INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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*Mitchell E. Daniels, Jr.*
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*Thomas W. Easterly*
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100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: April 4, 2007

RE: Kadet Products, Inc./ 095-23600-00050

FROM: Nisha Sizemore
Chief, Permits Branch
Office of Air Quality

# Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-AM.dot 03/23/06

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Mr. Eric Fettig
Kadet Products, Inc.
2635 South F Street
Elwood, Indiana 46036

April 4, 2007

Dear Mr. Fettig:

Re: Exempt Construction and Operation Status,
095-23600-00050

The application from Kadet Products, Inc., received on August 31, 2006, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following metal components cleaning and fabrication operation located at 2635 South F Street, Elwood, Indiana, is classified as exempt from air pollution permit requirements:

(a) Two (2) shot blasting units constructed in 1987, identified as EU-B and EU-D, each with a maximum throughput capacity of 28,000 pounds of steel shot per hour, and each having particulate emissions controlled by a baghouse that exhausts inside the building.

(b) One (1) natural gas-fired burn-off oven constructed in 1991, identified as EU-3, with a maximum heat input capacity of 3.00 million Btu per hour (MMBtu/hr), exhausting to stack #3. The burn-off oven is used to burn paint and road film off signs and metal parts and has a maximum throughput capacity of 100 pounds of paint/road film per hour (438 tons per year at 8,760 hours).

(c) Two (2) stick welding units, constructed in 1987, identified as units W-1 and W-2, each having a maximum throughput capacity of 2 pounds of electrode per hour.

(d) One (1) conveyorized degreaser, constructed in 1987, that uses less than one hundred forty-five (145) gallons of cleaner per twelve (12) consecutive month period. The degreaser heats the cleaning solution using a natural gas-fired heat tube with a maximum heat input capacity of 0.25 million Btu per hour (MMBtu/hr).

The following conditions shall be applicable:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

2. Pursuant to 326 IAC 6-4, the Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

3. Pursuant to 326 IAC 4-2-2, the burn-off oven shall comply with the following requirements:

   (a) Pursuant to 326 IAC 4-2 (Incinerators), this rule establishes standards for the use of incinerators which emit regulated pollutants. All incinerators shall:

      (1) Consist of primary and secondary chambers or the equivalent.

      (2) Be equipped with a primary burner unless burning only wood products.

      (3) Comply with 326 IAC 5-1 and 326 IAC 2.

      (4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan.

      (5) Not emit particulate matter in excess of three-tenths (0.3) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with a maximum solid waste capacity of greater than or equal to two hundred (200) pounds per hour.

      (6) If any of the requirements of paragraphs (1) through (5) are not met, then the owner or operator shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

   (b) An owner or operator developing an operation and maintenance plan pursuant to paragraphs (4) and (5) above must comply with the following:

      (1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation shall include the following: procedures for receiving, handling, and charging waste, procedures for incinerator startup and shutdown, procedures for responding to a malfunction, procedures for maintaining proper combustion air supply levels, procedures for operating the incinerator and associated air pollution control systems, procedures for handling ash, and a list of wastes that can be burned in the incinerator.

      (2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.

      (3) The operation and maintenance plan must be readily accessible to incinerator operators.

      (4) The owner or operator of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.

   The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

4. Pursuant to 326 IAC 9-1-2(a)(3), the owner or operator shall not operate a refuse incinerator or refuse burning equipment unless the waste gas stream is burned in one (1) of the following:

   (a) Direct-flame afterburner, or

(b) Secondary Chamber.

5. Pursuant to 326 IAC 8-3-4, the owner or operator of a conveyorized degreaser shall:

(a) Minimize carryout emissions by:

(1) Racking parts for best drainage;

(2) Maintaining the vertical conveyor speed at less than 3.3 meters per minute (eleven (11) feet per minute);

(b) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;

(c) Repair solvent leaks immediately, or shut down the degreaser;

(d) Not use workplace fans near the degreaser opening;

(e) Not allow water in solvent exiting the water separator; and

(f) Provide a permanent, conspicuous label summarizing the operating requirements.

6. Pursuant to 326 IAC 6-2-4(a), particulate emissions from the heat tube associated with the degreaser shall not exceed 0.6 pounds per million Btu heat input.

This exemption is the second air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Pursuant to Contract No. A305-5-65, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Stacie Enoch, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7895 to speak directly to Ms. Enoch. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204-2251 or call (800) 451-6027, ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Original Signed By:
Nisha Sizemore, Chief
Permits Branch
Office of Air Quality

ERG/SE

cc: File - Madison County
Madison County Health Department
Air Compliance - Jennifer Schick
Permit Tracking
Compliance Data Section
Anderson Office of Air Management
Program Planning and Policy – Scott Delaney

# Indiana Department of Environmental Management
# Office of Air Quality
# and Anderson Office of Air Management

## Technical Support Document (TSD) for an Exemption

**Source Background and Description**

| | |
|---|---|
| Source Name: | Kadet Products, Inc. |
| Source Location: | 2635 South F Street, Elwood, Indiana 46036 |
| County: | Madison |
| SIC Code: | 3599 |
| Exemption No.: | 095-23600-00050 |
| Permit Reviewer: | ERG/SE |

The Office of Air Quality (OAQ) has reviewed an application from Kadet Products, Inc. relating to the operation of a stationary metal components cleaning and fabrication source.

**Emission Units and Pollution Control Equipment**

The source consists of the following emission units and pollution control devices:

(a) Two (2) shot blasting units constructed in 1987, identified as EU-B and EU-D, each with a maximum throughput capacity of 28,000 pounds of steel shot per hour, and each having particulate emissions controlled by a baghouse that exhausts inside the building.

(b) One (1) natural gas-fired burn-off oven constructed in 1991, identified as EU-3, with a maximum heat input capacity of 3.00 million Btu per hour (MMBtu/hr), exhausting to stack #3. The burn-off oven is used to burn paint and road film off signs and metal parts and has a maximum throughput capacity of 100 pounds of paint/road film per hour (438 tons per year at 8,760 hours).

(c) Two (2) stick welding units, constructed in 1987, identified as units W-1 and W-2, each having a maximum throughput capacity of 2 pounds of electrode per hour.

(d) One (1) conveyorized degreaser, constructed in 1987, that uses less than one hundred forty-five (145) gallons of cleaner per twelve (12) consecutive month period. The degreaser heats the cleaning solution using a natural gas-fired heat tube with a maximum heat input capacity of 0.25 million Btu per hour (MMBtu/hr).

**Existing Approvals**

The source has been operating under previous approvals including, but not limited to, the following:

(a) CP095-2378-00050 issued on February 24, 1992; and

All conditions from previous approvals were incorporated into this permit.

**Stack Summary**

| Stack ID | Operation | Height (ft) | Diameter (ft) | Flow Rate (acfm) | Temperature ($^{o}$F) |
|---|---|---|---|---|---|
| #3 | Burnoff Oven | 31.0 | 2.18 | 4169 | 1400 |
| #1 | Parts Washer/Heat Exhaust | 15.0 | 2.00 | Heat Exhaust | 145 |

**Recommendation**

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on August 31, 2006 with additional information received on December 5, 2006, January 24, 2007, and January 26, 2007.

**Emission Calculations**

See Appendix A of this document for detailed emission calculations (pages 1 through 6).

**Potential to Emit of the Source Before Controls**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency."

| Pollutant | Potential to Emit (tons/yr) |
|---|---|
| PM | 2.86 |
| PM-10 | 2.94 |
| $SO_2$ | 0.01 |
| VOC | 8.87 |
| CO | 1.17 |
| $NO_x$ | 1.40 |

| HAPs | Potential to Emit (tons/yr) |
|---|---|
| Total HAPs | 0.07 |

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of all pollutants are less than the levels listed in 326 IAC 2-1.1-3(e)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3. An exemption will be issued.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-1.1-1(16)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3. An exemption will be issued.

**County Attainment Status**

The source is located in Madison County.

| Pollutant | Status |
|---|---|
| PM-10 | Attainment |
| PM 2.5 | Attainment |
| $SO_2$ | Attainment |
| $NO_2$ | Attainment |
| 8-hour Ozone | Nonattainment |
| CO | Attainment |
| Lead | Attainment |

**Note:** On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.

(a) Madison County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability - Entire Source section.

(b) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Madison County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for nonattainment new source review. See the State Rule Applicability - Entire Source section.

(c) Madison County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability - Entire Source section.

(d) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 or 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

**Source Status**

Existing Source PSD, Part 70, or FESOP Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

| Pollutant | Emissions (tons/yr) |
|---|---|
| PM | 2.86 |
| PM-10 | 2.94 |
| $SO_2$ | 0.01 |
| VOC | 8.87 |
| CO | 1.17 |
| $NO_x$ | 1.40 |
| Single HAP | 0.02 |
| Combination HAPs | 0.07 |

(a) This existing source is not a major stationary source under PSD because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories.

(b) This existing source is not a major stationary source under Emission Offset because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or greater and it is not in one of the 28 listed source categories.

(c) These emissions were based on the exemption application submitted by the company on August 31, 2006.

**Part 70 Permit Determination**

326 IAC 2-7 (Part 70 Permit Program)

This source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons per year.

This is the first air approval issued to this source.

**Federal Rule Applicability**

(a) The requirements of 40 CFR 60, Subpart E (New Source Performace Standard for Incinerators) are not included in this exemption for this source, because the burn-off oven has a charging rate that is less than fifty (50) tons per day.

(b) The requirements of 40 CFR 60, Subpart Eb - Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After June 19, 1996 (326 IAC 12) are not included in this exemption. The maximum combustion capacity for the incinerator is less than the 250 tons of solid waste per day applicability threshold.

(c) The requirements of 40 CFR 60, Subpart AAAA - New Source Performance Standards for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001 (326 IAC 12) are not included in this exemption. The incinerator was constructed prior to August 30, 1999, has not been modified after June 6, 2001, and has a combustion capacity less than 35 tons per day of municipal solid waste or refuse derived fuel.

(d) The requirements of 40 CFR 60, Subpart CCCC - New Source Performance Standards for Commercial and Industrial Solid Waste Incineration Units for Which Construction is Commenced After November 30, 1999 or for Which Modification or Reconstruction is Commenced on or After June 1, 2001 (326 IAC 12) are not included in this exemption. The incinerator at this source was constructed prior to November 30, 1999 and has not been modified or reconstructed after June 1, 2001.

(e) The requirements of 40 CFR 60, Subpart EEEE - New Source Performance Standards for Other Solid Waste Incineration Units are not included in this exemption. This incinerator was construction prior to December 9, 2004 and has not been reconstructed or modified after June 16, 2006.

(f) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this exemption.

(g) The requirements of 40 CFR 63, Subpart EEE - National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors are not included in this exemption. This NESHAP applies to sources that are major under Section 112 of the Clean Air Act.

(h) The requirements of 40 CFR 63, Subpart T (National Emission Standards for Hazardous Air Pollutants (NESHAP) from Halogenated Solvent Cleaning) are not included in this exemption for this source, because this source does not use any solvent containing methylene chloride (CAS No. 75–09–2), perchloroethylene (CAS No. 127–18–4), trichloroethylene (CAS No. 79–01–6), 1,1,1-trichloroethane (CAS No. 71–55–6), carbon tetrachloride (CAS No. 56–23–5) or chloroform (CAS No. 67–66–3).

**State Rule Applicability – Entire Source**

326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-3 (Emission Offset).

This source was constructed in 1987 in Madison County and is not in 1 of 28 listed source categories. The potential to emit of all regulated pollutants was less than 100 tons per year at the time of initial construction, and the source has not had any modifications that caused a significant increase in emissions of any regulated pollutant since the time of initial construction. The potential to emit of all regulated pollutants is less than 100 tons per year. Therefore, the source is not subject to the requirements of 326 IAC 2-2 or 326 IAC 2-3.

326 IAC 2-4.1 (New Source Toxics Control)

This source was constructed prior to July 27, 1997 and is not a major source of HAPs. Therefore, this source is not subject to the requirements of 326 IAC 2-4.1.

326 IAC 2-6 (Emission Reporting)

This source is located in Madison County, is not required to operate under a Part 70 permit, and emits less than five (5) tons per year of lead. Therefore, pursuant to 326 IAC 2-6-1(b), the source is only subject to additional information requests as provided in 326 IAC 2-6-5.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in the permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

326 IAC 6-5 (Fugitive Particulate Matter Emissions)

This source is not a source of fugitive particulate matter emissions. Therefore, the requirements of 326 IAC 6-5 are not applicable.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This source is located in Madison County and does not have potential VOC emissions of 100 tons per year or more. Therefore, this source is not subject to the requirements of 326 IAC 8-6.

**State Rule Applicability – Shot Blasting**

326 IAC 6-3 (Particulate Emission Limitations Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(14), the shot blasting units are not subject to the requirements of 326 IAC 6-3 because they have potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

**State Rule Applicability – Burn-off Oven**

326 IAC 4-2 (Incinerators)

The burn-off oven is subject to the requirements of 326 IAC 4-2, because it is an incinerator which emits regulated pollutants. Pursuant to 326 IAC 4-2-2, the burn-off oven shall comply with the following requirements:

(a) Pursuant to 326 IAC 4-2 (Incinerators), this rule establishes standards for the use of incinerators which emit regulated pollutants. All incinerators shall:

(1) Consist of primary and secondary chambers or the equivalent.

(2) Be equipped with a primary burner unless burning only wood products.

(3) Comply with 326 IAC 5-1 and 326 IAC 2.

(4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan.

(5) Not emit particulate matter in excess of three-tenths (0.3) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with a maximum solid waste capacity of greater than or equal to two hundred (200) pounds per hour.

(6) If any of the requirements of paragraphs (1) through (5) are not met, then the owner or operator shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

(b) An owner or operator developing an operation and maintenance plan pursuant to paragraphs (4) and (5) above must comply with the following:

(1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation shall include the following: procedures for receiving, handling, and charging waste, procedures for incinerator startup and shutdown, procedures for responding to a malfunction, procedures for maintaining proper combustion air supply levels, procedures for operating the incinerator and associated air pollution control systems, procedures for handling ash, and a list of wastes that can be burned in the incinerator.

(2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.

(3) The operation and maintenance plan must be readily accessible to incinerator operators.

(4) The owner or operator of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.

The owner or operator of the incinerator must make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)

The burn-off oven is not subject to 326 IAC 6-2 because it is not a source of indirect heating.

326 IAC 6-3 (Particulate Emission Limitations Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(2), the burn-off oven is not subject to the requirements of 326 IAC 6-3 because it is an incinerator subject to 326 IAC 4-2.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The burn-off oven is not subject to the requirements of 326 IAC 7-1.1, because the potential sulfur dioxide emissions are less than twenty-five (25) tons per year and ten (10) pounds per hour.

326 IAC 9-1 (Carbon Monoxide Emissions Rules)

Pursuant to 326 IAC 9-1-2(a)(3), the source shall not operate a refuse incinerator or refuse burning equipment unless the waste gas stream is burned in one (1) of the following:

(a) Direct-flame afterburner, or

(b) Secondary Chamber.

The source will comply with the rule using a secondary chamber.

326 IAC 11-7 (Municipal Waste Combustors)

This source is not subject to the provisions of 326 IAC 11-7 because the combustion capacity of the incinerator is less than the 250 tons per day applicability threshold.

326 IAC 11-8 (Commercial and Industrial Solid Waste Incineration Units)

Pursuant to 326 IAC 11-8-1(b)(10), the incinerator is not subject to 326 IAC 11-8 because it meets the definition of a part reclamaton unit as defined in 40 CFR 60.2875.

**State Rule Applicability – Welding**

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(14), the welding operations are exempt from the requirements of 326 IAC 6-3 because the potential to emit particulates is less than five hundred fifty-one thousandths (0.551) pound per hour.

**State Rule Applicability – Degreasing**

326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)

(a) The natural gas-fired heat tube associated with the degreaser is subject to 326 IAC 6-2-4 because it was constructed in Madison County after September 21, 1983. Pursuant to 326 IAC 6-2-4 (Particulate emission limitations for sources of indirect heating: emission limitations for facilities specified in 326 IAC 6-2-1(d)), particulate emissions from the natural gas-fired heat tube associated with the degreaser must be calculated using the following equation:

$$P_t = \frac{1.09}{Q^{0.26}}$$

Where:

$P_t$ = pounds of particulate matter emitted per million Btu heat input (lb/MMBtu).
Q = total source operating capacity (1 heat tube, with a heat input of 0.25 MMBtu/hour)

$$P_t = \frac{(1.09)}{(0.25)^{0.26}}$$

$P_t$ = 1.56 lb/MMBtu

Pursuant to 326 IAC 6-2-4(a), for Q less than 10 MMBtu/hour, Pt shall not exceed 0.6. Therefore, particulate emissions from the heat tube associated with the degreaser shall not exceed 0.6 pounds per million Btu heat input.

326 IAC 6-3 (Particulate Emission Limitations Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(14), the conveyorized degreaser is not subject to the requirements of 326 IAC 6-3 because it has potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The conveyorized degreaser is not subject to the requirements of 326 IAC 7-1.1, because the potential sulfur dioxide emissions are less than twenty-five (25) tons per year and ten (10) pounds per hour.

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

The degreaser is subject to another Article 8 rule; therefore, it is not subject to the requirements of 326 IAC 8-1-6.

326 IAC 8-3-4 (Conveyorized Degreaser Operation)

The degreaser is subject to the requirements of 326 IAC 8-3-4 because it is a conveyorized degreaser that was constructed after January 1, 1980, performs organic solvent degreasing operations, and is located in Madison County. Pursuant to 326 IAC 8-3-4, the owner or operator of a conveyorized degreaser shall:

(a) Minimize carryout emissions by:

(1) Racking parts for best drainage;

(2) Maintaining the vertical conveyor speed at less than 3.3 meters per minute (eleven (11) feet per minute);

(b) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;

(c) Repair solvent leaks immediately, or shut down the degreaser;

(d) Not use workplace fans near the degreaser opening;

(e) Not allow water in solvent exiting the water separator; and

(f) Provide a permanent, conspicuous label summarizing the operating requirements.

## Conclusion

The operation of this metal components cleaning and fabrication source shall be subject to the conditions of the Exemption 095-23600-00050.

**Appendix A: Emission Calculations**
**VOC and HAP Emissions**
**From Degreasing using Conveyorized Parts Washer**

**Company Name:** Kadet Products, Inc.
**Address:** 2635 South F Street, Elwood, Indiana 46036
**Exemption:** 095-23600-00050
**Reviewer:** ERG/SE
**Date:** March 23, 2007

| Emission Unit | Material | Maximum Material Usage (gal/yr) | Material Density (lbs/gal) | Weight % VOC | PTE of VOC (tons/yr) | Weight % Glycol Ether | PTE Glycol Ether (tons/yr) |
|---|---|---|---|---|---|---|---|
| Parts Washer | RPO-70 | 145 | 7.83 | 5.00% | 2.84E-02 | 5.00% | 2.84E-02 |

The source uses less than 145 gallons per year of cleaner in a conveyorized parts washer.
The source dilutes the RPO-70 material to a concentration of 12% in water. The worst case PTE shown above calculates emissions based on undiluted use of RPO-70. The actual VOC and HAP emissions are expected to be less than the amounts shown above.

**Methodology**
PTE of VOC (tons/yr) = Maximum Material Usage (gals/yr) x Density (lbs/gal) x Weight % VOC x 1 ton/2,000 lbs
PTE of HAP (tons/yr) = Maximum Material Usage (gals/yr) x Density (lbs/gal) x Weight % HAP x 1 ton/2,000 lbs

**Appendix A: Emission Calculations**
**Emissions From Natural Gas Combustion - Parts Washer**

**Company Name:** Kadet Products, Inc.
**Address:** 2635 South F Street, Elwood, Indiana 46036
**Exemption:** 095-23600-00050
**Reviewer:** ERG/SE
**Date:** March 23, 2007

| Heat Input Capacity MMBtu/hr | Potential Throughput MMscf/yr |
|---|---|
| 0.25 | 2.15 |

| | Pollutant | | | | | | |
|---|---|---|---|---|---|---|---|
| | PM * | PM10 * | $SO_2$ | NOx ** | VOC | CO | HAPs |
| Emission Factor (lbs/MMscf) | 1.9 | 7.6 | 0.6 | 100 | 5.5 | 84.0 | 1.89 |
| Potential to Emit (tons/yr) | 2.04E-03 | 8.16E-03 | 6.44E-04 | 0.11 | 5.90E-03 | 0.09 | 2.03E-03 |

* PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM and combined.
** Emission factor for NOx (Uncontrolled) = 100 lb/MMscf.
Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (7/98). All Emission factors are based on normal firing.

The conveyorized degreaser heats the cleaning solution using a natural gas-fired heat tube.

**Methodology**
Potential Throughput (MMscf/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMscf/1,020 MMBtu
Potential to Emit (tons/yr) = Potential Throughput (MMscf/yr) x Emission Factor (lbs/MMscf) x 1 ton/2,000 lbs

**Appendix A: Emissions Calculations**
**Welding Operations**

**Company Name:** Kadet Products, Inc.
**Address:** 2635 South F Street, Elwood, Indiana 46036
**Exemption:** 095-23600-00050
**Reviewer:** ERG/SE
**Date:** March 23, 2007

| Emission Unit ID | Number of Stations | Electrode Type | Electrode Consumption (lbs/hour/station) | Emission Factors (lbs pollutant/1,000 lbs electrode) ** | | | | Potential to Emit (tons/year) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PM/PM10 | Cr | Mn | Ni | PM/PM10 | Cr | Mn | Ni |
| W-1 and W-2 | 2 | E6010 | 2.00 | 25.6 | 0.003 | 0.991 | 0.004 | 0.45 | 5.26E-05 | 1.74E-02 | 7.01E-05 |
| W-1 and W-2 | 2 | E7018 | 2.00 | 18.4 | 0.006 | 1.03 | 0.002 | 0.32 | 1.05E-04 | 1.80E-02 | 3.50E-05 |
| | | | | | | **Worst Case PTE *** | | **0.45** | **1.05E-04** | **1.80E-02** | **7.01E-05** |

* The source uses electrode types E6010 and E7018 in equal amounts. E6010 is worst case for PM/PM10 and E7018 is worst case for HAPs.
The worst case PTE shown above for each pollutant represents the worst case between the two electrode types.

** The emission factors are from AP-42, Chapter 12.19, Tables 12.19-1 and 12.19-2 for shielded metal arc welding SCC 3-09-051 (1/95).
Assume PM emissions are equal to PM10 emissions.

**Methodology**
PTE (tons/year) = Number of Stations x Electrode Consumption (lbs/hour/station) x Emission Factor (lbs /1,000 lbs electrode) x 8760 (hours/year) x 1 ton/2,000 lbs

**Appendix A: Emission Calculations**
**Emissions From Natural Gas Combustion - Burn Off Oven**

**Company Name:** Kadet Products, Inc.
**Address:** 2635 South F Street, Elwood, Indiana 46036
**Exemption:** 095-23600-00050
**Reviewer:** ERG/SE
**Date:** March 23, 2007

| Heat Input Capacity (MMBtu/hr) | Potential Throughput (MMscf/yr) |
|---|---|
| 3.00 | 25.8 |

| | Pollutant | | | | | | |
|---|---|---|---|---|---|---|---|
| | PM * | PM10* | $SO_2$ | NOx ** | VOC | CO | HAPs |
| Emission Factor (lbs/MMscf) | 1.9 | 7.6 | 0.6 | 100 | 5.5 | 84.0 | 1.89 |
| Potential to Emit (tons/yr) | 0.02 | 0.10 | 0.01 | 1.29 | 0.07 | 1.08 | 0.02 |

* PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM and combined.
** Emission factor for NOx (Uncontrolled) = 100 lb/MMscf.
Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (7/98). All emission factors are based on normal firing.

**Methodology**
Potential Throughput (MMscf/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMscf/1,020 MMBtu
Potential to Emit (tons/yr) = Potential Throughput (MMscf/yr) x Emission Factor (lbs/MMscf) x 1 ton/2,000 lbs

**Appendix A: Emission Calculations**
**Emissions From Burn Off Oven - Waste Combustion**

**Company Name:** Kadet Products, Inc.
**Address:** 2635 South F Street, Elwood, Indiana 46036
**Exemption:** 095-23600-00050
**Reviewer:** ERG/SE
**Date:** March 23, 2007

| | | |
|---|---|---|
| Maximum Potential Throughput = | 100 | lbs combustibles/hr |
| * Weight % VOC = | 2.00% | |
| PTE VOC (lbs/hr) = | 2.00 | lbs/hr |
| PTE VOC (tons/yr) = | 8.76 | tons/yr |

* The combustible material burned in the oven consists of road dirt and grime, grease, and some paint.
As an estimate, fuel oil No. 2 has a VOC concentration of approximately 2.00%.
It is unlikely that the combustibles burned in this oven will have a VOC concentration that high; however, 2.00% has been used as the weight percent VOC in the calculations above to represent a worst case scenario. These calculations also assume that no VOCs are combusted in the primary and secondary chambers or in the afterburner.

The source submitted manufacturer's emission data for this oven; however, the tests for the manufacturer's data were done in the 1970's and were considered by IDEM to be out of date. The emissions calculated above represent a worst case scenario.

**Methodology**
PTE VOC (lbs/hr) = Maximum Potential Throughput (lbs/hr) x Weight % VOC
PTE VOC (tons/yr) = PTE VOC (lbs/hr) x 8,760 hrs/yr x 1 ton/2,000 lbs

**Appendix A: Emission Calculations**
**Shot Blasting**

**Company Name:** Kadet Products, Inc.
**Address:** 2635 South F Street, Elwood, Indiana 46036
**Exemption:** 095-23600-00050
**Reviewer:** ERG/SE
**Date:** March 23, 2007

| | | |
|---|---|---|
| Amount of Dust Collected | 4.00 | oz/hr |
| Manufacturer's Control Efficiency | 92.0% | |
| Number of Units | 2.00 | |
| Total PTE PM/PM10 Before Controls | 2.38 | tons/yr |
| Total PM/PM10 Emissions After Controls | 0.19 | tons/yr |

This source has two identical shot blast machines, each controlled by a baghouse. The source cleaned a part in one shot blast machine for an hour. After one hour, the source collected 4.00 ounces of dust from the baghouse. The manufacturer's control efficiency is 92.0%.

**Methodology**
Total PTE PM/PM10 Before Controls = Amount of Dust Collected (oz/hr) / Control Efficiency % x Number of Units x 1 lb/16.0 oz x 8,760 hrs/yr x 1 ton/2,000 lbs
Total PM/PM10 Emissions After Controls = [Amount of Dust Collected (oz/hr) / Control Efficiency % - Amount of Dust Collected (oz/hr)] x 1 lb/16 oz x 8,760 hrs/yr x 1 ton/2,000 lbs

**Appendix A: Emission Calculations**
**Emissions Summary**

**Company Name:** Kadet Products, Inc.
**Address:** 2635 South F Street, Elwood, Indiana 46036
**Exemption:** 095-23600-00050
**Reviewer:** ERG/SE
**Date:** March 23, 2007

**Uncontrolled PTE (tons/yr)**

| | PM | PM10 | $SO_2$ | NOx | VOC | CO | HAPs |
|---|---|---|---|---|---|---|---|
| Parts Washer | 2.04E-03 | 8.16E-03 | 6.44E-04 | 0.11 | 3.43E-02 | 0.09 | 3.04E-02 |
| Welding | 0.45 | 0.45 | -- | -- | -- | -- | 1.82E-02 |
| Oven: Natural Gas Combustion | 0.02 | 0.10 | 0.01 | 1.29 | 0.07 | 1.08 | 0.02 |
| Oven: Worst Case VOC | -- | -- | -- | -- | 8.76 | -- | -- |
| Shot Blasting | 2.38 | 2.38 | -- | -- | -- | -- | -- |
| **Total** | **2.86** | **2.94** | **0.01** | **1.40** | **8.87** | **1.17** | **0.07** |