OhioEPA

State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

RE: FINAL PERMIT TO INSTALL
LAKE COUNTY
Application No: 02-14413

DATE: 3/13/2001

CERTIFIED MAIL

	TOXIC REVIEW
	PSD
	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
Y	**MODELING SUBMITTED**
	GASOLINE DISPENSING FACILITY

NTK Powerdex Inc.
Charles Luginbill
34099 Melinz Parkway
Eastlake, OH 44095

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, buy 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

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

CC: USEPA NEDO Lake Cty Gen Health Dis

Permit To Install **Issue Date: March 13, 2001**
Terms and Conditions **Effective Date: March 13, 2001**

FINAL PERMIT TO INSTALL 02-14413

Application Number: 02-14413

APS Premise Number: 0243011304

Permit Fee: **$800**

Name of Facility: NTK Powerdex Inc.

Person to Contact: Charles Luginbill

Address: 34099 Melinz Parkway
Eastlake, OH 44095

Location of proposed air contaminant source(s) [emissions unit(s)]:
34099 Melinz Parkway
Eastlake, **Ohio**

Description of proposed emissions unit(s):
Four mixing lines.

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 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

a. 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).

b. 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 thirty (30) days after commencing operation of the source(s) covered by this permit.

14. Construction Compliance Certification

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

Pollutant	Tons Per Year
OC	28.3
VOC	15.7

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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P008 - Electrode material mixing for polymer lithium-ion battery production.	OAC rule 3745-31-05(A)(3)	Organic Compound emissions shall not exceed 13.2 pounds per hour and 11.7 tons per year.
	OAC rule 3745-21-07(G)(2)	Exempt - see 2.2a

2. Additional Terms and Conditions

2.a Only non-photochemically reactive materials as defined in Ohio Administrative Code rule 3745-21-01(C)(5) shall be used in this emission unit.

2.b BAT for this emissions unit shall include the use of tank covers on all tanks that are part of this process in order to minimize organic compound emissions.

B. Operational Restrictions

None

C. Monitoring and/or Record-keeping Requirements

1. The permittee shall collect and record the following information on a daily basis for the purpose of determining the hourly and annual OC (acetone) emission rate from this emissions unit:

a. The amount of acetone dispensed per batch, with a maximum volume of 18.5 gallons per batch established in the permit to install application;

b. The number of batches per day, with a maximum number of 8.0 batches per day established in the permit to install application;

c. The amount of acetone used for cleaning, with a maximum volume of 2.0 gallons per day established in the permit to install application.

C:\temp\permits3\4770.wpd

2. The permittee shall calculate and record the following information on a monthly basis:

   a. The amount of acetone emitted from dispensing, in pounds;

   b. The amount of acetone emitted from mixing, in pounds;

   c. The amount of acetone emitted from cleaning, in pounds;

   d. The total amount of acetone emitted from dispensing, mixing and cleaning, in pounds;

   e. The total hourly organic compound emission rate for dispensing, mixing and cleaning, in pounds.

3. The permit to install for emission units P008, P009 and P010 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied using data from the permit to install application and the SCREEN3.0 model. The predicted 1-hour maximum ground-level concentration from the use of the SCREEN3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling:

   Pollutant: Acetone

   TLV (ppm): 500

   Maximum Hourly Emission Rate (lbs/hr): 44.1

   Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 6,545

   MAGLC (ug/m3): 28,284

   Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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

C:\temp\permits3\4770.wpd

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.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of 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

1. The permittee shall submit deviation reports in accordance with the General Terms and Conditions of this permit which show that the hourly and annual OC (acetone) emission rate exceeds the applicable emission limitations.

2. The permittee shall submit annual reports which specify the total organic compound emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

Organic compound emissions associated with this emissions unit shall not exceed 13.2 pounds per hour.

Applicable Compliance Method:

C:\temp\permits3\4770.wpd

Compliance shall be based on the record keeping requirements as specified in Section C.1, 2 of these terms and conditions and determined by calculating the hourly organic compound emission rates for dispensing, mixing or cleaning.

The organic compound emissions from the dispensing of acetone shall be calculated using the AP-42, Fifth Edition, Volume 1, Section 5.2 emissions factor for dispensing gasoline (with no vapor recovery) of 11.7 pounds per 1000 gallons with the following formula:

$ER_{DISPENSING}$ = EF x DT x U

where,

ER = Emission Rate, lb/hr

EF = Emission Factor, 11.7 lbs/1000 gallon

DT = Dispensing Time, 2 batches/hour (2 vessels filled with acetone during the same one-hour time period)

U = Acetone dispensed per batch, no more than 18.5 gal/batch per PTI application

The organic compound emissions from the mixing shall be calculated using a 5.0% loss of acetone per batch emission factor, based on a material balance, and the following formula:

ER_{MIXING} = EF x D x L

where,

ER = Emission Rate, lb/hr

EF = Emission Factor, 5.0% loss of acetone dispensed per batch (.05 x U)

D = Density of acetone, 6.6 lb/gal

L = Length of time acetone evaporates during mixing process, one hour for two batches run (2 batches/hr)

The organic compound emissions from cleaning shall be calculated assuming a 100% loss of acetone per 2.0 gallons of acetone used per day and using the following formula:

$ER_{CLEANING}$ = EF x D x T

where,

C:\temp\permits3\4770.wpd

ER = Emission Rate, lbs/hr

EF = Emission Factor, 100% loss of acetone per 2.0 gallons used per day.

D = Density of acetone, 6.6 lb/gal

T = Length of time acetone is used as cleaner, 1 hr/day.

Because emissions from dispensing, mixing and cleaning cannot occur at the same time, the greater of the three hourly organic emission rates shall be used to determine compliance.

If required, pursuant to Ohio Administrative Code 3745-15-04, the permittee shall demonstrate compliance with the Acetone emissions limits of this permit by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, NSPS, Appendix A, Method 18 or any other Method approved by Ohio EPA.

b. Emissions Limitation:

Organic compound emissions associated with this emissions unit shall not exceed 11.7 tons per year.

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements as specified in Section C.1, 2 of these terms and conditions and determined by calculating the total annual organic compound emission rates for dispensing, mixing or cleaning:

Total Annual Emission Rate (ER_{TOTAL}) = $ER_{DISPENSING} + ER_{MIXING} + ER_{CLEANING}$

The organic compound emissions from the dispensing of acetone shall be calculated using the AP-42, Fifth Edition, Volume 1, Section 5.2 emissions factor for dispensing gasoline (with no vapor recovery) of 11.7 pounds per 1000 gallons with the following formula:

$ER_{DISPENSING}$ = EF x U x PR x CF

where,

ER = Emission Rate, ton/yr

EF = Emission Factor, 11.7 lbs/1000 gallon

U = Acetone dispensed per batch, no more than 18.5 gal/batch per PTI application

PR = Production Rate, no more than 8 batches/day per PTI application

C:\temp\permits3\4770.wpd

CF = Conversion Factor, 1 ton/2000 lb multiplied by 365 days/year

The organic compound emissions from the mixing shall be calculated using a 5.0% loss of acetone per batch emission factor, based on a material balance, and the following formula:

ER_{MIXING} = EF x D x PR x CF

where,

ER = Emission Rate, ton/yr

EF = Emission Factor, 5.0% loss of acetone dispensed per batch (.05 x U)

D = Density of acetone, 6.6 lb/gal

PR = Production Rate, no more than 8 batches/day per PTI application

CF = Conversion Factor, 1 ton/2000 lb multiplied by 365 days/yr

The organic compound emissions from cleaning shall be calculated assuming a 100% loss of acetone per 2.0 gallons of acetone used per day and using the following formula:

$ER_{CLEANING}$ = EF x D x CF

where,

ER = Emission Rate, ton/yr

EF = Emission Factor, 100% loss of acetone per 2.0 gallons used per day

D = Density of acetone, 6.6 lb/gal

CF = Conversion Factor, 1 ton/2000 lb multiplied by 365 days/yr

If required, pursuant to Ohio Administrative Code 3745-15-04, the permittee shall demonstrate compliance with the Acetone emissions limits of this permit by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, NSPS, Appendix A, Method 18 or any other Method approved by Ohio EPA.

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

C:\temp\permits3\4770.wpd

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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P009 - Separator material mixing for polymer lithium-ion battery production.	OAC rule 3745-31-05(A)(3)	Organic Compound emissions shall not exceed 22.3 pounds per hour and 14.9 tons per year.
	OAC rule 3745-21-07(G)(2)	Exempt - see 2.2a

2. Additional Terms and Conditions

2.a Only non-photochemically reactive materials as defined in Ohio Administrative Code rule 3745-21-01(C)(5) shall be used in this emission unit.

2.b BAT for this emissions unit shall include the use of tank covers on all tanks that are part of this process in order to minimize organic compound emissions.

B. Operational Restrictions

None

C. Monitoring and/or Record keeping Requirements

1. The permittee shall collect and record the following information on a daily basis for the purpose of determining the hourly and annual OC (acetone) emission rate from this emissions unit:

a. The amount of acetone dispensed per batch, with a maximum volume of 33.8 gallons per batch established in the permit to install application;

b. The number of batches per day, with a maximum number of 3.0 batches per day established in the permit to install application;

C:\temp\permits3\4770.wpd

c. The amount of acetone used for cleaning, with a maximum volume of 2.0 gallons per day established in the permit to install application.

2. The permittee shall calculate and record the following information on a monthly basis:

a. The amount of acetone emitted from dispensing, in pounds;

b. The amount of acetone emitted from mixing, in pounds;

c. The amount of acetone emitted from cleaning, in pounds;

d. The total amount of acetone emitted from dispensing, mixing and cleaning, in pounds;

e. The total hourly organic compound emission rate for dispensing, mixing and cleaning, in pounds.

3. The permit to install for emission units P008, P009 and P010 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied using data from the permit to install application and the SCREEN3.0 model. The predicted 1-hour maximum ground-level concentration from the use of the SCREEN3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling:

Pollutant: Acetone

TLV (ppm): 500

Maximum Hourly Emission Rate (lbs/hr): 44.1

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 6,545

MAGLC (ug/m3): 28,284

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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

C:\temp\permits3\4770.wpd

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.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of 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

1. The permittee shall submit deviation reports in accordance with the General Terms and Conditions of this permit which show that the hourly and annual OC (acetone) emission rate exceeds the applicable emission limitations.

2. The permittee shall submit annual reports which specify the total organic compound emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

C:\temp\permits3\4770.wpd

a. Emissions Limitation:

Organic compound emissions associated with this emissions unit shall not exceed 22.3 pounds per hour.

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements as specified in Section C.1, 2 of these terms and conditions and determined by calculating the hourly organic compound emission rates for dispensing, mixing or cleaning.

The organic compound emissions from the dispensing of acetone shall be calculated using the AP-42, Fifth Edition, Volume 1, Section 5.2 emissions factor for dispensing gasoline (with no vapor recovery) of 11.7 pounds per 1000 gallons with the following formula:

$ER_{DISPENSING}$ = EF x DT x U

where,

ER = Emission Rate, lb/hr

EF = Emission Factor, 11.7 lbs/1000 gallon

DT = Dispensing Time, 1 batch/hour (1 vessel filled with acetone during a one-hour time period)

U = Acetone dispensed per batch, no more than 33.8 gal/batch per PTI application

The organic compound emissions from the mixing shall be calculated using a 10.0% loss of acetone per batch emission factor, based on a material balance, and the following formula:

ER_{MIXING} = EF x D x L

where,

ER = Emission Rate, lb/hr

EF = Emission Factor, 10.0% loss of acetone dispensed per batch (.10 x U)

D = Density of acetone, 6.6 lb/gal

L = Length of time acetone evaporates during mixing process, one hour for one batch run (1 batch/hr)

C:\temp\permits3\4770.wpd

The organic compound emissions from cleaning shall be calculated assuming a 100% loss of acetone per 2.0 gallons of acetone used per day and using the following formula:

$ER_{CLEANING}$ = EF x D x T

where,

ER = Emission Rate, lbs/hr

EF = Emission Factor, 100% loss of acetone per 2.0 gallons used per day.

D = Density of acetone, 6.6 lb/gal

T = Length of time acetone is used as cleaner, 1 hr/day.

Because emissions from dispensing, mixing and cleaning cannot occur at the same time, the greater of the three hourly organic emission rates shall be used to determine compliance.

If required, pursuant to Ohio Administrative Code 3745-15-04, the permittee shall demonstrate compliance with the Acetone emissions limits of this permit by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, NSPS, Appendix A, Method 18 or any other Method approved by Ohio EPA.

b. Emissions Limitation:

Organic compound emissions associated with this emissions unit shall not exceed 14.9 tons per year.

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements as specified in Section C.1, 2 of these terms and conditions and determined by calculating the total annual organic compound emission rates for dispensing, mixing or cleaning:

Total Annual Emission Rate (ER_{TOTAL}) = $ER_{DISPENSING}$ + ER_{MIXING} + $ER_{CLEANING}$

The organic compound emissions from the dispensing of acetone shall be calculated using the AP-42, Fifth Edition, Volume 1, Section 5.2 emissions factor for dispensing gasoline (with no vapor recovery) of 11.7 pounds per 1000 gallons with the following formula:

$ER_{DISPENSING}$ = EF x U x PR x CF

where,

C:\temp\permits3\4770.wpd

ER = Emission Rate, ton/yr

EF = Emission Factor, 11.7 lbs/1000 gallon

U = Acetone dispensed per batch, no more than 33.8 gal/batch per PTI application

PR = Production Rate, no more than 3 batches/day per PTI application

CF = Conversion Factor, 1 ton/2000 lb multiplied by 365 days/year

The organic compound emissions from the mixing shall be calculated using a 10.0% loss of acetone per batch emission factor, based on a material balance, and the following formula:

ER_{MIXING} = EF x D x PR x CF

where,

ER = Emission Rate, ton/yr

EF = Emission Factor, 10.0% loss of acetone dispensed per batch (.10 x U)

D = Density of acetone, 6.6 lb/gal

PR = Production Rate, no more than 3 batches/day per PTI application

CF = Conversion Factor, 1 ton/2000 lb multiplied by 365 days/yr

The organic compound emissions from cleaning shall be calculated assuming a 100% loss of acetone per 2.0 gallons of acetone used per day and using the following formula:

$ER_{CLEANING}$ = EF x D x CF

where,

ER = Emission Rate, ton/yr

EF = Emission Factor, 100% loss of acetone per 2.0 gallons used per day

D = Density of acetone, 6.6 lb/gal

CF = Conversion Factor, 1 ton/2000 lb multiplied by 365 days/yr

If required, pursuant to Ohio Administrative Code 3745-15-04, the permittee shall demonstrate compliance with the Acetone emissions limits of this permit by means of physical testing of the effluent from this emissions unit in accordance with testing

C:\temp\permits3\4770.wpd

procedures listed in 40 CFR Part 60, NSPS, Appendix A, Method 18 or any other Method approved by Ohio EPA.

F. Miscellaneous Requirements

None

C:\temp\permits3\4770.wpd

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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P010 - Grid treatment polymer material mixing for polymer lithium-ion battery production.	OAC rule 3745-31-05(A)(3)	Organic Compound emissions shall not exceed 8.6 pounds per hour and 1.7 tons per year.
	OAC rule 3745-21-07(G)(2)	Exempt - see 2.2a

2. Additional Terms and Conditions

2.a Only non-photochemically reactive materials as defined in Ohio Administrative Code rule 3745-21-01(C)(5) shall be used in this emission unit.

2.b BAT for this emissions unit shall include the use of tank covers on all tanks that are part of this process in order to minimize organic compound emissions.

B. Operational Restrictions

None

C. Monitoring and/or Record keeping Requirements

1. The permittee shall collect and record the following information on a daily basis for the purpose of determining the hourly and annual OC (acetone) emission rate from this emissions unit:

   a. The amount of acetone dispensed per batch, with a maximum volume of 26.0 gallons per batch established in the permit to install application;

   b. The number of batches per day, with a maximum number of 1.0 batch per day established in the permit to install application;

2. The permittee shall calculate and record the following information on a monthly basis:

   a. The amount of acetone emitted from dispensing, in pounds;

C:\temp\permits3\4770.wpd

b. The amount of acetone emitted from mixing, in pounds;

c. The total amount of acetone emitted from dispensing and mixing, in pounds;

d. The total hourly organic compound emission rate for dispensing and mixing, in pounds.

3. The permit to install for emission units P008, P009 and P010 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied using data from the permit to install application and the SCREEN3.0 model. The predicted 1-hour maximum ground-level concentration from the use of the SCREEN3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling:

Pollutant: Acetone

TLV (ppm): 500

Maximum Hourly Emission Rate (lbs/hr): 44.1

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 6,545

MAGLC (ug/m3): 28,284

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the

C:\temp\permits3\4770.wpd

Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of 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

1. The permittee shall submit deviation reports in accordance with the General Terms and Conditions of this permit which show that the hourly and annual OC (acetone) emission rate exceeds the applicable emission limitations.

2. The permittee shall submit annual reports which specify the total organic compound emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

   a. Emissions Limitation:

      Organic compound emissions associated with this emissions unit shall not exceed 8.6 pounds per hour.

      Applicable Compliance Method:

      Compliance shall be based on the record keeping requirements as specified in Section C.1, 2 of these terms and conditions and determined by calculating the hourly organic compound emission rates for dispensing and mixing.

C:\temp\permits3\4770.wpd

The organic compound emissions from the dispensing of acetone shall be calculated using the AP-42, Fifth Edition, Volume 1, Section 5.2 emissions factor for dispensing gasoline (with no vapor recovery) of 11.7 pounds per 1000 gallons with the following formula:

$ER_{DISPENSING}$ = EF x DT x U

where,

ER = Emission Rate, lb/hr

EF = Emission Factor, 11.7 lbs/1000 gallon

DT = Dispensing Time, 1 batch/hour (1 vessel filled with acetone during the same one-hour time period)

U = Acetone dispensed per batch, no more than 26.0 gal/batch per PTI application

The organic compound emissions from the mixing shall be calculated using a 5.0% loss of acetone per batch emission factor, based on a material balance, and the following formula:

ER_{MIXING} = EF x D x L

where,

ER = Emission Rate, lb/hr

EF = Emission Factor, 5.0% loss of acetone dispensed per batch (.05 x U)

D = Density of acetone, 6.6 lb/gal

L = Length of time acetone evaporates during mixing process, one hour for one batch run (1 batch/hr)

Because emissions from dispensing and mixing cannot occur at the same time, the greater of the two hourly organic emission rates shall be used to determine compliance.

If required, pursuant to Ohio Administrative Code 3745-15-04, the permittee shall demonstrate compliance with the Acetone emissions limits of this permit by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, NSPS, Appendix A, Method 18 or any other Method approved by Ohio EPA.

C:\temp\permits3\4770.wpd

b. Emissions Limitation:

Organic compound emissions associated with this emissions unit shall not exceed 1.7 tons per year.

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements as specified in Section C.1, 2 of these terms and conditions and determined by calculating the total annual organic compound emission rates for dispensing and mixing:

Total Annual Emission Rate (ER_{TOTAL}) = $ER_{DISPENSING} + ER_{MIXING}$

The organic compound emissions from the dispensing of acetone shall be calculated using the AP-42, Fifth Edition, Volume 1, Section 5.2 emissions factor for dispensing gasoline (with no vapor recovery) of 11.7 pounds per 1000 gallons with the following formula:

$ER_{DISPENSING}$ = EF x U x PR x CF

where,

ER = Emission Rate, ton/yr

EF = Emission Factor, 11.7 lbs/1000 gallon

U = Acetone dispensed per batch, no more than 26.0 gal/batch per PTI application

PR = Production Rate, no more than 1 batch/day per PTI application

CF = Conversion Factor, 1 ton/2000 lb multiplied by 365 days/year

The organic compound emissions from the mixing shall be calculated using a 5.0% loss of acetone per batch emission factor, based on a material balance, and the following formula:

ER_{MIXING} = EF x D x PR x CF

where,

ER = Emission Rate, ton/yr

EF = Emission Factor, 5.0% loss of acetone dispensed per batch (.05 x U)

D = Density of acetone, 6.6 lb/gal

C:\temp\permits3\4770.wpd

PR = Production Rate, no more than 1 batch/day per PTI application

CF = Conversion Factor, 1 ton/2000 lb multiplied by 365 days/yr

If required, pursuant to Ohio Administrative Code 3745-15-04, the permittee shall demonstrate compliance with the Acetone emissions limits of this permit by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, NSPS, Appendix A, Method 18 or any other Method approved by Ohio EPA.

F. Miscellaneous Requirements

None

C:\temp\permits3\4770.wpd

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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P011 - Grid treatment paint material mixing for polymer lithium-ion battery production.	OAC rule 3745-31-05(A)(3)	Volatile Organic Compound emissions shall not exceed 13.2 pounds per hour and 15.7 tons per year.
	OAC rule 3745-21-07(G)(2)	Exempt - see 2.2a

2. Additional Terms and Conditions

2.a Only non-photochemically reactive materials as defined in Ohio Administrative Code rule 3745-21-01(C)(5) shall be used in this emission unit.

2.b BAT for this emissions unit shall include the use of tank covers on all tanks that are part of this process in order to minimize organic compound emissions.

B. Operational Restrictions

None

C. Monitoring and/or Record keeping Requirements

1. The permittee shall collect and record the following information on a daily basis for the purpose of determining the hourly and annual VOC (ethanol) emission rate from this emissions unit:

a. The amount of ethanol dispensed per batch, with a maximum volume of 3.0 gallons per batch established in the permit to install application;

b. The number of batches per day, with a maximum number of 36.0 batches per day established in the permit to install application;

C:\temp\permits3\4770.wpd

c. The amount of ethanol used for cleaning, with a maximum volume of 2.0 gallons per day established in the permit to install application.

2. The permittee shall calculate and record the following information on a monthly basis:

a. The amount of ethanol emitted from dispensing, in pounds;

b. The amount of ethanol emitted from mixing, in pounds;

c. The amount of ethanol emitted from cleaning, in pounds;

d. The total amount of ethanol emitted from dispensing, mixing and cleaning, in pounds;

e. The total hourly volatile organic compound emission rate for dispensing, mixing and cleaning, in pounds.

3. The permit to install for this emissions unit (P011) was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied using data from the permit to install application and the SCREEN3.0 model. The predicted 1-hour maximum ground-level concentration from the use of the SCREEN3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling:

Pollutant: Ethanol

TLV (ppm): 1000

Maximum Hourly Emission Rate (lbs/hr): 13.2

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2,124

MAGLC (ug/m3): 44,863

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include 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

C:\temp\permits3\4770.wpd

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.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of 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

1. The permittee shall submit deviation reports in accordance with the General Terms and Conditions of this permit which show that the hourly and annual VOC (ethanol) emission rate exceeds the applicable emission limitations.

2. The permittee shall submit annual reports which specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

C:\temp\permits3\4770.wpd

a. Emissions Limitation:

Organic compound emissions associated with this emissions unit shall not exceed 13.2 pounds per hour.

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements as specified in Section C.1, 2 of these terms and conditions and determined by calculating the hourly organic compound emission rates for dispensing, mixing or cleaning.

The organic compound emissions from the dispensing of ethanol shall be calculated using the AP-42, Fifth Edition, Volume 1, Section 5.2 emissions factor for dispensing gasoline (with no vapor recovery) of 11.7 pounds per 1000 gallons with the following formula:

$ER_{DISPENSING}$ = EF x DT x U

where,

ER = Emission Rate, lb/hr

EF = Emission Factor, 11.7 lbs/1000 gallon

DT = Dispensing Time, 36 batches/hour (36 vessel filled with ethanol during a one-hour time period)

U = Ethanol dispensed per batch, no more than 3.0 gal/batch per PTI application

The organic compound emissions from the mixing shall be calculated using a 10.0% loss of ethanol per batch emission factor, based on a material balance, and the following formula:

ER_{MIXING} = EF x D x L

where,

ER = Emission Rate, lb/hr

EF = Emission Factor, 10.0% loss of ethanol dispensed per batch (.10 x U)

D = Density of ethanol, 6.6 lb/gal

L = Length of time ethanol evaporates during mixing process, one hour for six batches run (6 batches/hr)

C:\temp\permits3\4770.wpd

The organic compound emissions from cleaning shall be calculated assuming a 100% loss of ethanol per 2.0 gallons of ethanol used per day and using the following formula:

$ER_{CLEANING}$ = EF x D x T

where,

ER = Emission Rate, lbs/hr

EF = Emission Factor, 100% loss of ethanol per 2.0 gallons used per day.

D = Density of ethanol, 6.6 lb/gal

T = Length of time ethanol is used as cleaner, 1 hr/day.

Because emissions from dispensing, mixing and cleaning cannot occur at the same time, the greater of the three hourly organic emission rates shall be used to determine compliance.

If required, pursuant to Ohio Administrative Code 3745-15-04, the permittee shall demonstrate compliance with the ethanol emissions limits of this permit by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, NSPS, Appendix A, Method 18 or any other Method approved by Ohio EPA.

b. Emissions Limitation:

Organic compound emissions associated with this emissions unit shall not exceed 15.7 tons per year.

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements as specified in Section C.1, 2 of these terms and conditions and determined by calculating the total annual organic compound emission rates for dispensing, mixing or cleaning:

Total Annual Emission Rate (ER_{TOTAL}) = $ER_{DISPENSING}$ + ER_{MIXING} + $ER_{CLEANING}$

The organic compound emissions from the dispensing of ethanol shall be calculated using the AP-42, Fifth Edition, Volume 1, Section 5.2 emissions factor for dispensing gasoline (with no vapor recovery) of 11.7 pounds per 1000 gallons with the following formula:

$ER_{DISPENSING}$ = EF x U x PR x CF

where,

C:\temp\permits3\4770.wpd

ER = Emission Rate, ton/yr

EF = Emission Factor, 11.7 lbs/1000 gallon

U = Ethanol dispensed per batch, no more than 3.0 gal/batch per PTI application

PR = Production Rate, no more than 36 batches/day per PTI application

CF = Conversion Factor, 1 ton/2000 lb multiplied by 365 days/year

The organic compound emissions from the mixing shall be calculated using a 10.0% loss of ethanol per batch emission factor, based on a material balance, and the following formula:

ER_{MIXING} = EF x D x PR x CF

where,

ER = Emission Rate, ton/yr

EF = Emission Factor, 10.0% loss of ethanol dispensed per batch (.10 x U)

D = Density of ethanol, 6.6 lb/gal

PR = Production Rate, no more than 36 batches/day per PTI application

CF = Conversion Factor, 1 ton/2000 lb multiplied by 365 days/yr

The organic compound emissions from cleaning shall be calculated assuming a 100% loss of ethanol per 2.0 gallons of ethanol used per day and using the following formula:

$ER_{CLEANING}$ = EF x D x CF

where,

ER = Emission Rate, ton/yr

EF = Emission Factor, 100% loss of ethanol per 2.0 gallons used per day

D = Density of ethanol, 6.6 lb/gal

CF = Conversion Factor, 1 ton/2000 lb multiplied by 365 days/yr

If required, pursuant to Ohio Administrative Code 3745-15-04, the permittee shall demonstrate compliance with the ethanol emissions limits of this permit by means of

C:\temp\permits3\4770.wpd

physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, NSPS, Appendix A, Method 18 or any other Method approved by Ohio EPA.

F. Miscellaneous Requirements

None

C:\temp\permits3\4770.wpd

NEW SOURCE REVIEW FORM B

PTI Number: 02-14413 Facility ID: 0243011304

FACILITY NAME NTK Powderex Inc

FACILITY DESCRIPTION Polymer lithium-ion battery production facility. CITY/TWP Eastlake

SIC CODE 3691 SCC CODE 3-09-010-01 EMISSIONS UNIT ID P008

EMISSIONS UNIT DESCRIPTION Electrode Material Mixing

DATE INSTALLED 12/00

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	Attainment	13.18	11.62	13.2	11.7
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?
Enter Determination Use of lids on process tanks, use of non-photochemically reactive substances in accordance with OAC rule 3745-31-05.

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 NO

IDENTIFY THE AIR CONTAMINANTS: Acetone

NEW SOURCE REVIEW FORM B

PTI Number: 02-14413 Facility ID: 0243011304

FACILITY NAME NTK Powderex Inc

FACILITY DESCRIPTION Polymer lithium-ion battery production facility. CITY/TWP Eastlake

SIC CODE 3691 SCC CODE 3-09-010-01 EMISSIONS UNIT ID P009

EMISSIONS UNIT DESCRIPTION Separator Material Mixing

DATE INSTALLED 12/00

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	Attainment	22.27	14.82	22.3	14.9
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?
Enter Determination Use of lids on process tanks, use of non-photochemically reactive substances in accordance with OAC rule 3745-31-05.

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 NO

IDENTIFY THE AIR CONTAMINANTS: Acetone

NEW SOURCE REVIEW FORM B

PTI Number: 02-14413 Facility ID: 0243011304

FACILITY NAME NTK Powderex Inc

FACILITY DESCRIPTION Polymer lithium-ion battery production facility. CITY/TWP Eastlake

SIC CODE 3691 SCC CODE 3-09-010-01 EMISSIONS UNIT ID P010

EMISSIONS UNIT DESCRIPTION Grid Treatment Polymer Material Mixing

DATE INSTALLED 12/00

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	Attainment	8.57	1.62	8.6	1.7
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?
Enter Determination Use of lids on process tanks, use of non-photochemically reactive substances in accordance with OAC rule 3745-31-05.

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 NO

IDENTIFY THE AIR CONTAMINANTS: Acetone

NEW SOURCE REVIEW FORM B

PTI Number: 02-14413 Facility ID: 0243011304

FACILITY NAME NTK Powderex Inc

FACILITY DESCRIPTION Polymer lithium-ion battery production facility. CITY/TWP Eastlake

SIC CODE 3691 SCC CODE 3-09-010-01 EMISSIONS UNIT ID P011

EMISSIONS UNIT DESCRIPTION Grid Treatment Paint Material Mixing

DATE INSTALLED 12/00

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	Attainment	13.18	15.62	13.2	15.7
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?
Enter Determination Use of lids on process tanks, use of non-photochemically reactive substances in accordance with OAC rule 3745-31-05.

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 NO

IDENTIFY THE AIR CONTAMINANTS: Ethanol

NEW SOURCE REVIEW FORM B

PTI Number: 02-14413 Facility ID: 0243011304

FACILITY NAME NTK Powderex Inc

FACILITY DESCRIPTION Polymer lithium-ion battery production facility. CITY/TWP Eastlake

Ohio EPA Permit to Install Information Form Please describe below any documentation which is being submitted with this recommendation (must be sent the same day). Electronic items should be submitted with the e-mail transmitting the PTI terms, and in software that CO can utilize. If mailing any hard copy, this section must be printed as a cover page. All items must be clearly labeled indicating the PTI name and number. Submit hard copy items to **Pam McGraner**, AQM&P, DAPC, Central Office, and electronic files to **airpti@epa.state.oh.us**

Please fill out the following. If the checkbox does not work, replace it with an 'X'	Electronic	**Additional information** File Name Convention (your PTI # plus this letter)	Hard Copy	None
Calculations (required)	☐	0000000**c**.wpd	☒	
Modeling form/results	☐	0000000**s**.wpd	☒	☐
PTI Application (complete or partial)*	☐	0000000**a**.wpd	☐	☐
BAT Study	☐	0000000**b.**wpd	☐	☐
Other/misc.	☐	0000000**t**.wpd	☐	☐

* Mandatory for netting, PSD, nonattainment NSR, 112(g), 21-07(G)(9)(g) and 21-09(U)(2)(f) - 2 complete copies.

Please complete (see comment bubble to the left for additional instructions):

NSR Discussion

NONE

Please complete for these type permits (For PSD/NSR Permit, place mouse over this text):

☐ **Synthetic Minor Determination and/or** ☐ **Netting Determination**

Permit To Install **ENTER PTI NUMBER HERE**

A. Source Description

B. Facility Emissions and Attainment Status

C. Source Emissions

D. Conclusion

PLEASE PROVIDE ADDITIONAL NOTES OR COMMENTS AS NECESSARY:

NONE

Please complete:

SUMMARY (for informational purposes only)

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	**Tons Per Year**

NEW SOURCE REVIEW FORM B

PTI Number: 02-14413 Facility ID: 0243011304

FACILITY NAME NTK Powderex Inc

FACILITY DESCRIPTION	Polymer lithium-ion battery production facility.	CITY/TWP	Eastlake

OC	28.3
VOC	15.7