



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address:

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

Lazarus Gov.
Center

RE: **DRAFT PERMIT TO INSTALL MODIFICATION** CERTIFIED MAIL
LUCAS COUNTY
Application No: 04-00923

DATE: 8/5/2004

Marsulex Inc
Duane Abbott
1400 Otter Creek Road
TOLEDO, OH 43617

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install modification for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit modification. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit modification should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install modification may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install modification a fee of \$ 0 will be due. Please do not submit any payment now.

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. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Very truly yours,

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA

TDES

Toledo Metro. Area Council of Gov.

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**PUBLIC NOTICE
ISSUANCE OF DRAFT PERMIT TO INSTALL 04-00923 FOR AN AIR CONTAMINANT SOURCE FOR
MARSULEX INC**

On 8/5/2004 the Director of the Ohio Environmental Protection Agency issued a draft action of a Permit To Install an air contaminant source for **Marsulex Inc**, located at **1400 Otter Creek Rd, Oregon, Ohio**.

Installation of the air contaminant source identified below may proceed upon final issuance of Permit To Install 04-00923:

Sulfuric acid A-Plant.

Comments concerning this draft action, or a request for a public meeting, must be sent in writing to the address identified below no later than thirty (30) days from the date this notice is published. All inquiries concerning this draft action may be directed to the contact identified below.

Karen Granata, Toledo Department of Environmental Services, 348 South Erie Street, Toledo, OH 43602
[(419)936-3015]



**Permit To Install
Terms and Conditions**

**Issue Date: To be entered upon final issuance
Effective Date: To be entered upon final issuance**

DRAFT MODIFICATION OF PERMIT TO INSTALL 04-00923

Application Number: **04-00923**
APS Premise Number: **0448020014**
Permit Fee: **\$ To be entered upon final issuance**
Name of Facility: **Marsulex Inc**
Person to Contact: **Duane Abbott**
Address: **1400 Otter Creek Road
TOLEDO, OH 43617**

Location of proposed air contaminant source(s) [emissions unit(s)]:
**1400 Otter Creek Rd
Oregon, OHIO**

Description of modification:
Sulfuric acid A-Plant.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification 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 source(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Marsulex Inc

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GENERAL PERMIT CONDITIONS

TERMINATION OF PERMIT TO INSTALL

Substantial construction for installation must take place within 18 months of the effective date of this permit. 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.

NOTICE OF INSPECTION

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

CONSTRUCTION OF NEW SOURCES

The proposed source(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 source(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 Ohio Administrative Code (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 cannot meet applicable standards.

PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 30 days of the effective date of this permit to install.

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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.

APPLICABILITY

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

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.

PERMIT TO OPERATE APPLICATION AND OPERATION AFTER COMPLETION OF CONSTRUCTION

If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. 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 ninety (90) days after commencing operation of the source(s) covered by this permit.

SOURCE OPERATION 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 and regulations.

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AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **Marsulex Inc** located in **Lucas** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

<u>Ohio EPA Source Number</u>	<u>Source Identification Description</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P001	Sulfuric Acid Plant/A-Plant (Modification)	Dual Absortion and oxygen enrichment	3745-31-05 3745-18-54 (X) 3745-21-08 (B) 3745-23-06(B) 40 CFR Part 51, Appendix p 40 CFR Part 60, Appendix B, PS 6 40 CFR Part 60, Subpart H	102.7 lbs/hr, 2465 lbs/day & 450 tons/yr SO2 3.6 lbs/hr and 15.8 tons/yr sulfuric acid mist; 3.85 lbs/hr and 16.5 tons/yr NOx; 0.82 lb/hr and 3.59 tons/yr CO
P002	Sulfuric Acid Plant/B-Plant (Modification)	Dual Absortion and oxygen enrichment	3745-31-05 3745-18-54 (X) 3745-21-08 (B) 3745-23-06(B) 40 CFR Part 51, Appendix p 40 CFR Part 60, Appendix B, PS 6 40 CFR Part 60, Subpart H	59.5 lbs/hr, 1428 lbs/day and 261 tons/yr SO2; 2.1 lbs/hr and 9.2 tons/yr sulfuric acid mist; 2.42 lbs/hr and 10.6 tons/yr NOx; 0.82 lb/hr and 3.59 tons/yr CO

SUMMARY**TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

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<u>Pollutant</u>	<u>Tons/Year</u>
Carbon Monoxide	7.18
Nitrogen Oxides	27.4
Sulfur Dioxide	711
Sulfuric Acid Mist	25

CONSTRUCTION STATUS

The **Toledo Division of Environmental Services** shall be notified in writing as to (a) the construction starting date, (b) the construction completion date, and (c) the date the facilities were placed into operation for the following sources: P001/A-Plant and P002/B-Plant.

PERFORMANCE TEST REQUIREMENTS

The permittee shall conduct, or have conducted, performance testing on the air contaminant source(s) in accordance with procedures approved by the Agency. Two copies of the written report describing the test procedures followed and the results of such tests shall be submitted and signed by the person responsible for the test. The Director, or an Ohio EPA representative, shall be allowed to witness the test, examine testing equipment, and require the acquisition or submission of data and information necessary to assure that the source operation and testing procedures provide a valid characterization of the emissions from the source and/or the performance of the control equipment.

- A. A completed Intent to Test form shall be submitted to the appropriate Ohio EPA District Office or Local Air Pollution Control Agency where the original permit application was filed. This notice shall be made 30 days in advance and shall specify the source operating parameters, the proposed test procedures, and the time, date, place and person(s) conducting such tests.
- B. Two copies of the test results shall be submitted within 30 days after the completion of the performance test.
- C. Tests shall be performed for the following source(s) and pollutant(s):

Source
P001, P002

Pollutant(s)
SO₂, Sulfuric Acid Mist

RECORD(S) RETENTION AND AVAILABILITY

All records required by this Permit to Install shall be retained on file for a period of not less than three years unless otherwise indicated by Ohio Environmental Protection Agency. All records shall be made available to the

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Director, or any representative of the Director, for review during normal business hours.

REPORTING REQUIREMENTS

Unless otherwise specified, reports required by the Permit to Install need only be submitted to **Toledo Division of Environmental Services, 348 South Erie Street, Toledo, Ohio 43602.**

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WASTE DISPOSAL

The owner/operator shall comply with any applicable state and federal requirements governing the storage, treatment, transport and disposal of any waste material generated by the operation of the sources.

MAINTENANCE OF EQUIPMENT

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

MALFUNCTION/ABATEMENT

In accordance with OAC RULE 3745-15-06, any malfunction of the source(s) or associated air pollution control system(s) shall be reported immediately to the **Toledo Division of Environmental Services, 348 South Erie Street, Toledo, Ohio 43602.**

Except as provided by OAC Rule 3745-15-06(A)(3), scheduled maintenance of air pollution control equipment that requires the shutdown or bypassing of air pollution control system(s) must be accompanied by the shutdown of the associated air pollution sources.

AIR POLLUTION NUISANCES PROHIBITED

The air contaminant source(s) identified in this permit may not cause a public nuisance in violation of OAC Rule 3745-15-07.

ADDITIONAL SPECIAL TERMS AND CONDITIONS

1. The owner or operator must apply for and obtain a permit to install from the Ohio EPA (OEPA) before increasing production above levels listed in the permit to install application dated June 29, 1994 or making any further modifications to the source.
2. The owner or operator shall record on a daily basis the emissions of sulfur dioxide (SO₂) in units of pounds per day. Maximum allowable emissions are 450 tons/year based upon a rolling 365 day period for P001, and 261 tons/year per rolling 365 day period for P002. Upon start up under this permit to install modification to allow the production increase, the rolling 365 day tons/year emissions allowables shall be met. The emissions from the previous year's operation shall be used in calculating compliance.
3. Monitoring Requirements:

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Until certification of the SO₂ CEMS required by Additional Special Term and Condition 9, the owner or operator shall maintain and operate the continuous bubbler system (CBS) to record and report SO₂ emissions data from sources P001 and P002 in accordance with the May 5, 1987 approved State Implementation Plan revision for Coulton Chemical. The CBS shall comply with the requirements specified in 40 cfr part 51, Appendix P. The CBS shall record and report SO₂ emissions in pounds per hour, pounds per day, tons per year, and pounds of SO₂ produced per ton of one-hundred percent sulfuric acid produced. The pounds per hour emission measurements shall be based on three (3)-hour "block" averages. There are eight (8) block averages per day. These records shall be maintained at the facility and be available upon request for inspection for a period of five (5) years.

Within 120 days of the effective date of this permit to install, flow monitors shall be installed and tested for sources P001 and P002 to allow for monitoring sulfur dioxide in units of pounds per hour, pounds per day, and pounds per year. This continuous monitoring equipment shall comply with the requirements specified in 40 CFR, Part 60. Initial certification of the flow monitor shall be performed in accordance with procedures specified in 40 CFR Part 60, Appendix B, Performance Specification 6.

An intent to test notification shall be submitted to the Toledo Division of Environmental Services (TDOES) thirty (30) days prior to certification testing of the flow monitor. Representatives of the Ohio EPA shall be permitted to witness the performance specification test. Two copies of the test results shall be submitted to the TDOES within Forty-Five (45) days after the test is completed.

The owner or operator shall implement a quality assurance /quality control program. All maintenance on any portion of the monitoring system shall be documented in a logbook dedicated to the monitoring system.

4. Reporting excess emissions:

For the purposes of reporting excess emissions, the owner or operator shall report all daily exceedances of the pounds per day applicable emission limitation for sources listed in this permit to install based on an arithmetic average of the eight (8) three (3)-hour "block" averages for each calendar day. For the purposes of reporting excess emissions on an annual basis (the SO₂ tons per year limitation), the eight (8) three(3)-hour readings for each calendar day shall be averaged on a 365 day rolling basis. The owner or operator shall report all exceedances of the 6.5 pounds of S)₂ emitted per ton of one-hundred percent sulfuric acid produced.

Excess Emission reports shall be submitted to the Toledo Division of Environmental Services on a quarterly basis. The reports shall be submitted February 1, May 1, August 1, and November 1 of each year and shall cover the data obtained during the previous calendar quarters.

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5. Applicability of the pounds of SO₂ per ton of one-hundred percent sulfuric acid produced limit during periods of startup and shut down:

During periods of start-up and shut-down of P001 and P002, the owner or operator shall minimize emissions by utilizing good engineering practices and OAC rule 3745-15-06. The owner or operator shall comply with the applicable hourly mass SO₂ limit during periods of start-up or shut-down. During periods of start-up or shut-down, the pounds of SO₂ per ton of one-hundred percent sulfuric acid produced limit does not apply because sulfuric acid is not produced at one hundred percent capacity.

6. Within 180 day of start-up, the owner or operator shall conduct an emission test for the sources listed in this permit in order to demonstrate compliance with the allowable hourly mass emission rate for sulfur dioxide

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and sulfuric acid mist. The emission test shall be conducted according to procedures specified in EPA Method 8. Tests must be conducted while the emission units are operating at a minimum of 90% of the maximum capacity listed in the Permit to Install application.

If compliance testing on an emission unit is performed at less than 90% of maximum rated capacity, then terms and conditions restricting operation will be added to the emission unit's permit to Operate. Operation of the emission unit will be restricted by the following equation.

$$M_{all} = \frac{M_{test}}{0.9}$$

M_{all} = Allowable operating rate, lbs/hr

M_{test} = Operating rate during performance test, lbs/hr

7. At all times except for periods of startup, shutdown, and malfunction, the permittee shall not cause to be discharged into the atmosphere any gases which:
 - i. contain sulfur dioxide in excess of 2 kg per metric ton of acid produced (4 lb per ton), the production being expressed as 100 percent H₂SO₄;
 - ii. contain acid mist, expressed as H₂SO₄, in excess of 0.075 kg per metric ton of acid produced (0.15 lb/ton), the production being expressed as 100 percent H₂SO₄; and
 - iii. exhibit 10 percent opacity or greater.

8. The following definitions shall apply to the terms and conditions of this emissions unit.
 - a. [40 CFR 60.2]
 "Startup" means the setting in operation of the unit and associated equipment for any purpose.

 Startup of the dry side ends when converters reach and maintain for a period of six continuous hours normal operating temperatures, defined as a minimum of 780°F into the first and third catalyst beds. Startup of the wet side begins when sulfur bearing feeds are introduced to the regen furnace, and ends twelve hours thereafter.

 - b. [40 CFR 60.2]
 "Shutdown" means the cessation of operation of the unit and associated equipment for any purpose.

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Shutdown of the dry side begins when sulfur feed is taken off the sulfur furnace and sulfur bearing feeds exclusive of fuel oil are taken off the regen furnace. Shutdown of the wet side begins when sulfur bearing feeds exclusive of fuel oil are taken off the regen furnace and ends six hours thereafter.

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- c. [40 CFR 60.2]
"Malfunction" means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused by poor maintenance or careless operation are not malfunctions.
 - a. "Dry side" means that portion of the unit that includes all processing equipment beginning with the drying tower and continuing through the stack.
 - b. "Wet side" means that portion of the unit that includes all processing equipment preceding the drying tower.
9. Within 50 days of January 30, 2004, the permittee shall order the equipment necessary to comply with the continuous monitoring system requirements of 40 CFR 60.84 and 40 CFR 60.13. Within 90 days of delivery of the equipment ordered to comply with the continuous monitoring system requirements of 40 CFR 60.84 and 40 CFR 60.13, the permittee shall:
 - a. Install, calibrate and maintain a continuous monitoring system for the measurement of sulfur dioxide that complies with 40 CFR 60.84 and 40 CFR 60.13. The continuous monitoring system shall also include a flow monitor as required in this PTI. The combination of the SO₂ continuous monitoring system and flow monitor will be identified in this permit as the SO₂ Continuous Emission Rate Monitoring System (CERMS). The CERMS shall monitor SO₂ emissions in units of pounds per ton of 100% acid produced, pounds per hour, pounds per day, and tons per rolling, 365-day period.
 - b. Conduct certification tests of the SO₂ CERMS pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 6.

Prior to the installation of the SO₂ CERMS, the permittee shall submit information detailing the proposed location of the sampling site(s) in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 6 for approval by the Ohio EPA, Central Office.
10. The permittee shall operate and maintain equipment required by Additional Special Term and Condition 9 to continuously monitor and record SO₂ emissions from this emissions unit in units of the applicable standard(s): pounds per ton of 100% acid produced as a rolling, 3-hour average, pounds per hour as a 3-hour average, pounds per day, and tons per rolling, 365-day period.

The permittee shall maintain records of all data obtained by the SO₂ CERMS including, but not limited to, parts per million SO₂ on an instantaneous (1-minute) basis, emissions of SO₂ in units of the applicable standard in the appropriate averaging period (pounds per ton of 100% acid produced as a rolling 3-hour average, pounds per hour as a 3-hour average, pounds per day, and

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tons per rolling, 365-day period), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

a. [40 CFR 60.84(a)]

The pollutant gas used to prepare calibration gas mixtures under Performance Specification 2 and for calibration checks under 40 CFR 60.13(d), shall be SO₂. Method 8 shall be used for conducting

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monitoring system performance evaluations under 40 CFR 60.13(c) except that only the SO₂ portion of the Method 8 results shall be used. The span value shall be set at 1000 ppm of SO₂.

b. [40 CFR 60.84(b)]

The permittee shall establish a conversion factor for the purpose of converting monitoring data into units of pounds per ton. The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of SO₂ entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each 8-hour period as follows:

$$CF = k[(1.000-0.015r)/(r-s)]$$

where:

CF = conversion factor (kg/ton per ppm, lb/ton per ppm);

k = constant derived from material balance (for determining CF in metric units, k = 0.0653, for determining CF in English units, k = 0.1306);

r = percentage of SO₂ by volume entering the gas converter (appropriate corrections must be made for air injection plants subject to the Administrator of U.S. EPA's approval); and

s = percentage of SO₂ by volume in the emissions to the atmosphere determined by the continuous monitoring system required under Additional Special Term and Condition 9.a.

c. [40 CFR 60.84(c)]

The permittee shall record all conversion factors and values under Additional Special Term and Condition 10.b from which they were computed (i.e., CF, r, and s).

d. [40 CFR 60.84(d)]

Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen may use the following continuous emission monitoring approach and calculation procedures in determining SO₂ emission rates in terms of the standard. This procedure is not required, but is an alternative that would alleviate problems encountered in the measurement of gas velocities or production rate. Continuous emission monitoring systems for measuring SO₂, O₂, and CO₂ (if required) and flow rate (required by this PTI) shall be installed, calibrated, maintained, and operated by the permittee and subjected to the certification procedures in Performance Specifications 6. The calibration

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procedure and span value for the SO₂ monitor shall be as specified in Additional Special Term and Condition 10 .a. The span value for CO₂ (if required) shall be 10 percent and for O₂ shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the SO₂ emission rate as follows:

$$Es = (CsS) / [0.265-(0.126\%O_2)-(A \%CO_2)]$$

where:

Es = emission rate of SO₂, kg/metric ton (lb/ton) of 100 percent of H₂SO₄ produced;

Cs = concentration of SO₂, kg/dscm (lb/dscf);

S = acid production rate factor, 368 dscm/metric ton (11,800 dscf/ton) of 100 percent H₂SO₄ produced;

%O₂ = oxygen concentration, percent dry basis;

A = auxiliary fuel factor, as follows;

A = 0.00 for no fuel;

A = 0.0226 for methane;

A = 0.0217 for natural gas;

A = 0.0196 for propane;

A = 0.0172 for No. 2 oil;

A = 0.0161 for No. 6 oil;

A = 0.0148 for coal;

A = 0.0126 for coke; and

%CO₂ = carbon dioxide concentration, percent dry basis.

NOTE: It is necessary in some cases to convert measured concentration units to other units for these calculations:

Use the following table for such conversions:

From	To	Multiply by
g/scm	kg/scm	0.001
mg/scm	kg/scm	0.000001
ppm(SO ₂)	kg/scm	0.00000266
ppm(SO ₂)	lb/scf	0.000000166

11. Each SO₂ monitoring system which meets the requirements of 40 CFR Part 60.13 and has been certified by the Ohio EPA, Central Office must be included in a Quality Assurance/Quality Control Plan.

Within 180 days of the January 30, 2004, the permittee shall develop a written quality

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assurance/quality control plan for the continuous SO₂ monitoring system required by Additional Special Term and Condition 9 designed to ensure continuous valid and representative readings of SO₂. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous SO₂ monitoring system must be kept on site and available for inspection during regular office hours.

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12. [40 CFR 60.7(b)]

The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected emissions unit, any malfunction of the air pollution control equipment, or any periods during which a continuous monitoring system or monitoring device is inoperative.

13. [40 CFR 60.85(a)]

In conducting the performance tests required in §60.8, the permittee shall use as reference methods and procedures the test methods in Appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (c) of this section.

14. [40 CFR 60.85(b)]

The permittee shall determine compliance with the SO₂ acid mist, and visible emission standards in §§60.82 and 60.83 as follows:

- a. The emission rate (E) of acid mist or SO₂ shall be computed for each run using the following equation:

$$E=(CQsd)/(PK)$$

where:

E=emission rate of acid mist or SO₂ kg/metric ton (lb/ton) of 100 percent H₂SO₄ produced.

C=concentration of acid mist or SO₂, g/dscm (lb/dscf).

Qsd=volumetric flow rate of the effluent gas, dscm/hr (dscf/hr).

P=production rate of 100 percent H₂SO₄, metric ton/hr (ton/hr).

K=conversion factor, 1000 g/kg (1.0 lb/lb).

- b. Method 8 shall be used to determine the acid mist and SO₂ concentrations (C's) and the volumetric flow rate (Qsd) of the effluent gas. The moisture content may be considered to be zero. The sampling time and sample volume for each run shall be at least 60 minutes and 1.15 dscm (40.6 dscf).
- c. Suitable methods shall be used to determine the production rate (P) of 100 percent H₂SO₄ for each run. Material balance over the production system shall be used to confirm the production rate.
- d. Method 9 and the procedures in §60.11 shall be used to determine opacity.

15. [40 CFR 60.85(c)]

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The permittee may use the following as alternatives to the reference methods and procedures specified in this section:

- a. If a source processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen, the following procedure may be used instead of determining the volumetric flow rate and production rate:

Marsulex Inc

Facility ID: **0448020014**

PTI Application: 04-00923

Modification Issued: To be entered upon final issuance

- i. The integrated technique of Method 3 is used to determine the O₂ concentration and, if required, CO₂ concentration.
- ii. The SO₂ or acid mist emission rate is calculated as described in §60.84(d), substituting the acid mist concentration for Cs as appropriate.