



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant
DATE: February 2, 2006
RE: Keystone RV Company / 039-17647-00560
FROM: Paul Dubenetzky
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 1/10/05



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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Lisa Chapman
Keystone RV Company
17400 Hackberry Drive
Goshen, IN 46526

February 2, 2006

Re: 039-17647-00560
Notice-Only Change to
MSOP 039-14842-00560

Dear Ms. Chapman:

Keystone RV Company was issued a minor source operation permit (MSOP) on December 7, 2001 for a trailer prefabricated wall manufacturing operation located at 712 Eisenhower Drive, Goshen, IN 46526. A letter requesting a revision was received by the Office of Air Quality on April 24, 2003.

Specifically, Keystone RV Company has submitted a request to construct and operate two (2) new lamination lines, identified as L4 and L5.

The proposed modification shall be permitted via a notice-only change pursuant to 326 IAC 2-6.1-6(d)(13) which states that any modification that adds an emission unit or units of the same type that are already permitted and that will comply with the same applicable requirements and permit terms and conditions as the existing emission unit or units, except if the modification would result in a potential to emit greater than the thresholds in 326 IAC 2-2 or 326 IAC 2-3, may be permitted via a notice-only change.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this letter and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027 and ask for Lawrence Stapf extension 2-8427, or directly dial (317) 232-8427.

Sincerely,

Original signed by
Nisha Sizemore, Section Chief
Permits Branch,
Office of Air Quality

SDF/LS

cc: File - Elkhart County
Elkhart County Health Department
Northern Regional Office
U.S. EPA, Region V
Air Compliance Section Inspector – Paul Karkiewicz
Compliance Data Section
Administrative and Development
Keystone RV Company, Kim Price, 17400 Hackberry Drive, Goshen, IN 46526

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**NEW SOURCE CONSTRUCTION PERMIT
 and MINOR SOURCE OPERATING PERMIT
 OFFICE OF AIR QUALITY**

**Keystone RV Company
 712 Eisenhower Drive
 Goshen, Indiana 46526**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 039-14842-00560	Date Issued: December 7, 2001
First Notice-Only Change No.: 039-15402-00560	Date Issued: April 19, 2002
Second Notice-Only Change No.: 039-17647-00560	Affected Pages: 4, 14, and 17, with 14a added
Issued by: Original signed by Nisha Sizemore, Section Chief, Office of Air Quality	February 2, 2006

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a plant for the manufacture of prefabricated walls for trailers.

Authorized Individual: Kim Price, Vice President
Source Address: 712 Eisenhower Drive, Goshen, Indiana 46526
Mailing Address: 17400 Hackberry Drive, Goshen, Indiana 46526
Phone Number: 219-642-4590
SIC Code: 3792
County Location: Elkhart
County Status: Nonattainment for 8-hour ozone
Attainment for all other criteria pollutants
Source Status: Minor Source Operating Permit
Minor Source, under PSD

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

- (a) Five (5) lamination lines (identified as L1 through L5) used to manufacture prefabricated styrofoam walls. Each lamination line has a maximum throughput capacity of 343.8 pounds of finished product per hour.
- (b) Twenty-eight (28) metal inert gas (MIG) welding stations, each with a maximum wire consumption rate of 1.71 pounds per hour.
- (c) Two (2) table saws used to cut styrofoam.
- (d) Four (4) natural gas-fired space heaters (identified as H1 through H4), each having a maximum heat input capacity of 33,500 Btu per hour.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

Five (5) lamination lines (identified as L1 through L5), installed in July 2004, used to manufacture prefabricated styrofoam walls. Each lamination line has a maximum throughput capacity of 343.8 pounds of finished product per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

The amount of VOC used in the lamination process all five lines (lines L1 through L5) combined shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period. Compliance with this limit makes 326 IAC 8-1-6 (New Facilities - General Reduction Requirements) not applicable.

D.1.2 Hazardous Air Pollutants (HAPs)

The potential to emit hazardous air pollutants (HAPs) from the lamination process all five lines (lines L1 through L5) combined shall be less than ten (10) ten tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs. Therefore, 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants) and 326 IAC 2-7 (Part 70 Permit Program) will not apply. Any change or modification which may increase the potential emissions to ten (10) tons per year of a single HAP or twenty-five (25) tons per year of any combination of HAPs must be approved by IDEM, OAQ before any such change may occur.

D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this emission unit.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.4 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.1 and D.1.2, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC and HAP usage limits established in Conditions D.1.1 and D.1.2:
- (1) The amount and VOC and HAP content of each adhesive, lacquer and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

- (2) A log of the dates of use for the adhesives, lacquers and cleanup solvents; and
 - (3) The weight of VOCs and HAP, emitted for each compliance period.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.5 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.1 shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

Indiana Department of Environmental Management Office of Air Quality Compliance Data Section

Quarterly Report

Company Name: Keystone RV Company
Location: 712 Eisenhower Drive, Goshen, Indiana 46526
Permit No.: 039-14842-00560
Source: Lamination Processes (L1 through L5)
Pollutant: Volatile Organic Compounds (VOC)
Limit: Twenty-five (25) tons per twelve (12) consecutive month period.

Year: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Notice-Only Change to an Existing Minor Source Operating Permit (MSOP)

Source Background and Description:

Source Name:	Keystone RV Company
Source Location:	712 Eisenhower Drive, Goshen, Indiana 46526
County:	Elkhart
SIC Code:	3792
Operation Permit No.:	039-14842-00560
Date Issued:	December 7, 2001
Notice Only Change No.:	039-17647-00560
Permit Reviewer:	SDF/L Stapf

The Office of Air Quality (OAQ) has reviewed an application from Keystone RV Company relating to the operation of their existing trailer prefabricated wall manufacturing operation.

New and Modified Emission Units and Pollution Control Equipment

Specifically, Keystone RV Company has submitted an application to construct and operate two (2) new lamination lines, identified as L4 and L5.

Insignificant Activities

There are no insignificant activities associated with the proposed modification.

Existing Approvals

The source has been operating under Minor Source Operating Permit 039-14842-00560, issued on December 7, 2001 and First Notice-Only Change 039-15402-00560, issued on April 19, 2002.

Recommendation

The staff recommends to the Commissioner that the Notice-Only Change 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.

Emission Calculations

The emissions resulting from the modification are VOC and HAP emissions from the proposed lamination lines and the increased emissions from the welding stations. The following calculations determine the potential to emit (PTE) before controls and the PTE after controls.

Potential to Emit Before Controls:

The following table lists the PTE resulting from the modification before controls:

	PM (tons/yr)	PM10 (tons/yr)	VOC (tons/yr)	Worst Case Single HAP (tons/yr)	Combined HAP (tons/yr)
Proposed Lines	-	-	22.02	1.82	2.24
Welding	0.77	0.77	-	0.07	0.07
Total	0.77	0.77	22.02	1.82	2.31

See Appendix A of this Technical Support Document for the detailed emission calculations.

Potential to Emit After Controls:

The emissions are uncontrolled. Therefore, the PTE after controls is equal to the estimated PTE before controls.

	PM (tons/yr)	PM10 (tons/yr)	VOC (tons/yr)	Worst Case Single HAP (tons/yr)	Combined HAP (tons/yr)
Proposed Lines	-	-	22.02	1.82	2.24
Welding	0.77	0.77	-	0.07	0.07
Total	0.77	0.77	22.02	1.82	2.31

See Appendix A of this Technical Support Document for the detailed emission calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source 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.”

This table reflects the PTE before controls due to the proposed changes. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	0.77
PM-10	0.77
SO ₂	-
VOC	22.02
CO	-
NO _x	-

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
Worst case Single HAP	1.82
TOTAL	2.31

The proposed modification shall be permitted via a notice-only change pursuant to 326 IAC 2-6.1-6(d)(13) which states that any modification that adds an emission unit or units of the same type that are already permitted and that will comply with the same applicable requirements and permit terms and conditions as the existing emission unit or units, except if the modification would result in a potential to emit greater than the thresholds in 326 IAC 2-2 or 326 IAC 2-3, may be permitted via a notice-only change.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO2	Attainment
NOx	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Nonattainment
CO	Attainment
Lead	Attainment

- (a) 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. Elkhart County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) Elkhart 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 PM 2.5 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 a surrogate for PM2.5 emissions.
- (c) Elkhart County has been classified as attainment or unclassifiable for all of the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Existing Source Emissions

Existing source federal major source definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited, as obtained from the Technical Support Document (TSD) of MSOP 039-14842-00560, issued on December 7, 2001):

	PM (tons/yr)	PM10 (tons/yr)	SO2 (tons/yr)	NOX (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Single HAP (tons/yr)	Comb. HAP (tons/yr)
Existing Source	1.20	1.20	-	0.06	<25	0.05	3.30	6.80
Part 70 Levels	-	100	100	100	100	100	10	25
PSD Levels	250	250	250	100	100	250	-	-

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

Potential to Emit After Issuance

The table below summarizes the source potential to emit after the proposed changes, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 operating permit.

	PM (tons/yr)	PM10 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Single HAP (tons/yr)	Comb. HAP (tons/yr)
Source	1.20	1.20	-	0.06	<25	0.05	3.30	6.80
Proposed Changes	0.77	0.77	-	-	-*	-	1.82	2.31
Total	1.97	1.97	-	0.06	<25	0.05	3.30	9.11

Fed. Major Source Levels	250	250	250	100	100	250	-	-
Part 70 Major Levels	-	100	100	100	100	100	10	25

* The source VOC emissions are limited to less than twenty-five (25) tons per year to avoid the requirements of 326 IAC 8-1-6. Therefore, the VOC emissions due to the modification are included in the existing source VOC PTE.

- (a) Elkhart County has been redesignated as nonattainment for ozone. Therefore, the major source level for VOC and NOx has been changed from 250 tons per year to 100 tons per year.
- (b) The proposed modification is not subject to PSD pursuant to 326 IAC 2-2, because the PM, PM10, SO2, and CO emissions are less than the PSD major source level of 250 tons per year and the source is not one of the 28 listed source categories.
- (c) The proposed modification is not subject to emission offset pursuant to 326 IAC 2-3, because the VOC and NOx emissions are less than the emission offset major source level of 100 tons per year.
- (d) The source, after the proposed modification, is not a Title V major stationary source because no criteria pollutant emissions exceed the major source level of 100 tons per year and the single and combined HAP emissions are less than their respective major source levels of ten (10) and twenty-five (25) tons per year.

Federal Rule Applicability

(a) New Source Performance Standards:

There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) National Emissions Standards for Hazardous Air Pollutants:

The requirements of 40 CFR 63, Subpart P, National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products does not apply because the source is not a major source of hazardous air pollutants (HAPs).

State Rule Applicability - Entire Source

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

The requirements of 326 IAC 2-2 and 2-3 do not apply to the proposed modification because the PM, PM10, SO2, and CO emissions are less than the PSD major source level of 250 tons per year and the VOC and NOx emissions are less than the emission offset major source level of 100 tons per year.

(b) 326 IAC 2-6.1 (Minor Source Operating Permit (MSOP)):

The source after the proposed modification is still an MSOP source because the PTE of each criteria pollutant, before controls, is less than the applicable level of 100 tons per year and the single and combined HAP PTE before controls are less than their respective applicable levels of ten (10) and twenty-five (25) tons per year.

(c) 326 IAC 5:

The proposed modification will not affect the applicability or result in any changes to the requirements of 326 IAC 5.

(d) 326 IAC 6-4:

The proposed modification will not affect the applicability or result in any changes to the requirements of 326 IAC 6-4.

State Rule Applicability – Individual Units

(a) 326 IAC 2-4.1-1 (New Source Toxics Control)

The proposed lamination lines are not subject to the MACT requirements of 326 IAC 2-4.1 because the source single and combined HAP emissions after the proposed modification are less than the respective applicable levels of ten (10) and twenty-five (25) tons per year.

(b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes):

The welding and cutting operations are still subject to the requirements of 326 IAC 6-3. However, since the process weight rate after the proposed modification will still be less than 100 pounds per hour, the PM emissions will still be limited to its current rate of 0.551 lb/hr.

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

The requirements of 326 IAC 8-1-6 do not apply to the proposed lamination lines because the source input of VOCs is limited to less than the applicable level of twenty-five (25) tons per year.

Changes

In order to incorporate the proposed changes into the existing source permit, the following changes shall be made. All added language is indicated in bold type and all deleted language is shown as a strike-through.

(a) Condition A.2:

Condition A.2 shall be amended as follows to include the proposed lamination lines:

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

- (a) ~~Three~~**Five (35)** lamination lines (identified as L1 through L**35**) used to manufacture prefabricated styrofoam walls. Each lamination line has a maximum throughput capacity of 343.8 pounds of finished product per hour.

.....

(b) Unit Description of Section D.1:

The unit description of section D.1 shall be amended as follows to include the proposed lamination lines:

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

~~(a) Three~~**Five (35)** lamination lines (identified as L1 through ~~L3~~**L35**), **installed in July 2004**, used to manufacture prefabricated styrofoam walls. Each lamination line has a maximum throughput capacity of 343.8 pounds of finished product per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(c) Condition D.1.1:

Condition D.1.1 shall be amended as follows to include proposed lines L4 and L5:

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

The amount of VOC used in the lamination process **all five lines (lines L1 through L5) combined** shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period. Compliance with this limit makes 326 IAC 8-1-6 (New Facilities - General Reduction Requirements) not applicable.

(d) Condition D.1.2:

Condition D.1.2 shall be amended as follows to include proposed lines L4 and L5:

D.1.2 Hazardous Air Pollutants (HAPs)

The potential to emit hazardous air pollutants (HAPs) from the lamination process **all five lines (lines L1 through L5) combined shall be** less than ten (10) ten tons per year of a single HAP and less than twenty-five (25) tons per year of any combination of HAPs. Therefore, 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants) and 326 IAC 2-7 (Part 70 Permit Program) will not apply. Any change or modification which may increase the potential emissions to ten (10) tons per year of a single HAP or twenty-five (25) tons per year of any combination of HAPs must be approved by IDEM, OAQ before any such change may occur.

(e) Reporting Form:

The reporting form shall be changed as follows to include proposed lines L4 and L5:

Source: Lamination Processes (L1 through ~~L3~~**L35**)

Conclusion

The proposed lamination lines shall be constructed and operated according to the requirements of notice-only change 039-17647-00560 and all other applicable approvals.

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

Company Name: Keystone RV Company
Address City IN Zip: 712 Eisenhower Drive, Goshen, IN 46526
Permit Number: 039-17647
Plt ID: 039-00560
Reviewer: SDF
Date:

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Bostick	6.8	64.90%	0.0%	64.9%	0.0%	16.00%	0.13000	3.750	4.43	4.43	2.16	51.79	9.45	0.00	27.66	100%
Misty Glue	8.1	60.00%	0.0%	60.0%	0.0%	39.00%	0.13000	3.750	4.83	4.83	2.35	56.51	10.31	0.00	12.38	100%
No. 4 Cleaner	10.8	12.00%	2.0%	10.0%	0.0%	88.00%	0.01200	3.750	1.08	1.08	0.05	1.17	0.21	0.00	1.23	100%
Dynasolve	8.7	97.00%	0.0%	97.0%	0.0%	0.00%	0.00040	3.750	8.41	8.41	0.01	0.30	0.06	0.00	0.00	100%
Dynflake	10.0	0.00%	0.0%	0.0%	0.0%	97.00%	0.00200	3.750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Lacquer	10.1	100.00%	0.0%	100.0%	0.0%	0.00%	0.01200	3.750	10.09	10.09	0.45	10.90	1.99	0.00	0.00	100%
Adhesive	8.9	2.00%	0.0%	0.0%	0.0%	98.00%	6.18000	3.750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%

State Potential Emissions **Add worst case coating to all solvents** **5.03** **120.67** **22.02** **0.00**

METHODOLOGY

- Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
- Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
- Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
- Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
- Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
- Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
- Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
- Total = Worst Coating + Sum of all solvents used

HAP Emission Calculations

Company Name: Keystone RV Company
Address City IN Zip: 712 Eisenhower Drive, Goshen, IN 46526
Permit Number: 039-17647
Plt ID: 039-00560
Permit Reviewer: SDF
Date: 8/10/2005

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Methylene Chloride	Weight % Tetrachloroethylene	Weight % Trichloroethene	Methylene Chloride Emissions (ton/yr)	Tetrachloroethylene Emissions (ton/yr)	Trichloroethene Emissions (ton/yr)
Bostick	6.82	0.13	3.75	0.00%	0.00%	0.00%	0.00	0.00	0.00
Misty Glue	8.05	0.13	3.75	0.00%	0.00%	0.00%	0.00	0.00	0.00
No. 4 Cleaner	10.84	0.01	3.75	85.00%	10.00%	10.00%	1.82	0.21	0.21
Dynasolve	8.67	0.00	3.75	0.00%	0.00%	0.00%	0.00	0.00	0.00
Dynflake	9.98	0.00	3.75	0.00%	0.00%	0.00%	0.00	0.00	0.00
Lacquer	10.09	0.01	3.75	0.00%	0.00%	0.00%	0.00	0.00	0.00
Adhesive	8.9	0.62	3.75	0.00%	0.00%	0.00%	0.00	0.00	0.00

Total State Potential Emissions **1.82** **0.21** **0.21**

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % H

**Appendix A: Emissions Calculations
Welding and Thermal Cutting**

Company Name: Keystone RV Company
Address City IN Zip: 712 Eisenhower Drive, Goshen, IN 46526
Permit Number: 039-17647
Pit ID: 039-00560
Reviewer: SDF
Date: 8/10/2005

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)	
			PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr		
WELDING												
Submerged Arc				0.036	0.011			0.000	0.000	0.000	0	0.000
Metal Inert Gas (MIG)(carbon steel)	28	1.14		0.0055	0.0005			0.176	0.016	0.000	0	0.016
Stick (E7018 electrode)				0.0211	0.0009			0.000	0.000	0.000	0	0.000
Tungsten Inert Gas (TIG)(carbon steel)				0.0055	0.0005			0.000	0.000	0.000	0	0.000
Oxyacetylene(carbon steel)				0.0055	0.0005			0.000	0.000	0.000	0	0.000
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene				0.1622	0.0005	0.0001	0.0003	0.000	0.000	0.000	0.000	0.000
Oxymethane				0.0815	0.0002		0.0002	0.000	0.000	0.000	0.000	0.000
Plasma**				0.0039				0.000	0.000	0.000	0.000	0.000
EMISSION TOTALS												
Potential Emissions lbs/hr								0.18				0.02
Potential Emissions lbs/day								4.21				0.38
Potential Emissions tons/year								0.77				0.07

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for 8 mm thick rather than 1 inch, and the maximum metal thickness is not used in calculating the emissions.

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" t

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lb

Welding and other flame cutting emission factors are from an internal training session document, "Welding and Flame Cutting". See Rebecca Mason if you need a copy. Refer to AP-42, Chapter 12.19 for additional emission factors for welding.