

**AP42 Section: 9.15 Leather Tanning**

**Title: Comments and correspondence for the June 1997 supplement**

Note: This material is related to a section in *AP42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources*. AP42 is located on the EPA web site at [www.epa.gov/ttn/chief/ap42/](http://www.epa.gov/ttn/chief/ap42/)

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**Frank H. Rutland**  
*Environmental Consulting Services  
for the Leather Industry*

*Rec'd 5/5/97 gcl*

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April 16, 1997

Mr. Dallas W. Safriet  
U. S. Environmental Protection Agency  
Emission Factor and Inventory Group (MD-14)  
Research Triangle Park, NC 27711

**RE: Emission Factor Documentation for AP-42, Section 9.15, Leather Tanning**

Dear Mr. Safriet:

This is in response to your letter of April 9, 1997 and the enclosed draft version of *AP-42, Section 9.15, Leather Tanning*. On behalf of Leather Industries of America, we very much appreciate this opportunity to review and comment on this draft. Our comments are summarized briefly below. If we can be of further assistance in preparation of the final report, please do not hesitate to contact me.

1. Page 2-1, paragraph 2, last sentence - substitute "*are usually*" for "*must be.*" It is normal, but not essential to perform addition operations after chrome tanning.
2. Page 2-1, paragraph 3, first sentence - the 120 leather tanning and finishing facilities mentioned and shown on the map in Figure 2-1 include a number of importing/marketing firms that have no manufacturing operations at all. California, for example, has only one tanning facility - the others represent sales offices only. If desirable, I will be happy to work with you to establish a more accurate list.
3. Page 2-3, paragraph 2, 2nd sentence - delete "*or dried.*" Hides or skins that have been allowed to dry out are very difficult to rewet, and thus have limited utility for tanning.
4. Page 2-3, paragraph 2, next to last sentence - delete "*and the soak water that contains salt, soluble proteins, impurities, and bacteria.*" This has no relevance to the fleshing operation.
5. Page 2-3, paragraph 4, first sentence - delete "*and alters the swelling characteristics of the skin.*" The liming process does cause swelling of the hide ("*expands the dermal fiber network*"), but it does not in any way alter the swelling characteristics of the skin.
6. Page 2-4, Figure 2-2:
  - Most cattlehide siding is now done in conjunction with wringing rather than initial trimming.
  - Delete the "*Retan (Optional)*" after "*Chrome Tan.*" Retanning of chrome tanned and some vegetable tanned leathers is done after Shaving and before Coloring, as shown.

- Leather dyeing ("*Bleaching and Coloring*") is an aqueous operation and is not a source of VOC emissions.
  - Leather drying, including vacuum drying, is not a source of particulate emissions.
7. Page 2-5, paragraph 2, 3rd sentence - substitute "*globular proteins*" for "*protein degradation products.*"
  8. Page 2-5, paragraph 3, 2nd sentence - "*to adjust the acidity and pH*" is redundant. Therefore, either one or the other should be deleted.
  9. Page 2-6, paragraph 3, first sentence - add "*has higher thermal stability*" after "*than vegetable-tanned leather.*"
  10. Page 2-6, paragraph 3, last sentence - substitute "*may*" for "*must*" (see above).
  11. Page 2-6, paragraph 4, 3rd sentence - this sentence should be deleted entirely. Chrome tanning is done exclusively with trivalent chromium, usually in the form of basic chromic sulfate. Virtually all U.S. tanneries buy pre-reduced basic chromic sulfate either in solution or powder form - not sodium dichromate. Currently, only two U.S. tanneries produce their own chromic sulfate solution from sodium dichromate.
  12. Page 2-6, last paragraph - this paragraph should be entirely deleted. The two-bath process is no longer used in this country.
  13. Page 2-6, paragraph 2, 4th sentence - insert "*(known as splits)*" after "*flesh layers.*"
  14. Page 2-7, paragraph 3, first sentence - change to read "*Leather that is not subject to scuffs and scratches may be dyed on the surface only. For other types of leather, however, the dye must-----.*"
  15. Page 2-7, paragraph 4, last sentence - substitute "*drying*" for "*fatliquoring.*"
  16. Page 2-7, last paragraph - there are now five methods of drying in common use. The fifth is high frequency drying, which uses a high frequency electromagnetic field similar to the kitchen microwave.
  17. Page 2-8, paragraph 1, 3rd sentence (beginning "*Paste drying is used---*") - I would be inclined to delete this sentence entirely. Paste drying can be used for all types of leather, not just the ones listed, and is not significantly more expensive than other types of drying, with the exception of air drying.
  18. Page 2-8, Section 2.2.3 - I have great difficulty with this entire section. It serves little if any purpose and should be deleted along with Figure 2-3. As indicated below, much of the information in this section is inaccurate or outdated.

- There is almost no production of small skin garment suede in the United States today, and only a handful of small skin tanneries remaining.
- The majority of suede leather produced in this country comes from cattlehide splits, rather than sheep skins, and goes into footwear plus some heavier weight garment suede.
- Solvent degreasing is virtually a thing of the past and, to the best of my knowledge, is currently used at only one facility for the production of chamois leather.

Finally, having a separate section on suede leather conveys the impression that suede production is in some way fundamentally different from an emission standpoint. This is misleading. The flow diagram in Figure 2-2 is completely adequate to cover production of virtually all types of both grain and suede leather.

19. Page 2-10, paragraph 1, 3rd sentence - this sentence should be entirely deleted since solvent degreasing is rarely if ever used today.
20. Page 2-10, paragraph 1, last sentence - delete "*that occur at elevated temperatures.*"
21. Page 2-10, paragraph 2, 2nd sentence - substitute "*chemically removed from*" for "*burned off.*"
22. Page 2-10, paragraph 2, last sentence - delete "*vacuum drying.*"
23. Page 2-10, paragraph 3, first sentence - this sentence should be changed to read "*Chromium emissions may occur from chromate reduction, handling of basic chromic sulfate powder and from the buffing process.*"
24. Page 2-10, paragraph 3, 3rd sentence - this sentence should be changed to read "*At plants which purchase chromic sulfate in powder form, dust containing trivalent chromium may be emitted -----.*"
25. Page 2-10, paragraph 4, 2nd sentence - to the best of our knowledge, there is only one facility in the industry using incineration for control of VOC emissions.
26. Section 9.15.1, paragraph 3, first sentence - see comment No. 2 above.
27. Section 9.15.2, 3rd sentence - delete "*and suede leather production.*" See comment No. 18 above.
28. Figure 9.15-1 - see comment No. 6 above.
29. Section 9.15.2.1, paragraph 1, 3rd sentence - delete "*and the soak water.*" See comment No. 4 above.

30. Section 9.15.2.1, paragraph 1, last sentence - see comment No. 8 above.
31. Section 9.15.2.1, paragraph 3, first sentence - see comment No. 16 above.
32. Section 9.15.2.2, paragraph 1, first sentence - see comment No. 9 above.
33. Section 9.15.2.2, paragraph 1, last sentence - see comment No. 10 above.
34. Section 9.15.2.2, paragraph 2, first sentence - delete "*almost entirely.*" See comment No. 12 above.
35. Section 9.15.2.2, paragraph 2, 5th and 6th sentences - see comment No. 14 above.
36. Section 9.15.2.2, paragraph 3, last sentence - see comment No. 15 above
37. Section 9.15.2.3 and Figure 9.15-2 - delete entirely. See comment No. 18 above.
38. Section 9.15.3, paragraph 1, 3rd sentence - delete entirely. See comment No. 18 regarding solvent degreasing.
39. Section 9.15.3, paragraph 1, 4th sentence - see comment No. 25 above.
40. Section 9.15.3, paragraph 1, last sentence - delete "*vacuum drying.*" See comment No. 6 regarding vacuum drying above.
41. Section 9.15.3, paragraph 2, 3rd sentence - see comment No. 24 above.

**General Comments:**

- Chrome tanning now accounts for 90+% of total U. S. tannery production, with vegetable tanning making up most of the remainder. In addition, a high percentage of vegetable tanned leathers are sold without retanning, coloring, fatliquoring or finishing. Neither of these facts is apparent from the way in which this report is organized.
- EPA has totally failed to provide guidance to those industries that purchase chemical raw materials which may be volatile when received, using EPA Method 24, but because of chemical polymerization or other bonding mechanisms are rendered non-volatile in the finished product, and thus should not be considered as potential sources of VOC emissions. The draft report is totally silent on this issue.
- The overall description of the leather tanning process provided in this draft report is extremely general and simplistic - so much so it would appear to be of questionable utility. There are very significant differences between individual industry facilities, based on type of raw material used (*e.g.* cattlehides, pig skins, sheep skins, goat skins,

deer skins, horse hides, exotic skins, etc.), processing technology, raw material chemicals and types of leather produced (e.g. footwear, upholstery, garment, personal leather goods, athletic, equestrian, etc.). It is very difficult to encompass all of these variations in one simplified process description. In light of this, and the fact no emission factors have been developed due to the lack of source test data (Section 4.3), one is forced to wonder exactly what purpose this draft report is expected to serve.

Again, we would like to express our appreciation for this opportunity to comment on the AP-42, Section 9.15 draft report. We sincerely hope these comments will be carefully considered and incorporated into the final version of this report. Please do not hesitate to contact me if there are further questions on any of the points raised above.

Very sincerely,  
LEATHER INDUSTRIES OF AMERICA, INC.

A handwritten signature in black ink, appearing to read "F. H. Rutland". The signature is fluid and cursive, with a large initial "F" and "R".

Frank H. Rutland  
Environmental Consultant

Amy Marshall,

7/19/96

Here is the information you requested. I am unable to locate one of the permits at this time, but when I do, I will send that information to you also.

If you have any questions, please call me at (517) 241-7461.

Sincerely,

Cindy A Eisfuder

8/6/96  
Called to ask  
if any testing  
had been done  
for permit

EQP 5700



AIR QUALITY DIVISION  
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
PO BOX 30260  
LANSING MI 48909-7760

SUPPLEMENT TO PERMIT NO. 1189-90A

Eagle Ottawa Leather Company  
Grand Haven, Michigan

August 1, 1995

GENERAL CONDITIONS

1. Rule 208(2) - Not more than 30 days after completion of the installation, Applicant shall apply, in writing, for a Permit to Operate. Completion of the installation is deemed to occur not later than commencement of a trial operation pursuant to Rule 201(4). Written application should be sent to: Supervisor, Permit Section, Air Quality Division, Department of Natural Resources, P.O. Box 30260, Lansing, Michigan 48909.
2. Rule 201(4) - Trial operation of the equipment is permitted until the Michigan Department of Natural Resources, hereinafter "Department", acts upon the Permit to Operate. Operation of the equipment shall permanently cease upon denial of the Permit to Operate by the Department.
3. Rule 208(3)(a) and (c) - Applicant shall demonstrate compliance with all Department rules and with all general and special conditions of this permit prior to issuance of the Permit to Operate.
4. Rule 201 - Applicant shall not reconstruct, alter, modify, expand, or relocate this equipment unless plans, specifications, and an application for a Permit to Install are submitted to and approved by the Department.
5. Rule 901 - Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property.
6. Rule 208(3)(b) - Operation of this equipment shall not interfere with the attainment or maintenance of the air quality standard for any air contaminant.
7. Operation of this equipment shall not result in significant deterioration of air quality.
8. Rule 912 - Applicant shall provide notification of any abnormal conditions or malfunction of process or control equipment covered by this application, resulting in emissions in violation of the Department rules or of any permit conditions for more than two hours, to the District Supervisor. Such notice shall be made as soon as reasonably possible, but not later than 9:00 a.m. of the next working day. Applicant shall also, within 10 days, submit to the District Supervisor, a written detailed report, including probable causes, duration of violation, remedial action taken, and the steps which are being undertaken to prevent a reoccurrence.
9. Approval of this application does not exempt the Applicant from complying with any future regulations which may be promulgated under Act 451, P.A. 1994, as amended.
10. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

11. Act No. 53 - Applicant shall notify any public utility of any excavation, tunneling and discharging of explosives or demolition of buildings which may affect said utility's facilities in accordance with Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled Laws and comply with each of the requirements of that Act.
12. The restrictions and conditions of this Permit to Install shall apply to any person or legal entity which now or shall hereafter own or operate the equipment for which this Permit to Install is issued. Any new owner or operator shall immediately notify the Supervisor of the Permit Section, in writing, of such change in ownership or principal operator status of this equipment.
13. Rule 201(5) - If the installation, reconstruction, relocation, or alteration of the equipment for which this permit has been approved has not commenced within, or has been interrupted for, 18 months, this permit shall become void unless otherwise authorized by the Department.
14. Rule 285 - Except as allowed by Rule 285 (a), (b), and (c), applicant shall not substitute any fuels, coatings, nor raw materials for those described in the application and allowed by this permit, nor make changes to the process or process equipment described in the application, without prior notification to and approval by the Air Quality Division.

#### SPECIAL CONDITIONS

15. The volatile organic compound (VOC) emission rate from the Double Poletto No. 2 finishing machine, hereinafter "process", shall not exceed 43.6 pounds per hour nor 99.9 tons per year based on a 12-month rolling average as determined at the end of each calendar month.
16. The applicant shall not use any coating in the process that will exceed 3.10 pounds of VOC per gallon, minus water and exempt solvents, as applied.
17. The VOC emission rate from the process shall not exceed 0.15 pound per whole hide, based upon a monthly averaging period.
18. Rules 1001, 1003 and 1004 - Verification of VOC and particulate emission rates from the process by testing, at owner's expense, in accordance with Department requirements, may be required for operating approval. Verification of emission rates includes the submittal of a complete report of the test results. If a test is required, stack testing procedures and the location of stack testing ports must have prior approval by the District Supervisor, Air Quality Division, and results shall be submitted within 120 days of the written requirement for such verification.
19. The VOC content of any coating as applied shall be determined using federal Reference Test Method 24. Upon prior approval of the District Supervisor, Air Quality

Division, VOC content of any coating may alternatively be determined from manufacturer's formulation data.

20. Applicant shall keep a separate record of the following for the process:
  - A. For each coating applied on a daily basis:
    1. The identification and the coating category for each coating used.
    2. The VOC content in pounds per gallon of coating (minus water) as received and as applied.
    3. The VOC content in pounds per gallon of reducers and catalysts.
    4. The amount in gallons of coating as applied.
  - B. The daily number of hides coated.
  - C. VOC Emission calculations determining the monthly VOC emission rate in tons per month and the 12-month rolling average emission rate in tons per year.
  - D. The calculated average monthly VOC emission rate in pounds of VOC per whole hide.

*This information shall be kept on file for a period of at least two years and made available to the Air Quality Division upon request.*

21. A report demonstrating compliance with the applicable VOC emission limits specified in Special Condition Nos. 15, 16, and 17 shall be prepared in an acceptable format within 30 days following the end of the quarter in which the data were collected. This information shall be kept on file for a period of at least two years and made available to the Air Quality Division upon request.
22. There shall be no visible emissions from the process stacks and the associated building housing the process equipment.
23. Applicant shall not operate the process unless the water wash is installed and operating properly.
24. Applicant shall not operate the process unless the optic eye spray gun controllers are installed and operating properly.
25. The disposal of collected solvents and coatings shall be performed in a manner which minimizes the introduction of air contaminants to the outer air.

25. The exhaust gases from the processes specified in special condition 15 shall be discharged unobstructed vertically upwards to the ambient air from stacks with maximum diameters and exit points above ground level not less than as follows:

Equipment	Stack Height (feet)	Stack Diameter (inches)
Spray booth (3 stacks)	54	36
Drying Tunnel (2 stacks)	54	36

WAP:cmb

SUPPLEMENT TO PERMIT NO. 421-78A

Eagle Ottawa Leather Company  
Grand Haven, Michigan

August 1, 1995

GENERAL CONDITIONS

1. Rule 208(2) - Not more than 30 days after completion of the installation, Applicant shall apply, in writing, for a Permit to Operate. Completion of the installation is deemed to occur not later than commencement of a trial operation pursuant to Rule 201(4). Written application should be sent to: Supervisor, Permit Section, Air Quality Division, Department of Natural Resources, P.O. Box 30260, Lansing, Michigan 48909.
2. Rule 201(4) - Trial operation of the equipment is permitted until the Michigan Department of Natural Resources, hereinafter "Department", acts upon the Permit to Operate. Operation of the equipment shall permanently cease upon denial of the Permit to Operate by the Department.
3. Rule 208(3)(a) and (c) - Applicant shall demonstrate compliance with all Department rules and with all general and special conditions of this permit prior to issuance of the Permit to Operate.
4. Rule 201 - Applicant shall not reconstruct, alter, modify, expand, or relocate this equipment unless plans, specifications, and an application for a Permit to Install are submitted to and approved by the Department.
5. Rule 901 - Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property.
6. Rule 208(3)(b) - Operation of this equipment shall not interfere with the attainment or maintenance of the air quality standard for any air contaminant.
7. Operation of this equipment shall not result in significant deterioration of air quality.
8. Rule 912 - Applicant shall provide notification of any abnormal conditions or malfunction of process or control equipment covered by this application, resulting in emissions in violation of the Department rules or of any permit conditions for more than two hours, to the District Supervisor. Such notice shall be made as soon as reasonably possible, but not later than 9:00 a.m. of the next working day. Applicant shall also, within 10 days, submit to the District Supervisor, a written detailed report, including probable causes, duration of violation, remedial action taken, and the steps which are being undertaken to prevent a recurrence.

9. Approval of this application does not exempt the Applicant from complying with any future regulations which may be promulgated under Act 451, P.A. 1994, as amended.
10. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
11. Act No. 53 - Applicant shall notify any public utility of any excavation, tunneling and discharging of explosives or demolition of buildings which may affect said utility's facilities in accordance with Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled Laws and comply with each of the requirements of that Act.
12. The restrictions and conditions of this Permit to Install shall apply to any person or legal entity which now or shall hereafter own or operate the equipment for which this Permit to Install is issued. Any new owner or operator shall immediately notify the Supervisor of the Permit Section, in writing, of such change in ownership or principal operator status of this equipment.
13. Rule 201(5) - If the installation, reconstruction, relocation, or alteration of the equipment for which this permit has been approved has not commenced within, or has been interrupted for, 18 months, this permit shall become void unless otherwise authorized by the Department.
14. Rule 285 - Except as allowed by Rule 285 (a), (b), and (c), applicant shall not substitute any fuels, coatings, nor raw materials for those described in the application and allowed by this permit, nor make changes to the process or process equipment described in the application, without prior notification to and approval by the Air Quality Division.

#### SPECIAL CONDITIONS

15. The volatile organic compound (VOC) emission rate from the Rizzi leather finishing machine, hereinafter "process", shall not exceed 11.2 pounds per hour nor 25.0 tons per year based on a 12-month rolling average as determined at the end of each calendar month.
16. The applicant shall not use any coating in the process that will exceed 3.10 pounds of VOC per gallon, minus water and exempt solvents, as applied.
17. The VOC emission rate from the process shall not exceed 0.15 pound per whole hide, based upon a monthly averaging period.
18. Rules 1001, 1003 and 1004 - Verification of VOC and particulate emission rates from the process by testing, at owner's expense, in accordance with Department requirements, may be required for operating approval. Verification of emission rates includes the submittal of a complete report of the test results. If a test is

required, stack testing procedures and the location of stack testing ports must have prior approval by the District Supervisor, Air Quality Division, and results shall be submitted within 120 days of the written requirement for such verification.

19. The VOC content of any coating as applied shall be determined using federal Reference Test Method 24. Upon prior approval of the District Supervisor, Air Quality Division, VOC content of any coating may alternatively be determined from manufacturer's formulation data.
20. Applicant shall keep a separate record of the following for the process:
  - A. For each coating applied on a daily basis:
    1. The identification and the coating category for each coating used.
    2. The VOC content in pounds per gallon of coating (minus water) as received and as applied.
    3. The VOC content in pounds per gallon of reducers and catalysts.
    4. The amount in gallons of coating as applied.
  - B. The daily number of hides coated.
  - C. VOC Emission calculations determining the monthly VOC emission rate in tons per month and the 12-month rolling average emission rate in tons per year.
  - D. The calculated average monthly VOC emission rate in pounds of VOC per whole hide.

This information shall be kept on file for a period of at least two years and made available to the Air Quality Division upon request.

21. A report demonstrating compliance with the applicable VOC emission limits specified in Special Condition Nos. 15, 16, and 17 shall be prepared in an acceptable format within 30 days following the end of the quarter in which the data were collected. This information shall be kept on file for a period of at least two years and made available to the Air Quality Division upon request.
22. There shall be no visible emissions from the process stacks and the associated building housing the process equipment..
23. Applicant shall not operate the process unless the water wash is installed and operating properly.
24. The disposal of collected solvents and coatings shall be performed in a manner which minimizes the introduction of air contaminants to the outer air.

25. The exhaust gases from the processes specified in special condition 15 shall be discharged unobstructed vertically upwards to the ambient air from stacks with maximum diameters and exit points above ground level not less than as follows:

Equipment	Stack Height (feet)	Stack Diameter (inches)
Spray Booth	50	42
Drying Tunnel (1)	38	24
(2)	37	16

WAP:cmb

SUPPLEMENT TO PERMIT NO. 459-89A

Eagle Ottawa Leather Company  
Grand Haven, Michigan

August 1, 1995

GENERAL CONDITIONS

1. Rule 208(2) - Not more than 30 days after completion of the installation, Applicant shall apply, in writing, for a Permit to Operate. Completion of the installation is deemed to occur not later than commencement of a trial operation pursuant to Rule 201(4). Written application should be sent to: Supervisor, Permit Section, Air Quality Division, Department of Natural Resources, P.O. Box 30260, Lansing, Michigan 48909.
2. Rule 201(4) - Trial operation of the equipment is permitted until the Michigan Department of Natural Resources, hereinafter "Department", acts upon the Permit to Operate. Operation of the equipment shall permanently cease upon denial of the Permit to Operate by the Department.
3. Rule 208(3)(a) and (c) - Applicant shall demonstrate compliance with all Department rules and with all general and special conditions of this permit prior to issuance of the Permit to Operate.
4. Rule 201 - Applicant shall not reconstruct, alter, modify, expand, or relocate this equipment unless plans, specifications, and an application for a Permit to Install are submitted to and approved by the Department.
5. Rule 901 - Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property.
6. Rule 208(3)(b) - Operation of this equipment shall not interfere with the attainment or maintenance of the air quality standard for any air contaminant.
7. Operation of this equipment shall not result in significant deterioration of air quality.
8. Rule 912 - Applicant shall provide notification of any abnormal conditions or malfunction of process or control equipment covered by this application, resulting in emissions in violation of the Department rules or of any permit conditions for more than two hours, to the District Supervisor. Such notice shall be made as soon as reasonably possible, but not later than 9:00 a.m. of the next working day. Applicant shall also, within 10 days, submit to the District Supervisor, a written detailed report, including probable causes, duration of violation, remedial action taken, and the steps which are being undertaken to prevent a reoccurrence.
9. Approval of this application does not exempt the Applicant from complying with any future regulations which may be promulgated under Act 451, P.A. 1994, as amended.
10. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

11. Act No. 53 - Applicant shall notify any public utility of any excavation, tunneling and discharging of explosives or demolition of buildings which may affect said utility's facilities in accordance with Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled Laws and comply with each of the requirements of that Act.
12. The restrictions and conditions of this Permit to Install shall apply to any person or legal entity which now or shall hereafter own or operate the equipment for which this Permit to Install is issued. Any new owner or operator shall immediately notify the Supervisor of the Permit Section, in writing, of such change in ownership or principal operator status of this equipment.
13. Rule 201(5) - If the installation, reconstruction, relocation, or alteration of the equipment for which this permit has been approved has not commenced within, or has been interrupted for, 18 months, this permit shall become void unless otherwise authorized by the Department.
14. Rule 285 - Except as allowed by Rule 285 (a), (b), and (c), applicant shall not substitute any fuels, coatings, nor raw materials for those described in the application and allowed by this permit, nor make changes to the process or process equipment described in the application, without prior notification to and approval by the Air Quality Division.

#### SPECIAL CONDITIONS

15. The volatile organic compound (VOC) emission rate from the Double Poletto No. 1 finishing machine, hereinafter "process", shall not exceed 43.6 pounds per hour nor 99.9 tons per year based on a 12-month rolling average as determined at the end of each calendar month.
16. The applicant shall not use any coating in the process that will exceed 3.10 pounds of VOC per gallon, minus water and exempt solvents, as applied.
17. The VOC emission rate from the process shall not exceed 0.15 pound per whole hide, based upon a monthly averaging period.
18. Rules 1001, 1003 and 1004 - Verification of VOC and particulate emission rates from the process by testing, at owner's expense, in accordance with Department requirements, may be required for operating approval. Verification of emission rates includes the submittal of a complete report of the test results. If a test is required, stack testing procedures and the location of stack testing ports must have prior approval by the District Supervisor, Air Quality Division, and results shall be submitted within 120 days of the written requirement for such verification.
19. The VOC content of any coating as applied shall be determined using federal Reference Test Method 24. Upon prior approval of the District Supervisor, Air Quality

Division, VOC content of any coating may alternatively be determined from manufacturer's formulation data.

20. Applicant shall keep a separate record of the following for the process:
  - A. For each coating applied on a daily basis:
    1. The identification and the coating category for each coating used.
    2. The VOC content in pounds per gallon of coating (minus water) as received and as applied.
    3. The VOC content in pounds per gallon of reducers and catalysts.
    4. The amount in gallons of coating as applied.
  - B. The daily number of hides coated.
  - C. VOC Emission calculations determining the monthly VOC emission rate in tons per month and the 12-month rolling average emission rate in tons per year.
  - D. The calculated average monthly VOC emission rate in pounds of VOC per whole hide.

*This information shall be kept on file for a period of at least two years and made available to the Air Quality Division upon request.*

21. A report demonstrating compliance with the applicable VOC emission limits specified in Special Condition Nos. 15, 16, and 17 shall be prepared in an acceptable format within 30 days following the end of the quarter in which the data were collected. This information shall be kept on file for a period of at least two years and made available to the Air Quality Division upon request.
22. There shall be no visible emissions from the process stacks and the associated building housing the process equipment.
23. Applicant shall not operate the process unless the water wash is installed and operating properly.
24. Applicant shall not operate the process unless the optic eye spray gun controllers are installed and operating properly.
25. The disposal of collected solvents and coatings shall be performed in a manner which minimizes the introduction of air contaminants to the outer air.

26. The exhaust gases from the processes specified in special condition 15 shall be discharged unobstructed vertically upwards to the ambient air from stacks with maximum diameters and exit points above ground level not less than as follows:

Equipment	Stack Height (feet)	Stack Diameter (inches)
Spray booths (4)	46	36
Drying Tunnel (4)	46	24

SPECIAL CONDITIONS

13. The volatile organic compound (VOC) emission rate from the 2 Hampton rotary spraylines, 2 ovens and associated equipment for coating automotive leather, hereinafter "process", shall not exceed 18.6 pounds per hour nor 61.1 tons per year based on a 12-month rolling average as determined at the end of each calendar month.
14. The applicant shall not use any topcoat in the process that will exceed 2.60 pounds of VOC per gallon, minus water and exempt solvents, as applied.
15. The applicant shall not use any coating, excluding topcoat, in the process that will exceed 1.30 pounds of VOC per gallon, minus water and exempt solvents, as applied.
16. The VOC emission rate from the process shall not exceed 0.12 pound per whole hide, based upon a monthly averaging period.
17. There shall be no visible emissions from the process.
18. Rules 1001, 1003 and 1004 - Verification of VOC and particulate emission rates from the process by testing, at owner's expense, in accordance with Department requirements, may be required for operating approval. Verification of emission rates includes the submittal of a complete report of the test results. If a test is required, stack testing procedures and the location of stack testing ports must have prior approval by the District Supervisor, Air Quality Division, and results shall be submitted within 120 days of the written requirement for such verification.
19. The VOC content of any coating as applied shall be determined using federal Reference Test Method 24. Upon prior approval of the District Supervisor, Air Quality Division, VOC content of any coating may alternatively be determined from manufacturer's formulation data.
20. Applicant shall keep a separate record of the following for the process:
  - A. For each coating applied on a daily basis:
    1. The identification and the coating category for each coating used.
    2. The VOC content in pounds per gallon of coating (minus water and exempt solvents) as received and as applied.
    3. The VOC content in pounds per gallon of reducers and catalysts.
    4. The amount in gallons of coating as applied.
  - B. The daily number of hides coated.

- C. VOC Emission calculations determining the monthly VOC emission rate in tons per month and the 12-month rolling average emission rate in tons per year.
- D. The calculated average monthly VOC emission rate in pounds of VOC per whole hide.

This information shall be kept on file for a period of at least two years and made available to the Air Quality Division upon request.

- 21. A report demonstrating compliance with the applicable VOC emission limits specified in Special Condition Nos. 13, 14, 15 and 16 shall be prepared in an acceptable format within 30 days following the end of the quarter in which the data were collected. This information shall be kept on file for a period of at least two years and made available to the Air Quality Division upon request.
- 22. Applicant shall not operate the rotary spraylines unless the wet scrubbers are installed and operating properly.
- 23. Applicant shall not operate the rotary spraylines unless the optic eye spray gun controllers are installed and operating properly.
- 24. The disposal of collected particulate, solvents and coatings shall be performed in a manner which minimizes the introduction of air contaminants to the outer air.
- 25. The exhaust gases from the processes specified in special condition 13 shall be discharged unobstructed vertically upwards to the ambient air from stacks with maximum diameters and exit points above ground level not less than as follows:

Stack I.D.	Equipment	Stack Height (feet)	Stack Diameter (inches)
1	Booth 1	46	24
2	Booth 1	46	24
3	Booth 2	46	24
4	Booth 2	46	24
5	Oven 1	46	18

**MIDWEST RESEARCH INSTITUTE**

Suite 350  
401 Harrison Oaks Blvd.  
Cary, N.C. 27513  
Telephone (919) 677-0249  
Fax (919) 677-0065

**FAX TRANSMISSION**

TO: Joe Brehm, Wisconsin DNR  
FROM: Amy M. Marshall  
TIME: 4:20  
DATE: 9/11/96

THIS FAX CONSISTS OF 5 PAGES (INCLUDING THIS PAGE)

RECEIVING FAX NUMBER: 608-267-3579

VERIFICATION PHONE NUMBER: \_\_\_\_\_

**COMMENTS:**

I received from Grant Hetherington information on emissions from leather tanning facilities in your state. Our company is developing an AP-42 Emission Factor section on leather tanning for the EPA and we need the actual test reports to develop emission factors. Mr. Hetherington gave me your name and Andy Seeber's name and suggested that either of you could tell me whether any actual testing was done and if there are any test reports with production/process data that we could get. I would appreciate your help! Thanks,



Amy Marshall

FACILITY

Facility	ID	SIC	Location	City	Mailing Address	ZipCode
BERLIN LEATHER CO.	424021180	3111	235 S WISCONSIN ST	BERLIN	235 S WI BERLIN	WI 549230000
BLACKHAWK LEATHER LTD.	241043220	3111	1000 W. BRUCE STREET	MILWAUK	1000 W. B MILWAUKEE	WI 532041321
HYNITE CORPORATION	241028040	2873	4301 E DEPOT AVE	OAK CRE	4301 E D OAK CREEK	WI 531540000
PFISTER & VOGEL LEATHER	241023750	3111	1531 N WATER ST	MILWAUK	P O BOX MILWAUKEE	WI 532010000
THIELE TANNING CO.	241042670	3111	123 NORTH 27TH STREET	MILWAUK	123 N. 27 MILWAUKEE	WI 532080000
WEINBRENNER SHOE CO. INC.	772065580	3131	305 W. THIRD ST.	MARSHFI	108 S. PO MERRILL	WI 544520000
WEINBRENNER SHOE COMPANY	735008450	3131	108 S POLK STREET	MERRILL	108 S PO MERRILL	WI 544520000

FACILITY

Air Contact	Air Contact Phone	Ext
GEORGE STOCKMAN	414 7651040	
L. R. MARKS	414 6712690	120
BRUCE KRANTZ	414 7621068	
MICHEAL TRAVIS	414 2737160	337
HAL THIELE	414 9331526	
STAN GAVIC	715 5365521	321
STAN GAVIC	715 5365521	321

Sec 9.15

CRITERIA

Facility	ID	Stack	Source	Source Description	Fuel	PM ton/yr
BERLIN LEATHER CO.	424021180	S20	P20	LEATHER FINISHING	0	32099997
BLACKHAWK LEATHER LTD.	241043220	S10	P30	LEATHER SPRAYING & ROLL COATING	0	32099999
BLACKHAWK LEATHER LTD.	241043220	S14	P31	LEATHER TUMBLING & DRYING	0	32099999
BLACKHAWK LEATHER LTD.	241043220	S19	P36	LEATHER DRYING - PASTING	0	32099999
HYNITE CORPORATION	241028040	S14	P31	DRYING PROCESSED TANNAGE	0	32099999
PFISTER & VOGEL LEATHER	241023750	S60	P60	LEATHER DEHAIRING/TANNAGE	0	32099999
THIELE TANNING CO.	241042670	S11	P11	LEATHER COATING OPERATIONS	0	32099999
WEINBRENNER SHOE CO. INC.	772065580	S20	P02	GRINDING AND TRIMMING OF SOLES AND HEEL	0	32099999
WEINBRENNER SHOE COMPAN	735008450	S01	P01	SOLVENT/CEMENT/ADHESIVES/COATINGS USAG	0	32099998

4.X  
 PA28-52  
 PA25-01  
 Leather Coating

CRITERIA

SO2	NOx	ROG	CO	PM10
0	0	18.1	0	0
0	0	4.31	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	4.98	0	0
0	0	0	0	0
0	0	19.07	0	0

TOXICS

Facility	Fac.ID	Stack	Source	SCC	CAS	Toxic
BLACKHAWK LEATHER LTD.	241043220	S10	P30	32099999	8052-41-3	Stoddard solvent (Mineral spirits)
BLACKHAWK LEATHER LTD.	241043220	S10	P30	32099999		Volatile organic compounds (Reactive organic gases)
PFISTER & VOGEL LEATHER	241023750	S60	P60	32099999	7664-41-7	Ammonia
WEINBRENNER SHOE COMPANY INC	735008450	S01	P01	32099998	78-93-3	Methyl ethyl ketone (2-Butanone) (MEK)
WEINBRENNER SHOE COMPANY INC	735008450	S01	P01	32099998	108-88-3	Toluene (Toluol)

TOXICS

Emissions, lb/yr
11655
8629
130700
12482.9
9622.9



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary

PO Box 7921
101 South Webster Street
Madison, Wisconsin 53707-7921
TELEPHONE 608-266-2621
FAX 608-267-3579
TDD 608-267-6897

August 7, 1996

File Code: 4505

Amy Marshall
Midwest Research Institute
Suite 350
401 Harrison Oaks Blvd.
Cary, NC 27513

SUBJECTS: 1994 AEI Emissions from Leather Tanning Processes.

Dear Ms. Marshall:

I have enclosed the requested information from the 1994 Wisconsin Air Emission Inventory pertaining to sources at facilities with leather tanning processes. I selected the processes using the following Source Classification Codes: 32099997, 32099998 and 32099999. On the attached page, I have described the formats of the three electronic files on the enclosed diskette.

Also, I have included a bill for the cost of the data processing and materials needed to prepare your request. If you have any questions, please call me at 608/264-8854.

Sincerely,

Handwritten signature of Grant D. Hetherington

Grant D. Hetherington, Air Quality Analyst
Planing Section
Bureau of Air Management

Handwritten notes: Called 8/24 re. fax 8/24/96, Andy Seibert (vac) 608 267 0563, Joe Brehm 608 267 7541, Permits



The three files are in ASCII delimited format (i.e. each field separated by a comma and character fields enclosed in quotation marks). Each electronic file are sorted by facility name (FID). Criteria pollutant emissions are in tons/year. Toxic pollutant emissions are in pounds/year. The fields in each record are in the following order from left to right:

FACILITY.TXT	CRITERIA.TXT	TOXICS.TXT
Facility Name	Facility Name	Facility Name
Facility Id	Facility Id	Facility Id
SIC Code	Stack Id	Stack Id
Location Address	Source ID	Source Id
Location City	Source Description	Fuel Number
Mailing Address	Fuel Number	Source Classification Code
Mailing City	Particulate Emissions	CAS Number
Mailing State	SO <sub>2</sub> Emissions	Toxic Name
Zipcode	NO <sub>x</sub> Emissions	Emissions
Air Contact	ROG Emissions	
Air Contact Area Code	CO Emissions	
Air Contact Phone Number	PM10 Emissions	
Air Contact Phone Extension		

**MIDWEST RESEARCH INSTITUTE**

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Internet: mri451@nando.net

**FAX TRANSMISSION**

**TO:** Mike Rudawski, PA Air Quality  
**FROM:** Amy Marshall, ext. 5135 *AM*  
**TIME:** 11:21 AM  
**DATE:** August 6, 1996

**THIS FAX CONSISTS OF 3 PAGES (INCLUDING THIS PAGE)**

**RECEIVING FAX NUMBER: 717-772-2303**

**VERIFICATION PHONE NUMBER:**

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**COMMENTS:**

Mike -- A few weeks ago you sent me a printout of your database on leather tanning companies. I would like to know if either Mercersburg Tanning or Garden State Tanning ever did emissions tests on PM from buffing operations. We need actual test data to be able to develop AP-42 emission factors, so we need a copy of the actual test report if any exist. The printouts from those two facilities had PM listed for buffing. I've included the pages in my fax. If you find there are test reports that we can get, please contact me at 919-677-0249, ext. 5135. If there is a problem with confidentiality, we can go through the work assignment manager at EPA and use their CBI procedures. Look forward to hearing from you -- thanks for your help,

Amy Marshall  
MRI

*Response - no data*

FIRM CODE: 22-1037275 PLANT: 01  
 PROCESS UNIT ID: 101 NON CRITERIA SOURCE CRITERIA  
 PROCESS DESCRIPTION MATERIAL PROCESSED  
 LEATHER BUFFING OPERATION LEATHER HIDES

MATERIAL PROCESSED-----  
 FUEL CODE NEDS SCC %SULF %ASH CONTENT BTU  
 LEATHER PRODUCTS MISCELL 320999999 8.0 250 2,000

HR/D	D/YR	TOT	START DATE	END DATE	THRUPUT
JAN-01-94			JAN-01-94	JAN-31-94	6,215.0 POUNDS
FEB-01-94			FEB-01-94	FEB-28-94	6,215.0 POUNDS
MAR-01-94			MAR-01-94	MAR-31-94	9,396.0 POUNDS
APR-01-94			APR-01-94	APR-30-94	9,396.0 POUNDS
MAY-01-94			MAY-01-94	MAY-31-94	9,396.0 POUNDS
JUN-01-94			JUN-01-94	JUN-30-94	14,129.0 POUNDS
JUL-01-94			JUL-01-94	JUL-31-94	14,129.0 POUNDS
AUG-01-94			AUG-01-94	AUG-31-94	14,129.0 POUNDS
SEP-01-94			SEP-01-94	SEP-30-94	13,445.0 POUNDS
OCT-01-94			OCT-01-94	OCT-31-94	13,445.0 POUNDS
NOV-01-94			NOV-01-94	NOV-30-94	13,445.0 POUNDS
DEC-01-94			DEC-01-94	DEC-31-94	64.7 TONS
TOTAL:					64.7 TONS

AVERAGE THRU/HR 6,000 LBS MAXIMUM THRU/HR 320999999 SCC-NUMBER 320999999 MATERIAL LEATHER PRODUCTS MISCELLANEOUS  
 250 2,000 NOT CLASSIFIED

EXHAUST-----  
 ACFM 16,000 SCFM 15,840 %MOIST 1 TEMP-F 70

STACK DATA-----

ID	HEIGHT (FT)	DIAM (FT)	EXHAUST SCFM	% MOIST	TEMP F	FLOW %	FLOW START DATE
SO1	15	2.5	16,000	1	70	100.00	JAN-01-94

CONTROL EQUIPMENT-----  
 ID NUMBER NAME DATE TYPE PRESS 1ST POLL EFF EFF 2ND POLL EFF EFF 3RD POLL EFF EFF DISCHARGES  
 INSTALLED CODE DROP CONTROL % CODE CONTROL % CODE CONTROL % CODE TO  
 CO1 AMEREX INC. APR-01-85 35 03 P000 99.20 A SO1

SOURCE TOTALS-----  
 PM10 PART SDX VOC NDY CO  
 BEST CONTROLLED

FIRM CODE: 13-1930859 PLANT: 01  
 PROCESS UNIT ID: 110 CRITERIA SOURCE NON-CRITERIA

PROCESS DESCRIPTION MATERIAL PROCESSED  
 BUFFING AND SHAVING OPER. LEATHER

MATERIAL PROCESSED CODE  
 FUEL TYPE NEDS SCC %SULF %ASH CONTENT BTU  
 LEATHER PRODUCTS MISCELL 32099997 32099997 HR/D O/YR TOT START DATE END DATE THRUPT  
 TOTAL:

AVERAGE THRU/HR MAXIMUM THRU/HR SCC-NUMBER MATERIAL  
 37 Sq Ft 32099997 LEATHER PRODUCTS MISCELLANEOUS NOT CLASSIFIED

ACFM SCFM %MOIST TEMP-F  
 45,000 36,000 20 70

STACK DATA ID	HEIGHT (FT)	DIAM (FT)	EXHAUST SCFM	% MOIST	TEMP F	FLOW %	FLOW START DATE
S12	24	2.5	45,000	20	70	100.00	JAN-01-94

CONTROL EQUIPMENT ID NUMBER	NAME	DATE INSTALLED	TYPE CODE	PRESS DROP	1ST POLL EFF %	2ND POLL EFF %	3RD POLL EFF %	DISCHARGES TO
C11	3 MONROE ENVIR. WET SCRUB	JAN-01-89	25	06	POOO	99.00	A	S12

EMISS. FACTOR= 003 LB/SQ. FT. FOR PART. OBTAINED FROM PEDS. THRUPT INFO. SHEET SUBMITTED FOR 1977.  
 1984, 1985 AND 1986 USED SAME EMISSION FACTOR. THE DUST COLLECTOR WAS FULLY REBUILT IN 1986.  
 IN 1989 DUST COLLECTOR REPLACED WITH THREE WET SCRUBBERS UNDER PERMIT NO. 28-299-008. A EMISSION FACTOR OF 4  
 GR/SCF FOR 3 SCRUBBERS EACH AT 1500 CFM GIVES AN EMISSION RATE OF 1542.9 LBS/HR. HOWEVER, USUALLY ONLY 2 SCRUBBERS  
 AT A TIME HAVE SOURCES THAT OPERATING. THEREFOR THE EMISSION RATE IS BETTER ESTIMATED TO BE 1028.6 LBS/HR. A 95%  
 EFFICIENCY GIVES 10.29 LBS/HR.

→ Company no longer in business



# FAX COVER PAGE

To: Amy Marshall

From: Frank H. Rutland

Company: MRI

Fax: 704-252-8255

Fax: \_\_\_\_\_

Phone: 704-252-8254

Subject: The attached is a corrected version  
of the fax sent to you yesterday

*[Signature]*

38 Lakeview Road  
Asheville, NC 28804

**Frank H. Rutland**  
*Environmental Consulting Services  
for the Leather Industry*

phone: 704-252-8254  
fax: 704-252-8255  
modem: 704-252-8256  
e-mail: fhrutland@aol.com

June 24, 1997

Ms. Amy Marshall  
Midwest Research Institute  
Suite 350  
401 Harrison Oaks Blvd.  
Cary, NC 27513

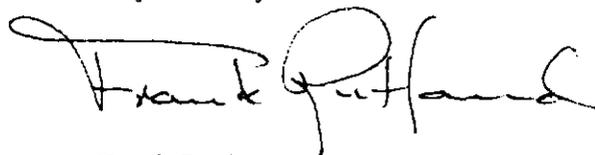
Amy -

I was able to get to your request more quickly than I had expected. The following is a listing by state of the current number of leather tanning and finishing facilities (SIC 3111). Please be advised this is only an approximate list and is done to the best of my knowledge and ability. There are quite a number of these facilities, with which I am not personally familiar and am not even absolutely certain they are still in operation. Also, please understand these are not all complete (hide to leather) tanning facilities. Our industry has become very fragmented for commercial and environmental reasons, and there are very few complete tanneries remaining. Inclusion on this list, therefore, simply indicates the facility performs some part of the tanning/finishing operation. Many, for example are only contract finishers and do nothing else. Despite these reservations, I believe this listing is reasonably accurate, and certainly sufficient for your intended use.

AK	1	MD	1	NC	1
CA	3	MA	14	OH	1
FL	1	MI	3	OR	2
GA	1	MN	3	PA	8
IL	4	MO	3	TN	6
IN	1	MT	1	TX	6
IA	2	NE	2	UT	1
KY	4	NH	2	VA	1
KS	1	NJ	4	WI	14
ME	4	NY	14	TOTAL	111

Please do not hesitate to contact me if I can be of further assistance.

Very sincerely,



Frank Rutland

cc: Charlie Myers  
Nick Cory  
John Wittenborn

Lakeview Road  
Asheville, NC 28804

**Frank H. Rutland**  
*Environmental Consulting Services  
for the Leather Industry*

phone: 704-252-8254  
fax: 704-252-8255  
modem: 704-252-8256  
e-mail: fhrutland@aol.com

June 24, 1997

Ms. Amy Marshall  
Midwest Research Institute  
Suite 350  
401 Harrison Oaks Blvd.  
Cary, NC 27513

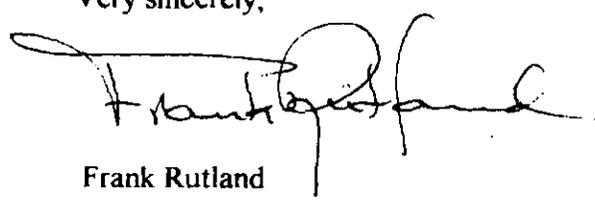
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GA	1	MN	3	PA	8
IL	4	MO	3	TN	6
IN	1	MT	1	TX	6
IA	2	NE	2	UT	1
KY	4	NH	2	VA	1
KS	1	NJ	4	WI	14
ME	4	NY	14	TOTAL	111

Please do not hesitate to contact me if I can be of further assistance.

Very sincerely,



Frank Rutland

cc: Charlie Myers  
Nick Price  
John Wittenborn

*Shoe Trades Publishing Co. Directory*