OhioEPA
State of Ohio Environmental Protection Agency

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1800 WaterMark Drive
Columbus, OH 43215-1099

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MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

CERTIFIED MAIL

Permit Type Summary

	TOXIC REVIEW
	PSD
X	SYNTHETIC MINOR
	CEMS
	MACT
X	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
	MODELING SUBMITTED

August 04, 1999
ASHTABULA COUNTY
Millennium Inorganic Chemicals Inc-Plt 1
Jeffrey D Nick
PO Box 310
Ashtabula, OH 44004

RE: Permit To Install Number 02-4450 **ADMINISTRATIVE MODIFICATION**

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

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

RECEIVED
AUG 09 1999
OHIO EPA NEDO

Very truly yours,

Thomas G. Rigo

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

Enclosure

cc: USEPA
DAPC, NEDO

OhioEPA

State of Ohio Environmental Protection Agency

Permit To Install Terms and Conditions

Date of Issuance: 08/04/1999

Effective Date: 08/04/1999

MODIFICATION TO PERMIT TO INSTALL 02-4450

Application Number: 02-4450
Facility ID: 0204010200
Permit Fee: $0.00
Name of Applicant: Millennium Inorganic Chemicals Inc-Plt 1
Address: PO Box 310
City: Ashtabula, OH 44004

Location of proposed source(s): 2900 MIDDLE ROAD
ASHTABULA, OHIO

Description of proposed source(s):
90 MMBTU/HR GAS BOILER AND 8.5 MMBTU/HR SUPER HEATER, OXIDATION/FINISHING PROCESS, CHLORINATION PROCESS, & 25,000 GAL TOLUENE STORAGE TANK.

The Reason for the modification is:
Modification to PTI #02-4450 modified 07/08/99 to replace compliance demonstration method, page 7 of 10 pages and to reflect current company name.

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

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 SOURCE(S)

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 Ohio 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 prove to be inadequate or cannot meet applicable standards.

PERMIT TO INSTALL FEE

In accordance with OAC Rule 3745-45-04, the specified Permit to Install fee must be remitted within 15 days of the effective date of this permit to install.

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

A Permit to Operate application and a $15 application fee must be submitted to the appropriate field office for each air contaminant source in this Permit to Install. In accordance with OAC Rule 3745-35-02, the application shall be made at least 90 days prior to start-up of the source.

AIR EMISSION SUMMARY

The air contaminant sources listed below comprise the Permit to Install for Millennium Inorganic Chemicals, Inc.-Plant 1 located in ASHTABULA County. The sources 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.

Ohio EPA Source #	Source Identification/ Description	BAT Determination	Applicable Federal and OAC Rules	Permit Allowabl Mass Emissions an Control & Usage Requirements
B005	90 MMBTU/hr natural gas fired boiler	See additional special terms and conditions	3745-31-05 3745-17-10 (B)(1) 3745-17-07 3745-21-08 3745-23-06 3745-15-07 40 CFR Part	See additional special terms and conditions

Ohio EPA Source Number	Source Identification/ Description	BAT Determination	Applicable Federal and OAC Rules	Permit Allowable Mass Emissions and or Control & Usage Requirements
B006	8.5 MMBTU/hr Super Heater	See additional special terms and conditions	3745-31-05 3745-17-10 (B)(1) 3745-17-07 3745-21-08 3745-23-06	See additional special terms and conditions
P006	Chlorination process	See additional special terms and conditions	3745-17-11 3745-18-06 (D)(2) 3745-21-08 3745-23-06 3745-15-07 3745-31-05	See additional special terms and conditions
P007	Oxidation and finishing	See additional special terms and conditions	3745-17-11 3745-23-06 3745-15-07 3745-31-05	See additional special terms and conditions
T003	25,000 gallon toluene storage tank	See additional special terms and conditions	3745-21-07 (D)(2) 40 CFR Part 60, Subpart Kb	See additional special terms and conditions

SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons/year
TSP	12.9
PM_{10}	12.9
SO_2	39.0
NO_x	38.5
VOC	1.0
CO	85.1
HCl	16.6

(This conditions in no way limits the applicability of any other state or federal regulation.)

NSPS REQUIREMENTS

The following sources are subject to the applicable provisions of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60.

Source No.	Source Description	NSPS Regulation (Subpart)
B005	90 MMBTU/hr natural gas fired boiler	Dc
T003	25,000 gallon toluene storage tank	Kb

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

1. Construction date (no later than 30 days after such date);
2. Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
3. Actual start-up date (within 15 days after such date); and
4. Date of performance testing (If required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency
Permit Management Unit
P.O. Box 1049
Columbus, OH 43266-0149

and Ohio EPA, Northeast District Office
Air Pollution Group
2110 East Aurora Rd
Twinsburg, OH 44087

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 shall be submitted and signed by the person responsible for the test, describing the test procedures followed and the results of such tests. The Director, or an Ohio EPA representative, shall be allowed to witness the tests, 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.

1. 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.

2. Two copies of the test results shall be submitted within 30 days after the completion of the performance test.

3. Tests shall be performed for the following sources and pollutants:

SOURCE	STACK	POLLUTANT(S)
B005	No. 3 boiler stack	NO_x and CO
P006	$TiCl_4$ fume stack	NO_x, CO, SO_2, HCl and particulates
P007	TiO_2 dryer stack	NO_x and particulates

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.

REPORTING

Any reports required by this permit to install shall be submitted to the Ohio EPA, NORTHEAST DISTRICT OFFICE.

MALFUNCTION/ABATEMENT

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.

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 Northeast District Office. 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.

ADDITIONAL SPECIAL TERMS AND CONDITIONS

1. This permit covers the installation of a titanium dioxide (TiO_2) manufacturing facility at the existing Millennium Inorganic Chemicals, Inc.-Plant 1 in Ashtabula Township, Ashtabula County. The facility uses the chlorination process for the production of titanium tetrachloride ($TiCl_4$) and an oxidation process for the production of TiO_2.

2. The no. 3 boiler (B005) is to be fired with natural gas only and shall be installed and operated such that is complies with the following Best Available Technology requirements:

a. Emissions of total suspended particulate (TSP) shall not exceed 0.54 pound per hour, and 2.35 tons per year.

b. 1) Emissions of carbon monoxide (CO) shall not exceed 6.28 pounds of CO per hour and 27.5 tons of CO per year. The permittee shall minimize CO emissions by use of the best available control techniques and operating practices in accordance with best current technology.

2) Compliance with the 6.28 pounds/hour limit for carbon monoxide was demonstrated by multiplying the average emission factor of 0.0257 pound CO/MMBtu (derived from a Method 10 stack test, conducted on December 29, 1992) by the maximum heat input capacity 90 MMBtu/hour. If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 10.

c. 1) Emissions of nitrogen oxides (NO_x) shall not exceed 3.65 pounds/hour and 16.0 tons of NO_x per year. The permittee shall minimize NO_x emissions by use of the best available control techniques and operation practices in accordance with best technology.

2) Low NO_x burners must be utilized to control NO_x emissions.

3) Compliance with the 3.65 pounds/hour limit for nitrogen oxides was demonstrated by multiplying the average emission factor of 0.025 pound NO_x/MMBtu (derived from a Method 7E stack test, conducted from August 27 through September 29, 1992) by the maximum heat input capacity, 90 MMBtu/hour. If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

3. The 8.5 MMBTU/hr super heater is to be fired with natural gas only and shall be installed and operated such that it complies with the following Best Availability Technology requirements:

a. emissions of total suspended particulate matter (TSP) shall not exceed 0.0044 lb particulate per million BTU, 0.037 lb/hr and 0.16 ton/yr;

b. emissions of carbon monoxide (CO) shall not exceed 0.0518 lb/MMBTU, 0.44 lb/hr and 1.93 TPY; and,

c. emissions of nitrogen oxides shall not exceed 0.032 lb/MMBTU, 0.26 lb/hr and 1.18 TPY.

4. The new chlorination process (P006) shall be installed and operated such that it complies with the following Best Available Technology requirements:

a. 1) Emissions of total suspended particulate (TSP) shall not exceed 1.25 pounds of particulate matter per hour, and 5.48 tons of particulate matter per year;

2) The $TiCl_4$ fume stack shall be stack tested for particulate and PM_{10} emissions using US EPA Reference Method 5 and particle sizing methods. If the results indicate an emission rate less than specified in conditions 3a(1), they may be used to establish a new allowable emission limit.

b. Emissions of sulfur dioxide (SO_2) from the source shall be limited to 120% of the rate determined by performance testing of the source. The limits will be contained in any subsequent Permit to Operate issued for the source. In no event shall the emissions of SO_2 from the new chlorination process exceed 8.9 pounds per hour and 39 tons per year.

c. 1) Emissions of carbon monoxide (CO) shall not exceed 12.7 pounds of CO per hour and 55.7 tons of CO per year. This source shall minimize CO emissions by use of the best available control techniques and operating practices in accordance with best current technology.

2) CO emissions shall be monitored and recorded during periods of maximum process weight rate for three runs of at least 60 minutes in length each.

3) The CO emissions shall be recorded as pounds per hour and, if less than the limit specified in condition 3c(1) above, may be used to establish a new emission limitation.

4) A modified version of US EPA Method 10 may be employed to obtain the required CO emission data if the continuous emission monitor cannot be used.

5) Prior to the initial compliance test, the CO monitoring system must undergo a test according to Performance Specification 4 found in 40 CFR Part 60, Appendix B.

d. 1) Emissions of nitrogen oxides (NO_x) shall not exceed 0.50 pounds of NO_x per hour and 2.19 tons of NO_x per year. This source shall minimize NO_x emissions by use of the best available control techniques and operating practices in accordance with best current technology.

2) NO_x emissions shall be monitored and recorded during periods of maximum process weight rate for three runs of at least 60 minutes in length each.

3) The NO_x emissions shall be recorded as pounds per hour and, if less than the limit specified in condition 3D(1) above, may be used to establish a new emission limitation.

4) A modified version of US EPA Reference Method 7E may be employed to obtain the required NO_x emission data if the continuous emission monitor cannot be used.

5) Prior to the initial compliance test, the NO_x monitoring system must undergo a test according to Performance Specification 2 found in 40 CFR Part 60, Appendix B.

e. Emissions from hydrogen chloride (HCl) from the source shall be limited to 120% of the rate determined by performance testing of the source. The limits will be contained in any subsequent Permi to Operate issued for the source. In no event shall be emissions of HCl from chlorination process exceed 3.79 pounds per hour and 16.6 tons per year.

f. Methane injection after the chlorination process must be employed to control chlorine emissions.

5. The new oxidation and finishing process (P007) shall be installed and operated such that it complies with the following Best Available Technology requirements:

a. 1) Emissions of total suspended particulates (TSP) shall not exceed 1.11 pounds of particulate matter per hour, and 4.86 tons of particulate matter per year.

2) The TiO_2 dryer stack shall be stack tested for particulate and PM_{10} emissions using US EPA Reference Method 5 and particle sizing methods. If the results indicate an emissio rate less than specified in condition 4a(1) above, they may used to establish a new allowable emission limit.

b. 1) Emissions of nitrogen oxides (NO_x) shall not exceed 4.36 pounds of NO_x per hour and 19.1 tons of NO_x per year. This source shall minimize NO_x emissions by use of the best available control techniques and operation practices in accordance with best current technology.

2) NO_x emissions shall be monitored and recorded during periods of maximum process weight rate for three runs of at least 60 minutes in length each.

3) The NO_x emissions shall be recorded as pounds per hour and, if less than the limit specified in 4b(1) above, may be used to establish a new emission limitation.

4) A modified version of US EPA Reference Method 7E may be employed to obtain the required NO_x emission data if the continuous emission monitor cannot be used.

5) Prior to the initial compliance test, the NO_x monitoring system must undergo a test according to Performance Specification 2 found in 40 CFR Part 60, Appendix B.

6. a. Best Available Technology for the 25,000 gallon toluene storage tank (T003) consists of the use of submerged fill into the storage tanks. The submerged fill pipe(s) are to the installed within six (6) inches of the bottom of the storage tank.

   b. In accordance with 40 CFR 60.11b(a) and (b), the owner and operator of storage vessel T003 shall keep readily accessible records showing the dimension of the storage tank and an analysis showing the capacity of the storage tank for the life of the source.

7. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the US EPA, 40 CFR Part 60, are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

8. Once performance testing has been completed, the operational hours and/or specific source emissions limits may be adjusted to reflect operating data, provided the emitted tons per calendar year do not exceed those listed in "Summary - Total Permit to Install Allowable Emissions".