date: May 30, 2002
Location: 7542 N. Natchez Avenue, Niles

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of potting lines #'s 1 and 2, glassing lines #'s 1 and 2, 4 vacuum metallizers, 1 batch vapor degreaser, cleaning tank, atmospheric evaporator, Cleaver Brooks boiler, 15 nickel electroforming tanks as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special conditions:

- 1a. This federally enforceable state operating permit is issued to limit the emissions of volatile organic material (VOM) and hazardous air pollutants (HAPs) from the source to less than major source thresholds, i.e., VOM to less than 25 tons per year, and HAPs to less than 10 tons per year of any single HAP and 25 tons per year of any combination of such HAPs, as further described in Attachment A. As a result, the source is excluded from requirements to obtain a Clean Air Act Permit Program permit.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes the current operating permit(s) issued for this location.
- 2a. The batch vapor solvent cleaning machine(s) are subject to 40 CFR part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning. The Illinois EPA is administering this regulation in Illinois on behalf of the United States EPA under a delegation agreement. The United States EPA issued this final rule on December 2, 1994.
- b. The Permittee must be in compliance with 40 CFR Part 63, Subpart T - National Emissions Standards for Halogenated Solvent Cleaning immediately upon startup.

- 3a. The degreaser shall comply with the operating and equipment requirements of 35 Ill. Adm. Code 218.183.
- b. Any change in the type of degreasing solvent used must be permitted prior to making such change.
- 4a. Material usage, VOM and HAP content, and VOM and HAP emissions from the potting lines #'s 1 and 2, glassing lines #'s 1 and 2 shall not exceed the following limits:

<u>Material</u>	Usage		VOC	HAP	VOM		HAP	
	(Lb/Mo)	(T/Yr)	Wt. %	Wt. %	(Lb/M)	(T/Yr)	(Lb/Mo)	(T/Yr)
Methylene Chloride ¹	1,500	9.0	--	100	--	--	1,500	9.0
Resin ¹	128,334	770	0.1	--	129	0.77	--	--
Hardener ¹	96,834	581	0.1	--	97	0.58	--	--
Isopropyl Alcohol ²	2,435	14.61	100	--	2,435	14.61	--	--
Adhesives ²	5,750	34.5	5	--	289	1.73	--	--
Hardener ²	59	0.35	100	--	59	<u>0.35</u>	--	<u>--</u>
Totals:						18.04		9.0

¹ Used in the potting lines #1 and 2

² Used in the glassing lines #1 and 2

- b. Compliance with annual limits on the above emission units shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 weeks (running 12 months total).
- 5a. Trichloroethylene (TCE) usage, VOM and HAP content, and VOM and HAP emissions from the degreaser shall not exceed the following limits:

<u>Emission Unit</u>	TCE Usage*		VOC	HAP	VOM Emissions		HAP Emissions	
	(Lb/Mo)	(T/Yr)	Wt. %	Wt. %	(Lb/Mo)	(T/Yr)	(Lb/Mo)	(T/Yr)
Degreaser	1,150	6.9	100	100	1,150	6.9	1,150	6.9

* Virgin TCE added to the degreaser, as determined by daily addition log sheets.

- b. Compliance with annual limits on the above emission units shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 months total).
- c. The Permittee shall use only trichloroethylene as solvent.

6a. Natural gas shall be the only fuel fired in the gas fired boiler.

b. Natural gas usage, and nitrogen oxides (NO_x) and carbon monoxide (CO) emissions from the boiler shall not exceed the following limits:

<u>Material</u>	<u>Usage</u>		<u>NO_x Emissions</u>		<u>CO Emissions</u>	
	<u>(mmscf/Mo)</u>	<u>(mmscf/Yr)</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>
Natural Gas	3	27	300	1.35	63	0.28

These limits are based upon the maximum natural gas usage, and standard AP-42 emission factors for NO_x (100 lb/mmscf) and CO (21 lb/mmscf).

7. This permit is issued based upon negligible emissions of Particulate Matter (PM) from the emission units indicated below. For this purpose, emissions of PM shall not exceed the following nominal emission rates.

<u>Emissions Unit</u>	<u>PM Emissions</u>	
	<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>
4 Vacuum Metallizers	0.4	1.75
Cleaning Tank	0.2	0.88
Atmospheric Evaporator	0.1	0.44
15 Nickel Electroforming Tanks	1.5	<u>6.57</u>
Total:		9.64

8a. Within 90 days of a written request from the Illinois EPA, tests shall be performed which will allow evaluation of any material "as applied" indicated in condition 4 in order to determine compliance with the limits in condition 4 and Attachment A.

b. The submitted data shall include the VOM contents of the materials (wt. % VOM), a justification of why the coatings are representative, a description of the sampling procedures, and documentation for the analysis.

c. The following methods and procedures shall be used for testing the VOM content of a material. Refer to 40 CFR 60, Appendix A for USEPA test method.

Determination of VOM Content USEPA Method 24

9a. The Permittee shall maintain monthly records of the following items for the degreaser:

i. TCE usage (lb/month and ton/yr), as determined by daily addition log sheets.

- ii. Emissions of VOM and HAPs (lb/month and tons/yr), as determined by assuming 100% TCE used in emitted.
- b. The Permittee shall maintain records of the following items for the source, excluding the degreaser (records for the degreaser are covered under condition above):
 - i. A list giving the name and identification number of each material and the usage amount (lb/month and ton/yr).
 - ii. VOM and HAP content for each material used (wt. %).
 - iii. VOM and HAP emissions as calculated by the actual material usage and the actual VOM and HAP content (lb/week and ton/yr).
 - iv. Natural gas usage (mmscf/month and mmscf/yr).
 - v. NO_x emissions as calculated by the actual natural gas usage and standard AP-42 emission factor of 100 lb/mmscf (lb/month and ton/yr).
- c. All records required by this permit shall be retained at a readily accessible location at the source for at least 5 years from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request.
- 10. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance and Systems Management Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the record keeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences. This report should be sent to:

Illinois Environmental Protection Agency
Bureau of Air
Compliance and Systems Management Section
P.O. Box 19276
Springfield, Illinois 62794-9276
- 11. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: material and TCE usage, VOM and HAP emissions from the prior calendar year. If there have been no exceedance of a requirement of this permit during the prior calendar year, the annual emission report shall contain a statement to that effect.

12a. For determination of compliance with the limits of this permit, solvent usage shall be determined by the following equation:

$$U = V - (W \times P)$$

Where:

U = Solvent usage for compliance determinations (gallons).

V = Virgin solvent^A added to the solvent cleaning machines (gallons), as determined by daily addition log sheets.

W = Waste solvent^B removed from the solvent cleaning machines and sent off-site for reclamation or disposal, as determined by monthly manifests.

P = Percent concentration of solvent in waste, as determined by analysis/testing^C.

^A For purposes of this permit, virgin solvent is defined as unused solvent.

^B For purposes of this permit, waste solvent is defined as used solvent.

^C The percent concentration of solvent in waste (P) shall be determined in accordance with USEPA Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW-846), Test Method 8260.

b. Compliance with the monthly organic material emission limits shall be calculated using the solvent density as specified in the Material Safety Data Sheet, and the solvent usage (U) per month, as follows:

$$\begin{aligned} \text{Emissions} &= \text{Solvent Usage (U)} \times \text{Solvent Density} \\ (\text{Lbs/Month}) &= (\text{Gallon/Month}) \times (\text{Lbs/Gallon}) \end{aligned}$$

13a. The emissions and operation of the solvent cleaning machine shall not exceed the following limits; pursuant to 40 CFR 63.463(b)(1)(ii) or (b)(2)(ii).

<u>Type of Cleaning Machine</u>	<u>Solvent Air-Interface Area (Ft²)</u>	<u>Idling Emission Rate (Lb/Hr)</u>
Batch Vapor Machine	15.0	0.68

These limits are based on the type of solvent cleaning machine, and an idling emission rate of 0.045 lb/hr per square feet of solvent air interface area, and emission limits were determined considering that the machine is turned on, but not actively cleaning parts.

- b. The Permittee shall demonstrate that each solvent cleaning machine can achieve and maintain an idling emission limit of 0.045 pounds per hour per square foot of solvent air interface area as determined using the procedures in 40 CFR Part 63.465(a) and Appendix A. The test can be done by the owner or operator of the affected machine or can be supplied by the vendor of that solvent cleaning machine or a third party.
- c.
 - i. An initial performance test to demonstrate compliance with the idling emission limit of Condition 2(a) and 2(b), (40 CFR 63.463(f)(1)).
 - ii. Establish parameters that will be monitored to demonstrate compliance, (40 CFR 63.463(f)(1)(ii)).
 - iii. Operate each solvent cleaning machine within parameters identified in the initial performance test, (40 CFR 63.463(f)(3)).
- 14. The Permittee shall comply with the following monitoring procedures, pursuant to 40 CFR Part 63.466(c).
 - a. The Permittee shall determine the hoist speed by measuring the time it takes for the hoist to travel a measured distance. The speed is equal to the distance in meters divided by the time in minutes (meters per minute).
 - b. The monitoring shall be conducted monthly. If after the first year no exceedances of the hoist speed are measured the Permittee may begin monitoring the hoist speed quarterly.
 - c. If an exceedance of the hoist speed occurs during quarterly monitoring the monitoring frequency returns to monthly until another year of compliance without an exceedance is demonstrated.
 - d. If the Permittee can demonstrate to the Illinois EPA's satisfaction in the initial compliance report that the hoist cannot exceed a speed of 11 feet per minute, the required monitoring frequency is quarterly, including during the first year of compliance.
- 15. Each solvent cleaning machine shall meet the following base design requirements, pursuant to 40 CFR, Part 63.463(a).

- a. Each solvent cleaning machine shall be equipped with a manual or working-mode cover that completely covers the machine openings. The cover must be periodically inspected to ensure that it remains free of cracks, holes, and other defects. The cover must be closed at all times except during the cleaning, solvent removal, maintenance and monitoring of the degreasers.
 - b. A freeboard ratio of 0.75 or greater must be maintained for each solvent cleaning machine.
 - c. Each solvent cleaning machine shall have an automated parts handling system that handles parts from initial loading to removal of cleaned parts. If the Permittee wants to use manual hoist, the Permittee must demonstrate to the Illinois EPA that the hoist can never exceed 11 feet per minute.
 - d. Each solvent cleaning machine shall be equipped with a liquid and vapor level indicator and must be operational at all times.
 - e. Each solvent cleaning machine shall be equipped with a primary condenser to provide continuous condensation or rising solvent vapors and to create a controlled vapor zone.
 - f. Each solvent cleaning machine with lip exhaust control must be controlled by a carbon adsorption unit.
16. The Permittee shall comply with the following work practices, requirements and post in the work place a one page summary of work practices, pursuant to 40 CFR Part 63.463(d).
- a. Conduct maintenance as per manufacturer's recommendation to ensure that each degreaser works properly. Any alternative maintenance practice must be approved by the Illinois EPA.
 - b. Each solvent cleaning machine shall be covered to minimize air disturbances in the degreaser and the room at all times except during the cleaning, removal of solvent, maintenance and monitoring. If a cover cannot be used, air disturbances shall be controlled by Reduced Room Draft. Room draft shall not exceed 50 feet/minute.
 - c.
 - i. Parts basket or parts size shall be less or equal to 50% of the solvent air interface area.

or

 - ii. A speed of 3 feet/minute or less shall be maintained between entry and removal of parts basket or parts.

- d. If cleaning operation involves spraying, spraying must be performed within the vapor zone (i.e., a baffled or enclosed area of the degreaser).
 - e. The Permittee must ensure that parts or parts basket are positioned so that solvent drains freely and parts basket or parts are not removed from the machine until parts are clean and solvent dripping has stopped.
 - f. During the startup, the Permittee must turn on the primary condenser prior to turning on the sump pump and during shutdown, turn off the sump heater prior to turning off the primary condenser.
 - g. The Permittee must add and remove solvent with leak-proof couplings. The end of the pipe or hose introducing or withdrawing the solvent be located beneath the liquid solvent surface (i.e., submerged filling) in the sump.
 - h. The Permittee must collect and store the waste solvent, still bottoms, and sump bottoms in a closed container. Absorbent materials such as sponges, fabric, wood, and paper products shall not be cleaned.
 - i. Each operator of a solvent cleaning operation must be ready to take and pass an Operator Test at any time during the normal operation of the plant.
- 17a. The Permittee shall retain the following records on paper or computer disk for life time, pursuant to 40 CFR Part 63.467(a):
- i. An owners manual or a written maintenance and operating procedure for each machine and each piece of control equipment.
 - ii. The installation date of each machine. If installation date isn't available, a letter certifying that machine was installed prior to or on or after November 29, 1993, to determine compliance option for existing or new source.
 - iii. Records of the idling emissions limit standard of the initial performance test, including the idling emission rate and values of the monitoring parameters measured during the test.
 - iv. Records of the halogenated HAP solvent content of each solvent used in each solvent cleaning machine.
- b. The Permittee shall retain the following records, pursuant to 40 CFR Part 63.467(b) and to verify compliance with the limits set forth in this permit:

- i. Solvent usage (U) in gallons/month and gallons/year.
 - ii. Virgin solvent added to the degreasers (V) in gallons/month and gallons/year, as determined by daily addition log sheets.
 - iii. Waste solvent removed from the degreasers (W) in gallons/month and gallons/year, as determined by monthly manifests.
 - iv. Analysis sheet(s) showing test results and any calculations used to determine percent concentration of solvent in waste (P) for each month.
 - v. Emissions of VOM in lb/month and ton/year.
 - vi. Emissions of HAPs in lb/month and tons/year.
 - vii. Keep record of manufacturer's recommendation of solvent air interface area. If manufacturer's data is not available keep record of solvent air interface determination.
 - viii. Keep record of manufacturer's data for idling emission rate. If manufacturer's data is not available, keep record of determination of idling emission rate (Test Method 307).
 - ix. Idling emissions rate in lb/hr.
- c. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least 5 years from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request. Any records retained in a computer shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
18. The Permittee shall comply with the following reporting requirements, pursuant to 40 CFR Part 63.468:
- a. An initial statement of compliance report demonstrating each machine is in compliance by December 2, 1997, must be submitted no later than May 1, 1998, pursuant to 40 CFR.468(d). The initial compliance report shall include the following:
 - i. Name and address.
 - ii. Facility location address.

- iii. A test report for tests of idling emissions meeting the specifications in Method 307 of Appendix A of 40 CFR Part 63. This report shall comply with the following requirements:
 - A. This test must be on the same specific model cleaner used at the source. The test can be done by the owner or operator of the affected machine or can be supplied by the vendor of that solvent cleaning machine or a third party.
 - B. This report must clearly state the monitoring parameters, monitoring frequency and the delineation of exceedances for each parameter.
 - C. If a solvent cleaning machine vendor or third party test report is used to demonstrate compliance, it shall include the following for the solvent cleaning machine tested: Name of person(s) or company that performed the test, model name, the date the solvent cleaning machine was tested, serial number, and a diagram of the solvent cleaning machine tested.
 - D. If a solvent cleaning machine vendor or third party test report is used, the owner or operator of the solvent cleaning machine shall comply with the following requirements:
 - 1. Submit a statement by the solvent cleaning machine vendor that the unit tested is the same as the unit report being submitted.
 - 2. Demonstrate to the Administrator's satisfaction that the solvent emissions from the solvent cleaning machine for which the test report is being submitted are equal to or less than the solvent emissions from the solvent cleaning machine in the vendor test report.
- b. An annual compliance report shall be submitted by February 1, of the year following the year report cover, pursuant to 40 CFR part 63.468(f). The compliance report shall include the following:
 - i. A statement, signed by the owner or operator or someone designate, stating that, "All operators of solvent cleaning machines have received training on the proper operation of solvent cleaning machines and their control devices sufficient to pass the test required."

- ii. Solvent consumption and HAP emissions for each machine in lb/month and ton/year.
 - c. An exceedance report shall be submitted every 6 months if there is not an exceedance, and every 3 months if there is an exceedance, pursuant to 40 CFR Part 63.468(h). If an exceedance did not occur the report would consist of a statement certifying that there were no exceedances. The frequency of exceedance report will increase to quarterly after an exceedance occurs. The quarterly exceedance report shall include the following:
 - i. The type of exceedance (i.e., control/operating parameter, solvent emissions limit), the reason for the exceedance and the corrective actions taken.
 - d. The Permittee shall submit exceedance report within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
19. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Eisenhower Tower
1701 South First Avenue
Maywood, Illinois 60153

Please note that this permit is revised to incorporate Construction Permit 99080094.

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If you have any questions on this, please call John Blazis at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JPB:jar

cc: FOS Region 1
USEPA

Attachment A - Emissions Summary

- 1a. VOM and HAP Emissions from the potting lines #'s 1 and 2, glassing lines #'s 1 and 2, chip seal machine, and the bonding adhesive applicator:

<u>Material</u>	<u>Usage</u>		<u>VOC</u>		<u>HAP</u>		<u>VOM Emissions</u>		<u>HAP Emissions</u>	
	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>	<u>Wt. %</u>	<u>Wt. %</u>	<u>(Lb/M)</u>	<u>(T/Yr)</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>
Methylene Chloride ¹	1,500	9.0	--	100	--	--	1,500	9.0	--	--
Resin ¹	128,334	770	0.1	--	129	0.77	--	--	--	--
Hardener ¹	96,834	581	0.1	--	97	0.58	--	--	--	--
Isopropyl Alcohol ²	2,435	14.61	100	--	2,435	14.61	--	--	--	--
Adhesives ²	5,750	34.5	5	--	289	1.73	--	--	--	--
Hardener ²	59	0.35	100	--	59	<u>0.35</u>	--	--	--	--
Totals:						18.04		9.0		

¹ Used in the potting lines #1 and 2

² Used in the glassing lines #1 and 2

- b. VOM and HAP Emissions from the degreaser:

<u>Emission Unit</u>	<u>Usage</u>		<u>VOC</u>		<u>HAP</u>		<u>VOM Emissions</u>		<u>HAP Emissions</u>	
	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>	<u>Wt. %</u>	<u>Wt. %</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>
TCE	1,150	6.9	100	100	1,150	6.9	1,150	6.9		

2. NO_x and CO emissions from the gas fired boiler:

<u>Material</u>	<u>Usage</u>		<u>NO_x Emissions</u>		<u>CO Emissions</u>	
	<u>(mmscf/Mo)</u>	<u>(mmscf/Yr)</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>
Natural Gas	3	27	300	1.35	63	0.28

3. This permit is issued based upon negligible emissions of Particulate Matter (PM) from the emission units indicated below. For this purpose, emissions of PM shall not exceed the following nominal emission rates.

<u>Emissions Unit</u>	<u>PM Emissions</u>	
	<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>
4 Vacuum Metallizers	0.4	1.75
Cleaning Tank	0.2	0.88
Atmospheric Evaporator	0.1	0.44
15 Nickel Electroforming Tanks	1.5	<u>6.57</u>
Total:		9.64

This attachment defines the potential emissions of the source.

DES:JPB:jar