



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Michael R. Pence*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: May 21, 2013

RE: Berry Plastics Corporation / 163-33117-00106

FROM: Matthew Stuckey, Branch 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, Suite N 501E, 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.dot12/3/07



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Mr. Chuck Longino, EHS Manager  
Berry Plastics Corporation  
101 Oakley Street  
Evansville, IN 47710

May 21, 2013

Re: 163-33117-00106  
First Administrative Amendment to  
M163-22999-00106

Dear Mr. Longino:

Berry Plastics Corporation was issued a Minor Source Operating Permit (MSOP) Renewal No. M163-22999-00106 on November 9, 2007 for a stationary molded plastic packaging plant located at 101 Oakley Street, Evansville, Indiana 47710. On April 24, 2013, the Office of Air Quality (OAQ) received an application from the source requesting that the permit be revised to add the equipment listed below.

Pursuant to 326 IAC 2-6.1-6(d)(8), this change to the permit is considered an administrative amendment because the permit is amended to incorporate a modification that adds an emissions unit or units of the same type that is already permitted or replaces an existing unit and that will comply with the same applicable requirements and permit terms and conditions as the existing emission unit, and the modification does not result in a potential to emit greater than the thresholds in 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset), or 326 IAC 2-7 (Part 70 Operating Permit).

The following emissions units are being added:

- (1) One (1) injection-molding machine, identified as #99, installed in 2012, with a maximum throughput of 24 pounds per hour of plastic resin, to be used for research and development only, using no control and venting to the atmosphere.
- (2) One (1) injection-molding machine, identified as #99A, installed in 2012, with a maximum throughput of 24 pounds per hour of plastic resin, to be used for research and development only, using no control and venting to the atmosphere.
- (3) One (1) thermoform machine, identified as TFE#11, installed in 2013, with a maximum process capacity of 4,500 pounds per hour of plastic resin, utilizing a cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (4) One (1) thermoform machine, identified as TFE#19, installed in 2013, with a maximum process capacity of 1,500 pounds per hour of plastic resin, utilizing a cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (5) One (1) thermoform machine, identified as TFE#20, installed in 2011, with a maximum process capacity of 235 pounds per hour of plastic resin, to be used for research and development only, using no control and venting internally.
- (6) One (1) thermoform machine, identified as TFE#21, installed in 2012, with a maximum process capacity of 235 pounds per hour of plastic resin, to be used for research and development only, using no control and venting internally.
- (7) One color extruder, identified as COLOR Extruder, installed in 2012, with a maximum capacity of 100

pounds per hour, no control, venting internally.

- (8) One lab extruder, identified as LAB Extruder, installed in 2012, with a maximum capacity of 100 pounds per hour, to be used for research and development only, no control, venting internally.
- (9) One (1) ultraviolet cure ink printer, identified as TPE 44, installed in 2012, with a maximum ink usage of 1.75 lb/hr.

The emissions units being added and their PTE are listed below:

Process/ Emission Unit	PTE of Proposed Modification (tons/year)									
	PM	PM10	PM2.5	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs as CO <sub>2</sub> e	Total HAPs	Worst Single HAP
Injection Molding Machine (99) for R&D	0.0037	0.0037	0.0037	0	0	0.017	0	0	0.0001	0.0001 (propionaldehyde)
Injection Molding Machine (99A) for R&D	0.0037	0.0037	0.0037	0	0	0.017	0	0	0.0001	0.0001 (propionaldehyde)
Thermoforming Machine (TFE11)*	0.80	0.80	0.80	0	0	1.72	0	0	0.04	0.014 (formaldehyde)
Thermoforming Machine (TFE19)*	0.27	0.27	0.27	0	0	0.57	0	0	0.008	0.004 (formaldehyde)
Thermoforming Machine (TFE 20) for R & D	0.04	0.04	0.04	0	0	0.09	0	0	0.001	0.0008 (formaldehyde)
Thermoforming Machine (TFE 21) for R & D	0.04	0.04	0.04	0	0	0.09	0	0	0.001	0.0008 (formaldehyde)
Color Extruder (COLOR)	0.319	0.319	0.319	0	0	0.015	0	0	0	0
Lab Extruder (LAB) for R & D	0.127	0.127	0.127	0	0	0.031	0	0	0	0
Ultraviolet Cure Ink Printer (TPE44)	0	0	0	0	0	0.01	0	0	0	0
Solvents Part Washer 1**	0	0	0	0	0	0.00	0	0	0	0
L-1919 Solvent Printers***	0	0	0	0	0	***1.31	0	0	0	0
<b>Total PTE of Proposed Modification</b>	<b>1.60</b>	<b>1.60</b>	<b>1.60</b>	<b>0</b>	<b>0</b>	<b>2.56</b>	<b>0</b>	<b>0</b>	<b>0.036</b>	

\* PTE After control because control is considered integral to the process.

\*\* Solvents Parts Washer #1 has switched to a VOC-free cleaning solution as of March 20, 2012.

\*\*\* Two L-1919 solvent printers switched to 100% isopropyl alcohol from a 50/50 mix of isopropyl alcohol and acetone.

The uncontrolled/unlimited potential to emit of the entire source after the addition of these emission units will continue to be within the threshold levels specified in 326 IAC 2-5.1 (MSOP). (See Appendix A for the calculations).

The addition of the emission unit will not cause the source's potential to emit to be greater than the threshold levels specified in 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset), or 326 IAC 2-7 (Part 70).

See Appendix A for the calculation and the PTE of the entire source after the addition of the emission unit.

- (a) The new injection molding machines, identified as 99 and 99A, the new thermoforming

machines, identified as 11, 19, 20 and 21, and the new extruders identified as the LAB extruder and the COLOR extruder will be subject to the existing rules for particulate emissions established in MSOP Renewal No.: 163-22999-00106, issued on November 9, 2007. There are no state rules applicable to the printing operation.

- (b) No other new state rules are applicable to this source due to the addition of these emissions units.
- (c) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) or National Emission standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 20 and 40 CFR Part 61, 63) included in this administrative amendment.

#### **Air Pollution Control Justification as an Integral Part of the Process**

Berry Plastics has submitted the following justification that the cyclone dust collection system be considered as an integral part of the injection molding and thermoforming operations:

- (a) The operation of the cyclone dust collection system results in a positive net economic effect because it enables the plastics forming operations to recycle excess materials that did not form into plastic and results in at least a 95% decrease in plastic forming material use over what it would be if there were no collection and recycling equipment operating.
- (b) The dust collectors located at the facility are all passive dust collection-filtering devices. All transfer of the raw material and the recycled material is done with pneumatic conveying. The pneumatic conveying is achieved using a vacuum pump. In order to operate the vacuum pump, an integral cyclone must be operated to prevent the vacuum pump from becoming fouled by the resin rendering it inoperable. Therefore, the cyclone is necessary to the passive dust collection system.

IDEM, OAQ has evaluated the justifications and agreed that the cyclone dust collection system will be considered as an integral part of the injection molding and thermoforming operations. Therefore, the permitting level will be determined using the potential to emit after the cyclone dust control system. Operating conditions in the proposed permit will specify that the passive dust collection-filtering devices shall operate at all times when the injection molding and thermoforming operations are in operation.

Pursuant to the Notice only change Permit # 163-22999-00106, issued on November 9, 2007, the cyclone dust collection system for the existing injection molding and thermoforming operations is considered as integral to the process.

**NOTE:** *The following new units are considered part of the integral cyclone dust collection system for the injection molding machines and thermoforming machines:*

*Thermoforming machines identified as TFE 11 and TFE 19*

*The following new units are not considered part of the integral cyclone dust collection system for the thermoforming machines because these new units will be used for research and development only and not for production:*

*Thermoforming Machines identified as TFE 20 and TFE 21*

**PTE of the Entire Source Prior to Issuance of the MSOP Administrative Amendment**

The table below summarizes the potential to emit of the entire source, prior to the proposed revision, after consideration of all enforceable limits established in the effective permits:

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Issuance of Revision (tons/year)								
	PM	PM10*	PM2.5	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	Total HAPs	Worst Single HAP
** (53) Injection Molding machines	3.27	3.27	3.27	0	0	16.32	0	0.40	0.24 (propionaldehyde)
**Injection Molding Machines #54, #56 and #57	0.36	0.36	0.36	0	0	0.84	0	0.014	0.01 (propionaldehyde)
**Thermoforming Lines 1-7	3.27	3.27	3.27	0	0	9.52	0	0.50	0.29 (propionaldehyde)
**Thermoforming Machines TEF #9, #12, #14, #15, #16, and #17	5.14	5.14	5.14	0	0	11.38	0	0.17	0.099 (propionaldehyde)
Extruders 1-5	3.94	3.94	3.94	0	0	0.19	0	0	0
Five (5) Extruders A, B, C, D and E	1.71	1.71	1.71	0	0	0.08	0	0	0
Printing Operations	0	0	0	0	0	2.59	0	0.11	0.06 (formaldehyde)
Printing Operations WPE02	0	0	0	0	0	1.47	0	0	0
Cleaning Operations	0	0	0	0	0	38.64	0	6.82	3.07 (xylene)
Cleaning Operations	0	0	0	0	0	5.32	0	0	0
Natural Gas Usage (MMCF/Year)	0.08	0.08	0.08	0.01	1.02	0.06	0.86	0.02	0.02 (hexane)
<b>Total PTE of Entire Source</b>	<b>17.77</b>	<b>17.77</b>	<b>17.77</b>	<b>0.01</b>	<b>1.02</b>	<b>86.18</b>	<b>0.86</b>	<b>8.03</b>	
Title V Major Source Thresholds	N/A	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	N/A	N/A
Emission Offset/ Nonattainment NSR Major Source Thresholds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
negl. = negligible * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". These emissions are based upon MSOP Notice Only Change No.: 163-30301-00106 issued on July 13, 2011. ** PM, PM10 and PM2.5 control is considered integral to Injection Molding and Thermoforming processes used in production only.									

The table below summarizes the potential to emit of the entire source, with updated emissions shown as **bold** values and previous emissions shown as strikethrough values.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of MSOP Administrative Amendment (tons/year)									
	PM	PM10*	PM2.5*	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs as CO <sub>2</sub> e**	Total HAPs	Worst Single HAP
*** <del>(53)</del> Injection Molding machines	<del>3.27</del>	<del>3.27</del>	<del>3.27</del>	0	0	16.32	0	0	0.40	0.24 (propionaldehyde)
***Injection Molding Machines #54, #56 and #57	0.36	0.36	0.36	0	0	0.84	0	0	0.014	0.01 (propionaldehyde)
<b>Injection Molding Machine (99) for R&amp;D</b>	<b>0.0037</b>	<b>0.0037</b>	<b>0.0037</b>	<b>0</b>	<b>0</b>	<b>0.0085</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Injection Molding Machine (99A) for R&amp;D</b>	<b>0.0037</b>	<b>0.0037</b>	<b>0.0037</b>	<b>0</b>	<b>0</b>	<b>0.0085</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
***Thermoforming Lines 1-7	3.27	3.27	3.27	0	0	9.52	0	0	0.50	0.29 (propionaldehyde)
***Thermoforming Machines TEF #9, #12, #14, #15, #16, and #17	5.14	5.14	5.14	0	0	11.38	0	0	0.17	0.099 (propionaldehyde)
***Thermoforming Machine (TFE11)	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0</b>	<b>0</b>	<b>1.72</b>	<b>0</b>	<b>0</b>	<b>0.02</b>	<b>0.01</b> (formaldehyde)
***Thermoforming Machine (TFE19)	<b>0.27</b>	<b>0.27</b>	<b>0.27</b>	<b>0</b>	<b>0</b>	<b>0.57</b>	<b>0</b>	<b>0</b>	<b>0.008</b>	<b>0.004</b> (formaldehyde)
Thermoforming Machine (TFE 20) for R & D	<b>0.04</b>	<b>0.04</b>	<b>0.04</b>	<b>0</b>	<b>0</b>	<b>0.09</b>	<b>0</b>	<b>0</b>	<b>0.001</b>	<b>0.0008</b> (formaldehyde)
Thermoforming Machine (TFE 21) for R & D	<b>0.04</b>	<b>0.04</b>	<b>0.04</b>	<b>0</b>	<b>0</b>	<b>0.09</b>	<b>0</b>	<b>0</b>	<b>0.001</b>	<b>0.0008</b> (formaldehyde)
Extruders 1-5	3.94	3.94	3.94	0	0	0.19	0	0	0	0
Five (5) Extruders A, B, C, D and E	1.71	1.71	1.71	0	0	0.08	0	0	0	0
<b>Color Extruder (COLOR)</b>	<b>0.319</b>	<b>0.319</b>	<b>0.319</b>	<b>0</b>	<b>0</b>	<b>0.015</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Lab Extruder (LAB) for R &amp; D</b>	<b>0.127</b>	<b>0.127</b>	<b>0.127</b>	<b>0</b>	<b>0</b>	<b>0.031</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Printing Operations	0	0	0	0	0	2.59	0	0	0.11	0.06
Printing Operations WPE02	0	0	0	0	0	1.47	0	0	0	0
<b>Ultraviolet Cure Ink Printer (TPE44)</b>	<b>0.01</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.01</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Cleaning Operations (TF 8,10,12; Printers 50, 51)	0	0	0	0	0	<del>5.32</del> <b>2.69</b>	0	0	0	0
Cleaning Operations (Cleaning Solvents)	0	0	0	0	0	<del>38.64</del> <b>22.22</b>	0	0	6.82	3.07 (xylene)
Natural Gas Usage (MMCF/Year)	<del>0.08</del> <b>0.02</b>	<del>0.08</del> <b>0.10</b>	<del>0.08</del> <b>0.10</b>	0.01	<del>1.02</del> <b>1.28</b>	<del>0.060</del> <b>0.07</b>	<del>0.86</del> <b>1.07</b>	<b>1,539.74</b>	0.024	0.023 (Hexane)
<b>Total PTE of Entire Source</b>	<del>17.77</del> <b>23.06</b>	<del>17.77</del> <b>23.14</b>	<del>17.77</del> <b>23.14</b>	<b>0.01</b>	<del>1.02</del> <b>1.28</b>	<del>86.48</del> <b>73.53</b>	<del>0.86</del> <b>1.07</b>	<b>1,539.74</b>	<b>8.15</b>	
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	250	250	250	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	100	100	100	100	100	100	100	NA	NA	NA

\*Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant".

\*\*The 100,000 CO<sub>2</sub>e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

\*\*\* PM, PM10 and PM2.5 control is considered integral to Injection Molding and Thermoforming processes used in production only.

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this MSOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted)

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of MSOP Administrative Amendment (tons/year)									
	PM	PM10*	PM2.5*	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs as CO <sub>2</sub> e**	Total HAPs	Worst Single HAP
*** (53) Injection Molding machines	3.27	3.27	3.27	0	0	16.32	0	0	0.40	0.24
***Injection Molding Machines #54, #56 and #57	0.36	0.36	0.36	0	0	0.84	0	0	0.014	0.01
Injection Molding Machine (99) for R & D	0.0037	0.0037	0.0037	0	0	0.0085	0	0	0	0
Injection Molding Machine (99A) for R&D	0.0037	0.0037	0.0037	0	0	0.0085	0	0	0	0
***Thermoforming Lines 1-7	3.27	3.27	3.27	0	0	9.52	0	0	0.50	0.29
***Thermoforming Machines TEF #9, #12, #14, #15, #16, and #17	5.14	5.14	5.14	0	0	11.38	0	0	0.17	0.099
*** Thermoforming Machine (TFE11)	0.80	0.80	0.80	0	0	1.72	0	0	0.02	0.01 (formaldehyde)
***Thermoforming Machine (TFE19)	0.27	0.27	0.27	0	0	0.57	0	0	0.008	0.004 (formaldehyde)
Thermoforming Machine (TFE 20) for R & D	0.04	0.04	0.04	0	0	0.09	0	0	0.0013	0.0008 (formaldehyde)
Thermoforming Machine (TFE 21) for R & D	0.04	0.04	0.04	0	0	0.09	0	0	0.0013	0.0008 (formaldehyde)
Extruders 1-5	3.94	3.94	3.94	0	0	0.19	0	0	0	0
Five (5) Extruders A, B, C, D and E	1.71	1.71	1.71	0	0	0.08	0	0	0	0
Color Extruder (COLOR)	0.319	0.319	0.319	0	0	0.015	0	0	0	0
Lab Extruder (LAB) for R & D	0.127	0.127	0.127	0	0	0.031	0	0	0	0
Printing Operations	0	0	0	0	0	2.59	0	0	0.11	0.06
Printing Operations WPE02	0	0	0	0	0	1.47	0	0	0	0
Ultraviolet Cure Ink Printer (TPE44)	0.01	0	0	0	0	0.01	0	0	0	0
Cleaning Operations (TF 8,10,12; Printers 50, 51)	0	0	0	0	0	2.69	0	0	0	0
Cleaning Operations (Cleaning Solvents)	0	0	0	0	0	22.22	0	0	6.82	3.07 (xylene)
Natural Gas Usage (MMCF/Year)	0.02	0.10	0.10	0.01	1.28	.07	1.07	1,539.74	0.024	0.023 (Hexane)
<b>Total PTE of Entire Source</b>	<b>23.06</b>	<b>23.14</b>	<b>23.14</b>	<b>0.01</b>	<b>1.28</b>	<b>73.53</b>	<b>1.07</b>	<b>1,539.74</b>	<b>8.15</b>	
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	250	250	250	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	100	100	100	100	100	100	100	NA	NA	NA

\*Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant".  
 \*\*The 100,000 CO<sub>2</sub>e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.  
 \*\*\* PM, PM10 and PM2.5 control is considered integral to Injection Molding and Thermoforming processes used in production only.

Pursuant to the provisions of 326 IAC 2-6.1-6, the permit is hereby amended as follows with the deleted language as strikeouts and new language **bolded**.

A.2 Emission Units and Pollution Control Equipment Summary

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

**A. Injection Molding Machines:**

...

- (e) **One (1) injection-molding machine, identified as #99, installed in 2012, with a maximum throughput of 24 pounds per hour of plastic resin, to be used for research and development only, using no control and venting to the atmosphere.**
- (f) **One (1) injection-molding machine, identified as #99A, installed in 2012, with a maximum throughput of 24 pounds per hour of plastic resin, to be used for research and development only, using no control and venting to the atmosphere.**

**B. Thermoforming Machines:**

...

- (r) **One (1) thermoform machine, identified as TFE#11, installed in 2013, with a maximum process capacity of 4,500 pounds per hour of plastic resin, utilizing a cyclone dust collection system as integral part of the process and for particulate control, which vents internally.**
- (s) **One (1) thermoform machine, identified as TFE#19, installed in 2013, with a maximum process capacity of 1,500 pounds per hour of plastic resin, utilizing a cyclone dust collection system as integral part of the process and for particulate control, which vents internally.**
- (t) **One (1) thermoform machine, identified as TFE#20, installed in 2011, with a maximum process capacity of 235 pounds per hour of plastic resin, to be used for research and development only, using no control and venting internally.**
- (u) **One (1) thermoform machine, identified as TFE#21, installed in 2012, with a maximum process capacity of 235 pounds per hour of plastic resin, to be used for research and development only, using no control and venting internally.**

**C. Extruders:**

...

- (x) **One color extruder, identified as COLOR Extruder, installed in 2012, with a maximum capacity of 100 pounds per hour, no control, venting internally.**
- (y) **One lab extruder, identified as LAB Extruder, installed in 2012, with a maximum capacity of 100 pounds per hour, to be used for research and development only, no control, venting internally.**

**D. Printers:**

...

- (ag) **One (1) ultraviolet cure ink printer, identified as TPE 44, installed in 2012, with a maximum ink usage of 1.75 lb/hr.**

...



## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

#### A. Injection Molding Machines:

- (a) Fifty-three (53) injection-molding machines, with a combined maximum throughput of 18 tons per hour, which utilize an integral cyclone dust collection system for particulate control and vent internally. These injection-molding machines consist of:
1. one (1) unit, identified as #34, rated at 660 pounds resin per hour, installed in 1972;
  2. three (3) units, identified as #5, #8, and #29, rated at 550, 704, and 550 lb/hr, respectively, installed in 1978;
  3. one (1) unit, identified as #4, rated at 550 lb/hr, installed in 1980;
  4. one (1) unit, identified as #1, rated at 704 lb/hr, installed in 1983;
  5. three (3) units, identified as #10, #20, and #35, rated at 704, 704 and 660 lb/hr, respectively, installed in 1984;
  6. four (4) units, identified as #2, #13, #22, and #24, rated at 701, 704, 330, and 330 lb/hr, respectively, installed in 1985;
  7. two (2) units, identified as #17 and #18, rated at 330 and 704 lb/hr, respectively, installed in 1987;
  8. one (1) unit, identified as #26, rated at 330 lb/hr, installed in 1988;
  9. one (1) unit, identified as #23, rated at 330 lb/hr, installed in 1989;
  10. four (4) units, identified as #6, #7, #14, and #19, each rated at 704 lb/hr and installed in 1990;
  11. three (3) units, identified as #27, #28, and #39, rated at 330, 330, and 660 lb/hr, respectively, installed in 1992;
  12. one (1) unit, identified as #9, rated at 704 lb/hr, installed in 1994;
  13. one (1) unit, identified as #43, rated at 880 lb/hr, installed in 1996;
  14. one (1) unit, identified as #47, rated at 660 lb/hr, installed in 1997;
  15. one (1) unit, identified as #49, rated at 1100 lb/hr, installed in 1998;
  16. three (3) units, identified as #45, #46, and #50, each rated at 1,100 lb/hr and installed in 1999;
  17. four (4) units, identified as #3, #37, #52, and #53, rated 770, 660, 1,100, and 1,100 lb/hr, respectively, installed in 2000; and
  18. two (2) units, identified as #25 and #54, rated at 440 and 330 lb/hr, respectively, installed in 2001.
  19. eight (8) units, identified as #11, #12, #15, #16, #40, #41, #42, and #51, rated at 440, 440, 770, 770, 1,100, 1,100, 1,100, and 1,100 lb/hr, respectively, installed in 2002;
  20. one (1) unit, identified as #48, rated at 880 lb/hr, installed in 2003;
  21. two (2) units, identified as #32 and #44, rated at 242 and 880 lb/hr, respectively, installed in 2004;
  22. two (2) units, identified as #30 and #33, rated at 330 and 550 lb/hr, respectively, installed in 2005; and
  23. three (3) units, identified as #21, #31, and #38, rated at 242, 242, and 1,100 lb/hr, respectively, constructed in 2006.
- (b) One (1) injection-molding machine, identified as #54, constructed in 2008, with a maximum throughput of 650 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system for particulate control, which vents internally.
- (c) One (1) injection-molding machine, identified as #56, constructed in 2009, with a maximum throughput of 1084 lbs of plastic resin/hr, utilizing an integral cyclone dust collection system for particulate control, which vents internally.
- (d) One (1) injection-molding machine, identified as #57, constructed in 2009, with a

maximum throughput of 650 lbs of resin/hr, utilizing an integral cyclone dust collection system for particulate control, which vents internally.

- (e) One (1) injection-molding machine, identified as #99, installed in 2012, with a maximum throughput of 24 pounds per hour of plastic resin, to be used for research and development only, using no control and venting to the atmosphere.
- (f) One (1) injection-molding machine, identified as #99A, installed in 2012, with a maximum throughput of 24 pounds per hour of plastic resin, to be used for research and development only, using no control and venting to the atmosphere.

**B. Thermoforming Machines:**

- (eg) One (1) Thermoforming Machine, identified as Line #1, constructed in 2001, rated at 3300 lbs/hr, utilizing an integral cyclone dust collection system for particulate control and vents internally.
- (fh) Six (6) Thermoforming Machines, each rated at 4000 lbs/hr, utilizing an integral cyclone dust collection system for particulate control and vent internally, consisting of:
  - 1. one (1) unit identified as Line #2, installed in 2002;
  - 2. one (1) unit identified as Line #3, installed in 2003;
  - 3. one (1) unit identified as Line #4, installed in 2004;
  - 4. one (1) unit identified as Line #5, installed in 2006; and
  - 5. two (2) units identified as Line #6 and Line #7, installed in 2005.
- (gi) One (1) thermoform machine, identified as TFE#8, constructed in 2007, with a maximum process capacity of 1,800 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (hj) One (1) thermoform machine, identified as TFE#10, constructed in 2008, with a maximum process capacity of 6,000 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (ik) One (1) thermoform machine, identified as TFE#13, constructed in 2008, with a maximum process capacity of 4,500 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (jl) One (1) thermoform machine, identified as TFE#9, constructed in 2010, with a maximum process capacity of 2,200 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (km) One (1) thermoform machine, identified as TFE#12, constructed in 2010, with a maximum process capacity of 2,350 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (ln) One (1) thermoform machine, identified as TFE#14, constructed in 2010, with a maximum process capacity of 2,350 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (mo) One (1) thermoform machine, identified as TFE#15, constructed in 2010, with a maximum process capacity of 10,600 pounds per hour of plastic resin, utilizing an n integral cyclone dust collection systems integral part of the process and for particulate

control which vents internally.

- (p) One (1) thermoform machine, identified as TFE#16, constructed in 2010, with a maximum process capacity of 10,600 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (q) One (1) thermoform machine, identified as TFE#17, constructed in 2010, with a maximum process capacity of 2,350 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (r) **One (1) thermoform machine, identified as TFE#11, installed in 2013, with a maximum process capacity of 4,500 pounds per hour of plastic resin, utilizing a cyclone dust collection system as integral part of the process and for particulate control, which vents internally.**
- (s) **One (1) thermoform machine, identified as TFE#19, installed in 2013, with a maximum process capacity of 1,500 pounds per hour of plastic resin, utilizing a cyclone dust collection system as integral part of the process and for particulate control, which vents internally.**
- (t) **One (1) thermoform machine, identified as TFE#20, installed in 2011, with a maximum process capacity of 235 pounds per hour of plastic resin, to be used for research and development only, using no control and venting internally.**
- (u) **One (1) thermoform machine, identified as TFE#21, installed in 2012, with a maximum process capacity of 235 pounds per hour of plastic resin, to be used for research and development only, using no control and venting internally.**

**C. Extruders:**

- (v) Five (5) extruders, identified as Extruder numbers 1 - 5, constructed in 2007, with a combined maximum capacity of 1,231 lb/hr, utilizing a, integral cyclone dust collection system for particulate control and vent internally.
- (w) Five (5) R&D extruders, identified as extruders A, B, C, D and E, constructed in 2011, with a combined maximum capacity of 534 lb/hr, vent internally.
- (x) **One color extruder, identified as COLOR Extruder, installed in 2012, with a maximum capacity of 100 pounds per hour, no control, venting internally.**
- (y) **One lab extruder, identified as LAB Extruder, installed in 2012, with a maximum capacity of 100 pounds per hour, to be used for research and development only, no control, venting internally.**

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

...

**SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS**

...

**Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]**

**D.1.1 Particulate Matter [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emitted from the facilities listed below shall be limited as stated, based on the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

Emission Unit/Activity	Process Weight Rate (lbs/hr)	Allowable Emissions (326 IAC 6-3-2) (lb/hr)
injection molding machines, #1-52	36,000 (each)	28.43 (each)
thermoforming machines, Lines #1-7	28,000 (each)	24.03 (each)
extruders, #1-5	1,231 (each)	2.96 (each)
Injection molding operations, #54 and #57	650 (each)	1.93 (each)
Injection molding operations, #56	1,084	2.72
Thermoform machine TEF#9	2,200	4.37
Thermoform machines TEF#12, #14, #17	2,350 (each)	4.56 (each)
Thermoform machines TEF#15, #16	10,600 (each)	12.53 (each)
Five extruders A, B, C, D, and E	534 (each)	1.69 (each)
<b>Injection Molding Machines 99</b>	<b>24</b>	<b>0.212</b>
<b>Injection Molding Machines 99A</b>	<b>24</b>	<b>0.212</b>
<b>Thermoform Machines TFE # 11</b>	<b>4,500</b>	<b>7.059</b>
<b>Thermoform Machines TFE # 19</b>	<b>1,500</b>	<b>3.381</b>
<b>Thermoform Machine TFE # 20</b>	<b>235</b>	<b>0.977</b>
<b>Thermoform Machine TFE # 21</b>	<b>235</b>	<b>0.977</b>
<b>COLOR Extruder</b>	<b>100</b>	<b>0.05</b>
<b>LAB Extruder</b>	<b>100</b>	<b>0.05</b>

**D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]**

- (a) A Preventive Maintenance Plan is required for the injection molding machines, #1-52, #54, #56, #57, thermoforming machines, lines #1-7, TFE#8, TEF#9, TFE#10, TEF#12, TFE#13, TEF#14, TEF#15, TEF#16, TEF#17, **TEF #11, #19, and** five (5) extruders, identified as extruder numbers 1-5.
- (b) A Preventive Maintenance Plan is required for the five (5) R&D extruders A, B, C, D and E. Section B - Preventive Maintenance Plan contains Permittee's obligation with regard to the preventive maintenance plan required by this condition and any control devices.

**Compliance Determination Requirements**

**D.1.3 Particulate Matter (PM)**

In order to comply with Condition D.1.1 and to render 326 IAC 2-2 not applicable, the integral cyclone dust control systems shall be in operation and control emissions from the injection molding machines, #1-52, #54, #56, #57, thermoforming machines, lines #1-7, TFE#8, TEF#9, TFE#10, TEF#12, TFE#13, TEF#14, TEF#15, TEF#16, TEF#17, **TEF #11, #19, and** five (5) extruders, identified as extruder numbers 1-5, at all times that the emission units are in operation.

...

*The source requests that the one (1) degreasing machine, constructed in 2011, using specially denatured alcohol as a degreaser solvent for cleaning ink from resin scrap that has been painted on, be exempt from 326 IAC 8 rules for the following reason:*

Unlike traditional vapor degreasing that takes place in open air, parts are placed in a basket, sealed in an air-tight chamber, flooded with the specially denatured ethanol and cleaned at high temperature. Once the parts are completely cleaned, vapor is recovered and all vapor and liquid is returned to a holding tank. When the process is complete, the chamber is returned to atmospheric pressure, after which the operator can open the door and remove the parts.

The degreasing machine, located at this source using specially denatured alcohol as a degreaser, is exempt from 326 IAC 8-3 because it does not meet the definition of any of the following:

1. Cold Cleaner Operation [326 IAC 8-3-2]
2. Open-top Vapor Degreaser Operation [326 IAC 8-3-3]
3. Conveyorized Degreaser Operation [326 IAC 8-3-4]

Also, the degreasing machine does not use a solvent containing a VOC; it is not subject to any Federal rules and it is not located in a target county. Therefore, the degreasing machine, constructed in 2011, using specially denatured alcohol as a degreaser solvent for cleaning ink from resin scrap that has been printed on, is exempt from the requirements of 326 IAC 8-3.

*The Volatile Organic Compounds (VOC) - 326 IAC 8-3-2 rules will remain in the permit because there are fifteen (15) other solvent parts washers, identified as numbers 1-15, that are subject to 326 IAC 8-3-2. 326 IAC 8-3-2 was updated as of March 1, 2013 and the permit has been updated to reflect the revised version of the rule.*

## SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

#### E. Degreasing:

(y z) Fifteen (15) solvent parts washers, with a combined maximum capacity of 2.04 tons of cleaning solvent per year, identified as numbers 1 – 15, constructed in 2002. Four (4) of which vent through an exhaust stack to the outside air, the other eleven (11) do not vent to an exhaust stack.

~~(z) One (1) degreasing machine, constructed in 2011, using specially denatured alcohol as a degreaser solvent, for cleaning ink from resin scrap that has been printed on, annual throughput of less than 145 gallons.~~

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

...

### Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

#### D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold cleaner operation), the owner or operator of a cold cleaning facility shall:

- ~~(a) Equip the cleaner with a cover;~~
- ~~(b) Equip the cleaner with a facility for draining cleaned parts;~~
- ~~(c) Close the degreaser cover whenever parts are not being handled in the cleaner;~~

- ~~\_\_\_\_\_ (d) \_\_\_\_\_ Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;~~
- ~~\_\_\_\_\_ (e) \_\_\_\_\_ Provide a permanent, conspicuous label summarizing the operation requirements;~~
- ~~(f) \_\_\_\_\_ 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. \_\_\_\_\_~~

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

\_\_\_\_\_ Pursuant to 326 IAC 8-3-5 (Organic Solvent Degreasing Operations)

- ~~(a) \_\_\_\_\_ The owner or operator of the cold cleaner degreaser shall ensure that the following control equipment requirements are met:~~
  - ~~(1) \_\_\_\_\_ Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
    - ~~(A) \_\_\_\_\_ the solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));~~
    - ~~(B) \_\_\_\_\_ the solvent is agitated; or~~
    - ~~(C) \_\_\_\_\_ the solvent is heated.~~~~
  - ~~(2) \_\_\_\_\_ Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.~~
  - ~~(3) \_\_\_\_\_ Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).~~
  - ~~(4) \_\_\_\_\_ The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.~~
  - ~~(5) \_\_\_\_\_ Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
    - ~~(A) \_\_\_\_\_ A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.~~
    - ~~(B) \_\_\_\_\_ A water cover when solvent used is insoluble in, and heavier than, water.~~
    - ~~(C) \_\_\_\_\_ Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.~~~~
- ~~(b) \_\_\_\_\_ The owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:
  - ~~(1) \_\_\_\_\_ Close the cover whenever articles are not being handled in the degreaser.~~
  - ~~(2) \_\_\_\_\_ Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.~~
  - ~~(3) \_\_\_\_\_ Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.~~~~

**D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]**

---

- (a) Pursuant to 326 IAC 8-3-2(a) (Cold Cleaner Degreaser Control Equipment and Operating Requirements, the owner or operator of a cold cleaner degreaser shall ensure that the following control equipment and operating requirements are met:
- (1) Equip the degreaser with a cover.
  - (2) Equip the degreaser with a device for draining cleaned parts.
  - (3) Close the cover whenever articles are not being handled in the degreaser.
  - (4) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
  - (5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).
  - (6) Store waste solvent only in closed containers.
  - (7) Prohibit the disposal or transfer of waste solvent in such a manner could allow greater than twenty percent (20%) of the waste solvent by weight to evaporate.
- (b) The owner or operator of a cold cleaner degreaser subject to this subsection shall ensure the following additional control equipment and operating requirements are met:
- (1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):
    - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
    - (B) A water cover when solvent used is insoluble in, and heavier than, water.
    - (C) A refrigerated chiller.
    - (D) Carbon adsorption.
    - (E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.
  - (2) Ensure that the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.
  - (3) If used, solvent spray:
    - (A) must be a solid, fluid stream; and
    - (B) shall be applied at a pressure that does not cause excessive splashing.

*The reporting forms have been revised to remove all references to the source mailing address. IDEM, OAQ will continue to maintain records of the mailing address.*

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY**

**MINOR SOURCE OPERATING PERMIT (MSOP)  
CERTIFICATION**

Source Name: Berry Plastics Corporation  
Source Address: 101 Oakley Street, Evansville, Indiana 47710  
Mailing Address: ~~P.O. Box 959, Evansville, IN 47706-0959~~  
MSOP No.: M163-22999-00106

...

Pursuant to 326 IAC 2-7-1(39), starting July 1, 2011, greenhouse gases (GHGs) emissions are subject to regulation at a source with a potential to emit (PTE) 100,000 tons per year or more of CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e). Therefore, CO<sub>2</sub>e emissions have been calculated for this source. Based on the calculations, the unlimited PTE GHGs from the entire source is less than 100,000 tons of CO<sub>2</sub>e per year (see Appendix A for the calculations). This did not require any changes to the permit.

All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.idem.in.gov](http://www.idem.in.gov)

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 Deborah Cole of my staff at 317-234-5377 or 1-800-451-6027, ext. 4-5377.

Sincerely,



Iryn Callung, Section Chief  
Permits Branch  
Office of Air Quality

Attachments: Updated Permit and Calculations

IC/dac

cc: File - Vanderburgh County  
Vanderburgh County Health Department  
U.S. EPA, Region V  
Compliance and Enforcement Branch





**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

*We Protect Hoosiers and Our Environment.*

*Michael R. Pence*  
Governor

*Thomas W. Easterly*  
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100 North Senate Avenue  
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**Minor Source Operating Permit Renewal  
OFFICE OF AIR QUALITY**

**Berry Plastics Corporation  
101 Oakley Street  
Evansville, Indiana 47710**


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

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a MSOP under 326 IAC 2-6.1.

Operation Permit No.: M163-22999-00106	
Issued by: <i>Original Signed by:</i> Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: November 9, 2007  Expiration Date: November 9, 2017

First Notice Only Change No: 163-27114-00106, issued on January 6, 2009  
Second Notice Only Change No. 163-27883-00106, issued on May 8, 2009  
Third Notice Only Change No. 163-30301-00106, issued July 13, 2011

First Administrative Amendment No. 163-33117-00106	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: May 21, 2013  Expiration Date: November 9, 2017

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- C.14 General Record Keeping Requirements [326 IAC 2-6.1-5]
- C.15 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2]  
[IC 13-14-1-13]

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**Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]**

- D.1.1 Particulate Matter [326 IAC 6-3-2]
- D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

**Compliance Determination Requirements**

- D.1.3 Particulate Matter (PM)

**Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]**

- D.1.4 Integral Cyclone Failure Detection

**D.2. EMISSIONS UNIT OPERATION CONDITIONS..... 21**

**Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]**

- D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]
- D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

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## 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)]

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The Permittee owns and operates a stationary molded plastic packaging plant.

Source Address:	101 Oakley Street, Evansville, Indiana 47710
General Source Phone Number:	(812) 424-2904
SIC Code:	3089 (Plastic Products, Not Classified Elsewhere)
County Location:	Vanderburgh
Source Location Status:	Nonattainment for PM 2.5 standard Attainment for all other criteria pollutants
Source Status:	Minor Source Operating Permit Program Minor Source, under PSD and Nonattainment NSR Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary

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

#### A. Injection Molding Machines:

- (a) Fifty-three (53) injection-molding machines, with a combined maximum throughput of 18 tons per hour, which utilize an integral cyclone dust collection system for particulate control and vent internally. These injection-molding machines consist of:
1. one (1) unit, identified as #34, rated at 660 pounds resin per hour, installed in 1972;
  2. three (3) units, identified as #5, #8, and #29, rated at 550, 704, and 550 lb/hr, respectively, installed in 1978;
  3. one (1) unit, identified as #4, rated at 550 lb/hr, installed in 1980;
  4. one (1) unit, identified as #1, rated at 704 lb/hr, installed in 1983;
  5. three (3) units, identified as #10, #20, and #35, rated at 704, 704 and 660 lb/hr, respectively, installed in 1984;
  6. four (4) units, identified as #2, #13, #22, and #24, rated at 701, 704, 330, and 330 lb/hr, respectively, installed in 1985;
  7. two (2) units, identified as #17 and #18, rated at 330 and 704 lb/hr, respectively, installed in 1987;
  8. one (1) unit, identified as #26, rated at 330 lb/hr, installed in 1988;
  9. one (1) unit, identified as #23, rated at 330 lb/hr, installed in 1989;
  10. four (4) units, identified as #6, #7, #14, and #19, each rated at 704 lb/hr and installed in 1990;
  11. three (3) units, identified as #27, #28, and #39, rated at 330, 330, and 660 lb/hr, respectively, installed in 1992;
  12. one (1) unit, identified as #9, rated at 704 lb/hr, installed in 1994;
  13. one (1) unit, identified as #43, rated at 880 lb/hr, installed in 1996;
  14. one (1) unit, identified as #47, rated at 660 lb/hr, installed in 1997;
  15. one (1) unit, identified as #49, rated at 1100 lb/hr, installed in 1998;

16. three (3) units, identified as #45, #46, and #50, each rated at 1,100 lb/hr and installed in 1999;
  17. four (4) units, identified as #3, #37, #52, and #53, rated 770, 660, 1,100, and 1,100 lb/hr, respectively, installed in 2000; and
  18. two (2) units, identified as #25 and #54, rated at 440 and 330 lb/hr, respectively, installed in 2001.
  19. eight (8) units, identified as #11, #12, #15, #16, #40, #41, #42, and #51, rated at 440, 440, 770, 770, 1,100, 1,100, 1,100, and 1,100 lb/hr, respectively, installed in 2002;
  20. one (1) unit, identified as #48, rated at 880 lb/hr, installed in 2003;
  21. two (2) units, identified as #32 and #44, rated at 242 and 880 lb/hr, respectively, installed in 2004;
  22. two (2) units, identified as #30 and #33, rated at 330 and 550 lb/hr, respectively, installed in 2005; and
  23. three (3) units, identified as #21, #31, and #38, rated at 242, 242, and 1,100 lb/hr, respectively, constructed in 2006.
- (b) One (1) injection-molding machine, identified as #54, constructed in 2008, with a maximum throughput of 650 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system for particulate control, which vents internally.
- (c) One (1) injection-molding machine, identified as #56, constructed in 2009, with a maximum throughput of 1084 lbs of plastic resin/hr, utilizing an integral cyclone dust collection system for particulate control, which vents internally.
- (d) One (1) injection-molding machine, identified as #57, constructed in 2009, with a maximum throughput of 650 lbs of resin/hr, utilizing an integral cyclone dust collection system for particulate control, which vents internally.
- (e) One (1) injection-molding machine, identified as #99, installed in 2012, with a maximum throughput of 24 pounds per hour of plastic resin, to be used for research and development only, using no control and venting to the atmosphere.
- (f) One (1) injection-molding machine, identified as #99A, installed in 2012, with a maximum throughput of 24 pounds per hour of plastic resin, to be used for research and development only, using no control and venting to the atmosphere.

**B. Thermoforming Machines:**

- (g) One (1) Thermoforming Machine, identified as Line #1, constructed in 2001, rated at 3300 lbs/hr, utilizing an integral cyclone dust collection system for particulate control and vent internally.
- (h) Six (6) Thermoforming Machines, each rated at 4000 lbs/hr, utilizing an integral cyclone dust collection system for particulate control and vents internally, consisting of:
1. one (1) unit identified as Line #2, installed in 2002;
  2. one (1) unit identified as Line #3, installed in 2003;
  3. one (1) unit identified as Line #4, installed in 2004;
  4. one (1) unit identified as Line #5, installed in 2006; and
  5. two (2) units identified as Line #6 and Line #7, installed in 2005.

- (i) One (1) thermoform machine, identified as TFE#8, constructed in 2007, with a maximum process capacity of 1,800 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (j) One (1) thermoform machine, identified as TFE#10, constructed in 2008, with a maximum process capacity of 6,000 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (k) One (1) thermoform machine, identified as TFE#13, constructed in 2008, with a maximum process capacity of 4,500 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (l) One (1) thermoform machine, identified as TFE#9, constructed in 2010, with a maximum process capacity of 2,200 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (m) One (1) thermoform machine, identified as TFE#12, constructed in 2010, with a maximum process capacity of 2,350 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (n) One (1) thermoform machine, identified as TFE#14, constructed in 2010, with a maximum process capacity of 2,350 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (o) One (1) thermoform machine, identified as TFE#15, constructed in 2010, with a maximum process capacity of 10,600 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (p) One (1) thermoform machine, identified as TFE#16, constructed in 2010, with a maximum process capacity of 10,600 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (q) One (1) thermoform machine, identified as TFE#17, constructed in 2010, with a maximum process capacity of 2,350 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (r) One (1) thermoform machine, identified as TFE#11, installed in 2013, with a maximum process capacity of 4,500 pounds per hour of plastic resin, utilizing a cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (s) One (1) thermoform machine, identified as TFE#19, installed in 2013, with a maximum process capacity of 1,500 pounds per hour of plastic resin, utilizing a cyclone dust collection system as integral part of the process and for particulate control, which vents internally.

- (t) One (1) thermoform machine, identified as TFE#20, installed in 2011, with a maximum process capacity of 235 pounds per hour of plastic resin, to be used for research and development only, using no control and venting internally.
- (u) One (1) thermoform machine, identified as TFE#21, installed in 2012, with a maximum process capacity of 235 pounds per hour of plastic resin, to be used for research and development only, using no control and venting internally.

**C. Extruders:**

- (v) Five (5) extruders, identified as Extruder numbers 1 - 5, constructed in 2007, with a combined maximum capacity of 1,231 lb/hr, utilizing an integral cyclone dust collection system for particulate control and vent internally.
- (w) Five (5) R&D extruders, identified as extruders A, B, C, D and E, constructed in 2011, with a combined maximum capacity of 534 lb/hr, vent internally.
- (x) One color extruder, identified as COLOR Extruder, installed in 2012, with a maximum capacity of 100 pounds per hour, no control, venting internally.
- (y) One lab extruder, identified as LAB Extruder, installed in 2012, with a maximum capacity of 100 pounds per hour, to be used for research and development only, no control, venting internally.

**D. Printers:**

- (z) Twenty-two (22) ultraviolet cure ink printers, each with a maximum capacity of 18 plastic parts per minute, which have no air pollution control devices and vent internally, consisting of:
  - 1. two (2) units identified as TPE15 and TPE17, installed in 2002;
  - 2. six (6) units identified as TPE22-TPE24, TPE39, TPE40 and TPE42, installed in 2003;
  - 3. three (3) units identified as TPE19-TPE21, installed in 2004;
  - 4. seven (7) units identified as TPE27-TPE33 and TPE41, installed in 2005; and
  - 5. four (4) units identified as TPE35-TPE38, installed in 2006.
- (aa) Six (6) silkscreen machines, rated at 0.20 pounds of ink per hour, identified as PSE05, OSE06, OSE08, OSE10, OSE11, OSE04, constructed prior to 1980, which have no air pollution control devices, and vent thru an exhaust stack to the outside air. Each silkscreen machine has its own natural gas burner for process heat.
- (ab) Sixteen (16) ultraviolet cure ink printers, with a maximum annual ink use of 90 tons per year, which have no air pollution control devices. Nine (9) of which vent through an exhaust stack to the outside air, seven (7) do not vent to an exhaust stack. Each ultraviolet cure ink printer has its own natural gas burner for process heat. These ultraviolet cure ink printers consist of:
  - 1. three (3) units, identified as TPE08, TPE10, TPE11, installed in 1985;
  - 2. one (1) unit, identified as TPE09, installed in 1986;
  - 3. three (3) units, identified as TPE01-TPE03, installed in 1990;
  - 4. one (1) unit, identified as TPE04, , installed in 1993;

5. one (1) unit, identified as TPE05, installed in 1994;
  6. one (1) unit, identified as TPE06, installed in 1996;
  7. one (1) unit, identified as TPE07, installed in 1997;
  8. two (2) units, identified as TPE13, and TPE16, installed in 1998;
  9. one (1) unit, identified as TPE14, installed in 2000; and
  10. two (2) units, identified as TPE12 and TPE18, installed in 2001.
- (ac) One (1) ultraviolet cure ink Gallus printer line, consisting of 10 stations, constructed in 2007.
- (ad) One (1) ultraviolet cure ink Gallus printer line, identified as WPE02, consisting of 10 stations, constructed in 2011.
- (ae) Two (2) UV cure dry offset ink printers, identified as TPE 50 and TPE 51, constructed in 2009.
- (af) Eight (8) UV cure dry offset ink printers, identified as TPE 60 and TPE 68, constructed in 2009.
- (ag) One (1) ultraviolet cure ink printer, identified as TPE 44, installed in 2012, with a maximum ink usage of 1.75 lb/hr.

E. Degreasing:

- (ah) Fifteen (15) solvent parts washers, with a combined maximum capacity of 2.04 tons of cleaning solvent per year, identified as numbers 1 – 15, constructed in 2002. Four (4) of which vent through an exhaust stack to the outside air, the other eleven (11) do not vent to an exhaust stack.
- (ai) One (1) degreasing machine, constructed in 2011, using specially denatured alcohol as a degreaser solvent, for cleaning ink from resin scrap that has been printed on, annual throughput of less than 145 gallons.
- (aj) One (1) 500 gallon above ground hydraulic oil storage tank, constructed in 1989.
- (ak) One (1) 550 gallon above ground virgin solvent storage tank, constructed in 1989.



## **SECTION B GENERAL CONDITIONS**

### **B.1 Definitions [326 IAC 2-1.1-1]**

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Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

### **B.2 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]**

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- (a) This permit, M163-22999-00106, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

### **B.3 Term of Conditions [326 IAC 2-1.1-9.5]**

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Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

### **B.4 Enforceability**

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Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

### **B.5 Severability**

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The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

### **B.6 Property Rights or Exclusive Privilege**

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This permit does not convey any property rights of any sort or any exclusive privilege.

### **B.7 Duty to Provide Information**

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- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

**B.8 Annual Notification [326 IAC 2-6.1-5(a)(5)]**

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- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:  
  
Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, IN 46204-2251
- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

**B.9 Preventive Maintenance Plan [326 IAC 1-6-3]**

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:
  - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

**B.10 Prior Permits Superseded [326 IAC 2-1.1-9.5]**

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- (a) All terms and conditions of permits established prior to M081-25263-00032 and issued pursuant to permitting programs approved into the state implementation plan have been either:
  - (1) incorporated as originally stated,
  - (2) revised, or
  - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

**B.11 Termination of Right to Operate [326 IAC 2-6.1-7(a)]**

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The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least ninety one hundred twenty (120) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

**B.12 Permit Renewal [326 IAC 2-6.1-7]**

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- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require an affirmation that the statements in the application are true and complete by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least ninety (90) days prior to the date of the expiration of this permit; and
  - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-6.1-4(b), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

**B.13 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]**

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- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:
- Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251
- (c) The Permittee shall notify the OAQ no later than thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

**B.14 Source Modification Requirement**

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A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

**B.15 Inspection and Entry**

[326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

**B.16 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]**

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- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require affirmation that the statements in the application are true and complete by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

**B.17 Annual Fee Payment [326 IAC 2-1.1-7]**

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- (a) The Permittee shall pay annual fees due no later than thirty (30) calendar days of receipt of a bill from IDEM, OAQ.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

**B.18 Credible Evidence [326 IAC 1-1-6]**

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For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

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## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

### Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

#### C.1 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

#### C.2 Opacity [326 IAC 5-1]

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

#### C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

#### C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

#### C.5 Fugitive Dust Emissions [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 (Fugitive Dust Emissions).

#### C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
  - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
  - (2) If there is a change in the following:
    - (A) Asbestos removal or demolition start date;
    - (B) Removal or demolition contractor; or
    - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project.

- (e) **Procedures for Asbestos Emission Control**  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to

thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

### **Testing Requirements [326 IAC 2-6.1-5(a)(2)]**

#### **C.7 Performance Testing [326 IAC 3-6]**

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- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

### **Compliance Requirements [326 IAC 2-1.1-11]**

#### **C.8 Compliance Requirements [326 IAC 2-1.1-11]**

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The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

### **Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]**

#### **C.9 Compliance Monitoring [326 IAC 2-1.1-11]**

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Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

#### **C.10 Instrument Specifications [326 IAC 2-1.1-11]**

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- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.



## Corrective Actions and Response Steps

### C.11 Response to Excursions or Exceedances

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- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
  - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records; and/or
  - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
  - (1) monitoring data;
  - (2) monitor performance data, if applicable; and
  - (3) corrective actions taken.

## Corrective Actions and Response Steps

### C.12 Actions Related to Noncompliance Demonstrated by a Stack Test

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- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred-eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.

- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

### **Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]**

#### **C.13 Malfunctions Report [326 IAC 1-6-2]**

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

#### **C.14 General Record Keeping Requirements [326 IAC 2-6.1-5]**

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to-ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

#### **C.15 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]**

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or

certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

- (c) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

#### A. Injection Molding Machines:

- (a) Fifty-three (53) injection-molding machines, with a combined maximum throughput of 18 tons per hour, which utilize an integral cyclone dust collection system for particulate control and vent internally. These injection-molding machines consist of:
1. one (1) unit, identified as #34, rated at 660 pounds resin per hour, installed in 1972;
  2. three (3) units, identified as #5, #8, and #29, rated at 550, 704, and 550 lb/hr, respectively, installed in 1978;
  3. one (1) unit, identified as #4, rated at 550 lb/hr, installed in 1980;
  4. one (1) unit, identified as #1, rated at 704 lb/hr, installed in 1983;
  5. three (3) units, identified as #10, #20, and #35, rated at 704, 704 and 660 lb/hr, respectively, installed in 1984;
  6. four (4) units, identified as #2, #13, #22, and #24, rated at 701, 704, 330, and 330 lb/hr, respectively, installed in 1985;
  7. two (2) units, identified as #17 and #18, rated at 330 and 704 lb/hr, respectively, installed in 1987;
  8. one (1) unit, identified as #26, rated at 330 lb/hr, installed in 1988;
  9. one (1) unit, identified as #23, rated at 330 lb/hr, installed in 1989;
  10. four (4) units, identified as #6, #7, #14, and #19, each rated at 704 lb/hr and installed in 1990;
  11. three (3) units, identified as #27, #28, and #39, rated at 330, 330, and 660 lb/hr, respectively, installed in 1992;
  12. one (1) unit, identified as #9, rated at 704 lb/hr, installed in 1994;
  13. one (1) unit, identified as #43, rated at 880 lb/hr, installed in 1996;
  14. one (1) unit, identified as #47, rated at 660 lb/hr, installed in 1997;
  15. one (1) unit, identified as #49, rated at 1100 lb/hr, installed in 1998;
  16. three (3) units, identified as #45, #46, and #50, each rated at 1,100 lb/hr and installed in 1999;
  17. four (4) units, identified as #3, #37, #52, and #53, rated 770, 660, 1,100, and 1,100 lb/hr, respectively, installed in 2000; and
  18. two (2) units, identified as #25 and #54, rated at 440 and 330 lb/hr, respectively, installed in 2001.
  19. eight (8) units, identified as #11, #12, #15, #16, #40, #41, #42, and #51, rated at 440, 440, 770, 770, 1,100, 1,100, 1,100, and 1,100 lb/hr, respectively, installed in 2002;
  20. one (1) unit, identified as #48, rated at 880 lb/hr, installed in 2003;
  21. two (2) units, identified as #32 and #44, rated at 242 and 880 lb/hr, respectively, installed in 2004;
  22. two (2) units, identified as #30 and #33, rated at 330 and 550 lb/hr, respectively, installed in 2005; and
  23. three (3) units, identified as #21, #31, and #38, rated at 242, 242, and 1,100 lb/hr, respectively, constructed in 2006.
- (b) One (1) injection-molding machine, identified as #54, constructed in 2008, with a maximum throughput of 650 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system for particulate control, which vents internally.

- (c) One (1) injection-molding machine, identified as #56, constructed in 2009, with a maximum throughput of 1084 lbs of plastic resin/hr, utilizing an integral cyclone dust collection system for particulate control, which vents internally.
- (d) One (1) injection-molding machine, identified as #57, constructed in 2009, with a maximum throughput of 650 lbs of resin/hr, utilizing an integral cyclone dust collection system for particulate control, which vents internally.
- (e) One (1) injection-molding machine, identified as #99, installed in 2012, with a maximum throughput of 24 pounds per hour of plastic resin, to be used for research and development only, using no control and venting to the atmosphere.
- (f) One (1) injection-molding machine, identified as #99A, installed in 2012, with a maximum throughput of 24 pounds per hour of plastic resin, to be used for research and development only, using no control and venting to the atmosphere.

**B. Thermoforming Machines:**

- (g) One (1) Thermoforming Machine, identified as Line #1, constructed in 2001, rated at 3300 lbs/hr, utilizing an integral cyclone dust collection system for particulate control and vents internally.
- (h) Six (6) Thermoforming Machines, each rated at 4000 lbs/hr, utilizing an integral cyclone dust collection system for particulate control and vent internally, consisting of:
  - 1. one (1) unit identified as Line #2, installed in 2002;
  - 2. one (1) unit identified as Line #3, installed in 2003;
  - 3. one (1) unit identified as Line #4, installed in 2004;
  - 4. one (1) unit identified as Line #5, installed in 2006; and
  - 5. two (2) units identified as Line #6 and Line #7, installed in 2005.
- (i) One (1) thermoform machine, identified as TFE#8, constructed in 2007, with a maximum process capacity of 1,800 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (j) One (1) thermoform machine, identified as TFE#10, constructed in 2008, with a maximum process capacity of 6,000 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (k) One (1) thermoform machine, identified as TFE#13, constructed in 2008, with a maximum process capacity of 4,500 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (l) One (1) thermoform machine, identified as TFE#9, constructed in 2010, with a maximum process capacity of 2,200 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (m) One (1) thermoform machine, identified as TFE#12, constructed in 2010, with a maximum process capacity of 2,350 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.

- (n) One (1) thermoform machine, identified as TFE#14, constructed in 2010, with a maximum process capacity of 2,350 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (o) One (1) thermoform machine, identified as TFE#15, constructed in 2010, with a maximum process capacity of 10,600 pounds per hour of plastic resin, utilizing a n integhral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (p) One (1) thermoform machine, identified as TFE#16, constructed in 2010, with a maximum process capacity of 10,600 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (q) One (1) thermoform machine, identified as TFE#17, constructed in 2010, with a maximum process capacity of 2,350 pounds per hour of plastic resin, utilizing an integral cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (r) One (1) thermoform machine, identified as TFE#11, installed in 2013, with a maximum process capacity of 4,500 pounds per hour of plastic resin, utilizing a cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (s) One (1) thermoform machine, identified as TFE#19, installed in 2013, with a maximum process capacity of 1,500 pounds per hour of plastic resin, utilizing a cyclone dust collection system as integral part of the process and for particulate control, which vents internally.
- (t) One (1) thermoform machine, identified as TFE#20, installed in 2011, with a maximum process capacity of 235 pounds per hour of plastic resin, to be used for research and development only, using no control and venting internally.
- (u) One (1) thermoform machine, identified as TFE#21, installed in 2012, with a maximum process capacity of 235 pounds per hour of plastic resin, to be used for research and development only, using no control and venting internally.

**C. Extruders:**

- (v) Five (5) extruders, identified as Extruder numbers 1 - 5, constructed in 2007, with a combined maximum capacity of 1,231 lb/hr, utilizing a, integral cyclone dust collection system for particulate control and vent internally.
- (w) Five (5) R&D extruders, identified as extruders A, B, C, D and E, constructed in 2011, with a combined maximum capacity of 534 lb/hr, vent internally.
- (x) One color extruder, identified as COLOR Extruder, installed in 2012, with a maximum capacity of 100 pounds per hour, no control, venting internally.
- (y) One lab extruder, identified as LAB Extruder, installed in 2012, with a maximum capacity of 100 pounds per hour, to be used for research and development only, no control, venting internally.

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

**Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]**

**D.1.1 Particulate Matter [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emitted from the facilities listed below shall be limited as stated, based on the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and  
 P = process weight rate in tons per hour

Emission Unit/Activity	Process Weight Rate (lbs/hr)	Allowable Emissions (326 IAC 6-3-2) (lb/hr)
Injection molding machines, #1-52	36,000 (each)	28.43 (each)
Thermoforming machines, Lines #1-7	28,000 (each)	24.03 (each)
Extruders, #1-5	1,231 (each)	2.96 (each)
Injection molding operations, #54 and #57	650 (each)	1.93 (each)
Injection molding operations, #56	1,084	2.72
Thermoform machine TEF#9	2,200	4.37
Thermoform machines TEF#12, #14, #17	2,350 (each)	4.56 (each)
Thermoform machines TEF#15, #16	10,600 (each)	12.53 (each)
Five extruders A, B, C, D, and E	534 (each)	1.69 (each)
Injection Molding Machine 99	24	0.212
Injection Molding Machine 99A	24	0.212
Thermoform Machines TFE # 11	4,500	7.059
Thermoform Machines TFE # 19	1,500	3.381
Thermoform Machine TFE # 20	235	0.977
Thermoform Machine TFE # 21	235	0.977
COLOR Extruder	100	0.05
LAB Extruder	100	0.05

**D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]**

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- (a) A Preventive Maintenance Plan is required for the injection molding machines, #1-52, #54, #56, #57, thermoforming machines, lines #1-7, TFE#8, TEF#9, TFE#10, TEF#12, TFE#13, TEF#14, TEF#15, TEF#16, TEF#17, TEF #11, #19, and five (5) extruders, identified as extruder numbers 1-5.
- (b) A Preventive Maintenance Plan is required for the five (5) R&D extruders A, B, C, D and E. Section B - Preventive Maintenance Plan contains Permittee's obligation with regard to the preventive maintenance plan required by this condition and any control devices.

**Compliance Determination Requirements**

**D.1.3 Particulate Matter (PM)**

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In order to comply with Condition D.1.1 and to render 326 IAC 2-2 not applicable, the integral cyclone dust control systems shall be in operation and control emissions from the injection molding machines, #1-52, #54, #56, #57, thermoforming machines, lines #1-7, TFE#8, TEF#9, TFE#10, TEF#12, TFE#13, TEF#14, TEF#15, TEF#16, TEF#17, TEF #11, #19, and five (5) extruders, identified as extruder numbers 1-5, at all times that the emission units are in operation.

**Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]**

**D.1.4 Integral Cyclone Failure Detection**

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In the event that integral cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.



## SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

#### E. Degreasing:

- (z) Fifteen (15) solvent parts washers, with a combined maximum capacity of 2.04 tons of cleaning solvent per year, identified as numbers 1 – 15, constructed in 2002. Four (4) of which vent through an exhaust stack to the outside air, the other eleven (11) do not vent to an exhaust stack.

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

### D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

- (a) Pursuant to 326 IAC 8-3-2(a) (Cold Cleaner Degreaser Control Equipment and Operating Requirements, the owner or operator of a cold cleaner degreaser shall ensure that the following control equipment and operating requirements are met:
  - (1) Equip the degreaser with a cover.
  - (2) Equip the degreaser with a device for draining cleaned parts.
  - (3) Close the cover whenever articles are not being handled in the degreaser.
  - (4) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
  - (5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).
  - (6) Store waste solvent only in closed containers.
  - (7) Prohibit the disposal or transfer of waste solvent in such a manner could allow greater than twenty percent (20%) of the waste solvent by weight to evaporate.
- (b) The owner or operator of a cold cleaner degreaser subject to this subsection shall ensure the following additional control equipment and operating requirements are met:
  - (1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):
    - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
    - (B) A water cover when solvent used is insoluble in, and heavier than, water.
    - (C) A refrigerated chiller.
    - (D) Carbon adsorption.
    - (E) An alternative system of demonstrated equivalent or better control

as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

- (2) Ensure that the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.
- (3) If used, solvent spray:
  - (A) must be a solid, fluid stream; and
  - (B) shall be applied at a pressure that does not cause excessive splashing.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH**

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

<b>Company Name:</b>	Berry Plastics Corporation
<b>Address:</b>	101 Oakley Street
<b>City:</b>	Evansville, Indiana 47710
<b>Phone #:</b>	(812) 424-2904
<b>MSOP #:</b>	M163-22999-00106

I hereby certify that Berry Plastics Corporation is:

still in operation.

no longer in operation.

I hereby certify that Berry Plastics Corporation is:

in compliance with the requirements of MSOP M163-22999-00106.

not in compliance with the requirements of MSOP M163-22999-00106.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

<b>Noncompliance:</b>

### MALFUNCTION REPORT

#### INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY FAX NUMBER - 317 233-6865

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?\_\_\_\_\_, 25 TONS/YEAR SULFUR DIOXIDE ?\_\_\_\_\_, 25 TONS/YEAR NITROGEN OXIDES?\_\_\_\_\_, 25 TONS/YEAR VOC ?\_\_\_\_\_, 25 TONS/YEAR HYDROGEN SULFIDE ?\_\_\_\_\_, 25 TONS/YEAR TOTAL REDUCED SULFUR ?\_\_\_\_\_, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?\_\_\_\_\_, 25 TONS/YEAR FLUORIDES ?\_\_\_\_\_, 100 TONS/YEAR CARBON MONOXIDE ?\_\_\_\_\_, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?\_\_\_\_\_, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?\_\_\_\_\_, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?\_\_\_\_\_, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?\_\_\_\_\_. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION \_\_\_\_\_.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC \_\_\_\_\_ OR, PERMIT CONDITION # \_\_\_\_\_ AND/OR PERMIT LIMIT OF \_\_\_\_\_

THIS INCIDENT MEETS THE DEFINITION OF "MALFUNCTION" AS LISTED ON REVERSE SIDE?    Y        N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT?    Y        N

COMPANY: \_\_\_\_\_ PHONE NO. (    ) \_\_\_\_\_

LOCATION: (CITY AND COUNTY) \_\_\_\_\_

PERMIT NO. \_\_\_\_\_ AFS PLANT ID: \_\_\_\_\_ AFS POINT ID: \_\_\_\_\_ INSP: \_\_\_\_\_

CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: \_\_\_\_\_

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/20\_\_\_\_        AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/20\_\_\_\_        AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: \_\_\_\_\_

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_

INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

\*SEE PAGE 2

**Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1 Applicability of rule**

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

**326 IAC 1-2-39 "Malfunction" definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

**\*Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY**

**MINOR SOURCE OPERATING PERMIT (MSOP)  
CERTIFICATION**

Source Name: Berry Plastics Corporation  
Source Address: 101 Oakley Street, Evansville, Indiana 47710  
MSOP No.: M163-22999-00106

**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.**

Please check what document is being certified:

- Annual Compliance Notification
- Test Result (specify) \_\_\_\_\_
- Report (specify) \_\_\_\_\_
- Notification (specify) \_\_\_\_\_
- Affidavit (specify) \_\_\_\_\_
- Other (specify) \_\_\_\_\_

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**Emission Calculations Summary - Entire Source**  
**Company Name:** Berry Plastics  
**Address:** 101 Oakley Street, Evansville, IN 47710  
**MSOP No.:** 163-22999-00106  
**Administrative Amendment No.:** 163-33117-00106  
**Reviewer:** Deborah Cole

**Potential Emissions (tons/year)**

Emissions Generating Activity

Pollutant	*Injection Molding Machines (1 - 53)	*Injection Molding Machines 54, 56, 57	Injection Molding 99, 99A	*Thermoforming Lines 1-7	*Thermoformers 8, 10, 12	*Thermoforming 11, 19	Thermoforming 20, 21	*Thermoforming Machines TEF 9, 14 - 17	Extruders (1 - 5)	Five (5) Extruders A, B, C, D & E	Color Extruder Lab Extruder	Printing Operations	TPE 44	Cleaning Operations (Thermoformers 8, 10, 12; Printers 50, 51)	Cleaning Operations	Natural Gas Usage (MMCF/Year)	<b>TOTAL</b>
PM	3.43	0.36	0.007	5.31	1.53	1.06	0.08	5.15	3.94	1.71	0.45	0.00	0.00	0.00	0.00	0.02	<b>23.06</b>
PM10	3.43	0.36	0.007	5.31	1.53	1.06	0.08	5.15	3.94	1.71	0.45	0.00	0.00	0.00	0.00	0.10	<b>23.14</b>
PM2.5	3.43	0.36	0.007	5.31	1.53	1.06	0.08	5.15	3.94	1.71	0.45	0.00	0.00	0.00	0.00	0.10	<b>23.14</b>
SO2	0.00	0.00	0.007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	<b>0.01</b>
NOx	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	<b>1.28</b>
VOC	10.48	0.84	0.017	15.38	3.58	2.29	0.18	11.39	0.19	0.08	0.05	4.05	0.01	2.69	22.22	0.07	<b>73.53</b>
CO	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07	<b>1.07</b>
GHG	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,539.74	<b>1,539.74</b>
total HAPs	0.17	0.014	0.0002	0.54	0.06	0.04	0.003	0.17	0.00	0.00	0.00	0.11	0.00	0.21	6.82	0.02	<b>8.15</b>
worst case single HAP	0.02	0.01	0.0001	0.54	0.033	0.02	0.001	0.099	0.00	0.00	0.00	0.06	0.00	0.15	3.07	0.02	

\*PM control is considered integral to the Injection Molding and Thermoforming Processes used in production only.  
Total emissions based on rated capacity at 8,760 hours/year, after control.  
Assume: PM10 = PM2.5

**Emission Calculations Summary - Injection Molding Machines 1 - 53**

**Company Name:** Berry Plastics

**Address:** 101 Oakley Street, Evansville, IN 47710

**MSOP No.:** 163-22999-00106

**Administrative Amendment No.:** 163-33117-00106

**Reviewer:** Deborah Cole

Production Rate	
I.D.	Maximum Capacity (Ton/Hr)
Injection Molding Machines (1 - 53)	19

Material Rate		
Material*	MATERIAL USE* BY WEIGHT %	MATERIAL RATE (TON/HR)
Polypropylene	45.00%	8.55
Polyethylene	55.00%	10.45

Emissions					
Material	Pollutant	Emission Factor (lb/ton)*	Uncontrolled Potential Emissions (TON/YEAR)	Control Efficiency	Controlled Potential Emissions (TON/YEAR)
Polypropylene	VOC	0.2049	7.67	0.00%	7.67
	PM**	2.8	104.86	98.00%	2.10
	HAP	0.00426	0.16	0.00%	0.16
Polyethylene	VOC	0.0614	2.81	0.00%	2.81
	PM**	1.46	66.83	98.00%	1.34
	HAP	0.00034	0.02	0.00%	0.02

\*Material use ratios specified in process design as 55% polyethylene and 45% polypropylene

\*\* The cyclone dust control system is considered integral to the injection molding operations for production units only; therefore, uncontrolled PTE is equal to controlled PTE for PM.

**Methodology**

Uncontrolled potential emissions = emissions factor \* Material rate \* 8760/2000

Controlled Potential Emissions = Emission Factor \* Material Rate \*8760/2000 \* (1-control efficiency)

Dust collector on plastic transfer and storage controls 98% of dust

Polyethylene usage is High Density Polyethylene with an emission factor of 0.0614 lbs voc per ton resin (30.7 lbs per million lbs)

Polypropylene usage is 80 % reactor impact copolymer at a temperature of 505 f and 20% controlled rheology homopolymer (with Antistat)

The weighted Polypropylene emission factor is 80% (80.3 lbs VOC per million pound resin) + 20%(191 lbs voc per million pounds resin)=0.2049 lbVOC / ton resin

(1) Polypropylene copolymer processing source, Battelle Institute study published in the Journal of Air and Waste Management (JAWMA) -January 1999

(2) Polyethylene copolymer processing source Barlow, Conlos, Holden, Garrison, Harris and Janke -JAWMA- June 1996



**Emission Calculations Summary - Injection Molding Machines 54, 56, and 57**

**Company Name:** Berry Plastics

**Address:** 101 Oakley Street, Evansville, IN 47710

**MSOP No.:** 163-22999-00106

**Administrative Amendment No.:** 163-33117-00106

**Reviewer:** Deborah Cole

**Potential to Emit Criteria Air Pollutants from the Injection Molding Machines Processing Polypropylene with a 505 ° F Melt Temperature**

Injection Molding	Resin Type	Max Throughput Rate (lbs resin/hr)	PM			VOC		
			<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)	<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)
54	PP	650	34.5	0.02	0.10	80.3	0.05	0.23
56	PP	1,084	34.5	0.04	0.16	80.3	0.09	0.38
57	PP	650	34.5	0.02	0.10	80.3	0.05	0.23
	<b>Totals</b>	<b>2,384</b>		<b>0.08</b>	<b>0.36</b>		<b>0.19</b>	<b>0.84</b>

**Hazardous Air Pollutant Emission Factors from Processing Polypropylene**

HAP Constituent	CAS #	<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)
Formaldehyde	50-00-0	0.18
Acrolein	107-02-8	0.01
Acetaldehyde	75-07-0	0.2
Propionaldehyde	123-38-6	0.95

Injection Molding	Resin Type	Max Throughput Rate (lbs resin/hr)	Formaldehyde Emissions (tons/yr)	Acrolein Emissions (tons/hr)	Acetaldehyde Emissions (tons/yr)	Propionaldehyde Emissions (tons/yr)	Total HAPs
54	PP	650	0.0005	0.0000	0.0006	0.0027	
56	PP	1,084	0.0009	0.0000	0.0009	0.0045	
57	PP	650	0.0005	0.0000	0.0006	0.0027	
	<b>Totals</b>		<b>0.002</b>	<b>0.000</b>	<b>0.002</b>	<b>0.010</b>	<b>0.014</b>

**Notes and Methodology**

<sup>(1)</sup> Emission factors for PM, VOC and HAPs from Polypropylene molding were taken from a technical paper, volume 49 in January 1999, published by the Journal of Air and Waste Management Association titled "Development of Emission Factors for Polypropylene Processing". A melt temperature of 505 °F and reactor impact copolymer was used as the emission factor

**Emission Calculations Summary - Injection Molding Machines 99 and 9A**

**Company Name:** Berry Plastics  
**Address:** 101 Oakley Street, Evansville, IN 47710  
**MSOP No.:** 163-22999-00106  
**Administrative Amendment No.:** 163-33117-00106  
**Reviewer:** Deborah Cole

**Potential to Emit Criteria Air Pollutants from the Injection Molding Machines Processing Polypropylene with a 505 ° F Melt Temperature**

*Injection Molding	Resin Type	Max Throughput Rate (lbs resin/hr)	PM			VOC		
			<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)	<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)
99 (NEW)	PP	24	34.5	0.0008	0.0037	80.3	0.0019	0.0085
99A (NEW)	PP	24	34.5	0.0008	0.0037	80.3	0.0019	0.0085
	<b>Totals</b>	<b>48</b>		<b>0.0017</b>	<b>0.0073</b>		<b>0.0039</b>	<b>0.0170</b>

**Hazardous Air Pollutant Emission Factors from Processing Polypropylene**

HAP Constituent	CAS #	<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)
Formaldehyde	50-00-0	0.18
Acrolein	107-02-8	0.01
Acetaldehyde	75-07-0	0.2
Propionaldehyde	123-38-6	0.95

*Injection Molding	Resin Type	Max Throughput Rate (lbs resin/hr)	Formaldehyde Emissions (tons/yr)	Acrolein Emissions (tons/hr)	Acetaldehyde Emissions (tons/yr)	Propionaldehyde Emissions (tons/yr)
99 (NEW)	PP	24	0.0000	0.0000	0.0000	0.0001
99A (NEW)	PP	24	0.0000	0.0000	0.0000	0.0001
	<b>TOTAL</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0002</b>

\*These machines are used for research and development, not for production. Accordingly, the maximum throughput is assumed to be 10% of the production maximum

**Notes and Methodology**

<sup>(1)</sup> Emission factors for PM, VOC and HAPs from Polypropylene molding were taken from a technical paper, volume 49 in January 1999, published by the Journal of Air and Waste Management Association titled "Development of Emission Factors for Polypropylene Processing". A melt temperature of 505 °F and reactor impact copolymer was used as the emission factor

<sup>(2)</sup> Emission factors for PM, VOC and HAPs from Polyethylene molding were taken from a technical paper, volume 46 in January 1999, published by the Journal of Air and Waste Management Association titled "Development of Emission Factors for Polyethylene Processing". A melt temperature of 400 °F was used to determine the correct emission factor. The equation provided in the paper was used calculate emissions factors within the temperature range provided.

<sup>(3)</sup> Emission factors for CO from plastic molding were taken from a technical paper from a report provided in the Advances in Polymer Technology, Vol. 14, No. 1, pp 67-77, 1995, titled "Volatile Emission During Thermoplastics Processing - A Review". A melt temperature of 400 °F was used to determine the correct emission factor as this is consistent with the operating temperature at the facility

\* New Units added during this revision

**326 IAC 6-3-2(e) Allowable Rate of Emissions**

Injection Molding	Process Rate (materials throughput) (lbs/hr)	Process Weight Rate (tons/hr)	Allowable PM Emissions (lbs/hr)	Allowable PM Emissions (tons/yr)
99	24	0.012	0.212	0.927
99A	24	0.012	0.212	0.927

**Methodology**

Allowable Emissions (E) (lb/hr) = 4.10(Process Weight Rate)<sup>0.67</sup>

Allowable Emissions (tons/yr) = (Allowable Emissions (lb/hr)\*8760)/2000

**Emission Calculations Summary - Thermoformers 1 - 7**

**Company Name:** Berry Plastics

**Address:** 101 Oakley Street, Evansville, IN 47710

**MSOP No.:** 163-22999-00106

**Administrative Amendment No.:** 163-33117-00106

**Reviewer:** Deborah Cole

Production Rate	
I.D.	Maximum Capacity (Ton/Hr)
Thermoforming Machines (1 - 7)	22.25

Material Rate		
Material	MATERIAL USE* BY WEIGHT %	MATERIAL RATE (TON/HR)
Polypropylene	94.50%	21.03
Polystyrene	5.50%	1.22

Emissions					
Material	Pollutant	Emission Factor (lb/ton)*	Uncontrolled Potential Emissions (TON/YEAR)	Control Efficiency	Controlled Potential Emissions (TON/YEAR)
Polypropylene	VOC	0.16	14.74	0.00%	14.74
	PM*	2.8	257.87	98.00%	5.16
	HAP	0	0.00	0.00%	0.00
Polystyrene	VOC	0.12	0.64	0.00%	0.64
	PM*	1.46	7.83	98.00%	0.16
	HAP	0.1	0.54	0.00%	0.54

\*\* The cyclone dust control system is considered integral to the thermoforming operations for production units only; therefore, uncontrolled PTE is equal to controlled PTE for PM.

**Methodology**

Uncontrolled potential emissions = emissions factor \* Material rate \* 8760/2000

Controlled potential Emissions = Emission Factor \* Material Rate \*8760/2000 \* (1-control efficiency)

Dust collector on plastic transfer and storage controls 98% of dust

(1) Polypropylene copolymer processing source, Battelle Instute study published in the Journal of Air and Waste Management (JAWMA)-January 1999

(2) Polyethylene copolymer processing source Barlow, Conlos, Holden, Garrison, Harris and Janke - JAWMA - June 1996

**Emission Calculations Summary - Thermoformers 8, 10, and 12**

**Company Name:** Berry Plastics

**Address:** 101 Oakley Street, Evansville, IN 47710

**MSOP No.:** 163-22999-00106

**Administrative Amendment No.:** 163-33117-00106

**Reviewer:** Deborah Cole

**Potential to Emit Criteria Air Pollutants from the Thermoforming Machines Processing Polypropylene at a 505 ° F Melt Temperature**

Berry Machine #	Resin Type	Max Throughput Rate (lbs resin/hr)	PM			VOC		
			<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)	<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)
TFE 8	PP	1,800	34.5	0.06	0.27	80.3	0.14	0.63
TFE 10	PP	6,000	34.5	0.21	0.91	80.3	0.48	2.11
TFE 12	PP	2,350	34.5	0.08	0.36	81.3	0.19	0.84
	<b>Totals</b>	<b>10,150</b>		<b>0.35</b>	<b>1.53</b>	<b>241.90</b>	<b>0.82</b>	<b>3.58</b>

**Hazardous Air Pollutant Emission Factors from Processing Polypropylene at a 505 ° F Melt Temperature**

HAP Constituent	CAS #	<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)
Formaldehyde	50-00-0	0.74
Acrolein	107-02-8	0.01
Acetaldehyde	75-07-0	0.46
Propionaldehyde	123-38-6	0.05

Berry Machine #	Resin Type	Max Throughput Rate (lbs resin/hr)	Formaldehyde Emissions (tons/yr)	Acrolein Emissions (tons/hr)	Acetaldehyde Emissions (tons/yr)	Propionaldehyde Emissions (tons/yr)	Total HAPs
TFE 8	PP	1,800	0.0058	0.0001	0.0036	0.0004	0.056
TFE 10	PP	6,000	0.0194	0.0003	0.0121	0.0013	
TFE 12	PP	2,350	0.0076	0.0001	0.0047	0.0005	
	<b>Totals</b>		<b>0.033</b>	<b>0.000</b>	<b>0.020</b>	<b>0.002</b>	

**Notes and Methodology**

<sup>(1)</sup> Emission factors for PM, VOC and HAPs from Polypropylene molding were taken from a technical paper, volume 49 in January 1999, published by the Journal of Air and Waste Management Association titled "Development of Emission Factors for Polypropylene Processing". A melt temperature of 505 °F and reactor impact copolymer was used as the emission factor

**Potential to Emit Criteria Air Pollutants from the Thermoforming Machines Processing Polypropylene at a 505 °F Melt Temperature**

Berry Machine #	Resin Type	Max Throughput Rate (lbs resin/hr)	PM			VOC		
			<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)	<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)
TFE 9	PP	2,200	35.5	0.08	0.34	82.3	0.18	0.79
TFE 13	PP	2,350	37.5	0.09	0.39	84.3	0.20	0.87
TFE 14	PP	2,350	37.5	0.09	0.39	84.3	0.20	0.87
TFE 15	PP	10,600	38.5	0.41	1.79	85.3	0.90	3.96
TFE 16	PP	10,600	39.5	0.42	1.83	86.3	0.91	4.01
TFE 17	PP	2,350	40.5	0.10	0.42	87.3	0.21	0.90
	<b>Totals</b>	<b>30,450</b>		<b>1.18</b>	<b>5.15</b>		<b>2.60</b>	<b>11.39</b>

**Hazardous Air Pollutant Emission Factors from Processing Polypropylene at a 505 °F Melt Temperature**

HAP Constituent	CAS #	<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)
Formaldehyde	50-00-0	0.74
Acrolein	107-02-8	0.01
Acetaldehyde	75-07-0	0.46
Propionaldehyde	123-38-6	0.05

Berry Machine #	Resin Type	Max Throughput Rate (lbs resin/hr)	Formaldehyde Emissions (tons/yr)	Acrolein Emissions (tons/hr)	Acetaldehyde Emissions (tons/yr)	Propionaldehyde Emissions (tons/yr)
TFE 9	PP	2,200	0.0071	0.0001	0.0044	0.0005
TFE 13	PP	2,350	0.0076	0.0001	0.0047	0.0005
TFE 14	PP	2,350	0.0076	0.0001	0.0047	0.0005
TFE 15	PP	10,600	0.0344	0.0005	0.0214	0.0023
TFE 16	PP	10,600	0.0344	0.0005	0.0214	0.0023
TFE 17	PP	2,350	0.0076	0.0001	0.0047	0.0005
	<b>Totals</b>	<b>30,450</b>	<b>0.0987</b>	<b>0.0013</b>	<b>0.0614</b>	<b>0.0067</b>

**Notes and Methodology**

<sup>(1)</sup> Emission factors for PM, VOC and HAPs from Polypropylene molding were taken from a technical paper, volume 49 in January 1999, published by the Journal titled "Development of Emission Factors for Polypropylene Processing". A melt temperature of 505 °F and reactor impact copolymer was used as the emissio

## Emission Calculations Summary - Thermoformers 11, and 19 - 21

**Company Name:** Berry Plastics

**Address:** 101 Oakley Street, Evansville, IN 47710

**MSOP No.:** 163-22999-00106

**Administrative Amendment No.:** 163-33117-00106

**Reviewer:** Deborah Cole

### *Potential to Emit Criteria Air Pollutants from the Thermoforming Machines Processing Polypropylene at a 505 °F Melt Tem*

Berry Machine #	Resin Type	Max Throughput Rate (lbs resin/hr)	PM		
			<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)
TFE 11 (NEW)	PP	4,500	40.5	0.18	0.80
TFE 19 (NEW)	PP	1,500	40.5	0.06	0.27
<b>Totals</b>		<b>6,470</b>			<b>1.06</b>

### *Hazardous Air Pollutant Emission Factors from Processing Polypropylene at a 505 °F Melt Temperature*

HAP Constituent	CAS #	<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)
Formaldehyde	50-00-0	0.74
Acrolein	107-02-8	0.01
Acetaldehyde	75-07-0	0.46
Propionaldehyde	123-38-6	0.05

Berry Machine #	Resin Type	Max Throughput Rate (lbs resin/hr)	Formaldehyde Emissions (tons/yr)	Acrolein Emissions (tons/hr)	Acetaldehyde Emissions (tons/yr)
TFE 11 (NEW)	PP	4,500	0.0146	0.0002	0.0091
TFE 19 (NEW)	PP	1,500	0.0049	0.0001	0.0030
<b>Totals</b>		<b>6,470</b>	<b>0.0210</b>	<b>0.0003</b>	<b>0.0130</b>

#### Notes and Methodology

TFE 20 and TFE 21 are used for research and development, nor for production. Accordingly, the maximum throughput of each machine is assumed to be

<sup>(1)</sup> Emission factors for PM, VOC and HAPs from Polypropylene molding were taken from a technical paper, volume 49 in January 1999, published by the titled "Development of Emission Factors for Polypropylene Processing". A melt temperature of 505 °F and reactor impact copolymer was used as the em

<sup>(2)</sup> Emission factors for Polystyrene from thermoforming were taken from a emission test conducted for Nova Chemical at the Battelle Institute

**326 IAC 6-3-2(e) Allowable Rate of Emissions**

	Process Rate (materials throughput)	Process Weight Rate	Allowable PM Emissions	Allowable PM Emissions
	(lbs/hr)	(tons/hr)	(lbs/hr)	(tons/yr)
TFE 11	4,500	2.250	7.059	30.919
TFE 19	1,500	0.750	3.381	14.810
TFE 20	235	0.118	0.977	4.277
TFE 21	235	0.118	0.977	4.277
TOTAL	6,470	3.235	9.003	39.434

**Methodology**

Allowable Emissions (E) (lb/hr) =  $4.10(\text{Process Weight Rate})^{0.67}$

Allowable Emissions (tons/yr) =  $(\text{Allowable Emissions (lb/hr)} * 8760) / 2000$

**Temperature**

VOC		
<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)
87.3	0.39	1.72
87.3	0.13	0.57

**2.29**

Propionaldehyde Emissions (tons/yr)	Totals per machine
0.0010	0.0248
0.0003	0.0083
<b>0.0014</b>	0.0357

≤ 10% of the production maximum

Journal of Air and Waste Management Association

Emission factor



## Emission Calculations Summary - Thermoformers 11, and 19 - 21

**Company Name:** Berry Plastics

**Address:** 101 Oakley Street, Evansville, IN 47710

**MSOP No.:** 163-22999-00106

**Administrative Amendment No.:** 163-33117-00106

**Reviewer:** Deborah Cole

### Potential to Emit Criteria Air Pollutants from the Thermoforming Machines Processing Polypropylene at a 505 °F Melt Tem

Berry Machine #	Resin Type	Max Throughput Rate (lbs resin/hr)	PM		
			<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)
TFE 20 (NEW)*	PP	235	40.5	0.01	0.04
TFE 21 (NEW)*	PP	235	40.5	0.01	0.04
<b>Totals</b>		<b>6,470</b>			<b>0.08</b>

### Hazardous Air Pollutant Emission Factors from Processing Polypropylene at a 505 °F Melt Temperature

HAP Constituent	CAS #	<sup>(1)</sup> Emission Factor (lbs/10 <sup>6</sup> lbs)
Formaldehyde	50-00-0	0.74
Acrolein	107-02-8	0.01
Acetaldehyde	75-07-0	0.46
Propionaldehyde	123-38-6	0.05

Berry Machine #	Resin Type	Max Throughput Rate (lbs resin/hr)	Formaldehyde Emissions (tons/yr)	Acrolein Emissions (tons/hr)	Acetaldehyde Emissions (tons/yr)
TFE 20 (NEW)*	PP	235	0.0008	0.0000	0.0005
TFE 21 (NEW)*	PP	235	0.0008	0.0000	0.0005
<b>Totals</b>		<b>6,470</b>	<b>0.0210</b>	<b>0.0003</b>	<b>0.0130</b>

#### Notes and Methodology

TFE 20 and TFE 21 are used for research and development, not for production. Accordingly, the maximum throughput of each machine is assumed to be

<sup>(1)</sup> Emission factors for PM, VOC and HAPs from Polypropylene molding were taken from a technical paper, volume 49 in January 1999, published by the titled "Development of Emission Factors for Polypropylene Processing". A melt temperature of 505 °F and reactor impact copolymer was used as the em

<sup>(2)</sup> Emission factors for Polystyrene from thermoforming were taken from a emission test conducted for Nova Chemical at the Battelle Institute

**326 IAC 6-3-2(e) Allowable Rate of Emissions**

	Process Rate (materials throughput)	Process Weight Rate	Allowable PM Emissions	Allowable PM Emissions
	(lbs/hr)	(tons/hr)	(lbs/hr)	(tons/yr)
TFE 11	4,500	2.250	7.059	30.919
TFE 19	1,500	0.750	3.381	14.810
TFE 20	235	0.118	0.977	4.277
TFE 21	235	0.118	0.977	4.277
TOTAL	6,470	3.235	9.003	39.434

**Methodology**

Allowable Emissions (E) (lb/hr) =  $4.10(\text{Process Weight Rate})^{0.67}$

Allowable Emissions (tons/yr) =  $(\text{Allowable Emissions (lb/hr)} * 8760) / 2000$

**perature**

VOC		
(1) Emission Factor (lbs/10 <sup>6</sup> lbs)	Emissions (lbs/hr)	Emissions (tons/yr)
87.3	0.02	0.09
87.3	0.02	0.09
		0.18

Propionaldehyde Emissions (tons/yr)	Totals per machine
0.0001	0.0013
0.0001	0.0013
0.0014	0.0026

e 10% of the production maximum

Journal of Air and Waste Management Association

ission factor

**Emission Calculations Summary - Extruders 1 - 5**

**Company Name:** Berry Plastics

**Address:** 101 Oakley Street, Evansville, IN 47710

**MSOP No.:** 163-22999-00106

**Administrative Amendment No.:** 163-33117-00106

**Reviewer:** Deborah Cole

		Maximum Capacity (lb/hr)	Emission Factor	Emission Factor (lb/ton)	Control Efficiency %	Potential Emissions					
						PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)
Multi-Layer Extrusion Line 1	Extruder 1	508.00	VOC-ethylene	0.0706		1.6243	1.6243	0.0000	0.0000	0.0785	0.0000
	Regrind - LDPE @ 500 deg F		PM-ethylene	1.46	98%						
	SCC 30101802, 30101811										
	Extruder 2	294.00	VOC-ethylene	0.0706		0.9400	0.9400	0.0000	0.0000	0.0455	0.0000
	Regrind - LDPE @ 500 deg F		PM-ethylene	1.46	98%						
	SCC 30101802, 30101811										
	Extruder 3	294.00	VOC-ethylene	0.0706		0.9400	0.9400	0.0000	0.0000	0.0455	0.0000
	Regrind - LDPE @ 500 deg F		PM-ethylene	1.46	98%						
	SCC 30101802, 30101811										
	Extruder 4	75.00	VOC-ethylene	0.0706		0.2398	0.2398	0.0000	0.0000	0.0116	0.0000
	Regrind - LDPE @ 500 deg F		PM-ethylene	1.46	98%						
	SCC 30101802, 30101811										
	Extruder 5	60.00	VOC-ethylene	0.0706		0.1918	0.1918	0.0000	0.0000	0.0093	0.0000
	Regrind - LDPE @ 500 deg F		PM-ethylene	1.46	98%						
SCC 30101802, 30101811											
<b>Total</b>						3.9360	3.9360	0.0000	0.0000	0.1903	0.0000

Potential VOC Emissions = (Maximum Capacity (lb)) / 2000 \*(Emission Factor)\* 8760 hrs/yr / 2000 lb/ton

Dust Collector on plastic transfer and storage controls 98% of dust.

Polyethylene emission factor is worst case Low Density Polyethylene extrusion coating at 500 degrees F. which is 35 lb VOC per million lb resin (0.0706 lbs VOC per Ton Resin)

1. Polyethylene copolymer processing source Barlow, Conlos, Holdren, Garrison, Harris and Janke-JAWMA-June 1996

**Emission Calculations Summary - Extruders A, B, C, D, and E**

**Company Name:** Berry Plastics

**Address:** 101 Oakley Street, Evansville, IN 47710

**MSOP No.:** 163-22999-00106

**Administrative Amendment No.:** 163-33117-00106

**Reviewer:** Deborah Cole

Extruders*	Maximum Capacity (lb/hr)	Emission Factor	Emission Factor (lb/ton)	Control Efficiency %	Potential Emissions					
					PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)
Five (5) Extruders A, B, C, D, and E Regrind - LDPE @ 500 deg F SCC 30101802, 30101811	534.00	VOC-ethylene	0.0706		1.7074	1.7074	0.0000	0.0000	0.0826	0.0000
		PM-ethylene	1.46	98%						
						1.7074	1.7074	0.0000	0.0000	0.0826

Potential VOC Emissions = (Maximum Capacity (lb)) / 2000 \*(Emission Factor)\* 8760 hrs/yr / 2000 lb/ton

Dust Collector on plastic transfer and storage controls 98% of dust.

Polyethylene emission factor is worst case Low Density Polyethylene extrusion coating at 500 degrees F. which is 35 lb VOC per million lb resin (0.0706 lbs VOC per Ton Resin)

1. Polyethylene copolymer processing source Barlow, Conlos, Holdren, Garrison, Harris and Janke-JAWMA-June 1996

<sup>(1)</sup> Emission factors for PM, VOC and HAPs from Polypropylene molding were taken from a technical paper, volume 49 in January 1999, published by the Journal of Air and Waste Management Assoc titled "Development of Emission Factors for Polypropylene Processing". A melt temperature of 510 °F and controlled rheology homopolymer was used as the emission factor

**Emission Calculations Summary - New Extruders**

**Company Name:** Berry Plastics

**Address:** 101 Oakley Street, Evansville, IN 47710

**MSOP No.:** 163-22999-00106

**Administrative Amendment No.:** 163-33117-00106

**Reviewer:** Deborah Cole

Extruders*	Maximum Capacity (lb/hr)	Emission Factor	Emission Factor (lb/ton)	Control Efficiency %	Potential Emissions					
					PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)
NEW Color Extruder	100.00	VOC-ethylene	0.0706		0.3197	0.3197	0.0000	0.0000	0.0155	0.0000
Regrind - LDPE @ 500 deg F		PM-ethylene	1.46	98%						
SCC 30101802, 30101811										
NEW Lab Extruder	40.00	VOC-propylene	0.354		0.1279	0.1279	0.0000	0.0000	0.0310	0.0000
Regrind - PP @ 500 deg F		PM-propylene	1.46	98%						
SCC 30101802, 30101811										
					0.4476	0.4476	0.0000	0.0000	0.0465	0.0000

Potential VOC Emissions = (Maximum Capacity (lb)) / 2000 \*(Emission Factor)\* 8760 hrs/yr / 2000 lb/ton

Dust Collector on plastic transfer and storage controls 98% of dust.

Polyethylene emission factor is worst case Low Density Polyethylene extrusion coating at 500 degrees F. which is 35 lb VOC per million lb resin (0.0706 lbs VOC per Ton Resin)

1. Polyethylene copolymer processing source Barlow, Conlos, Holdren, Garrison, Harris and Janke-JAWMA-June 1996

<sup>(1)</sup> Emission factors for PM, VOC and HAPs from Polypropylene molding were taken from a technical paper, volume 49 in January 1999, published by the Journal of Air and Waste Management Assoc titled "Development of Emission Factors for Polypropylene Processing". A melt temperature of 510 °F and controlled rheology homopolymer was used as the emission factor

LAB Extruder is used for research and development, nor for production. Accordingly, the maximum throughput is assumed to be 10% of the production maximum

**Emission Calculations Summary - Printers**

**Company Name:** Berry Plastics  
**Address:** 101 Oakley Street, Evansville, IN 47710  
**MSOP No.:** 163-22999-00106  
**Administrative Amendment No.:** 163-33117-00106  
**Reviewer:** Deborah Cole

Facility	Ink ID	Maximum Ink Use (LB/HR)	Weight % Volatiles	Flash Off	VOC Emissions (TONS/YEAR)
38 Flexographic Ultraviolet Cure Ink Printers	Sun Chemicals Energy Cured UV Ink INKCV5481170	47	1.00%	100.00%	2.06
10 Station Ultraviolet Cure Ink Gallus Printer Line	Water Ink Technologies UV Curable Ink	110.59	0.00%	100.00%	0.00
10 Station Ultraviolet Cure Ink Gallus Printer Line	Water Ink Technologies UV Curable Ink	18.91	1.00%	100.00%	0.83
Injection Print and Thermoform	Sun Chemicals	14.73	1.00%	100.00%	0.65
Overcap Department	Sun Chemicals	0.02	1.00%	100.00%	0.00
6 Screen Printing Machines	Nazdar Poly All Scree Printing Ink PA70 Black	0.2	59.00%	100.00%	0.52

**Total Emissions from Printing Operations**

**4.05 Tons VOC Per Year**

**Methodology**

VOC = Weight Percentage volatiles (water minus organics) \* Flash Off \* Max Ink Use \* 8760/2000 = Tons Per Year

Weight % VOC In Ultraviolet Ink Specified in MSDS as less than 1%. 1% VOC assumption is worst case

Note: HEAT SET OFFSET PRINTING HAS A FLASH OFF OF 80%. OTHER TYPES OF PRINTERS HAVE A FLASH OFF OF 100%

(source - OAQPS Draft Guidance, "Control of Volatile Organic Compound Emissions from Offset Lithographic Printing (9/93))

Inks used in silk screen machines are polyall or 7900 series color gloss screen inks. Ink shown above represents worst case VOC emissions

Weight % VOC from supplied by source from MSDS.

**Emission Calculations Summary - New Printer**

**Company Name:** Berry Plastics  
**Address:** 101 Oakley Street, Evansville, IN 47710  
**MSOP No.:** 163-22999-00106  
**Administrative Amendment No.:** 163-33117-00106  
**Reviewer:** Deborah Cole

Facility	Ink ID	Maximum Ink Use (LB/HR)	Weight % Volatiles	Flash Off	VOC Emissions (TONS/YEAR)
NEW Ultraviolet Cure Ink Printer TPE 44	Handschy Industries, LLC R945UVP - O/S UV Warm Red	1.75	0.19%	100.00%	0.01

**Total Emissions from printing Operations**

**0.01 Tons VOC Per Year**

**Methodology**

VOC = Weight Percentage volatiles (water minus organics) \* Flash Off \* Max Ink Use \* 8760/2000 = Tons Per Year

Weight % VOC In Ultraviolet Ink Specified in MSDS as less than 1%. 1% VOC assumption is worst case

Note: HEAT SET OFFSET PRINTING HAS A FLASH OFF OF 80%. OTHER TYPES OF PRINTERS HAVE A FLASH OFF OF 100%

(source - OAQPS Draft Guidance, "Control of Volatile Organic Compound Emissions from Offset Lithographic Printing (9/93))

Inks used in silk screen machines are polyall or 7900 series color gloss screen inks. Ink shown above represents worst case VOC emissions

Weight % VOC from supplied by source from MSDS.



**Emission Calculations Summary - Cleaning Solvents (1 of 2)**

**Company Name:** Berry Plastics  
**Address:** 101 Oakley Street, Evansville, IN 47710  
**MSOP No.:** 163-22999-00106  
**Administrative Amendment No.:** 163-33117-00106  
**Reviewer:** Deborah Cole

**Potential Emissions for Cleanup Solvent Usage**

Area of Cleanup Solvent Usage	Product Name	Manufacturer	Estimated Max Usage (lb/hr)	Density (lbs/gal)	VOC Content (wt%)	VOC Emissions (tons/yr)	Xylene (tons/yr)	Toluene (tons/yr)	Cumene (tons/yr)
Thermoform (machines 8, 10, 50, 51)	BP 627	Ulrich Chemical	0.14	7.28	100%	0.59	0.15	0.04	0.02
Printer Cleanup (printers 50, 51)	L-1751	Superior	0.600	6.83	75.8%	1.99	-	-	-

Ink Usage	Product Name	Manufacturer	Estimated Max Usage (lbs/hr)	VOC Content (wt%)	VOC Emissions (tons/yr)
Thermoform	Various UV Curable Inks	Sun	2.48	1%	0.11

TOTAL VOC

2.69

**Emission Calculations Summary - Cleaning Solvents**

Company Name: Berry Plastics  
 Address: 101 Oakley Street, Evansville, IN 47710  
 MSOP No.: 163-22999-00106  
 Administrative Amendment No.: 163-33117-00106  
 Reviewer: Deborah Cole

FACILITY	Material	Max Material Use (lb/Hr)	Weight % VOC	Flash Off %	Potential VOC (Tons/Year)
Solvents Parts Washer 1	Ozzy Juice	0.47	0.00%	100.00%	0.00
Cleaning of Molders	BP627	2.7	100.00%	50.00%	5.91
Cleaning of Printers	L-1919	11.29	50.00%	50.00%	12.36
Cleaning of Printers	L-1919	2.4	50.00%	50.00%	2.63
Modify two L-1919 solvent printers to use 100% IPA	IPA	0.6	50.00%	100.00%	1.31
Cleaning of Gallus Printers	Flexowash	0.58	0.00%	100.00%	0.00

22.22

Methodology

On page 15.4-18 of "Preferred and Alternative Methods for Estimating Air Emissions from the Printing, Packaging, and Graphic Arts Industry", May 2002, Prepared by ERG for USEPA, emissions from solvent cleaning rags can be reduced by 50% if the spent rags are stored in closed containers.

VOC = Weight percentage volatiles (water minus organics) \* Flash Off \* Max Ink Use \* 8760/2000 = Tons Per Year

(1) Worst case assumption: max potential solvent use = VOC emission

(2) Worst case assumption: max HAP content of max potential solvent use = HAP emission

Weight % VOC from supplied by source from MSDS

**Appendix A: Emissions Calculations**  
**HAP Emissions - Injection Molding, Thermoforming & Cleaning of**

Company Name: Berry Plastics  
 Address: 101 Oakley Street, Evansville, IN 47710  
 MSOP No.: 163-22999-00106  
 Administrative Amendment No.: 163-33117-00106  
 Reviewer: Deborah Cole

Emission Unit	Maximum Capacity (lb/hr)	Emission Factor	Emission Factor (%)	Potential HAP Emissions											Total HAPS (Tons/Year)
				Formaldehyde (Tons/Year)	Acrolein (Tons/Year)	Acetaldehyde (Tons/Year)	Propionaldehyde (Tons/Year)	Acrylic Acid (Tons/Year)	Ethyl Benzene (Tons/Year)	Styrene (Tons/Year)	Acetophenone (Tons/Year)	Xylene (Tons/Year)	Napthalene (Tons/Year)	,2,4 Trimethylbenzen (Tons/Year)	
Injection Molding Machines	16,305.51	Formaldehyde	1.3	0.0928	0.0100	0.0379	0.2364	0.0057	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<b>0.3828</b>
Polypropylene		Acrolein	0.14												
		Acetaldehyde	0.53												
Controlled Rheology homopolymer with antistat		Propionaldehyde	3.31												
		Acrylic Acid	0.08												
		<b>TOTAL</b>	<b>5.36</b>												
Injection Molding Machines	19,928.96	Formaldehyde	0.06	0.0052	0.0017	0.0044	0.0017	0.0017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<b>0.0148</b>
Polyethylene		Acrolein	0.02												
High Density (HDPE)		Acetaldehyde	0.05												
		Propionaldehyde	0.02												
		Acrylic Acid	0.02												
		<b>TOTAL</b>	<b>0.17</b>												
Thermoforming Line 1-6	25,890.41	Formaldehyde	0.18	0.0204	0.0011	0.0227	0.1077	0.0091	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<b>0.1610</b>
Polypropylene		Acrolein	0.01												
		Acetaldehyde	0.2												
Controlled Rheology homopolymer with antistat		Propionaldehyde	0.95												
		Acrylic Acid	0.08												
		<b>TOTAL</b>	<b>1.42</b>												
Thermoforming Line 7	1,506.85	Ethyl Benzene	6.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0403	0.2924	0.0046	0.0000	0.0000	0.0000	<b>0.3394</b>
		Styrene	44.3												
		Acetophenone	0.7												
		<b>TOTAL</b>	<b>51.43</b>												
Extruders 1-5	1,231.00	Formaldehyde	0.06	0.0003	0.0001	0.0003	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<b>0.0009</b>
		Acrolein	0.02												
		Acetaldehyde	0.05												
		Propionaldehyde	0.02												
		Acrylic Acid	0.02												
		<b>TOTAL</b>	<b>0.17</b>												
UV Cure Ink Printers	47.26	<b>TOTAL</b>	<b>0.00</b>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<b>0.0000</b>
Screen printing	0.20	Xylene	0.07	0.0622	0.0444	0.0000	0.0000	0.0000	0.0044	0.0000	0.0000	0.0622	0.0444	0.0000	<b>0.1111</b>
		Napthalene	0.05												
PA11 Polyall Extra or White		Ethyl Benzene	0.01												
		<b>TOTAL</b>	<b>0.13</b>												
Solvent Parts Washer 1	0.47	<b>TOTAL</b>	<b>0.00</b>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<b>0.0000</b>
Cleaning of Molders BP627	2.70	Xylene	0.26	0.0000	0.0000	0.0000	0.0000	0.0000	0.7092	0.0000	0.0000	3.0732	0.0000	2.8368	<b>6.8201</b>
		1,2,4 Trimethylbenzene	0.24												
		Ethylbenzene	0.06												
		<b>TOTAL</b>	<b>0.58</b>												
Cleaning of Printers	11.29	<b>TOTAL</b>	<b>0.00</b>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<b>0.0000</b>
<b>Total</b>				<b>0.1810</b>	<b>0.0574</b>	<b>0.0652</b>	<b>0.3460</b>	<b>0.0166</b>	<b>0.7539</b>	<b>0.2924</b>	<b>0.0046</b>	<b>3.1354</b>	<b>0.0444</b>	<b>2.8368</b>	<b>7.8302</b>

Potential HAP Emissions = (Maximum Capacity (lb/hr))\*(Emission Factor)\*8760/2000  
 Resin usage is 55% polyethylene and 45% Polypropylene.

**Injection Molding Systems**

- (1) Polypropylene copolymer processing source, Battelle Institute study published in the Journal of Air and Waste Management Association (JAWMA)-January 1999
- (2) Polyethylene copolymer processing source Barlow, Conlos, Holdren, Garrison, Harris and Janke-JAWMA-June 1996

**Thermoformer Systems**

- (3) Polypropylene copolymer processing source, Battelle Institute study published in the Journal of Air and Waste Management Association (JAWMA)-January 1999
- (4) Polyethylene copolymer processing source Barlow, Conlos, Holdren, Garrison, Harris and Janke-JAWMA-June 1996

**Screen Printing emission calculations**

HAP emission based on use of worst case ink  
 maximum capacity(ton/year) = maximum capacity (gallons of ink/year) \* density of ink /2000 lbs/ton = 214.44 gal/yr \*11.1 lb/gal / 2000 lb/ton=1.1884 tons  
 potential Hap emission= maximum capacity (ton/year) \* emission factor

**Cleaning Processes**

- (1) Worst case assumption: max potential solvent use = VOC emission
  - (2)Worst case assumption: max hap content of max potential solvent use = HAP emission
- Weight % VOC from supplied by source from MSDS,

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

**Company Name:** Berry Plastics  
**Address:** 101 Oakley Street, Evansville, IN 47710  
**MSOP No.:** 163-22999-00106  
**Administrative Amendment No.:** 163-33117-00106  
**Reviewer:** Deborah Cole

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
3.0	1020	25.5

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.02	0.10	0.10	0.01	1.28	0.07	1.07

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.  
 PM2.5 emission factor is filterable and condensable PM2.5 combined.  
 \*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.  
 MMBtu = 1,000,000 Btu  
 MMCF = 1,000,000 Cubic Feet of Gas  
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03  
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu  
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**HAPS Calculations**

Emission Factor in lb/MMcf	HAPs - Organics					Total - Organics
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	2.678E-05	1.530E-05	9.565E-04	2.296E-02	4.336E-05	<b>2.400E-02</b>

Emission Factor in lb/MMcf	HAPs - Metals					Total - Metals
	Lead	Cadmium	Chromium	Manganese	Nickel	
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	6.377E-06	1.403E-05	1.785E-05	4.846E-06	2.678E-05	<b>6.989E-05</b>
						<b>Total HAPs 0.024</b>
						<b>Worst HAP 0.023</b>

Methodology is the same as above.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Greenhouse Gas Calculations**

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Potential Emission in tons/yr	1,530.42	0.03	0.03
Summed Potential Emissions in tons/yr	1,530.48		
CO2e Total in tons/yr	1,539.74		

**Methodology**

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.  
 Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.  
 Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.  
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton  
 CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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## SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Chuck Longino  
Berry Plastics Corp.  
101 Oakley St  
Evansville, IN 47710

DATE: May 21, 2013

FROM: Matt Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

SUBJECT: Final Decision  
First Administrative Amendment  
163-33117-00106

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.


The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:  
Eric Babillis, Responsible Official  
Qaiser Baig Cornerstone Environmental, Consultant  
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at [jbrush@idem.IN.gov](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 11/30/07

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3		Evansville City Council and Mayors Office 1NW MLK Blvd, Rm 302 Evansville IN 47708 (Local Official)										
4		Vanderburgh County Commissioners 1 NW MLK Blvd, Rm 305 Evansville IN 47708 (Local Official)										
5		Mr. Don Mottley Save Our Rivers 6222 Yankeetown Hwy Boonville IN 47601 (Affected Party)										
6		Vanderburgh County Health Dept. 420 Milberry Street Evansville IN 47713-1888 (Health Department)										
7		Kim Sherman 3355 Woodview Drive Newburgh IN 47630 (Affected Party)										
8		Mr. Mark Wilson Evansville Courier & Press P.O. Box 268 Evansville IN 47702-0268 (Affected Party)										
9		Evansville EPA 100 E. Walnut St. Suite 100, Newsome Center Evansville IN 47713 (Local Official)										
10		David Boggs 216 Western Hills Dr Mt Vernon IN 47620 (Affected Party)										
11		Qaiser Baig Cornerstone Environmental 880 Lennox Ct. Zionsville IN 46077 (Consultant)										
12		Melinda Paul HSMF, LLC 12835 Saint Wendel Road Evansville IN 47720 (Affected Party)										
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