



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: April 3, 2006
RE: Royal Adhesives / 141-21816-00146
FROM: Nisha Sizemore
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

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 IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require 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 Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) days of 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.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

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.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

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Indianapolis, Indiana 46204-2251
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Mr. William Faust
Royal Adhesives and Sealants, L.L.C.
2001 W. Washington Ave.
South Bend, Indiana 46628

April 3, 2006

Re: 141-21816-00146
First Significant Permit Modification to
Part 70 Permit No.: 141-9909-00146

Dear Mr. Faust:

Royal Adhesives and Sealants, L.L.C. was issued a Part 70 permit on March 16, 2000 for the operation of a sealant and adhesive manufacturing plant. An application to modify the source was received by the Office of Air Quality (OAQ) on September 20, 2005. Pursuant to the provisions of 326 IAC 2-7-12(d)(1), a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of increasing the current purge time limits for the sealant-based churns and the adhesive-based churns.

All other conditions of the permit shall remain unchanged and in effect. Pages revised in the permit are attached.

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, please contact Seema Roy, c/o OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204-2251, or at 973-575-2555, extension 3217, or dial 1-800-451-6027, and ask for extension 3-6878.

Sincerely,

Signed By: Nisha Sizemore for
Paul Dubenetzky
Acting Assistant Commissioner
Office of Air Quality

Attachments
SR / EVP

cc: File - St. Joseph County
St. Joseph County Health Department
Air Compliance Section Inspector – Rick Reynolds
Compliance Data Section
Administrative and Development
Technical Support and Modeling





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PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

Royal Adhesives and Sealants, L.L.C.
2001 West Washington Street
South Bend, IN 46628

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T141-9909-00146	
Issued by: Original signed by Janet G. McCabe Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: March 16, 2000 Expiration Date: March 16, 2005

First Administrative Amendment No. T141-13982-00146, issued on April 11, 2001.
Second Administrative Amendment No. 141-15134-00146, issued on February 8, 2002.
First Reopening No. 141-13479-00146, issued on February 13, 2002.
Third Administrative Amendment No. 141-17361-00146, issued on April 15, 2003.
Fourth Administrative Amendment No. 141-18640-00146, issued on April 14, 2004.
Fifth Administrative Amendment No. 141-21201-00146, issued on May 24, 2005.

Significant Permit Modification No.: 141-21816-00146	Pages Affected: 31 and 31a
Issued by: Original Signed By: Nisha Sizemore for Paul Dubenetzky Acting Assistant Commissioner Office of Air Quality	Issuance Date: April 3, 2006

D.2.3 Best Available Control Technology (BACT) [326 IAC 8-1-6]

- (a) Pursuant to 326 IAC 8-1-6, solvent-based churns shall be subject to BACT should their VOC potential emissions be greater than 25 tons VOC per year. Potential emissions from each churn is less than 25 tons VOC per year when total time of nitrogen purging for each batch is limited to 45 minutes/batch for sealant churns CH-7, CH-8, CH-9, CH-10, CH-28 and CH-53, 10 minutes/batch for adhesive churns CH-1, CH-2 and CH-54, 5 minutes/batch for adhesive churn CH-3, 55 minutes/batch for adhesive churn CH-22, 9.5 minutes/batch for adhesive churns CH-25, CH-26, CH-55 and CH-56, and 45 minutes/batch for adhesive churn CH-27 and CH-29 and the maximum number of batches per day is limited to 1 batch per day for sealant churns CH-7, CH-8, CH-9, CH-10, CH-28 and CH-53 and adhesive churns CH-1, CH-2, CH-22, CH-27, CH-29 and CH-54, 2 batches per day for adhesive churn 3 and 6 batches per day for adhesive churns CH-25, CH-26, CH-55 and CH-56. To ensure that potential emissions remain below 25 tons VOC/year, the maximum amount of time for batch purging shall be limited to 45 minutes/batch for sealant churns CH-7, CH-8, CH-9, CH-10, CH-28 and CH-53, 10 minutes/batch for adhesive churns CH-1, CH-2 and CH-54, 5 minutes/batch for adhesive churn CH-3, 55 minutes/batch for adhesive churn CH-22, 9.5 minutes/batch for adhesive churns CH-25, CH-26, CH-55 and CH-56, and 45 minutes/batch for adhesive churn CH-27 and CH-29 and the maximum number of batches per day shall be limited to 1 batch per day for sealant churns CH-7, CH-8, CH-9, CH-10, CH-28 and CH-53 and adhesive churns CH-1, CH-2, CH-22, CH-27, CH-29 and CH-54, 2 batches per day for adhesive churn 3 and 6 batches per day for adhesive churns CH-25, CH-26, CH-55 and CH-56.
- (b) Input VOC to the five gal. adhesive canning process shall be limited to less than less than 19,111 tons of VOC per 12 consecutive month period. This input VOC limitation will prevent VOC emissions from the five gal. adhesive canning line from being greater than 25 tons per 12 consecutive month period, thus rendering 326 IAC 8-1-6 (BACT) not applicable.

D.2.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these emission units and pollution control devices.

Compliance Determination Requirements

D.2.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

The Permittee is not required to test these emission units by this permit. However, IDEM may require compliance testing when necessary to determine if the units are in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition 2.1, and the VOC limit specified in Condition 2.3(b), shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.6 Particulate Matter (PM), Volatile Organic Compounds (VOC)

The nitrogen purging systems, which provide enclosure during the churning process except during intermittent periods of nitrogen purging, and the dust collectors DC-1, DC-2, and DC-6, shall be in operation at all times the solvent-based and water-based production processes are in operation, in order to comply with the PM and VOC limits.

D.2.7 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions D.2.3(b) shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.2.8 VOC Emissions

Compliance with Condition D.2.3(b) shall be demonstrated within 30 days of the end of each month based on the emission factor and the total volatile organic compound usage to the five gallon adhesive canning line for the most recent 12 month period.

D.2.9 Solvent-based Churns

Adhesive churns CH-1, CH-2, CH-3, CH-4, CH-22, CH-25, CH-26, CH-27, CH-54, CH-55, CH-56, and solvent-based sealant churns CH-9, CH-10, CH-7, CH-8, and CH-53, each of which contain a nitrogen blanket purging system which is integral to the mixing process, have applicable compliance monitoring conditions as specified below:

- (a) Once each calendar year, the source shall observe and record the number of minutes during an entire cycle of mixing that each adhesive churn and each sealant churn purges when mixing a worst-case formula for that churn.
- (b) Such records shall include identification of the churn, identification of formula, batch size, total number of hours churned, and total number of minutes that purging occurred. Such records shall remain on site for 5 years.

These monitoring conditions are necessary to ensure that maximum total minutes for batch purging shall remain no greater than 10 minutes/batch for adhesive churns CH-1, CH-2, and CH-54, 5 minutes/batch for adhesive churn CH-3, 55 minutes/batch for adhesive churn CH-22, 9.5 minutes/batch for adhesive churns CH-25, CH-26, CH-55, and CH-56, 45 minutes/batch for adhesive churns CH-27 and CH-29, and 45 minutes/batch for sealant churns CH-7, CH-8, CH-9, CH-10, CH-28, and CH-53, so that potential VOC emission will remain < 25 tons/year and BACT will not apply.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document (TSD) for a Significant Permit Modification

Source Name:	Royal Adhesives and Sealants, L.L.C.
Source Location:	2001 West Washington Street, South Bend, IN 46628
County:	St. Joseph
SIC Code:	2891
Operation Permit No.:	T141-9909-00146
Operation Permit Issuance Date:	March 16, 2000
Significant Permit Modification No.:	141-21816-00146
Permit Reviewer:	Seema Roy/EVP

On January 6, 2006, the Office of Air Quality (OAQ) had a notice published in "The South Bend Tribune" in South Bend, Indiana, stating that Royal Adhesives and Sealants, LLC had applied for a Significant Modification to their Part 70 Permit issued on March 16, 2000, in which they requested to increase the current purge time limits for the sealant-based churns and the adhesive-based churns at their existing plant located at 2001 West Washington Street, South Bend, Indiana. The notice also stated that OAQ proposed to issue a Significant Permit Modification for this operation and provided information on how the public could review the proposed Significant Permit Modification and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Significant Permit Modification should be issued as proposed.

On February 10, 2006, Elizabeth Hill, from Bruce Carter Associates, LLC submitted comments on the proposed Significant Permit Modification. The summary of the comments and corresponding responses are as follows:

Comment 1

D.2.9 Solvent-Based Churns

Adhesive churns CH-1, CH-2, CH-3, CH-4, CH-22, CH-25, CH-26, CH-27, CH-54, CH-55, CH-56, and solvent-based sealant churns CH-9, CH-10, CH-7, CH-8, and CH-53, each of which contain a nitrogen blanket purging system which is integral to the mixing process, have applicable compliance monitoring conditions as specified below:

- (a) Once each calendar year, the source shall observe and record the number of minutes during an entire cycle of mixing that each adhesive churn and each sealant churn purges when mixing a worst-case formula for that churn.
- (b) Such records shall include identification of the churn, identification of formula, batch size, total number of hours churned, and total number of minutes that purging occurred.

Such records shall remain on site for 5 years.

These monitoring conditions are necessary to ensure that maximum total minutes for batch purging shall remain no greater than 5 minutes/ batch for adhesive churns and 30 minutes/ batch for sealant churns, so that potential VOC emission will remain < 25 tons/year and BACT will not apply.

The part in *italics* is specifically what needs to be updated. While the testing needs to be conducted in order to comply with the BACT limitations, the 5 and 30 minute times are no longer accurate.

Response 1

IDEM agrees that this change is appropriate and has revised permit condition D.2.9 to update the purge times to be consistent to the significant permit modification application. Condition D.2.9 has been revised as follows:

D.2.9 Solvent-based Churns

Adhesive churns CH-1, CH-2, CH-3, CH-4, CH-22, CH-25, CH-26, CH-27, CH-54, CH-55, CH-56, and solvent-based sealant churns CH-9, CH-10, CH-7, CH-8, and CH-53, each of which contain a nitrogen blanket purging system which is integral to the mixing process, have applicable compliance monitoring conditions as specified below:

- (a) Once each calendar year, the source shall observe and record the number of minutes during an entire cycle of mixing that each adhesive churn and each sealant churn purges when mixing a worst-case formula for that churn.
- (b) Such records shall include identification of the churn, identification of formula, batch size, total number of hours churned, and total number of minutes that purging occurred. Such records shall remain on site for 5 years.

These monitoring conditions are necessary to ensure that maximum total minutes for batch purging shall remain no greater than ~~5~~ **10** minutes/batch for adhesive churns **CH-1, CH-2, and CH-54**, **5** minutes/batch for adhesive churn **CH-3**, **55** minutes/batch for adhesive churn **CH-22**, **9.5** minutes/batch for adhesive churns **CH-25, CH-26, CH-55, and CH-56**, **45** minutes/batch for adhesive churns **CH-27 and CH-29**, and ~~30~~ **45** minutes/batch for sealant churns **CH-7, CH-8, CH-9, CH-10, CH-28, and CH-53**, so that potential VOC emission will remain < 25 tons/year and BACT will not apply.

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for a Significant Permit Modification to
a Part 70 Operating Permit

Source Background and Description

Source Name:	Royal Adhesives and Sealants, L.L.C.
Source Location:	2001 West Washington Street, South Bend, IN 46628
County:	St. Joseph
SIC Code:	2891
Operation Permit No.:	T141-9909-00146
Operation Permit Issuance Date:	March 16, 2000
Significant Permit Modification No.:	141-21816-00146
Permit Reviewer:	Seema Roy/EVP

The Office of Air Quality (OAQ) has reviewed a modification application from Royal Adhesives and Sealants, L.L.C. relating to the operation of a sealant and adhesive manufacturing plant.

History

On September 20, 2005, Royal Adhesives and Sealants, L.L.C. submitted an application to the OAQ requesting to increase the current purge time limits for the sealant-based churns and the adhesive-based churns at their existing plant located at 2001 West Washington Street, South Bend, Indiana. Royal Adhesives and Sealants, L.L.C. was issued a Part 70 permit (T141-9909-00146) on March 16, 2000. The summary of changes requested is described in the table below:

Churn Content, ID	Current Purge Time Limit (mts)	Purge Time Requested in Modification (mts)	Current Number of Batches per Day	Number of Batches per Day Requested in Modification
Sealant CH-7	30	45	2	1
Sealant CH-8	30	45	2	1
Sealant CH-9	30	45	2	1
Sealant CH-10	30	45	2	1
Sealant CH-28	30	45	2	1
Sealant CH-53	30	45	2	1
Adhesive CH-1	5	10	2	1
Adhesive CH-2	5	10	2	1
Adhesive CH-3	5	5	2	2
Adhesive CH-22	5	55	2	1
Adhesive CH-25	5	9.5	6	6

Churn Content, ID	Current Purge Time Limit (mts)	Purge Time Requested in Modification (mts)	Current Number of Batches per Day	Number of Batches per Day Requested in Modification
Adhesive CH-26	5	9.5	6	6
Adhesive CH-27	5	45	2	1
Adhesive CH-29	30	45	2	1
Adhesive CH-54	5	10	2	1
Adhesive CH-55	5	9.5	6	6
Adhesive CH-56	5	9.5	6	6

Based on the information provided by the source:

Total increase in VOC emissions as a result of the modification = 24.25 tpy

Total increase in combined HAP emissions as a result of the modification = 20.62 tpy

Total increase in PM-10 emissions as a result of the modification = 1.77 tpy

Existing Approvals

The source was issued a Part 70 Operating Permit (T141-9909-00146) on March 16, 2000. The source has since received the following:

- (a) Part 70 Permit No. T141-9909-00146, issued on March 16, 2000;
- (b) First Administrative Amendment No. 141-13982-00146, issued on April 11, 2001;
- (c) Second Administrative Amendment No. 141-15134-00146, issued on February 8, 2002;
- (d) First Reopening No. 141-13479-00146, issued on February 13, 2002;
- (e) Third Administrative Amendment No. 141-17361-00146, issued on April 15, 2003;
- (f) Fourth Administrative Amendment No. 141-18640-00146, issued on April 14, 2004; and
- (g) Fifth Administrative Amendment No. 141-21201-00146, issued on May 24, 2005.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Minor Permit Modification 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 September 20, 2005.

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Significant Permit Modification. This modification is being performed pursuant to 326 IAC 2-7-12(d)(1) for a request that does not qualify as a minor permit modification or administrative amendment, and involves a case-by-case determination of an emission limitation or other standard.

Potential To Emit Before Controls (Modification)

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.”

Pollutant	Potential To Emit (tons/year)
PM	5.4
PM-10	5.4
SO ₂	0.00
VOC	73.95
CO	0.00
NO _x	0.00

HAP's	Potential To Emit (tons/year)
TOTAL	Greater than 25

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO ₂	Attainment
NO ₂	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Basic 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. St. Joseph County has been designated as basic 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) St. Joseph County has been classified as 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 a surrogate for PM2.5 emissions.

- (c) St. Joseph County has been classified as attainment or unclassifiable in Indiana for the remaining 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 for the source section.
- (d) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 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.

Federal Rule Applicability

- (a) New Source Performance Standards (NSPS):
The proposed changes do not trigger any new or alter any existing NSPS.
- (b) National Emission Standards for Hazardous Air Pollutants (NESHAP):
The proposed changes do not trigger any new or alter any existing NESHAP.

State Rule Applicability, Entire Source:

The proposed changes do not trigger any new or alter any existing state rules. However, the purge time limits for the sealant and the adhesive churns to render the requirements of 326 IAC 8-1-6 (BACT) not applicable have been changed as a result of the modification. The rule is discussed below:

326 IAC 8-1-6 (General Provisions Relating to VOC Rules)

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compound (VOC) emissions of 25 tons per year or more, and which are not otherwise regulated by another provision of Article 8. The adhesive churns CH-1, CH-2, CH-3, CH-22, CH-25, CH-26, CH-27, CH-29, CH-54, CH-55, CH-56, and the solvent-based sealant churns CH-7, CH-8, CH-9, CH-10, CH-28 and CH-53, each of which contain a nitrogen blanket purging system which is integral to the mixing process, as determined in the Part 70 Permit No. T141-9909-00146, issued on March 16, 2000, are not subject to BACT, because each churn has the PTE < 25 tons VOC/year when the sealant and the adhesive batches purge times and the number of batches per day are limited as follows:

Churn Content, ID	Purge Time Limit (minutes)	Number of Batches per Day
Sealant CH-7	45	1
Sealant CH-8	45	1
Sealant CH-9	45	1
Sealant CH-10	45	1
Sealant CH-28	45	1
Sealant CH-53	45	1
Adhesive CH-1	10	1

Churn Content, ID	Purge Time Limit (minutes)	Number of Batches per Day
Adhesive CH-2	10	1
Adhesive CH-3	5	2
Adhesive CH-22	55	1
Adhesive CH-25	9.5	6
Adhesive CH-26	9.5	6
Adhesive CH-27	45	1
Adhesive CH-29	45	1
Adhesive CH-54	10	1
Adhesive CH-55	9.5	6
Adhesive CH-56	9.5	6

Therefore, the maximum amount of time for batch purging shall be limited to 45 minutes/batch for sealant churns CH-7, CH-8, CH-9, CH-10, CH-28 and CH-53, 10 minutes/batch for adhesive churns CH-1, CH-2 and CH-54, 5 minutes/batch for adhesive churn CH-3, 55 minutes/batch for adhesive churn CH-22, 9.5 minutes/batch for adhesive churns CH-25, CH-26, CH-55 and CH-56, and 45 minutes/batch for adhesive churn CH-27 and CH-29, and the maximum number of batches per day shall be limited to 1 batch per day for sealant churns CH-7, CH-8, CH-9, CH-10, CH-28 and CH-53 and adhesive churns CH-1, CH-2, CH-22, CH-27, CH-29 and CH-54, 2 batches per day for adhesive churn 3 and 6 batches per day for adhesive churns CH-25, CH-26, CH-55 and CH-56, so that potential VOC emission will remain < 25 tons/year and the requirements of 326 IAC 8-1-6 (BACT) will not apply.

The Soil Vapor Extraction Unit, Sealant Tube Fillers, One Gal. Adhesive Canning Line and 55 Gal. Sealant and Adhesive Drum Lines are not subject to 326 IAC 8-1-6 (BACT) due to their PTE VOC < 25 tons/year.

Any change or modification, which may increase potential to emit VOC from the Soil Vapor Extraction Unit, Sealant Tube Fillers, One Gal. Adhesive Canning Line and 55 Gal. Sealant and Adhesive Drum Lines to 25 tons per year or more, shall require approval from IDEM, OAQ, prior to making the change.

The five and three gallon adhesive canning line, with a PTE VOC > 25 tons/year, is potentially subject to the requirements of BACT. The PTE VOC from the five and three gallon adhesive canning line is 33.73 tons/year, as determined below:

$$\text{PTE VOC (tons/year)} = \text{maximum input VOC (tons/year)} * \text{efficiency factor (\%)} \\
 \text{maximum input VOC} = \text{max. churned adhesive} * \text{adhesive VOC concentration}$$

$$\text{maximum churned adhesive} = 8291 \text{ lbs/hr or } 36,315 \text{ tons/year}$$

$$\text{adhesive VOC concentration} = 71 \%$$

$$\text{Therefore: maximum input VOC} = 25,784 \text{ tons / year}$$

efficiency factor, provided by Royal Adhesives and Sealants, L.L.C. through weight loss measurements in the Part 70 Permit No. T141-9909-00146, issued on March 16, 2000 = 0.1308 percent.

Therefore: PTE VOC = 25,784 * 0.1308 % = 33.73 tons/year

VOC input to the five and three gallon adhesive canning process shall be limited to less than 19,111 tons per 12 consecutive month period by the following ratio:

$$\frac{\text{maximum input VOC}}{\text{PTE VOC}} = \frac{\text{limited input VOC}}{\text{limited PTE VOC}}$$

Therefore: $\frac{25,784 \text{ tons/year}}{33.73 \text{ tons/year}} = \frac{\text{limited input VOC}}{25 \text{ tons/year}}$

Therefore: limited input VOC = 19,111 tons / year
input VOC limit < 19,111 tons/consecutive 12 month period

This input VOC limit will render the requirements of 326 IAC 8-1-6 (BACT) not applicable to the five and three gallon adhesive canning line.

Changes to the Part 70 Permit Due to This Modification:

The following changes are made as the Significant Permit Modification to Part 70 Permit No. T141-9909-00146. Bolded language has been added and the language with a line through it has been deleted:

1. Condition D.2.3(a) has been revised as follows to revise the purge time limits for the sealant and adhesive churns to render the requirements of 326 IAC 8-1-6 (BACT) not applicable.

D.2.3 Best Available Control Technology (BACT) [326 IAC 8-1-6]

- (a) Pursuant to 326 IAC 8-1-6, solvent-based churns shall be subject to BACT should their VOC potential emissions be greater than 25 tons VOC per year. Potential emissions from each churn is less than 25 tons VOC per year when total time of nitrogen purging for each batch **is limited to 45 minutes/batch for sealant churns CH-7, CH-8, CH-9, CH-10, CH-28 and CH-53, 10 minutes/batch for adhesive churns CH-1, CH-2 and CH-54, 5 minutes/batch for adhesive churn CH-3, 55 minutes/batch for adhesive churn CH-22, 9.5 minutes/batch for adhesive churns CH-25, CH-26, CH-55 and CH-56, and 45 minutes/batch for adhesive churn CH-27 and CH-29 and the maximum number of batches per day is limited to 1 batch per day for sealant churns CH-7, CH-8, CH-9, CH-10, CH-28 and CH-53 and adhesive churns CH-1, CH-2, CH-22, CH-27, CH-29 and CH-54, 2 batches per day for adhesive churn 3 and 6 batches per day for adhesive churns CH-25, CH-26, CH-55 and CH-56** ~~5 minutes or less for all the adhesive churns, except CH-29, and 30 minutes or less for the sealant churns and the adhesive churn CH-29.~~ To ensure that potential emissions remain below 25 tons VOC/year, **the maximum amount of time for batch purging shall be limited to 45 minutes/batch for sealant churns CH-7, CH-8, CH-9, CH-10, CH-28 and CH-53, 10 minutes/batch for adhesive churns CH-1, CH-2 and CH-54, 5 minutes/batch for adhesive churn CH-3, 55 minutes/batch for adhesive churn CH-22, 9.5 minutes/batch for adhesive churns CH-25, CH-26, CH-55 and CH-56, and 45 minutes/batch for adhesive churn CH-27 and CH-29 and the maximum number of batches per day shall be limited to 1 batch per day for sealant churns CH-7, CH-8, CH-9, CH-10, CH-28 and CH-53 and adhesive churns CH-1, CH-2, CH-22, CH-27, CH-29 and CH-54, 2 batches per day for adhesive churn 3 and 6 batches per day for adhesive churns CH-25, CH-26, CH-55 and CH-56** ~~all the adhesive churns, except CH-29, shall be limited to a maximum total of 5 minutes of purging time per batch, and sealant churns and adhesive churn CH-29 shall be limited to a maximum total of 30 minutes of purging time per batch.~~

2. The first sentence of Condition D.2.3(b) erroneously stated that the five gal. adhesive canning line is subject to BACT due to its PTE VOC > 25 tons/year. The five gal. adhesive canning line was never subject to BACT as the input to the five gal. adhesive canning was limited to less than 19,111 tons of VOC per 12 consecutive month period. Therefore Condition D.2.3(b) has been revised as follows:
 - (b) ~~Pursuant to 326 IAC 8-1-6, the five gal. adhesive canning line is subject to BACT due to its PTE VOC > 25 tons/year.~~ Input VOC to the five gal. adhesive canning process shall be limited to less than less than 19,111 tons of VOC per 12 consecutive month period. This input VOC limitation will prevent VOC emissions from the five gal. adhesive canning line from being greater than 25 tons per 12 consecutive month period, thus rendering 326 IAC 8-1-6 (BACT) not applicable.

Conclusion

The operation of this sealant and adhesive production source shall be subject to the conditions of the attached proposed Significant Permit Modification No. 141-21816-00146.