



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL CERTIFIED MAIL
MIAMI COUNTY**

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 08-04094

DATE: 2/24/00

BF Goodrich
David Heffner
101 Waco St
Troy, OH 45373

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo, Manager
Field Operations and Permit Section
Division of Air Pollution Control

cc: USEPA

RAPCA



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install

Issue Date: 2/24/00

FINAL PERMIT TO INSTALL 08-04094

Application Number: 08-04094
APS Premise Number: 0855140039
Permit Fee: **\$200**
Name of Facility: BF Goodrich
Person to Contact: David Heffner
Address: 101 Waco St
Troy, OH 45373

Location of proposed air contaminant source(s) [emissions unit(s)]:

**101 Waco St
Troy, Ohio**

Description of proposed emissions unit(s):

sulfuric acid anodizing line, dip tanks, Chapter 31 Modification.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

BF Goodrich
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representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio

Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities prove to be inadequate or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit to Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

BF Goodrich**PTI Application: 08-04094****Issued: 2/24/00****Facility ID: 0855140039**

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

**SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

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BF Gc

PTI A

Issued: 2/24/00

Emissions Unit ID: **P006**

<u>Pollutant</u>	<u>Tons Per Year</u>
Nitric Acid	2.15
Hydrochloric Acid	0.75
Chromic Acid	0.70

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P006 - Chromate Conversion Coating, Anodizing, and Descaling; Open Surface Dip Tanks #1-#44; Modification (see Section F.3.)	OAC rule 3745-31-05 (A)(3)	11.76 lbs/day and 2.15 TPY nitric acid 4.09 lbs/day and 0.75 TPY hydrochloric acid 3.86 lbs/day and 0.70 TPY chromic acid

2. Additional Terms and Conditions

- 2.a The 11.76 lbs/day nitric acid limitation in this permit was established to reflect the potential to emit for the emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with this limitation.
- 2.b The 4.09 lbs/day hydrochloric acid limitation in this permit was established to reflect the potential to emit for the emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with this limitation.
- 2.c The 3.86 lbs/day chromic acid limitation in this permit was established to reflect the potential to emit for the emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with this limitation.

B. Operational Restrictions

None

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BF Gc

PTI A

Issued: 2/24/00

Emissions Unit ID: **P006**

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information for each change where air toxic modeling was required pursuant to the Air Toxic Policy:
 - a. background data that describes the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the Air Toxic Policy; and,
 - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the Air Toxic Policy for the change.

D. Reporting Requirements

None

E. Testing Requirements

1. Compliance with the emission limitation(s) in Section B.I.1. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation -
11.76 lbs/day nitric acid

Applicable Compliance Method -

Compliance shall be based upon the worst case scenario using the mass transfer of water evaporation equation, calculated separately for each tank containing nitric acid:

$$E = \text{Area} (jD * V) / Sc^{1.5} (psat - p) (MW / RT) \text{ Conc.}$$

Where:

E = lbs/hr emission rate

Area = surface area of tank (sq ft)

jD = Colburn J factor = 0.005 (dimensionless)

V = air velocity over surface of the tank (ft/hr)

Sc = Schmidt number at 70 degrees F = 0.612 (dimensionless)

psat = saturate vapor pressure of water = 0.0247 atm

p = ambient vapor pressure at 70 degrees F/50% RH = 0.0123 atm

MW = molecular weight of water = 18 lb/lb-mole

$R = \text{Ideal Gas Constant} = 0.73 \text{ cyft-atm/R-lb-mol}$

$T = \text{Temperature (rankin)} = \text{Degrees F} + 460$

Conc. = concentration of constituent of concern (mass fraction)

The results of each tank's emissions shall then be added together and multiplied by a maximum daily operating schedule of 24 hours per day.

- b. Emission Limitation -
2.15 TPY nitric acid

Applicable Compliance Method -

Compliance shall be based upon the summation of the 365 daily emissions rates, using the worst case lbs/day emissions rate calculated above, and shall then be divided by 2000 lbs/ton.

- c. Emission Limitation -
4.09 lbs/day hydrochloric acid

Applicable Compliance Method -

Compliance shall be based upon the worst case scenario using the mass transfer of water evaporation equation, calculated separately for each tank containing hydrochloric acid:

$E = \text{Area} (jD * V) / Sc^{1.5} (psat-p) (MW/RT) \text{ Conc.}$

Where:

$E = \text{lbs/hr emission rate}$

$\text{Area} = \text{surface area of tank (sq ft)}$

$jD = \text{Colburn J factor} = 0.005 \text{ (dimensionless)}$

$V = \text{air velocity over surface of the tank (ft/hr)}$

$Sc = \text{Schmidt number at 70 degrees F} = 0.612 \text{ (dimensionless)}$

$psat = \text{saturate vapor pressure of water} = 0.0247 \text{ atm}$

$p = \text{ambient vapor pressure at 70 degrees F/50\% RH} = 0.0123 \text{ atm}$

$MW = \text{molecular weight of water} = 18 \text{ lb/lb-mole}$

$R = \text{Ideal Gas Constant} = 0.73 \text{ cyft-atm/R-lb-mol}$

$T = \text{Temperature (rankin)} = \text{Degrees F} + 460$

Conc. = concentration of constituent of concern (mass fraction)

The results of each tank's emissions shall then be added together and multiplied by a maximum daily operating schedule of 24 hours per day.

- d. Emission Limitation -

0.75 TPY hydrochloric acid

Applicable Compliance Method -

Compliance shall be based upon the summation of the 365 daily emissions rates, using the worst case lbs/day emissions rate calculated above, and shall then be divided by 2000 lbs/ton.

- e. Emission Limitation -
3.86 lbs/day chromic acid

Applicable Compliance Method -

Compliance shall be based upon the worst case scenario using the mass transfer of water evaporation equation, calculated separately for each tank containing chromic acid:

$E = \text{Area} (jD * V) / Sc^{1.5} (psat-p) (MW/RT) \text{ Conc.}$

Where:

E = lbs/hr emission rate

Area = surface area of tank (sq ft)

jD = Colburn J factor = 0.005 (dimensionless)

V = air velocity over surface of the tank (ft/hr)

Sc = Schmidt number at 70 degrees F = 0.612 (dimensionless)

psat = saturate vapor pressure of water = 0.0247 atm

p = ambient vapor pressure at 70 degrees F/50% RH = 0.0123 atm

MW = molecular weight of water = 18 lb/lb-mole

R = Ideal Gas Constant = 0.73 cyft-atm/R-lb-mol

T = Temperature (rankin) = Degrees F + 460

Conc. = concentration of constituent of concern (mass fraction)

The results of each tank's emissions shall then be added together and multiplied by a maximum daily operating schedule of 24 hours per day.

- f. Emission Limitation -
0.70 TPY chromic acid

Applicable Compliance Method -

Compliance shall be based upon the summation of the 365 daily emissions rates, using the worst case lbs/day emissions rate calculated above, and shall then be divided by 2000 lbs/ton.

F. Miscellaneous Requirements

1. This permit allows the use of materials (typically coatings and cleanup materials) specified by the permittee in the permit to install application for this emissions unit. To fulfill the best available technology requirements of (OAC) rule 3745-31-05 and to ensure compliance with OAC rule 3745-15-07 (Air Pollution Nuisances Prohibited), the emission limitation(s) specified in this permit was (were) established using the Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") and is (are) based on both the materials used and the design parameters of the emissions unit's exhaust system, as specified in the application. The Ohio EPA's "Air Toxic Policy" was applied for each pollutant using the SCREEN 3.0 model and comparing the predicted 1-hour maximum ground-level concentration to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worse case" each pollutant(s):

Pollutant: Nitric Acid

TLV (ug/m3): 5155

Maximum Hourly Emission Rate (lbs/hr): 0.49

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 40.59

MAGLC (ug/m3): 51.55

Physical changes or changes in the method of operation of the emissions unit that result in changes to the factors affecting the air toxic analysis could result in noncompliance with this permit to install. In order to avoid this noncompliance situation, prior to initiating any changes, permittees are required to conduct an evaluation to determine that the "Air Toxic Policy" is still satisfied. Changes that can affect the "Air Toxic Policy" include, but are not limited to, the following:

- a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and,
- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.)

The Ohio EPA will not consider any of the above-mentioned as a "modification" requiring a permit to install, if the following conditions are met:

- a. the change is not otherwise considered a "modification" under OAC Chapter 3745-31;
- b. the permittee can continue to comply with the allowable emission limitations specified in its permit to install; and,
- c. prior to the change, the applicant conducts an evaluation pursuant to the Air Toxic Policy, determines that the changed emissions unit still satisfies the Air Toxic Policy, and the

BF Goodrich**PTI Application: 08-04004****Issued****Facility ID: 0855140039**Emissions Unit ID: **P006**

permittee maintains documentation that identifies the change and the results of the application of the Air Toxic Policy for the change.

For any change to the emissions unit or its method of operation that either would require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01, the permittee shall obtain a final permit to install prior to the change.

2. Physical changes or changes in the method of operation of the emissions unit that result in changes to the factors affecting the "de minimis" determination, of the other air pollutants listed in the application, and could result in noncompliance with this permit to install. In order to avoid this noncompliance situation, prior to initiating any changes, the permittee is required to conduct an evaluation to determine that the "de minimis" classification is still satisfied. Changes that can affect the "de minimis" status include, but are not limited to, the following:
 - a. Changes in the composition of the materials, or use of new materials, that would result in an increase in emission of any pollutant that was proposed in the application; and,
 - b. Physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in diameter, etc.).

The Ohio EPA will not consider the above-mentioned as a "modification" requiring a permit to install, if the following conditions are met:

- a. the change is not otherwise considered a "modification" under OAC Chapter 3745-31;
 - b. the permittee can continue to comply with the allowable emission limitations specified in its permit to install; and,
 - c. prior to the change, the applicant conducts an evaluation pursuant to the "de minimis" rule, determines that the changed emissions unit still satisfies the "de minimis" rule, and the permittee maintains documentation that identifies the change and the results of the application of the "de minimis" rule for the change.
3. This is a modification to PTI 08-3564, as issued on 10/09/96. This modification represents a change in raw materials used in many different tanks and institutes allowables for nitric acid, hydrochloric acid, and chromic acid only for the entire line instead of only for the modified tanks.

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BF Gc

PTI A

Issued: 2/24/00

Emissions Unit ID: **P006**

NEW SOURCE REVIEW FORM B

PTI Number: 08-04094 Facility ID: 0855140039

FACILITY NAME BF Goodrich

FACILITY DESCRIPTION sulfuric acid anodizing line, dip tanks CITY/TWP Troy

SIC CODE 3728 SCC CODE 3-14-999-99 EMISSIONS UNIT ID P006

EMISSIONS UNIT DESCRIPTION Chromate Conversion Coating, Anodizing, and Descaling; Open Surface Dip Tanks #1-#44

DATE INSTALLED Mod. in 98

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter					
PM ₁₀					
Sulfur Dioxide					
Organic Compounds					
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics	Unclassified	11.76 lbs/day nitric acid; 4.09 lbs/day HCl; 3.86 lbs/day chromic acid	2.15 nitric acid; 0.75 HCl; 0.70 chromic acid	11.76 lbs/day nitric acid; 4.09 HCl; 3.86 lbs/day chromic acid	2.15 nitric acid; 0.75 HCl; 0.70 chromic acid

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP?

PSD?

OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: BAT is compliance with the applicable rule and specified allowable emissions rates.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NOIDENTIFY THE AIR CONTAMINANTS: nitric acid

NEW SOURCE REVIEW FORM B

PTI Number: 08-04094 Facility ID: 0855140039

FACILITY NAME BF Goodrich

FACILITY DESCRIPTION sulfuric acid anodizing line, dip tanks CITY/TWP Troy

Please describe any hard copy information is being submitted with this recommendation (Please send hard copy information to Pam McGraner, DAPC Central Office - Air Quality Modeling and Planning):

Air Toxic Modeling

Please provide any additional permit specific notes as you deem necessary:

NONE

Permit To Install Synthetic Minor Write-Up

NONE

Please fill in the following for this permit:

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
Nitric Acid	2.15
Hydrochloric Acid	0.75
Chromic Acid	0.70

Calculations

PTI 08-4094 involves all the tanks for this process (tanks 1 - 44). Per TAW, we will only focus on the pollutants which have a PTE that is over the "de minimis" threshold. According to the calculations performed by BF Goodrich using the same formula as Plating Technology called "Mass Transfer of Water Evaporation," the only pollutant over the threshold is nitric acid.

Since two HAPS, hydrochloric acid and chromic acid, are involved we will also write limitations for these pollutants to call them out.

Nitric Acid Emissions

Tanks 6, 33 and 38 all contain nitric acid. The combined daily emissions rate for the three tanks is $4.556 + 4.1 + 3.1 = 11.76$ lbs/day. At 365 days of operation a year, the emissions rate is 4292.4 lbs/yr or 2.15 TPY.

HCl Emissions

Tanks 26 and 41 contain this HAP. The combined daily emissions rate for the two tanks is $0.014 + 4.08 = 4.09$ lbs/day. At 365 days of operation a year, the emissions rate is 1494.31 lbs/yr or 0.75 TPY.

Chromic Acid Emissions

Tanks 9,15,22,26, and 35 contain this HAP. The combined daily emissions rate is $0.17 + 0.072 + 3.36 + 0.24 + 0.014 = 3.86$ lbs/day. At 365 days of operation a year, the emissions rate is 1408.9 lbs/yr or 0.70 TPY.

NEW SOURCE REVIEW FORM B

PTI Number: 08-04094

Facility ID: 0855140039

FACILITY NAME BF Goodrich

FACILITY DESCRIPTION

sulfuric acid anodizing line, dip tanks

CITY/TWP

Troy

Sulfuric Acid Emissions

Tanks 4,11,12, and 31 all contain sulfuric acid. Tanks 11 and 12 are the only tanks in the process which have electrical current. Therefore, these two tanks emissions were ascertained by using an AP-42 emission factor from Table 12.20.2 of 4.2 gr/hr-sq ft or 0.0006 lb/hr-sq ft. This calculation assumes that sulfuric anodizing has a similar total emissions rate as chromic acid. The total emissions for these two tanks is $0.24 + 0.24 = 0.48$ lbs/day. At 365 days of operation a year, the emissions rate is 175.2 lbs/yr or 0.09 TPY. Tanks 4 and 31 use the same equation as above. The combined daily emissions rate for these tanks is $0.24 + 1.92 = 2.16$ lbs/day. At 365 days of operation a year, the emissions rate is 788.5 lbs/yr or 0.39 TPY.

Total Emissions = 2.64 lbs/day and 0.87 TPY.

Hydrofluorosilicic Acid Emissions

Tanks 4 and 31 contain this pollutant. The combined daily emissions rate is $0.24 + 1.2 = 1.44$ lbs/day. At 365 days of operation a year, the emissions rate is 890.6 lbs/yr or 0.45 TPY.

Phosphoric Acid Emissions

Only tank 15 contains phosphoric acid. The daily emissions rate is 0.072 lbs/day and equates to 26.28 lbs/yr or 0.013 TPY.

Sodium Hydroxide Emissions

Tanks 19 and 43 contain this pollutant. The combined daily emissions rate is $0.072 + 4.08 = 4.15$ lbs/day. At 365 days of operation a year, the emissions rate is 1514.75 lbs/yr = 0.76 TPY

Ammonium Hydrogen Fluoride Emissions

Only tank 24 contains this pollutant. The daily emissions rate is 0.96 lb/day and at 365 days of operation a year, 350.4 lbs/yr or 0.18 TPY.

Permit Allowables

11.76 lbs/day and 2.15 TPY nitric acid

4.09 lbs/day and 0.75 TPY hydrochloric acid

3.86 lbs/day and 0.70 TPY chromic acid

Air Toxic Modeling

$11.76 \text{ lbs nitric acid/day} / 24 \text{ hrs/day} = 0.49 \text{ lb/hr}$

$0.049 \text{ lb/hr} \times 454 \text{ g/lb} \times \text{hr}/3600 \text{ sec} = 0.0618 \text{ g/sec}$

NEW SOURCE REVIEW FORM B

PTI Number: 08-04094 Facility ID: 0855140039

FACILITY NAME BF Goodrich

FACILITY DESCRIPTION	CITY/TWP
sulfuric acid anodizing line, dip tanks	Troy

For worst case use M-3534 A

Diameter: 3.6 ft X 12 in/ft X m/39.37 in = 1.10 m

Height: 49 ft X 12 in/ft X m/39.37 in = 14.93 m

Ambient Air Temp - 293 K

VF = 14,666 ACFM

GEP Height: 55 ft X 12 in/ft X m/39.37 in = 16.76 m

GEP Length: 636 ft X 12 in/ft X m/39.37 in = 193.85 m

MAGLC -

Nitric Acid TLV - 2 ppm

 $(2 \text{ ppm} \times 63.02) / 24.45 = 5.16 \text{ mg/m}^3$ $5.16 \text{ mg/m}^3 \times 1000 \text{ ug/mg} = 5155 \text{ ug/m}^3$ $5155 \text{ ug/m}^3 / 100 = 51.55 \text{ ug/m}^3$

Modeled Emissions

40.59 ug/m³40.59 ug/m³ < 51.55 ug/m³, therefore PASSED**NSR Discussion**

BF Goodrich is applying for the PTI modification due to a change in the raw materials used in the emissions unit P006. This is the fourth modification to this line since 1994. BF Goodrich is a company which builds aircraft components and equipment. This facility is located in Miami County which is currently unclassified for attainment for nitric acid, hydrochloric acid, and chromic acid. This facility is not currently subject to the Aerospace MACT standard because the current HAP emissions are less than 10 tons per year for any individual HAP and less than 25 TPY for any combined HAPs.

Due to the frequent modifications to the materials used to perform magnesium chromate conversion and aluminum chromate conversion plating only focused on a few pollutants. This PTI, unlike the past PTIs, only concentrated on the HAPs, chromic acid and hydrochloric acid, and nitric acid because the emission rate was greater than the allowed 10 lbs/day in the "de minimis" rule.

The PTI allowables are 11.76 lbs/day and 2.15 TPY nitric acid, 4.09 lbs/day and 0.75 TPY hydrochloric acid, and 3.86

NEW SOURCE REVIEW FORM B

PTI Number: 08-04094

Facility ID: 0855140039

FACILITY NAME BF Goodrich

FACILITY DESCRIPTION sulfuric acid anodizing line, dip tanks

CITY/TWP Troy

lbs/day and 0.70 TPY chromic acid. These emissions were all based on the equation submitted by Plating Technology, called "Mass Transfer of Water Evaporation." The only variables in the equation that can vary among the tanks is the area of the tank, the temperature of the tank, the velocity across the tank, the pollutant, and the concentration of the pollutant. In the calculations submitted by BF Goodrich, these parameters were all given the maximum value to calculate the worst case emissions on an hourly basis. The allowables were then set by multiplying by the maximum operating schedules of 24 hrs/day and 365 days/yr.

Toxic modeling was performed on nitric acid. The modeled emissions of 40.59 ug/m³ using the worst case stack parameters is less than the MAGLC of 51.55 ug/m³. Therefore, the emissions passed toxic modeling for nitric acid. All other pollutants were not modeled since emissions were less than 1.0 TPY.

The applicable rule is OAC rule 3745-31-05. BAT is compliance with the applicable rule and specified allowable emissions rates.

Recommended for approval.

Fee: \$200 X 0.5 = \$100

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