From: Germann, Sarah R (IDEM)
To: bernie@bpaulconsulting.com; kerry.jackson@boettcher-systems.com
Subject: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation
Date: Tuesday, May 28, 2024 11:07:00 AM
Attachments: image001.png

Dear Kerry Jackson and Bernard Paul,

I am the permit writer assigned to the current application No. 159-47853-00015 for Bottcher America Corporation. I would like to extend to you my contact information so that we may have continued communication until your new permit is issued. Please keep this information at hand. It is common for questions to arise, and oftentimes, further clarification is needed during the permit review process.

To expedite the review process, please e-mail me the electronic copy of your calculations (preferably in excel format) and other supporting documents used as part of your application.

IDEM, OAQ will notify you when a draft permit has been submitted for public notice and/or when a final permit has been issued. As part of the notification, IDEM, OAQ will provide information on how to access the draft and/or final permit electronically on IDEM's website. If Bottcher America Corporation would prefer to receive paper copies of the entire draft and/or final permit, please let me know prior to the end of the applicant review period. If you prefer to receive paper copies of the entire permit, IDEM, OAQ will mail a paper copy of the draft permit and/or original signed final permit to the source contact. If you do not request to receive paper copies of the entire permit, IDEM, OAQ will only mail a paper copy of the original signed final permit signature page to the source contact.

Please feel free to contact me at any time if you have questions, concerns, or important information regarding your permit. For your convenience, my section chief (Heath Hartley) may be contacted at 317-232-8217 or HHartley@idem.IN.gov.

Thank you in advance for your time and assistance. I look forward to working with you.

Sincerely,

Sarah Germann
Environmental Manager, Office of Air Quality
Indiana Department of Environmental Management
Direct Phone: 317-234-6555
Fax: 317-232-6749
Email: SRGerman@idem.IN.gov

Indiana Department of
Environmental Management
Sarah Germann
Environmental Manager
• (317) 234-6555 • srgerman@idem.IN.gov

Protecting Hoosiers and Our Environment

From:	Bernie Paul
To:	Germann, Sarah R (IDEM); kerry.jackson@boettcher-systems.com
Subject:	RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation
Date:	Tuesday, May 28, 2024 12:17:00 PM
Attachments:	image001.png 03 Bottcher America Tipton emission calculations submitted to IDEM 2024-05-28.xlsx 00-Bottcher America Admin Amendment Application - (corrected) submitted to IDEM 2024-05-28.pdf

Sarah,

Thank you for reaching out regarding the permit application for Bottcher America. Attached is a copy of the Microsoft Excel spreadsheet I used for the emission calculations in the application.

I've also attached a pdf copy of the permit application which includes a few corrections to some of the text in the narrative compared to the version that was submitted on May 20. Some of the material removal estimates were incorrect in the May 20 version of the narrative. The attached version highlights the corrected values in the narrative. The emission calculations in the spreadsheets submitted on May 20 were correct and did not need revision.

Please let me know if you have any questions or need anything else.

_____

Bernie Paul
President, B Paul Consulting, LLC
Zionsville, Indiana 46077

bernie@bpaulconsulting.com
Office | Mobile | Text: 317-344-9730
Alternate Mobile | Text: 317-730-1939

https://bpaulconsulting.com

From: Germann, Sarah R (IDEM) <SRGerman@idem.IN.gov>
Sent: Tuesday, May 28, 2024 11:08 AM
To: Bernie Paul <bernie@bpaulconsulting.com>; kerry.jackson@boettcher-systems.com
Subject: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation

Dear Kerry Jackson and Bernard Paul,

I am the permit writer assigned to the current application No. 159-47853-00015 for Bottcher America Corporation. I would like to extend to you my contact information so that we may have continued communication until your new permit is issued. Please keep this information at hand. It is common for

questions to arise, and oftentimes, further clarification is needed during the permit review process.

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Thank you in advance for your time and assistance. I look forward to working with you.

Sincerely,

Sarah Germann
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Indiana Department of Environmental Management
Direct Phone: 317-234-6555
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Indiana Department of
Environmental Management
Sarah Germann
Environmental Manager
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Protecting Hoosiers and Our Environment

Appendix A: Attachment A-1
Bottcher America Corporation
Application for Registration Administrative Amendment
Site summary

Unlimited PTE (ton/yr)

Process	CO	NOx	PM	PM10	PM2.5	SO2	VOC	All HAPs	Max Single HAP	
Rubber roller processing			0.15	0.15	0.15		1.72	1.40	0.28	1,3 Butadiene
Shot blasting			22.29	22.29	22.29					
Flexographic sleeve make-up							0.17			
Rubber Primer-adhesive							6.47	4.19	1.34	Xylene
Vulcanizer							3.94	3.87	3.80	Carbon disulfide
Polyurethane roller processing			0.13	0.13	0.13		1.46			
Polyurethane adhesive							3.29	0.34	0.34	Toluene
Boiler	0.52	0.61	0.01	0.05	0.05	0.00	0.03	0.01	0.01	Hexane
Vehicle traffic			0.37	0.07	0.02					
Total PTE	**0.52**	**0.61**	**22.94**	**22.69**	**22.64**	**0.00**	**17.08**	**9.81**	**3.80**	**Carbon disulfide**

Appendix A: Attachment A-2
Bottcher America Corporation
Application for Registration Administrative Amendment
Modification summary

Process	CO	NOx	PM	PM10	PM2.5	SO2	VOC	All HAPs	Max Single HAP	
Polyurethane roller processing			0.13	0.13	0.13		1.46			
Polyurethane adhesive							3.29	0.34	0.34	Toluene
Total PTE	**0.00**	**0.00**	**0.13**	**0.13**	**0.13**	**0.00**	**4.75**	**0.34**	**0.34**	**Toluene**

All values in tons/year

Appendix A: Attachment A-3
Bottcher America Corporation
Application for Registration Administrative Amendment
Rubber roller processing

Process	Rubber removed per roller	Rollers per year	lb rubber removed per year	PM/PM10/PM2.5			VOC		HAPs	
				Emission factor (lb/lb rubber removed)	Emissions (lb/hr)	PTE (ton/yr)	Emission factor (lb/lb rubber removed)	PTE (ton/yr)	Emission factor (lb/lb rubber removed)	PTE (ton/yr)
Old rubber removal	6	128,115	768,690	0.000226	0.020	0.09	0.00266	1.02	0.00215	0.83
Trimming	2	128,115	256,230	0.000226	0.007	0.03	0.00266	0.34	0.00215	0.28
Grinding	2	128,115	256,230	0.000226	0.007	0.03	0.00266	0.34	0.00215	0.28
Polishing	0.1	128,115	12,811.5	0.000226	0.000	0.00	0.00266	0.02	0.00215	0.01
					Total	**0.15**		**1.72**		**1.40**

Assumptions and methodology

Emission factors from AP-42 Section 4.12, Emissions Factors Tables
https://www.epa.gov/ttn/chief/ap42/ch04/draft/rel04s12.xls
Grinding tab, belt grinding emission factor (SCC 30800151)
Overall HAP emission factor used to demonstrate low level of HAP emissions; single highest HAP is 1,3 butadiene - approximately 20% of total HAP emissions

Amount of old rubber removed based on 6 pounds of rubber removed from old rollers to be refurbished
For new/refurbished rollers, assume 10 pounds of rubber applied to roller, 2 pounds removed during trimming, 2 pounds removed during grinding, and trace removed during polishing

PTE = amout of rubber removed (lb/roller) * # rollers/year * emission factor (lb pollutant/lb rubber removed) * ton/2000 lb

Appendix A: Attachment A-4
Bottcher America Corporation
Application for Registration Administrative Amendment
Shot blasting

Blast material collected in baghouse (lb/shift)	Blast material collected in baghouse (ton/yr)	Baghouse flow rate (acfm)	Baghouse outlet grain loading (gr/acf)	Baghouse outlet emissions (ton/yr)	Total PTE (ton/yr)	PM emissions (lb/hr)
40	21.9	2630	0.004	0.39	22.29	5.09

Assumptions and Methodolgy

collected in baghouse is larger than 100 micron in size, this is a conservative estimate of PM/PM10/PM2.5 emissions
Baghouse flow rate and outlet grain loading based on engineering design estimate

Blast material collected in baghouse (ton/yr) = lb/shift * 3 shift/day * 365 day/yr * ton/20(
Baghouse outlet emissions (ton/yr)
= flow rate ft3/min * gr/ft3 * 60 min/hr * 8760 hr/yr * lb/7000 gr * ton/2000 lb

Total PTE = Blast material collected in baghouse + Baghouse outlet emissions

Process Weight rule evaluation

Process weight rate (ton/hr)	Rule 6-3-2 limit (lb/hr)	Uncontrolled PM emissions (lb/hr)	Rule 6-3-2 applies? (uncontrolled PM emissions > 0.551 lb/hr)	Baghouse required to comply? (Uncontrolled lb/h > Rule 6-3-2 limit)
14.25	24.31	5.09	Yes	No

Process weight rate based on engineering design estimate
Rule 6-3-2 limit = $4.10 * (\text{Process weight rate})^{0.67}$
Rule 6-3-2 does not apply if uncontrolled PM emissions < 0.551 lb/hr
Control device (baghouse) not required if uncontrolled emission rate < Rule 6-3-2 limit

Appendix A: Attachment A-5
Bottcher America Corporation
Application for Registration Administrative Amendment
Flexographic sleeves

Material	Sleeve production capacity (sleeves/shift)	Max sleeves produced (year)	Material usage per sleeve (grams)	% lost	Potential emissions (lb/day)	PTE (ton/yr)
Aradur (Hardener)	24	26,280	150	0.80%	0.19	0.03
Araldite LY 1564 SP US (Epoxy)	24	26,280	600	0.80%	0.76	0.14
					TOTAL	**0.17**

Assumptions

Material usage per sleeve based on conservative estimate of hardener and epoxy applied to a mandrill for sleeve production
% lost to evaporation based on lab trial of 600 g/150 g recipe. Hardener and epoxy react to form solid material. In laboratory trial,

Methodology

Potential emissions (lb/day) = Sleeves/shift * 3 shift/day material used sleeve (g) * lb/453.6 g 0.8 % lost
PTE (ton/yr) = lb/day * 365 * ton/2000 lb

Appendix A: Attachment A-6
Bottcher America Corporation
Application for Registration Administrative Amendment
Rubber Primer-Adhesive

Primer and adhesive VOC and HAP composition														
Material	Rollers produced	lb per roller	VOC content	Toluene	MIBK	Xylene	Methanol	Trichloro-ethylene	Ethyl-benzene	Phenol	Hexane	p-cresol	Non-HAP VOCs	Solids
L 002-A	2985	0.0133	80.00%	70.00%									10.00%	
L 002-B	2985	0.0133	81.00%	70.00%									11.00%	
L 025	731	0.0679	85.00%			70.00%			10.00%				5.00%	
L 382-A	974	0.0192	95.50%	90.00%									5.50%	10.5-30.5%
L 382-B	974	0.0192	96.00%	90.00%									6.00%	10.5-30.5%
L 607-A	1484	0.0715	75.00%								5.00%		70.00%	1%
L 607-B	1484	0.0715	95.00%								5.00%		90.00%	1%
L 608-A	3626	0.0517	85.00%								5.00%		80.00%	7.50%
L 608-B	3626	0.0517	88.00%								5.00%		83.00%	7.50%
L 790-A	2521	0.0409	91.00%										91.00%	6-11%
L 790-B	2521	0.0409	92.00%										92.00%	1%
A 050	3489	0.079	75.32%		75.00%								75.00%	23-26%
A 100	15525	0.0587	76.00%	24.00%	27.00%								38.00%	15.5-20.5%
A 110	5752	0.0431	73.00%		5.00%		41.00%			1.00%		2.00%	24.00%	32-34%
B 020	11152	0.0434	73.68%			60.00%			15.00%				11.00%	1-5%
B 030	6132	0.0618	76.00%			35.00%		35.00%	10.00%				17.00%	1-5%
B 070	2660	0.0602	78.75%			62.60%			15.70%				4.80%	22.00%

VOC and HAP content from MSDS for each material. Where ranges provided, max value in range used, unless MSDS provided more specific value.
lb/roller determined by annual usage divided by number of rollers produced using that material.

Appendix A: Attachment A-6 (Page 2)
Bottcher America Corporation
Primer/adhesive emissions

Primer - adhesive application VOC and HAP PTE (lb/yr)													
Material	**lb per roller**	**Max rollers for PTE**	**VOC**	**Toluene**	**MIBK**	**Xylene**	**Methanol**	**Trichloro-ethylene**	**Ethyl-benzene**	**Phenol**	**Hexane**	**p-cresol**	**Non-HAP VOCs**
L 002-A	0.0133	14,375	152.95	133.83									19.12
L 002-B	0.0133	14,375	154.86	133.83									21.03
L 025	0.0679	3,523	203.33			167.45			23.92				11.96
L 382-A	0.0192	4,689	85.98	81.03									4.95
L 382-B	0.0192	4,689	86.43	81.03									5.40
L 607-A	0.0715	7,149	383.37								25.56		357.81
L 607-B	0.0715	7,149	485.60								25.56		460.04
L 608-A	0.0517	17,462	767.37								45.14		722.23
L 608-B	0.0517	17,462	794.45								45.14		749.31
L 790-A	0.0409	12,132	451.54										451.54
L 790-B	0.0409	12,132	456.50										456.50
A 050	0.079	16,796	999.47		995.16								995.16
A 100	0.0587	74,742	3,334.39	1,052.97	1,184.59								1,667.20
A 110	0.0431	27,686	871.08		59.66		489.24			11.93		23.87	286.38
B 020	0.0434	53,693	1,716.95			1,398.17			349.54				256.33
B 030	0.0618	29,518	1,386.40			638.47		638.47	182.42				310.12
B 070	0.0602	12,812	607.38			482.82			121.09				37.02
		Total lb/yr	**12,938.05**	**1,482.69**	**2,239.41**	**2,686.91**	**489.24**	**638.47**	**676.97**	**11.93**	**141.40**	**23.87**	**6,812.10**
		Total ton/yr	**6.47**	**0.74**	**1.12**	**1.34**	**0.24**	**0.32**	**0.34**	**0.01**	**0.07**	**0.01**	**3.41**
		Total HAP ton/yr	**4.19**										

Assumptions and methodology

Max rollers for PTE calculated by applying the ratio of actual rollers produced using the compound to total actual rollers produced (26,612) to the maximum number of

PTE in lb/yr for each compound = lb/roller * max rollers for PTE * % composition
Total PTE in ton/yr = sum of PTE in lb/year/2000

Appendix A: Attachment A-6 (Page 3)
Bottcher America Corporation
Primer/adhesive emissions

Primer - adhesive application VOC and HAP PTE - MAX VOC Scenario (lb/yr)													
Material	lb per roller	Max rollers for PTE	VOC	Toluene	MIBK	Xylene	Methanol	Trichloro-ethylene	Ethyl-benzene	Phenol	Hexane	p-cresol	Non-HAP VOCs
L 607-A	0.0715	128,115	6,870.17								458.01		6,412.16
L 607-B	0.0715	128,115	8,702.21								458.01		8,244.20
		Total lb/yr	**15,572.38**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**916.02**	**0.00**	**14,656.36**
		Total ton/yr	**7.79**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.46**	**0**	**7.33**
		Total HAP ton/yr	**0.46**										

Assumptions and methodology
Max VOC scenario based on using highest VOC combination of materials at full capacity (128,115 rollers)

PTE in lb/yr for each compound = lb/roller * max rollers for PTE * % composition
Total PTE in ton/yr = sum of PTE in lb/year/2000

Primer - adhesive application VOC and HAP PTE - MAX Individual HAP Scenario (lb/yr)													
Material	lb per roller	Max rollers for PTE	VOC	Toluene	MIBK	Xylene	Methanol	Trichloro-ethylene	Ethyl-benzene	Phenol	Hexane	p-cresol	Non-HAP VOCs
A 050	0.079	128,115	7,623.67		7,590.81								7,590.81
		Total lb/yr	**7,623.67**	**0.00**	**7,590.81**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**7,590.81**
		Total ton/yr	**3.81**	**0**	**3.8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3.8**
		Total HAP ton/yr	**3.8**										

Assumptions and methodology
Max Individual HAP scenario based on using highest individual HAP by weight at full capacity (128,115 rollers)

PTE in lb/yr for each compound = lb/roller * max rollers for PTE * % composition
Total PTE in ton/yr = sum of PTE in lb/year/2000

Appendix A: Attachment A-7
Bottcher America Corporation
Application for Registration Administrative Amendment
Vulcanizer

Process	Amount of rubber per roller	Rollers/ year	Rubber vulcanized (lb/year)	VOC emission factor (lb/lb rubber)	VOC PTE	HAP emission factor (lb/lb rubber)	All HAP PTE	Carbon disulfide emission factor (lb/lb rubber)	Carbon disulfide PTE
Vulcanizer autoclave	10	128,115	1,281,150	0.00615	3.94	0.00604	3.87	0.00593	3.80

Assumptions and methodology

Emission factors from AP-42 Section 4.12, Emissions Factors Tables
https://www.epa.gov/ttn/chief/ap42/ch04/draft/rel04s12.xls
Autoclave tab, Compound 8 emission factors
Overall HAP emission factor used to demonstrate low level of HAP emissions. Carbon disulfide comprises 98% of HAP emissions

Assume 10 pounds of rubber per new/refurbished roller put into autoclave

PTE = amout of rubber removed (lb/roller) * # rollers/year * emission factor (lb pollutant/lb rubber removed) * ton/2000 lb

Appendix A: Attachment A-8
Bottcher America Corporation
Application for Registration Administrative Amendment
Polyurethane roller processing

Process	Material removed per roller	Rollers per year	lb material removed/yr	PM/PM10/PM2.5			VOC	
				Emission factor (lb/lb material removed)	Emissions (lb/hr)	PTE (ton/yr)	Emission factor (lb/lb material removed)	PTE (ton/yr)
Old polyurethane removal	70	10,950	766,500	0.000226	0.020	0.09	0.00266	1.02
Trimming	15	10,950	164,250	0.000226	0.004	0.0186	0.00266	0.22
Grinding	15	10,950	164,250	0.000226	0.004	0.0186	0.00266	0.22
Polishing	0.1	10,950	1,095	0.000226	0.000	0.0001	0.00266	0.00
					Total	**0.13**		**1.46**

Assumptions and methodology

Emission factors from AP-42 Section 4.12, Emissions Factors Tables for PM and VOC. HAPs factors not used since polyurethane is a polymer, not r
https://www.epa.gov/sites/default/files/2020-10/rel04s12.xls
Grinding tab, belt grinding emission factor (SCC 30800151)

For polyurethane removeal from existing polyurethane rollers, assume 6 pounds of material per old roller.
For new polyurethane rollers, assume 10 pounds of material per unfinished roller, 2 pounds removed during trimming, 2 pounds removed during grinding, and trace removed during polishing

PTE = amout of polyurethane removed (lb/roller) * # rollers/year * emission factor (lb pollutant/lb rubber removed) * ton/2000 lb

rubber

Appendix A: Attachment A-9
Bottcher America Corporation
Application for Registration Administrative Amendment
Polyurethane adhesive

Material	Maximum rollers produced per year	Adhesive used per roller (gal/roller)	Adhesive pecific gravity	Adhesive density (lb/gal)	Adhesive VOC content	VOC content (lb/gal)	VOC PTE (ton/yr)	Adhesive toluene content	Toluene content (lb/gal)	Toluene PTE (ton/yr)
Thixon 423 Blue	9,122	0.1	0.936	7.81	77.00%	6.01	2.74	8.00%	0.62	0.28
Thixon 423 Clear	1,828	0.1	0.936	7.81	77.00%	6.01	0.55	8.00%	0.62	0.06
							3.29			**0.34**

Assumptions and methodology

VOC and HAP content from MSDS for each material. Where ranges provided, max value in range used, unless MSDS provided more specific value. Adhesive used per roller based on usage divided by number of rollers produced using that material.

PTE in ton/yr for each compound = gal/roller * rollers produced * VOC/HAP content lb/gal * ton/2000 lb

Appendix A: Attachment A-10
Bottcher America Corporation
Application for Registration Administrative Amendment
Boiler

	Emission factors		Boiler
Capacity (MMBtu/hr)			1.4
Number of units			1
Capacity fuel (cf/hr)			1400
			PTE (ton/yr)
Criteria pollutants			
CO	84	lb/mmcf	0.52
NOx	100	lb/mmcf	0.61
PM	1.9	lb/mmcf	0.01
PM10	7.6	lb/mmcf	0.05
PM2.5	7.6	lb/mmcf	0.05
SO_2	0.6	lb/mmcf	0.00
VOC	5.5	lb/mmcf	0.03
Hazardous Air Pollutants			
Hexane	1.8	lb/mmcf	0.011
Formaldehyde	0.075	lb/mmcf	0.000
Dichlorobenzene	0.0012	lb/mmcf	0.000
Benzene	0.0021	lb/mmcf	0.000
Toluene	0.0034	lb/mmcf	0.000
Cadmium	0.0013	lb/mmcf	0.000
Chromium	0.0014	lb/mmcf	0.000
Nickel	0.0021	lb/mmcf	0.000
Manganese	0.0004	lb/mmcf	0.000
Lead	0.0005	lb/mmcf	0.000
Total HAPs			0.011

Assumptions and Methodology

Hours of operation = 8760 hours/year
Fuel heat value = 1000 MMBtu/mmcf
Emission factors are from AP-42, Chapter 1, Section 4, Tables 1.4-1, 1.4-2 and 1.4-3

Emission calculation methodolgy
Emission factor lb/mmcf * fuel capacity * 8760 hr/yr /2000 lb/ton

Appendix A: Attachment A-11
Bottcher America Corporation
Application for Registration Administrative Amendment
Vehicle traffic

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Material delivery truck (entering plant w	15.0	1.0	15.0	40.0	600.0	550	0.104	1.6	570.3
Material delivery truck (leaving plant wit	15.0	1.0	15.0	15.0	225.0	550	0.104	1.6	570.3
Delivery/Distribution (entering plant wit	15.0	1.0	15.0	15.0	225.0	550	0.104	1.6	570.3
Delivery/Distribution (leaving plant with	15.0	1.0	15.0	40.0	600.0	550	0.104	1.6	570.3
		Totals	**60.0**		**1650.0**			**6.3**	**2281.3**

Vehicle and weight information estimated by House of Fara

Average Vehicle Weight Per Trip = 27.5 tons/trip
Average Miles Per Trip = 0.10 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	27.5	27.5	27.5	tons = average vehicle weight
sL =	1.1	1.1	1.1	g/m^2 = mean silt loading value for corn wet mill industrial site - AP-42 Table 13.2.1-3

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.353	0.071	0.0173	lb/mile
Mitigated Emission Factor, Eext =	0.322	0.064	0.0158	lb/mile
Dust Control Efficiency =	0%	0%	0%	(pursuant to control measures outlined in fugitive dust control plan)

Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Material delivery truck (entering plant w	0.10	0.02	0.00	0.09	0.02	0.00
Material delivery truck (leaving plant wit	0.10	0.02	0.00	0.09	0.02	0.00
Delivery/Distribution (entering plant wit	0.10	0.02	0.00	0.09	0.02	0.00
Delivery/Distribution (leaving plant with	0.10	0.02	0.00	0.09	0.02	0.00
Totals	**0.40**	**0.08**	**0.02**	**0.37**	**0.07**	**0.02**

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)

Submitted electronically to airpermitapps@idem.in.gov on 5/20/2024
Submitted by B Paul Consulting, LLC on behalf of Bottcher America
Kerry Jackson, Source Contact (765) 675-4449

B PAUL CONSULTING, LLC

PERMITTING | COMPLIANCE | ADVOCACY

May 20, 2024 ***SUBMITTED VIA PRIORITY MAIL***

IDEM Air Permits Administration
ATTN: Incoming Application
100 North Senate Avenue
MC 61-53, IGCN 1003
Indianapolis, IN 46204-2251

To whom it may concern:

Please find enclosed an original application to amend Registration 159-37288-00015 for Bottcher America Corporation at 717 Industrial Drive, Tipton, Indiana.

Since Potential to Emit of VOCs, particulate matter, PM_{10}, and $PM_{2.5}$ are less than 5 ton/year, this application should be reviewed pursuant to 326 IAC 2-5.5-6(d).

If you have any questions about this document, please call me at 317-344-9730.

Sincerely,

B Paul

Bernie Paul, President
B Paul Consulting, LLC

285 Spring Drive, Zionsville, IN 46077 (317)344-9730 bernie@bpaulconsulting.com

Submitted electronically to airpermitapps@idem.in.gov on 5/20/2024
Submitted by B Paul Consulting, LLC on behalf of Bottcher America
Kerry Jackson, Source Contact (765) 675-4449

B PAUL CONSULTING, LLC
PERMITTING | COMPLIANCE | ADVOCACY

MAY 2024

BOTTCHER AMERICA

APPLICATION FOR ADMINISTRATIVE AMENDMENT TO REGISTRATION

PREPARED BY

B PAUL CONSULTING, LLC
285 Spring Drive, Zionsville, IN 46077
http://bpaulconsulting.com

Table of Contents

1 INTRODUCTION

Bottcher America operates a printer roller production and refurbishing facility at 717 Industrial Drive in Tipton. The facility refurbishes used steel printer rolls by removing the old rubber from the roll and replacing it with new rubber on the roll. The facility also produces flexographic sleeves from epoxy and covers those sleeves with rubber. The facility has been in operation at its current location since 1997.

The facility operates under Registration 159-37288-00015.

In late 2023, the facility installed and began operating a new production line which refurbishes polyurethane rollers. This new operation operates similarly to the existing rubber roller refurbishing operation. Old polyurethane is removed from the roll and a new polyurethane covering is affixed.

In an inspection on March 14, 2024, IDEM noted new emission units not listed in the existing Registration. In the Inspection Summary/Violation Letter issued March 26, 2024, the Inspection Summary described the new emission units and installation dates based on incorrect information. The Inspection Summary/Violation Letter requested Bottcher America to submit a permit application to address the unlisted emission units within 30 days of issuing the letter. This deadline was subsequently extended to May 24, 2024, through email correspondence with IDEM OAQ Air Compliance and Enforcement Branch Chief Janusz Johnson.

This application provides IDEM with the technical information to demonstrate the PTE (Potential to Emit) of regulated pollutants are below the exemption thresholds in 326 IAC 2-1.1-3 and requests the new equipment be added to the permit by administrative amendment. In addition, this application includes an evaluation of applicable federal and state air pollution control requirements.

2 SOURCE DESCRIPTION

2.1 FACILITY DESCRIPTION

2.1.1 FACILITY DESCRIPTION

Bottcher America produces rubber coated printer rollers used in the flexographic printing industry. At the Tipton facility, most of the rollers are refurbished from used rollers by removing the old rubber from the steel roller core and placing new rubber onto the core. Most of the steel core rollers are standard sized rollers. Approximately 10% of the rollers are large rollers, hereinafter referred to as industrial rollers. Bottcher America also produces new rollers from flexographic sleeves, which are made up from an epoxy base.

The facility can produce as many as 90 standard rollers, 3 industrial rollers, and 24 flexographic sleeve rollers in an 8-hour shift. Bottcher America typically operates one eight-hour shift per day, 5 days per week, 52 weeks per year.

In 2023, Bottcher America added a new polyurethane roller refurbishing operation to the Tipton site. It is like the rubber refurbishing operation in that old polyurethane is removed from rollers, the roller core is cleaned and prepped, and a new polyurethane sleeve is placed on the roller. This application describes the polyurethane roller refurbishing process in more detail.

2.1.2 PROCESS DESCRIPTION: POLYURETHANE ROLLER REFURBISHING

Bottcher America receives used rollers from printers. The rollers consist of a steel core and a polyurethane layer surrounding the core. A typical roller contains approximately 70 pounds of polyurethane.

The polyurethane is removed from the steel core by slicing it off the steel core. This process is equipped with a baghouse to capture any particulate matter generated by slicing the rubber from the steel core. The baghouse is assumed to capture 99.9% of the particulate matter generated by the process. The facility has one polyurethane removal station, equipped with a baghouse.

After polyurethane removal, the steel cores are cleaned in an aqueous cleaning system and then placed into the existing Wheelabrator shot blast system which is also used for cleaning the cores for rubber rollers. This system uses steel shot to remove any remaining polyurethane and old adhesive. It also prepares the surface of the steel core for application of new polyurethane. This system was not modified to accommodate the additional core preparation. The capacity of the system remains the same and the unlimited PTE is the same as before.

After exiting the shot blast system, the steel cores are taken to a new solutioning table where adhesive is applied to the cores. Bottcher America uses two different adhesives depending on the product. A listing of the materials used at the polyurethane solutioning table, along with the materials VOC and HAP (Hazardous Air Pollutant) composition is provided in Appendix A.

The adhesives are applied by brush, so there is no overspray of the materials. VOC and HAP emissions from this stage of the process are uncontrolled.

New polyurethane coating for the rollers is produced at the site by mixing polymer ingredients with curing agents and pigments. The polyurethane material is then applied to the roller core and cured in an electric curing oven. The VOC emissions from these activities are negligible. Bottcher America has conducted mass balance experiments on the process by weighing the materials used in the process before the ingredients are mixed and cured. These experiments found no measurable loss of material.

After curing, the rollers are trimmed, grinded, and polished. The trimming station removes the excess material to match the size of the roller. Approximately 15 pounds of material is removed by trimming. The grinding station grinds the surface of the roller to ensure the roller has the appropriate shape, thickness, and texture. Another 15 pounds of material is removed by grinding. The polishing station provides the roller with a smoother surface.

The polyurethane roller line has a single trimming, grinding, and polishing station. The station is vented to a baghouse.

From there, the rollers are shipped to customers.

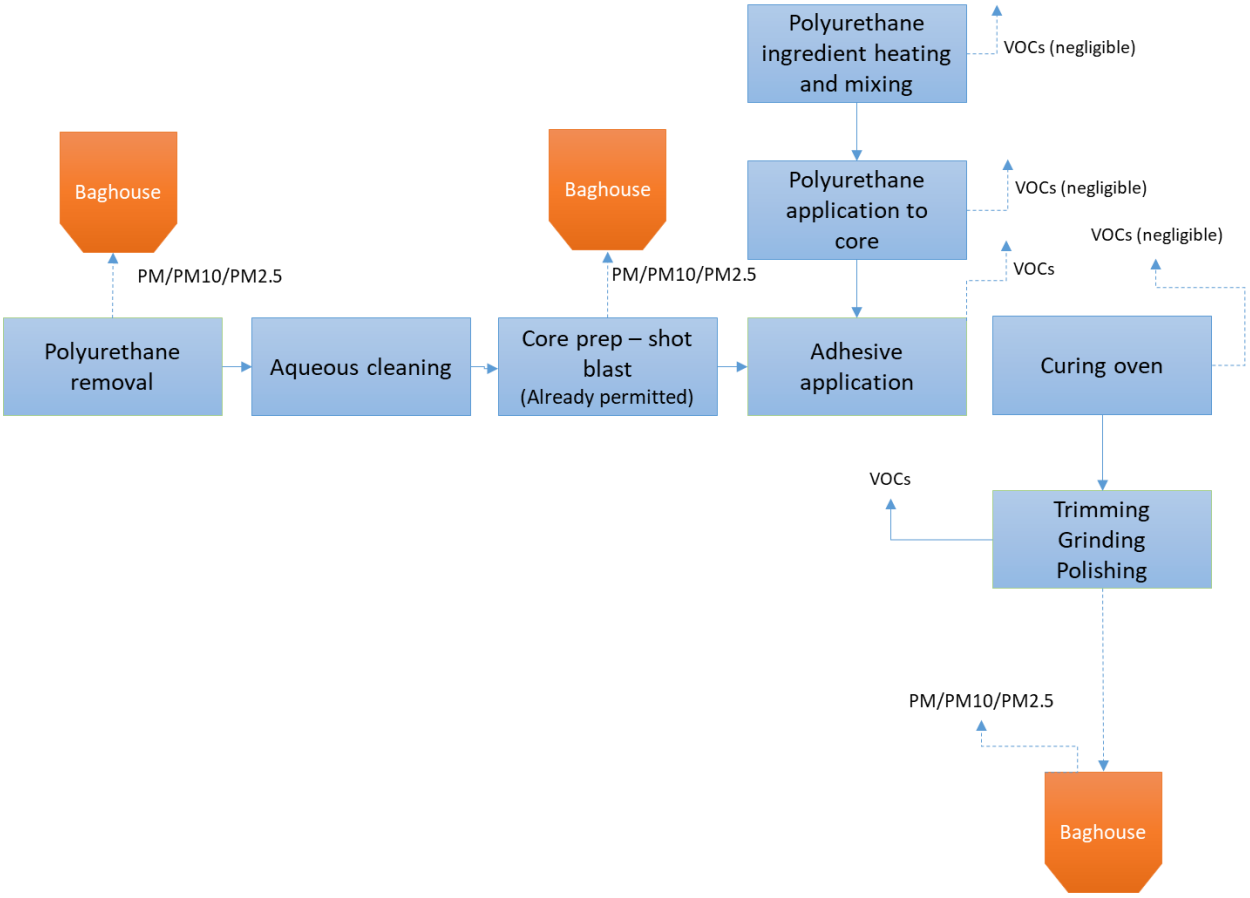
2.1.3 PROCESS SUMMARY AND PROCESS FLOW DIAGRAM

Table 2-1, below summarizes the new emission activities at the facility and Figure 2.1 is a process flow diagram of the new process.

Table 2-1: Bottcher America Polyurethane Production Line (new equipment only)

Activity	Capacity
Polyurethane removal station with baghouse	30 rollers per day
Solutioning table (adhesive application)	30 rollers per day
Trimming station + grinding station + polishing station with baghouse	30 rollers per day

Figure 2-1: Bottcher America Process Flow Diagram



3 EMISSION ESTIMATES

3.1 POTENTIAL TO EMIT

The Potential to Emit values represented in this submittal utilize the definitions of potential to emit (PTE) found in 326 IAC 2-1.1-1(12), 326 IAC 2-2-1(ll), and 326 IAC 2-7-1(30). All three definitions describe PTE as the maximum emission rate that occurs when the emission unit operates at its physical and operation design capacity for 8760 hours per year without consideration of restrictions or limitations on emissions except to the extent those restrictions or limitations are enforceable. This submittal will describe any circumstances where anything other than the maximum capacity at 8760 hours per year is used as the basis for the PTE calculation, if equipment is considered integral or inherent to the operation of the source. PTE values are summarized in Table 3-1. Detailed spreadsheets are included in Appendix A, and Bottcher America will provide IDEM with the Microsoft Excel spreadsheets used to generate the emission estimates.

3.2 BASIS FOR EMISSION ESTIMATES

3.2.1 PHYSICAL AND OPERATION DESIGN CAPACITY

The design capacity of the new operations at Bottcher America are provided in Table 2-1. These values are used as the basis for the PTE calculations. Material usage rates are based on these production capacities.

3.2.2 POLYURETHANE ROLLER PROCESSING (OLD MATERIAL REMOVAL, AND NEW MATERIAL TRIMMING, GRINDING AND POLISHING)

PTE from the polyurethane roller processing operations is based on the following assumptions:

- 30 polyurethane rollers processed per day
- 70 pounds of old polyurethane removed during removal
- 15 pounds of polyurethane removed during trimming
- 15 pounds of polyurethane removed during grinding
- 0.1 pound of polyurethane removed during polishing
- $PM/PM_{10}/PM_{2.5}$, VOC and HAP emission factors from AP-42 Section 4.12, Manufacture of Rubber Products, Emissions Factor Tables. This Excel spreadsheet[1] contains a variety of emission factors for rubber production operations, including rubber grinding involved in tire production.

For these activities, Bottcher America selected the emission factors for rubber grinding as the most applicable to these processes (8th worksheet within the emission factor spreadsheet). Of the four rubber grinding categories (Belt grinding, carcass grinding, retread grinding, sidewall/whitewall grinding) Bottcher America selected belt grinding as the most appropriate emission factors. The belt grinding emission factors were overall in the middle of the ranges for the 4 different processes. Polyurethane removal and trimming are much lower emitting activities than rubber grinding since the polyurethane is

[1] https://www.epa.gov/sites/default/files/2020-10/rel04s12.xls

removed by slicing rather than grinding. The use of the AP-42 emission factors significantly overestimates emissions, and thus provides a conservative PTE estimate for those processes. The grinding and polishing steps at Bottcher America would be like tire grinding. We did not select the emission factors for carcass grinding because the particulate matter emission factors were more than 200 times higher than any of the other rubber grinding emission factors.

The emission calculations for polyurethane removal, trimming, grinding, and polishing are provided in Appendix A.

3.2.3 ADHESIVE APPLICATION

VOC and volatile organic HAP emissions from adhesive application at the solutioning table are based on the concept that all the VOC and VOHAPs in the adhesives evaporate at the solutioning table. Some VOC in the adhesives may not evaporate until later, such as in the curing oven, but the assumption it all evaporates at the solutioning table is the most conservative approach for permitting and regulatory applicability purposes.

Bottcher America uses two adhesives for securing the polyurethane to the steel cores. To calculate PTE, Bottcher America first determined the quantity of each used and the number of rollers produced using those adhesives. The amount of primer and adhesive used for each roller was then calculated. PTE then assumed the same usage rate would occur if the operation were active for 24 hours per day, 365 days per year. The calculations of these PTE values are provided in Appendix A.

3.3 PTE FOR NEW EMISSION UNITS

Table 3-1 below summarizes the PTE of the new polyurethane roller process

Table 3-1: Polyurethane Roller Operations PTE

Process	PM	PM10	PM2.5	VOC	All HAPs	Max Single HAP	
Polyurethane roller processing	0.13	0.13	0.13	1.46			
Polyurethane adhesive				3.29	0.34	0.34	Toluene
Total PTE	**0.13**	**0.13**	**0.13**	**4.75**	**0.34**	**0.34**	**Toluene**

3.4 SUMMARY OF SOURCE POTENTIAL TO EMIT

Table 3-2 summarizes the PTE for the entire source, including the new emission units.

Table 3-2: Bottcher America Potential to Emit

Process	CO	NOx	PM	PM10	PM2.5	SO2	VOC	All HAPs	Max Single HAP	
Rubber roller processing			0.15	0.15	0.15		1.72	1.40	0.28	1,3 Butadiene
Shot blasting			22.29	22.29	22.29					
Flexographic sleeve make-up							0.17			
Rubber Primer-adhesive							6.47	4.19	1.34	Xylene
Vulcanizer							3.94	3.87	3.80	Carbon disulfide
Polyurethane roller processing			0.13	0.13	0.13		1.46			
Polyurethane adhesive							3.29	0.34	0.34	Toluene
Boiler	0.52	0.61	0.01	0.05	0.05	0.00	0.03	0.01	0.01	Hexane
Vehicle traffic			0.37	0.07	0.02					
Total PTE	**0.52**	**0.61**	**22.94**	**22.69**	**22.64**	**0.00**	**17.08**	**9.81**	**3.80**	**Carbon disulfide**

4 APPLICABLE REQUIREMENTS

4.1 PERMITTING REGULATIONS (326 IAC 2)

As Table 3-1 shows, the unlimited PTE of the new emission units is less than the exemption levels which trigger pre-construction review for a registered source. Table 3-2 shows the unlimited PTE for the entire source remains at Registration levels. Accordingly, the new emission units can be added to the permit through an administrative amendment, pursuant to 326 IAC 2-5.5-6(d).

4.2 PROCESS WEIGHT RULE REQUIREMENTS (326 IAC 6-3-2)

The potential uncontrolled emissions from the new polyurethane removal, trimming, grinding, and polishing do not exceed 0.551 lb/hr, and as a result these operations are exempt from the emission limits in 326 IAC 6-3-2, pursuant to 326 IAC 6-3-1(b)(14).

Because the adhesives at the solutioning table are applied by brush, these operations are exempt from 326 IAC 6-3-2 pursuant to 326 IAC 6-3-1(b)(8).

4.3 VOC RACT RULES (326 IAC 8)

The limitations in 326 IAC 8-2 are not applicable to the adhesive application at the solutioning table because these activities are in SIC Code 2796, Platemaking and Related Services. These activities do not fall into any of the activities regulated by the various rules in 326 IAC 8-2.

The general VOC Best Available Control Technology (BACT) requirements in 326 IAC 8-1-6 are not applicable to the adhesive application because the PTE of VOC is less than 25 tons per year.

4.4 FEDERAL EMISSION STANDARD APPLICABILITY – NSPS

Bottcher America is not aware of any federal New Source Performance Standards (NSPS) which apply to the new equipment.

There are no other facilities of the type regulated by NSPS rules at Bottcher America.

4.5 FEDERAL EMISSION STANDARD APPLICABILITY – NESHAPS

The PTE for HAPs is less than the major source levels of 10 tons per year for any single hazardous air pollutant and 25 tons per year for all HAPs combined. Consequently, only the NESHAP rules applicable to area sources were evaluated for applicability.

Bottcher America is not aware of any NESHAP rules which apply to the new equipment.

5 ATTACHMENTS

In addition to this narrative material, this application includes the following attachments:

- Detailed emission calculation worksheets (Appendix A)
- IDEM Air Permit Application Forms (Appendix B)
    - Application Cover Sheet
    - Form GSD-01: Basic Source Level Information

Appendix A: Emission Calculation Worksheets

Appendix A: Attachment A-1
Bottcher America Corporation
Application for Registration Administrative Amendment
Site summary

Unlimited PTE (ton/yr)

Process	CO	NOx	PM	PM10	PM2.5	SO2	VOC	All HAPs	Max Single HAP	
Rubber roller processing			0.15	0.15	0.15		1.72	1.40	0.28	1,3 Butadiene
Shot blasting			22.29	22.29	22.29					
Flexographic sleeve make-up							0.17			
Rubber Primer-adhesive							6.47	4.19	1.34	Xylene
Vulcanizer							3.94	3.87	3.80	Carbon disulfide
Polyurethane roller processing			0.13	0.13	0.13		1.46			
Polyurethane adhesive							3.29	0.34	0.34	Toluene
Boiler	0.52	0.61	0.01	0.05	0.05	0.00	0.03	0.01	0.01	Hexane
Vehicle traffic			0.37	0.07	0.02					
Total PTE	**0.52**	**0.61**	**22.94**	**22.69**	**22.64**	**0.00**	**17.08**	**9.81**	**3.80**	**Carbon disulfide**

Appendix A: Attachment A-2
Bottcher America Corporation
Application for Registration Administrative Amendment
Modification summary

Process	CO	NOx	PM	PM10	PM2.5	SO2	VOC	All HAPs	Max Single HAP	
Polyurethane roller processing			0.13	0.13	0.13		1.46			
Polyurethane adhesive							3.29	0.34	0.34	Toluene
Total PTE	**0.00**	**0.00**	**0.13**	**0.13**	**0.13**	**0.00**	**4.75**	**0.34**	**0.34**	**Toluene**

All values in tons/year

Appendix A: Attachment A-3
Bottcher America Corporation
Application for Registration Administrative Amendment
Rubber roller processing

Process	Rubber removed per roller	Rollers per year	lb rubber removed per year	PM/PM10/PM2.5			VOC		HAPs	
				Emission factor (lb/lb rubber removed)	Emissions (lb/hr)	PTE (ton/yr)	Emission factor (lb/lb rubber removed)	PTE (ton/yr)	Emission factor (lb/lb rubber removed)	PTE (ton/yr)
Old rubber removal	6	128,115	768,690	0.000226	0.020	0.09	0.00266	1.02	0.00215	0.83
Trimming	2	128,115	256,230	0.000226	0.007	0.03	0.00266	0.34	0.00215	0.28
Grinding	2	128,115	256,230	0.000226	0.007	0.03	0.00266	0.34	0.00215	0.28
Polishing	0.1	128,115	12,811.5	0.000226	0.000	0.00	0.00266	0.02	0.00215	0.01
					Total	**0.15**		**1.72**		**1.40**

Assumptions and methodology

Emission factors from AP-42 Section 4.12, Emissions Factors Tables
https://www.epa.gov/ttn/chief/ap42/ch04/draft/rel04s12.xls
Grinding tab, belt grinding emission factor (SCC 30800151)
Overall HAP emission factor used to demonstrate low level of HAP emissions; single highest HAP is 1,3 butadiene - approximately 20% of total HAP emissions

Amount of old rubber removed based on 6 pounds of rubber removed from old rollers to be refurbished
For new/refurbished rollers, assume 10 pounds of rubber applied to roller, 2 pounds removed during trimming, 2 pounds removed during grinding, and trace removed during polishing

PTE = amout of rubber removed (lb/roller) * # rollers/year * emission factor (lb pollutant/lb rubber removed) * ton/2000 lb

Appendix A: Attachment A-4
Bottcher America Corporation
Application for Registration Administrative Amendment
Shot blasting

Blast material collected in baghouse (lb/shift)	Blast material collected in baghouse (ton/yr)	Baghouse flow rate (acfm)	Baghouse outlet grain loading (gr/acf)	Baghouse outlet emissions (ton/yr)	Total PTE (ton/yr)	PM emissions (lb/hr)
40	21.9	2630	0.004	0.39	22.29	5.09

Assumptions and Methodolgy

in baghouse is larger than 100 micron in size, this is a conservative estimate of PM/PM10/PM2.5 emissions
Baghouse flow rate and outlet grain loading based on engineering design estimate

Blast material collected in baghouse (ton/yr) = lb/shift * 3 shift/day * 365 day/yr * ton/20(
Baghouse outlet emissions (ton/yr)
= flow rate ft3/min * gr/ft3 * 60 min/hr * 8760 hr/yr * lb/7000 gr * ton/2000 lb

Total PTE = Blast material collected in baghouse + Baghouse outlet emissions

Process Weight rule evaluation

Process weight rate (ton/hr)	Rule 6-3-2 limit (lb/hr)	Uncontrolled PM emissions (lb/hr)	Rule 6-3-2 applies? (uncontrolled PM emissions > 0.551 lb/hr)	Baghouse required to comply? (Uncontrolled lb/h > Rule 6-3-2 limit)
14.25	24.31	5.09	Yes	No

Process weight rate based on engineering design estimate
Rule 6-3-2 limit = $4.10 * (\text{Process weight rate})^{0.67}$
Rule 6-3-2 does not apply if uncontrolled PM emissions < 0.551 lb/hr
Control device (baghouse) not required if uncontrolled emission rate < Rule 6-3-2 limit

Appendix A: Attachment A-5
Bottcher America Corporation
Application for Registration Administrative Amendment
Flexographic sleeves

Material	Sleeve production capacity (sleeves/shift)	Max sleeves produced (year)	Material usage per sleeve (grams)	% lost	Potential emissions (lb/day)	PTE (ton/yr)
Aradur (Hardener)	24	26,280	150	0.80%	0.19	0.03
Araldite LY 1564 SP US (Epoxy)	24	26,280	600	0.80%	0.76	0.14
					TOTAL	**0.17**

Assumptions

Material usage per sleeve based on conservative estimate of hardener and epoxy applied to a mandrill for sleeve production
% lost to evaporation based on lab trial of 600 g/150 g recipe. Hardener and epoxy react to form solid material. In laboratory trial,

Methodology

Potential emissions (lb/day) = Sleeves/shift * 3 shift/day material used sleeve (g) * lb/453.6 g 0.8 % lost
PTE (ton/yr) = lb/day * 365 * ton/2000 lb

Appendix A: Attachment A-6
Bottcher America Corporation
Application for Registration Administrative Amendment
Rubber Primer-Adhesive

Primer and adhesive VOC and HAP composition														
Material	Rollers produced	lb per roller	VOC content	Toluene	MIBK	Xylene	Methanol	Trichloro-ethylene	Ethyl-benzene	Phenol	Hexane	p-cresol	Non-HAP VOCs	Solids
L 002-A	2985	0.0133	80.00%	70.00%									10.00%	
L 002-B	2985	0.0133	81.00%	70.00%									11.00%	
L 025	731	0.0679	85.00%			70.00%			10.00%				5.00%	
L 382-A	974	0.0192	95.50%	90.00%									5.50%	10.5-30.5%
L 382-B	974	0.0192	96.00%	90.00%									6.00%	10.5-30.5%
L 607-A	1484	0.0715	75.00%								5.00%		70.00%	1%
L 607-B	1484	0.0715	95.00%								5.00%		90.00%	1%
L 608-A	3626	0.0517	85.00%								5.00%		80.00%	7.50%
L 608-B	3626	0.0517	88.00%								5.00%		83.00%	7.50%
L 790-A	2521	0.0409	91.00%										91.00%	6-11%
L 790-B	2521	0.0409	92.00%										92.00%	1%
A 050	3489	0.079	75.32%		75.00%								75.00%	23-26%
A 100	15525	0.0587	76.00%	24.00%	27.00%								38.00%	15.5-20.5%
A 110	5752	0.0431	73.00%		5.00%		41.00%			1.00%		2.00%	24.00%	32-34%
B 020	11152	0.0434	73.68%			60.00%			15.00%				11.00%	1-5%
B 030	6132	0.0618	76.00%			35.00%		35.00%	10.00%				17.00%	1-5%
B 070	2660	0.0602	78.75%			62.60%			15.70%				4.80%	22.00%

VOC and HAP content from MSDS for each material. Where ranges provided, max value in range used, unless MSDS provided more specific value.
lb/roller determined by annual usage divided by number of rollers produced using that material.

Appendix A: Attachment A-6 (Page 2)
Bottcher America Corporation
Primer/adhesive emissions

Primer - adhesive application VOC and HAP PTE (lb/yr)													
Material	lb per roller	Max rollers for PTE	VOC	Toluene	MIBK	Xylene	Methanol	Trichloro-ethylene	Ethyl-benzene	Phenol	Hexane	p-cresol	Non-HAP VOCs
L 002-A	0.0133	14,375	152.95	133.83									19.12
L 002-B	0.0133	14,375	154.86	133.83									21.03
L 025	0.0679	3,523	203.33			167.45			23.92				11.96
L 382-A	0.0192	4,689	85.98	81.03									4.95
L 382-B	0.0192	4,689	86.43	81.03									5.40
L 607-A	0.0715	7,149	383.37								25.56		357.81
L 607-B	0.0715	7,149	485.60								25.56		460.04
L 608-A	0.0517	17,462	767.37								45.14		722.23
L 608-B	0.0517	17,462	794.45								45.14		749.31
L 790-A	0.0409	12,132	451.54										451.54
L 790-B	0.0409	12,132	456.50										456.50
A 050	0.079	16,796	999.47		995.16								995.16
A 100	0.0587	74,742	3,334.39	1,052.97	1,184.59								1,667.20
A 110	0.0431	27,686	871.08		59.66		489.24			11.93		23.87	286.38
B 020	0.0434	53,693	1,716.95			1,398.17			349.54				256.33
B 030	0.0618	29,518	1,386.40			638.47		638.47	182.42				310.12
B 070	0.0602	12,812	607.38			482.82			121.09				37.02
		Total lb/yr	**12,938.05**	**1,482.69**	**2,239.41**	**2,686.91**	**489.24**	**638.47**	**676.97**	**11.93**	**141.40**	**23.87**	**6,812.10**
		Total ton/yr	**6.47**	**0.74**	**1.12**	**1.34**	**0.24**	**0.32**	**0.34**	**0.01**	**0.07**	**0.01**	**3.41**
		Total HAP ton/yr	**4.19**										

Assumptions and methodology

Max rollers for PTE calculated by applying the ratio of actual rollers produced using the compound to total actual rollers produced (26,612) to the maximum number of

PTE in lb/yr for each compound = lb/roller * max rollers for PTE * % composition
Total PTE in ton/yr = sum of PTE in lb/year/2000

Appendix A: Attachment A-6 (Page 3)
Bottcher America Corporation
Primer/adhesive emissions

Primer - adhesive application VOC and HAP PTE - MAX VOC Scenario (lb/yr)													
Material	lb per roller	Max rollers for PTE	VOC	Toluene	MIBK	Xylene	Methanol	Trichloro-ethylene	Ethyl-benzene	Phenol	Hexane	p-cresol	Non-HAP VOCs
L 607-A	0.0715	128,115	6,870.17								458.01		6,412.16
L 607-B	0.0715	128,115	8,702.21								458.01		8,244.20
		Total lb/yr	**15,572.38**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**916.02**	**0.00**	**14,656.36**
		Total ton/yr	**7.79**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.46**	**0**	**7.33**
		Total HAP ton/yr	**0.46**										

Assumptions and methodology

Max VOC scenario based on using highest VOC combination of materials at full capacity (128,115 rollers)

PTE in lb/yr for each compound = lb/roller * max rollers for PTE * % composition
Total PTE in ton/yr = sum of PTE in lb/year/2000

Primer - adhesive application VOC and HAP PTE - MAX Individual HAP Scenario (lb/yr)													
Material	lb per roller	Max rollers for PTE	VOC	Toluene	MIBK	Xylene	Methanol	Trichloro-ethylene	Ethyl-benzene	Phenol	Hexane	p-cresol	Non-HAP VOCs
A 050	0.079	128,115	7,623.67		7,590.81								7,590.81
		Total lb/yr	**7,623.67**	**0.00**	**7,590.81**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**7,590.81**
		Total ton/yr	**3.81**	**0**	**3.8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3.8**
		Total HAP ton/yr	**3.8**										

Assumptions and methodology

Max Individual HAP scenario based on using highest individual HAP by weight at full capacity (128,115 rollers)

PTE in lb/yr for each compound = lb/roller * max rollers for PTE * % composition
Total PTE in ton/yr = sum of PTE in lb/year/2000

Appendix A: Attachment A-7
Bottcher America Corporation
Application for Registration Administrative Amendment
Vulcanizer

Process	Amount of rubber per roller	Rollers/ year	Rubber vulcanized (lb/year)	VOC emission factor (lb/lb rubber)	VOC PTE	HAP emission factor (lb/lb rubber)	All HAP PTE	Carbon disulfide emission factor (lb/lb rubber)	Carbon disulfide PTE
Vulcanizer autoclave	10	128,115	1,281,150	0.00615	3.94	0.00604	3.87	0.00593	3.80

Assumptions and methodology

Emission factors from AP-42 Section 4.12, Emissions Factors Tables
https://www.epa.gov/ttn/chief/ap42/ch04/draft/rel04s12.xls
Autoclave tab, Compound 8 emission factors
Overall HAP emission factor used to demonstrate low level of HAP emissions. Carbon disulfide comprises 98% of HAP emissions

Assume 10 pounds of rubber per new/refurbished roller put into autoclave

PTE = amout of rubber removed (lb/roller) * # rollers/year * emission factor (lb pollutant/lb rubber removed) * ton/2000 lb

Appendix A: Attachment A-8
Bottcher America Corporation
Application for Registration Administrative Amendment
Polyurethane roller processing

Process	Material removed per roller	Rollers per year	lb material removed/yr	PM/PM10/PM2.5			VOC	
				Emission factor (lb/lb material removed)	Emissions (lb/hr)	PTE (ton/yr)	Emission factor (lb/lb material removed)	PTE (ton/yr)
Old polyurethane removal	70	10,950	766,500	0.000226	0.020	0.09	0.00266	1.02
Trimming	15	10,950	164,250	0.000226	0.004	0.0186	0.00266	0.22
Grinding	15	10,950	164,250	0.000226	0.004	0.0186	0.00266	0.22
Polishing	0.1	10,950	1,095	0.000226	0.000	0.0001	0.00266	0.00
					Total	**0.13**		**1.46**

Assumptions and methodology

Emission factors from AP-42 Section 4.12, Emissions Factors Tables for PM and VOC. HAPs factors not used since polyurethane is a polymer, not rubber
https://www.epa.gov/sites/default/files/2020-10/rel04s12.xls
Grinding tab, belt grinding emission factor (SCC 30800151)

For polyurethane removeal from existing polyurethane rollers, assume 6 pounds of material per old roller.
For new polyurethane rollers, assume 10 pounds of material per unfinished roller, 2 pounds removed during trimming, 2 pounds removed during grinding, and trace removed during polishing

PTE = amout of polyurethane removed (lb/roller) * # rollers/year * emission factor (lb pollutant/lb rubber removed) * ton/2000 lb

Appendix A: Attachment A-9
Bottcher America Corporation
Application for Registration Administrative Amendment
Polyurethane adhesive

Material	Maximum rollers produced per year	used per roller (gal/roller)	Adhesive pecific gravity	Adhesive density (lb/gal)	Adhesive VOC content	VOC content (lb/gal)	VOC PTE (ton/yr)	Adhesive toluene content	Toluene content (lb/gal)	Toluene PTE (ton/yr)
Thixon 423 Blue	9,122	0.1	0.936	7.81	77.00%	6.01	2.74	8.00%	0.62	0.28
Thixon 423 Clear	1,828	0.1	0.936	7.81	77.00%	6.01	0.55	8.00%	0.62	0.06
							3.29			**0.34**

Assumptions and methodology

VOC and HAP content from MSDS for each material. Where ranges provided, max value in range used, unless MSDS provided more specific value. Adhesive used per roller based on usage divided by number of rollers produced using that material.

PTE in ton/yr for each compound = gal/roller * rollers produced * VOC/HAP content lb/gal * ton/2000 lb

Appendix A: Attachment A-10
Bottcher America Corporation
Application for Registration Administrative Amendment
Boiler

	Emission factors		Boiler
Capacity (MMBtu/hr)			1.4
Number of units			1
Capacity fuel (cf/hr)			1400
			PTE (ton/yr)
Criteria pollutants			
CO	84	lb/mmcf	0.52
NOx	100	lb/mmcf	0.61
PM	1.9	lb/mmcf	0.01
PM10	7.6	lb/mmcf	0.05
PM2.5	7.6	lb/mmcf	0.05
SO_2	0.6	lb/mmcf	0.00
VOC	5.5	lb/mmcf	0.03
Hazardous Air Pollutants			
Hexane	1.8	lb/mmcf	0.011
Formaldehyde	0.075	lb/mmcf	0.000
Dichlorobenzene	0.0012	lb/mmcf	0.000
Benzene	0.0021	lb/mmcf	0.000
Toluene	0.0034	lb/mmcf	0.000
Cadmium	0.0013	lb/mmcf	0.000
Chromium	0.0014	lb/mmcf	0.000
Nickel	0.0021	lb/mmcf	0.000
Manganese	0.0004	lb/mmcf	0.000
Lead	0.0005	lb/mmcf	0.000
Total HAPs			0.011

Assumptions and Methodology

Hours of operation = 8760 hours/year
Fuel heat value = 1000 MMBtu/mmcf
Emission factors are from AP-42, Chapter 1, Section 4, Tables 1.4-1, 1.4-2 and 1.4-3

Emission calculation methodolgy
Emission factor lb/mmcf * fuel capacity * 8760 hr/yr /2000 lb/ton

Appendix A: Attachment A-11
Bottcher America Corporation
Application for Registration Administrative Amendment
Vehicle traffic

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Material delivery truck (entering plant v	15.0	1.0	15.0	40.0	600.0	550	0.104	1.6	570.3
Material delivery truck (leaving plant w	15.0	1.0	15.0	15.0	225.0	550	0.104	1.6	570.3
Delivery/Distribution (entering plant wi	15.0	1.0	15.0	15.0	225.0	550	0.104	1.6	570.3
Delivery/Distribution (leaving plant wit	15.0	1.0	15.0	40.0	600.0	550	0.104	1.6	570.3
		Totals	**60.0**		**1650.0**			**6.3**	**2281.3**

Vehicle and weight information estimated by House of Fara

Average Vehicle Weight Per Trip =	27.5	tons/trip
Average Miles Per Trip =	0.10	miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	27.5	27.5	27.5	tons = average vehicle weight
sL =	1.1	1.1	1.1	g/m^2 = mean silt loading value for corn wet mill industrial site - AP-42 Table 13.2.1-3

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]

where p =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365	days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.353	0.071	0.0173	lb/mile
Mitigated Emission Factor, Eext =	0.322	0.064	0.0158	lb/mile
Dust Control Efficiency =	0%	0%	0%	(pursuant to control measures outlined in fugitive dust control plan)

Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Material delivery truck (entering plant v	0.10	0.02	0.00	0.09	0.02	0.00
Material delivery truck (leaving plant w	0.10	0.02	0.00	0.09	0.02	0.00
Delivery/Distribution (entering plant wi	0.10	0.02	0.00	0.09	0.02	0.00
Delivery/Distribution (leaving plant wit	0.10	0.02	0.00	0.09	0.02	0.00
Totals	**0.40**	**0.08**	**0.02**	**0.37**	**0.07**	**0.02**

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)

Appendix B: IDEM Permit Application Forms

AIR PERMIT APPLICATION COVER SHEET

State Form 50639 (R4 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of this cover sheet is to obtain the core information needed to process the air permit application. This cover sheet is required for all air permit applications submitted to IDEM, OAQ. Place this cover sheet on top of all subsequent forms and attachments that encompass your air permit application packet.
- Submit the completed air permit application packet, including all forms and attachments, to **IDEM Air Permits Administration** using the address in the upper right hand corner of this page.
- IDEM will send a bill to collect the filing fee and any other applicable fees.
- Detailed instructions for this form are available on the Air Permit Application Forms website.

FOR OFFICE USE ONLY
PERMIT NUMBER:
___ ___ – ___ – ___
DATE APPLICATION WAS RECEIVED:

1. Tax ID Number: 52-0345420

PART A: Purpose of Application

Part A identifies the purpose of this air permit application. For the purposes of this form, the term "source" refers to the plant site as a whole and NOT to individual emissions units.

2. Source / Company Name: Bottcher America **3. Plant ID:** 159 – 00015

4. Billing Address: 717 Industrial Drive

City: Tipton **State:** IN **ZIP Code:** 46072 –

5. Permit Level: ☐ Exemption ☒ Registration ☐ SSOA ☐ MSOP ☐ FESOP ☐ TVOP ☐ PBR

6. Application Summary: *Check all that apply. Multiple permit numbers may be assigned as needed based on the choices selected below.*

☐ Initial Permit ☐ Renewal of Operating Permit ☐ Asphalt General Permit
☐ Review Request ☐ Revocation of Operating Permit ☐ Alternate Emission Factor Request
☐ Interim Approval ☐ Relocation of Portable Source ☐ Acid Deposition (Phase II)
☐ Site Closure ☐ Emission Reduction Credit Registry

☐ Transition (between permit levels) *From:* *To:*

☒ Administrative Amendment: ☐ *Company Name Change* ☐ *Change of Responsible Official*
☐ *Correction to Non-Technical Information* ☐ *Notice Only Change*
☒ *Other (specify):* Addition of exempt emission units

☒ Modification: ☒ *New Emission Unit or Control Device* ☐ *Modified Emission Unit or Control Device*
☐ *New Applicable Permit Requirement* ☐ *Change to Applicability of a Permit Requirement*
☐ *Prevention of Significant Deterioration* ☐ *Emission Offset* ☐ *MACT Preconstruction Review*
☐ *Minor Source Modification* ☐ *Significant Source Modification*
☐ *Minor Permit Modification* ☐ *Significant Permit Modification*
☒ *Other (specify):* Addition of exempt emission units

7. Is this an application for an initial construction and/or operating permit for a **"Greenfield" Source**? ☐ Yes ☒ No

8. Is this an application for construction of a new emissions unit at an **Existing Source**? ☒ Yes ☐ No

Continued on Next Page

PART B: Pre-Application Meeting

Part B specifies whether a meeting was held or is being requested to discuss the permit application.

9. Was a meeting held between the company and IDEM prior to submitting this application to discuss the details of the project?

☒ No ☐ Yes: *Date:*

10. Would you like to schedule a meeting with IDEM management and your permit writer to discuss the details of this project?

☒ No ☐ Yes: *Proposed Date for Meeting:*

PART C: Confidential Business Information

Part C identifies permit applications that require special care to ensure that confidential business information is kept separate from the public file.

Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in the Indiana Administrative Code (IAC). To ensure that your information remains confidential, refer to the IDEM, OAQ information regarding submittal of confidential business information. For more information on confidentiality for certain types of business information, please review IDEM's Nonrule Policy Document Air-031-NPD regarding Emission Data.

11. Is any of the information contained within this application being claimed as **Confidential Business Information**?

☒ No ☐ Yes

PART D: Certification Of Truth, Accuracy, and Completeness

Part D is the official certification that the information contained within the air permit application packet is truthful, accurate, and complete. Any air permit application packet that we receive without a signed certification will be deemed incomplete and may result in denial of the permit.

For a Part 70 Operating Permit (TVOP) or a Source Specific Operating Agreement (SSOA), a "responsible official" as defined in 326 IAC 2-7-1(34) must certify the air permit application. For all other applicants, this person is an "authorized Individual" as defined in 326 IAC 2-1.1-1(1).

☒ *I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate, and complete.*

Kerry Jackson	Plant Manager
Name *(typed)*	Title
Kerry Jackson	5-17-2024
Signature	Date

OAQ GENERAL SOURCE DATA APPLICATION
GSD-01: Basic Source Level Information

State Form 50640 (R5 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of GSD-01 is to provide essential information about the entire source of air pollutant emissions. GSD-01 is a required form.
- Detailed instructions for this form are available on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

PART A: Source / Company Location Information

1. Source / Company Name: Bottcher America Corporation

2. Plant ID: 159 – 00015

3. Location Address: 717 Industrial Drive

City: Tipton | **State**: IN | **ZIP Code**: 46072 –

4. County Name: Tipton

5. Township Name: Cicero

6. Geographic Coordinates:

Latitude: 40 deg 17' 32.67" N | **Longitude**: 86 deg 03' 15.17" W

7. Universal Transferal Mercadum Coordinates *(if known)*:

Zone: | **Horizontal**: | **Vertical**:

8. Adjacent States: Is the source located within 50 miles of an adjacent state?

☒ No ☐ Yes – *Indicate Adjacent State(s):* ☐ Illinois (IL) ☐ Michigan (MI) ☐ Ohio (OH) ☐ Kentucky (KY)

9. Attainment Area Designation: Is the source located within a non-attainment area for any of the criteria air pollutants?

☒ No ☐ Yes – *Indicate Nonattainment Pollutant(s):* ☐ CO ☐ Pb ☐ NO_x ☐ O_3 ☐ PM ☐ PM_{10} ☐ $PM_{2.5}$ ☐ SO_2

10. Portable / Stationary: Is this a portable or stationary source? ☐ Portable ☒ Stationary

PART B: Source Summary

11. Company Internet Address *(optional)*:

12. Company Name History: Has this source operated under any other name(s)?

☒ No ☐ Yes – *Provide information regarding past company names in Part I, Company Name History.*

13. Portable Source Location History: Will the location of the portable source be changing in the near future?

☒ Not Applicable ☐ No ☐ Yes – *Complete Part J, Portable Source Location History, and Part K, Request to Change Location of Portable Source.*

14. Existing Approvals: Have any exemptions, registrations, or permits been issued to this source?

☐ No ☒ Yes – *List these permits and their corresponding emissions units in Part M, Existing Approvals.*

15. Unpermitted Emissions Units: Does this source have any unpermitted emissions units?

☒ No ☐ Yes – *List all unpermitted emissions units in Part N, Unpermitted Emissions Units.*

16. New Source Review: Is this source proposing to construct or modify any emissions units?

☐ No ☒ Yes – *List all proposed new construction in Part O, New or Modified Emissions Units.*

17. Risk Management Plan: Has this source submitted a Risk Management Plan?

☒ Not Required ☐ No ☐ Yes → Date submitted: EPA Facility Identifier: – –

PART C: Source Contact Information

IDEM will send the original, signed permit decision to the person identified in this section. This person MUST be an employee of the permitted source.

18. Name of Source Contact Person: Kerry Jackson

19. Title *(optional)*: Plant Manager

20. Mailing Address: 717 Industrial Drive

City: Tipton	**State**: IN	**ZIP Code**: 46072 –

21. Electronic Mail Address *(optional)*: kerry.jackson@boettcher-systems.com

22. Telephone Number: (765) 675-4449	**23. Facsimile Number** *(optional)*: ( ) –

PART D: Authorized Individual/Responsible Official Information

IDEM will send a copy of the permit decision to the person indicated in this section, if the Authorized Individual or Responsible Official is different from the Source Contact specified in Part C.

24. Name of Authorized Individual or Responsible Official: Kerry Jackson

25. Title: Plant Manager

26. Mailing Address: 717 Industrial Drive

City: Tipton	**State**: IN	**ZIP Code**: 46072 –

27. Telephone Number: (765) 675-4449	**28. Facsimile Number** *(optional)*: ( ) –

29. Request to Change the Authorized Individual or Responsible Official: Is the source officially requesting to change the person designated as the Authorized Individual or Responsible Official in the official documents issued by IDEM, OAQ? *The permit may list the title of the Authorized Individual or Responsible Official in lieu of a specific name.*

☐ No ☒ Yes – ***Change Responsible Official to***: Kerry Jackson

PART E: Owner Information

30. Company Name of Owner: Bottcher Systems

31. Name of Owner Contact Person:

32. Mailing Address: 4600 Mercedes Drive

City: Belcamp	**State**: MD	**ZIP Code**: 21017 –

33. Telephone Number: (800) 637-8120	**34. Facsimile Number** *(optional)*: ( ) –

34. Operator: Does the "Owner" company also operate the source to which this application applies?

☐ No – *Proceed to Part F below.*	☒ Yes – *Enter "SAME AS OWNER" on line 35 and proceed to Part G below.*

PART F: Operator Information

35. Company Name of Operator: SAME AS OWNER

36. Name of Operator Contact Person:

37. Mailing Address:

City:	**State**:	**ZIP Code**: –

38. Telephone Number: ( ) –	**39. Facsimile Number** *(optional)*: ( ) –

PART G: Agent Information

40. Company Name of Agent: B Paul Consulting, LLC

41. Type of Agent: ☒ Environmental Consultant ☐ Attorney ☐ Other (specify):

42. Name of Agent Contact Person: Bernard Paul

43. Mailing Address: 285 Spring Drive

City: Zionsville	**State**: IN	**ZIP Code**: 46077 –

44. Electronic Mail Address *(optional)*: bernie@bpaulconsulting.com

45. Telephone Number: (317) 344 – 9730	**46. Facsimile Number** *(optional)*: ( ) –

47. Request for Follow-up: Does the "Agent" wish to receive a copy of the preliminary findings during the public notice period (if applicable) and a copy of the final determination? ☐ No ☒ Yes

PART H: Local Library Information

48. Date application packet was filed with the local library: Not applicable to registrations

49. Name of Library:

50. Name of Librarian *(optional)*:

51. Mailing Address:

City:	**State**:	**ZIP Code**: –

52. Internet Address *(optional)*:

53. Electronic Mail Address *(optional)*:

54. Telephone Number: ( ) –	**55. Facsimile Number** *(optional)*: ( ) –

PART I: Company Name History *(if applicable)*

Complete this section only if the source has previously operated under a legal name that is different from the name listed above in Section A.

1. Legal Name of Company	2. Dates of Use
	to
	to
	to
	to
	to
	to
	to
	to
	to
	to

3. Company Name Change Request: Is the source officially requesting to change the legal name that will be printed on all official documents issued by IDEM, OAQ?

☐ No ☐ Yes – ***Change Company Name to***:

PART J: Portable Source Location History *(if applicable)*		
Complete this section only if the source is portable and the location has changed since the previous permit was issued. The current location of the source should be listed in Section A.		
4. Plant ID	**5. Location of the Portable Source**	**6. Dates at this Location**
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to

PART K: Request to Change Location of Portable Source *(if applicable)*		
Complete this section to request a change of location for a portable source.		
7. Current Location:		
Address:		
City:	**State**:	**ZIP Code**: –
County Name:		
8. New Location:		
Address:		
City:	**State**:	**ZIP Code**: –
County Name:		

PART L: Source Process Description

Complete this section to summarize the main processes at the source.

9. Process Description	10. Products	11. SIC Code	12. NAICS Code
Preparation of rubber printer rolls	Rubber printer rolls	2796	323120

PART M: Existing Approvals *(if applicable)*

Complete this section to summarize the approvals issued to the source since issuance of the main operating permit.

13. Permit ID	14. Emissions Unit IDs	15. Expiration Date
159-37288-00015	Entire source	None

PART N: Unpermitted Emissions Units *(if applicable)*

Complete this section only if the source has emission units that are not listed in any permit issued by IDEM, OAQ.

16. Emissions Unit ID	17. Type of Emissions Unit	18. Actual Dates		
		Began Construction	Completed Construction	Began Operation

PART O: New or Modified Emissions Units *(if applicable)*

Complete this section only if the source is proposing to add new emission units or modify existing emission units.

19. Emissions Unit ID	20. NEW	21. MOD	22. Type of Emissions Unit	23. Estimated Dates		
				Begin Construction	Complete Construction	Begin Operation
			See application narrative			

From: Germann, Sarah R (IDEM)
To: Bernie Paul
Subject: RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation
Date: Tuesday, May 28, 2024 1:41:00 PM
Attachments: image001.png

Thank you

Indiana Department of
Environmental Management
Sarah Germann
Environmental Manager
• (317) 234-6555 • srgerman@idem.IN.gov

Protecting Hoosiers and Our Environment

From: Bernie Paul <bernie@bpaulconsulting.com>
Sent: Tuesday, May 28, 2024 12:14 PM
To: Germann, Sarah R (IDEM) <SRGerman@idem.IN.gov>; kerry.jackson@boettcher-systems.com
Subject: RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation

---

Sarah,

Thank you for reaching out regarding the permit application for Bottcher America. Attached is a copy of the Microsoft Excel spreadsheet I used for the emission calculations in the application.

I've also attached a pdf copy of the permit application which includes a few corrections to some of the text in the narrative compared to the version that was submitted on May 20. Some of the material removal estimates were incorrect in the May 20 version of the narrative. The attached version highlights the corrected values in the narrative. The emission calculations in the spreadsheets submitted on May 20 were correct and did not need revision.

Please let me know if you have any questions or need anything else.

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Bernie Paul
President, B Paul Consulting, LLC

Zionsville, Indiana 46077

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Office | Mobile | Text: 317-344-9730
Alternate Mobile | Text: 317-730-1939

https://bpaulconsulting.com

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To: Bernie Paul <bernie@bpaulconsulting.com>; kerry.jackson@boettcher-systems.com
Subject: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation

Dear Kerry Jackson and Bernard Paul,

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Thank you in advance for your time and assistance. I look forward to working with you.

Sincerely,

Sarah Germann
Environmental Manager, Office of Air Quality
Indiana Department of Environmental Management
Direct Phone: 317-234-6555
Fax: 317-232-6749
Email: SRGerman@idem.IN.gov

From: Germann, Sarah R (IDEM)
To: Bernie Paul
Subject: RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation
Date: Tuesday, June 11, 2024 11:27:00 AM
Attachments: image001.png

The polyurethane adhesive calcs reference an MSDS for Thixon 423 Blue and Thixon 423 Clear. Could you send those to me, please?

Indiana Department of
Environmental Management
Sarah Germann
Environmental Manager
• (317) 234-6555 • srgerman@idem.IN.gov

Protecting Hoosiers and Our Environment

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Sent: Tuesday, May 28, 2024 1:42 PM
To: Bernie Paul <bernie@bpaulconsulting.com>
Subject: RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation

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Subject: Re: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation
Date: Tuesday, June 11, 2024 12:48:11 PM
Attachments: image001.png
Thixon 423 Clear.pdf
Thixon 423 Blue.pdf

Hi Sarah,

Attached are the SDS for Thixon 423 Clear and 423 Blue.

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SAFETY DATA SHEET
THE DOW CHEMICAL COMPANY*

Product name: THIXON™ 423 CLEAR

Issue Date: 03/15/2016
Print Date: 03/16/2016

THE DOW CHEMICAL COMPANY* encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: THIXON™ 423 CLEAR

Recommended use of the chemical and restrictions on use
Identified uses: This product is used in coatings, textiles, binders and adhesives.

COMPANY IDENTIFICATION
THE DOW CHEMICAL COMPANY*
Agent for Rohm and Haas Chemicals LLC
100 INDEPENDENCE MALL WEST
PHILADELPHIA PA 19106-2399
UNITED STATES

Customer Information Number: 215-592-3000
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 1 800 424 9300
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Flammable liquids - Category 2
Skin irritation - Category 2
Eye irritation - Category 2A
Skin sensitisation - Category 1
Reproductive toxicity - Category 2
Specific target organ toxicity - single exposure - Category 3
Specific target organ toxicity - repeated exposure - Category 2 - Inhalation

Label elements
Hazard pictograms

Signal word: **DANGER!**

Hazards
Highly flammable liquid and vapour.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/ eye protection/ face protection.
Use personal protective equipment as required.

Response
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation or rash occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Solution of organic compounds
This product is a mixture.

Component	CASRN	Concentration
Bisphenol-A, Epichlorohydrin Polymer	25068-38-6	22.0 - 24.0 %
Propylene glycol methyl ether acetate	108-65-6	>= 23.0 - 25.0 %
Methyl ethyl ketone	78-93-3	38.0 - 40.0 %
Toluene	108-88-3	6.0 - 8.0 %
Dipropylene glycol methyl ether acetate	88917-22-0	>= 3.0 - 5.0 %
Glycidoxypropyltrimethoxysilane	2530-83-8	1.0 - 2.0 %

4. FIRST AID MEASURES

Description of first aid measures
Inhalation: Move to fresh air. Give artificial respiration if breathing has stopped. Get prompt medical attention. In case of shortness of breath, give oxygen.

Skin contact: Remove contaminated clothing. Wash off with soap and plenty of water. Wash contaminated clothing before re-use. Do not take clothing home to be laundered. Consult a physician.

Eye contact: Rinse immediately with plenty of water for at least 15 minutes. Get prompt medical attention.

Ingestion: Drink 1 or 2 glasses of water. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Careful gastric lavage may be indicated. IMMEDIATELY see a physician. If vomiting occurs spontaneously, keep airway clear. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Massive ingestion of methyl ethyl ketone may cause gastric irritation with absorption leading to metabolic acidosis with an anion gap. CNS narcosis and cardiac arrhythmias effects may be similar to other organic solvents. Glycol ethers can cause delayed liver and kidney damage. Acute massive exposure to toluene can cause transient hematuria and albuminuria. Cardiac arrhythmias can occur after massive inhalation.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water spray Foam Carbon dioxide (CO2) Dry chemical

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture
Hazardous combustion products: No data available

Unusual Fire and Explosion Hazards: Vapors can travel to a source of ignition and flash back. Heated material can form flammable or explosive vapors with air. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat. During a fire, irritating and highly toxic gases and/or fumes may be generated during combustion or decomposition.

Advice for firefighters
Fire Fighting Procedures: EXPLOSION HAZARD. Fight advanced fires from a protected location. Cool closed containers exposed to fire with water spray. Remain upwind. Avoid breathing smoke. Contain run-off.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations. MATERIAL IS A POTENTIAL SENSITIZER. If exposed to material during clean-up operations, IMMEDIATELY remove all contaminated clothing and wash exposed skin areas with soap and water. See SECTION 4, First Aid Measures, for further information. Wash contaminated clothing before re-use. Do not take clothing home to be laundered.

Environmental precautions: CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Methods and materials for containment and cleaning up: Eliminate all ignition sources. Evacuate personnel to safe areas. Ventilate the area. Floor may be slippery; use care to avoid falling. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up or vacuum up spillage and collect in suitable container for disposal. No sparking tools should be used. Avoid all contact. Avoid breathing vapor. NOTE: Spills on porous surfaces can contaminate groundwater.

7. HANDLING AND STORAGE

Precautions for safe handling: Vapors can be evolved when material is heated during processing operations. See SECTION 8, Exposure Controls/Personal Protection, for types of ventilation required. Use non-sparking tools and grounding cables when transferring. This material is a potential sensitizer. See SECTION 8, Exposure Controls/Personal Protection, prior to handling. Wash after handling and shower at end of work period.

Conditions for safe storage: Avoid temperature extremes during storage; ambient temperature preferred. Store away from excessive heat (e.g. steampipes,radiators), from sources of ignition and from reactive materials. Material can burn; limit indoor storage to approved areas equipped with automatic sprinklers. Store out of direct sunlight in a cool place. Keep containers tightly closed in a cool, well-ventilated place. Avoid all ignition sources. Ground all metal containers during storage and handling.
Residual vapors in empty containers may explode on ignition. DO NOT cut, drill, grind or weld on or near container.
Other data: CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all MSDS and label warnings even after container is emptied. Improper disposal or re-use of this container may be dangerous and illegal. Refer to applicable local, state and federal regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Bisphenol-A, Epichlorohydrin Polymer	Dow IHG	TWA	10 mg/m3
Propylene glycol methyl ether acetate	Dow IHG	TWA	30 ppm
	Dow IHG	TWA	SKIN
	Dow IHG	STEL	90 ppm
	Dow IHG	STEL	SKIN
	US WEEL	TWA	50 ppm
Methyl ethyl ketone	Dow IHG	TWA	50 ppm
	Dow IHG	STEL	100 ppm
	ACGIH	TWA	200 ppm
	ACGIH	STEL	300 ppm
	OSHA Z-1	TWA	590 mg/m3 200 ppm
	ACGIH	TWA	BEI
	ACGIH	STEL	BEI
Toluene	ACGIH	TWA	20 ppm
	OSHA Z-2	TWA	200 ppm
	ACGIH	TWA	BEI
	OSHA Z-2	CEIL	300 ppm
	OSHA Z-2	Peak	500 ppm
Glycidoxypropyltrimethoxysilane	Dow IHG	TWA	1 ppm

Exposure controls
Engineering controls: Use explosion-proof local exhaust ventilation with a minimum capture velocity of 100 ft/min (0.5 m/sec) at the point of vapor evolution. Refer to the current edition of Industrial

Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Individual protection measures

Eye/face protection: Use chemical splash goggles (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.

Skin protection

Hand protection: Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): Norfoil (Trademark of Siebe North, Inc.) 4H Glove (Trademark of Safety 4 A/S of Denmark) Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.

Other protection: Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact. Where splashing is possible, full chemically resistant protective clothing (e.g. acid suit) and boots are required.

Respiratory protection: A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Up to 1000 ppm organic vapor: Wear a properly fitted NIOSH approved (or equivalent) full-facepiece, air-purifying respirator, OR full facepiece, airline respirator in the pressure demand mode. Above 1000 ppm organic vapor or Unknown: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	liquid clear
Color	No data available
Odor	Solvent odor
Odor Threshold	No data available
pH	Not Applicable
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	80.00 °C (176.00 °F) Methyl ethyl ketone
Flash point	**closed cup** < -3.80 °C (< 25.16 °F) *SETAFLASH CLOSED CUP*
Evaporation Rate (Butyl Acetate = 1)	5.70 Methyl ethyl ketone
Flammability (solid, gas)	Not Applicable
Lower explosion limit	1.40 % vol Methyl ethyl ketone
Upper explosion limit	11.40 % vol Methyl ethyl ketone

Vapor Pressure	100.0000000 mmHg at 25.00 °C (77.00 °F) Methyl ethyl ketone
Relative Vapor Density (air = 1)	1.0000
Relative Density (water = 1)	0.9360
Water solubility	insoluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	516.00 °C (960.80 °F) Methyl ethyl ketone
Decomposition temperature	Combustion generates toxic fumes of the following: Carbon oxides
Dynamic Viscosity	No data available
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No data available
Percent volatility	74.00 - 77.00 %
Volatile Organic Compounds	Not Determined

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: No data available

Possibility of hazardous reactions: This material is considered stable. However, avoid contact with ignition sources (e.g. sparks, open flame, heated surfaces).
Product will not undergo polymerization.

Conditions to avoid: No data available

Incompatible materials: Avoid contact with the following: Strong Oxidizers Bases

Hazardous decomposition products: There are no known hazardous decomposition products for this material.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Product test data not available. Refer to component data.

Acute dermal toxicity
Product test data not available. Refer to component data.

Acute inhalation toxicity
Product test data not available. Refer to component data.

Skin corrosion/irritation
Product test data not available. Refer to component data.

Serious eye damage/eye irritation
Product test data not available. Refer to component data.

Sensitization
Product test data not available. Refer to component data.

Specific Target Organ Systemic Toxicity (Single Exposure)
Product test data not available. Refer to component data.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Product test data not available. Refer to component data.

Carcinogenicity
Product test data not available. Refer to component data.

Teratogenicity
Product test data not available. Refer to component data.

Reproductive toxicity
Product test data not available. Refer to component data.

Mutagenicity
Product test data not available. Refer to component data.

Aspiration Hazard
No aspiration toxicity classification

COMPONENTS INFLUENCING TOXICOLOGY:

Bisphenol-A, Epichlorohydrin Polymer

Acute oral toxicity
LD50, Rat, > 15,000 mg/kg

Acute dermal toxicity
LD50, Rabbit, 23,000 mg/kg

Acute inhalation toxicity
At room temperature, exposure to vapor is minimal due to low volatility. Vapor from heated material may cause respiratory irritation. The LC50 has not been determined.

Skin corrosion/irritation
Irritating to skin.

Serious eye damage/eye irritation
Irritating to eyes.

Sensitization
Has caused allergic skin reactions in humans.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
No relevant data found.

Carcinogenicity
No relevant data found.

Teratogenicity
Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity
In animal studies, did not interfere with reproduction.

Mutagenicity
In vitro studies showed both positive and negative effects In vivo tests did not show mutagenic effects

Propylene glycol methyl ether acetate

Acute oral toxicity
Observations in animals include: Lethargy. LD50, Rat, > 5,000 mg/kg

Acute dermal toxicity
LD50, Rabbit, > 5,000 mg/kg

Acute inhalation toxicity
LC0, Rat, 6 Hour, vapour, > 23.5 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation
Prolonged contact is essentially nonirritating to skin.
Repeated contact may cause skin irritation with local redness.

Serious eye damage/eye irritation
May cause pain disproportionate to the level of irritation to eye tissues.
May cause slight eye irritation.
May cause slight corneal injury.

Sensitization
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Available data are inadequate to determine single exposure specific target organ toxicity.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
In animals, effects have been reported on the following organs:
Kidney.
Liver.
Nasal tissue.

Carcinogenicity
Similar material(s) did not cause cancer in laboratory animals.

Teratogenicity
Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive toxicity
In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Mutagenicity
In vitro genetic toxicity studies were negative.

Methyl ethyl ketone

Acute oral toxicity
LD50, Rat, 2,657 - 5,554 mg/kg

Acute dermal toxicity
LD50, Rabbit, > 5,000 mg/kg

Acute inhalation toxicity
LC50, Rat, 4 Hour, vapour, 34.5 mg/l

Skin corrosion/irritation
Brief contact is essentially nonirritating to skin.
Prolonged contact may cause moderate skin irritation with local redness.
Repeated contact may cause moderate skin irritation with local redness.
May cause drying and flaking of the skin.

Serious eye damage/eye irritation
May cause pain disproportionate to the level of irritation to eye tissues.
May cause moderate eye irritation which may be slow to heal.
May cause moderate corneal injury.
Vapor may cause eye irritation experienced as mild discomfort and redness.

Sensitization
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause drowsiness or dizziness.
Route of Exposure: Inhalation

Target Organs: Nervous system

Specific Target Organ Systemic Toxicity (Repeated Exposure)
In animals, effects have been reported on the following organs:
Liver.
Methyl ethyl ketone has caused liver effects in laboratory animals exposed by inhalation to high concentrations.
Methyl ethyl ketone is probably not neurotoxic in itself but it potentiates the neurotoxicity of methyl-n-butyl ketone and n-hexane.

Carcinogenicity
Available data are inadequate to evaluate carcinogenicity.

Teratogenicity
Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Has caused birth defects in laboratory animals only at doses toxic to the mother.

Reproductive toxicity
For similar material(s): In animal studies, did not interfere with reproduction.

Mutagenicity
In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were negative.

Toluene

Acute oral toxicity
LD50, Rat, 5,580 mg/kg

Acute dermal toxicity
LD50, Rabbit, 12,267 mg/kg

Acute inhalation toxicity
LC50, Rat, male and female, 4 Hour, vapour, > 20 mg/l

Skin corrosion/irritation
Brief contact may cause slight skin irritation with local redness.
Prolonged contact may cause moderate skin irritation with local redness.
May cause drying and flaking of the skin.

Serious eye damage/eye irritation
May cause slight eye irritation.
May cause slight temporary corneal injury.
Vapor may cause eye irritation experienced as mild discomfort and redness.
Vapor may cause lacrimation (tears).

Sensitization
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause drowsiness or dizziness.
Route of Exposure: Inhalation

Target Organs: Central nervous system

Specific Target Organ Systemic Toxicity (Repeated Exposure)
In animals, effects have been reported on the following organs:
central nervous system (CNS) effects
Excessive exposure may cause neurologic signs and symptoms.
Toluene has caused hearing loss in laboratory animals upon exposure to high concentrations.
Intentional misuse by deliberately inhaling toluene may cause nervous system damage, hearing loss, liver and kidney effects and death.

Carcinogenicity
Did not cause cancer in laboratory animals.

Teratogenicity
In laboratory animals, toluene has been toxic to the fetus at doses toxic to the mother; it has caused birth defects in mice when administered orally, but not by inhalation.

Reproductive toxicity
In animal studies, did not interfere with reproduction.

Mutagenicity
The majority and most reliable of the many genetic toxicity studies on toluene, both in vitro and in animals, indicate that it is not genetically toxic.

Dipropylene glycol methyl ether acetate

Acute oral toxicity
LD50, Rat, > 5,000 mg/kg

Acute dermal toxicity
LD50, Rat, > 2,000 mg/kg

Acute inhalation toxicity
LC0, Rat, 4 Hour, vapour, > 5.7 mg/l The LC50 value is greater than the Maximum Attainable Concentration. No deaths occurred at this concentration.

Skin corrosion/irritation
Prolonged exposure not likely to cause significant skin irritation.

Serious eye damage/eye irritation
May cause slight temporary eye irritation.
Corneal injury is unlikely.

Sensitization
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Carcinogenicity
No specific, relevant data available for assessment.

Teratogenicity
No relevant data found.

Reproductive toxicity
No specific, relevant data available for assessment.

Mutagenicity
In vitro genetic toxicity studies were negative.

Glycidoxypropyltrimethoxysilane

Acute oral toxicity
LD50, Rat, 8,025 mg/kg

Acute dermal toxicity
LD50, Rat, 4,250 mg/kg

Acute inhalation toxicity
No adverse effects are anticipated from single exposure to mist. Vapor may cause irritation of the upper respiratory tract (nose and throat).

LC50, Rat, 4 Hour, Aerosol, > 5.3 mg/l

Skin corrosion/irritation
Prolonged contact may cause moderate skin irritation with local redness.

Serious eye damage/eye irritation
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Sensitization
Did not cause allergic skin reactions when tested in guinea pigs.
Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Carcinogenicity
Did not cause cancer in laboratory animals.

Teratogenicity
Did not cause birth defects in laboratory animals.

Reproductive toxicity

In animal studies, did not interfere with reproduction.

Mutagenicity
In vitro genetic toxicity studies were negative in some cases and positive in other cases.
Animal genetic toxicity studies were negative in some cases and positive in other cases.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

General Information
There is no data available for this product.

Toxicity

Bisphenol-A, Epichlorohydrin Polymer

Acute toxicity to fish
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 3.1 mg/l
LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 2 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 1.8 mg/l

Acute toxicity to algae/aquatic plants
ErC50, Scenedesmus capricornutum (fresh water algae), static test, 72 Hour, 11 mg/l

Toxicity to bacteria
No data available

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 21 d, 0.3 mg/l

Propylene glycol methyl ether acetate

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 134 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, 408 mg/l, Method Not Specified.

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (microalgae), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 201 or Equivalent

Methyl ethyl ketone

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 2,993 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 308 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (microalgae), static test, 96 Hour, Growth rate inhibition, 2,029 mg/l, OECD Test Guideline 201

Toxicity to bacteria
EC50, Bacteria, 96 Hour, > 1,000 mg/l, hUCC

Toluene

Acute toxicity to fish
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 5.8 mg/l
LC50, Fish, flow-through test, 96 Hour, 5.5 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 24 Hour, 7 mg/l, OECD Test Guideline 202
LC50, water flea Ceriodaphnia dubia, semi-static test, 48 Hour, 3.78 mg/l

Acute toxicity to algae/aquatic plants
EbC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Biomass, 12.5 mg/l, OECD Test Guideline 201

Toxicity to bacteria
IC50, Bacteria, 16 Hour, 29 mg/l

Chronic toxicity to fish
NOEC, Fish, flow-through test, 40 d, growth, 1.4 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Ceriodaphnia dubia (water flea), 7 d, number of offspring, 0.74 mg/l
NOEC, Daphnia magna (Water flea), 21 day, number of offspring, 2 mg/l

Toxicity to soil-dwelling organisms
LC50, Eisenia fetida (earthworms), 150 - 280 mg/kg

Dipropylene glycol methyl ether acetate

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 151 mg/l, OECD Test Guideline 203 or Equivalent
LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 110.55 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), static test, 48 Hour, 2,701 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
EC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, > 1,000 mg/l, OECD Test Guideline 201 or Equivalent

Glycidoxypropyltrimethoxysilane

Acute toxicity to fish
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
LC50, Cyprinus carpio (Carp), semi-static test, 96 Hour, 55 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 710 mg/l

Acute toxicity to algae/aquatic plants
EbC50, alga Scenedesmus sp., 72 Hour, Biomass, 255 mg/l
EC50, blue-green alga Anabaena flos-aquae, static test, 7 d, 119 mg/l

Toxicity to bacteria
NOEC, activated sludge, Static, 3 Hour, Respiration rates., > 100 mg/l, OECD 209 Test

Chronic toxicity to aquatic invertebrates
LOEC, Daphnia magna (Water flea), semi-static test, 21 d, > 100 mg/l

Persistence and degradability

Bisphenol-A, Epichlorohydrin Polymer

Biodegradability:
10-day Window: Not applicable Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.
Biodegradation: 12 %
Exposure time: 28 d
Method: OECD Test Guideline 302B or Equivalent

Propylene glycol methyl ether acetate

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).
10-day Window: Pass
Biodegradation: 83 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
10-day Window: Not applicable
Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 1.82 mg/mg

Methyl ethyl ketone

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable

Biodegradation: 98 %
Exposure time: 28 d
Method: OECD Test Guideline 301D or Equivalent

Theoretical Oxygen Demand: 2.44 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	71 - 76 %
10 d	71 - 82 %
20 d	71 - 89 %

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 8 d
Method: Estimated.

Toluene

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 100 %
Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 3.13 mg/mg Calculated.

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 2 d
Method: Estimated.

Dipropylene glycol methyl ether acetate

Biodegradability: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%). Biodegradation rate may increase in soil and/or water with acclimation.
10-day Window: Pass
Biodegradation: 84.4 %
Exposure time: 28 d
Method: OECD Test Guideline 301D or Equivalent

Theoretical Oxygen Demand: 1.94 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
10 d	28 %
20 d	61 %

28 d	67 %

Stability in Water (1/2-life)
Hydrolysis, half-life, 58 - 83 min

Glycidoxypropyltrimethoxysilane
Biodegradability: Chemical degradation (hydrolysis) is expected in the environment. Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 37 %
Exposure time: 28 d

Bioaccumulative potential

Bisphenol-A, Epichlorohydrin Polymer
Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Partition coefficient: n-octanol/water(log Pow): 3.242 at 25 °C estimated

Propylene glycol methyl ether acetate
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 1.2 Measured

Methyl ethyl ketone
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.29 Measured

Toluene
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.73 Measured
Bioconcentration factor (BCF): 13.2 - 90 Fish Measured

Dipropylene glycol methyl ether acetate
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.61 OECD Test Guideline 107 or Equivalent

Glycidoxypropyltrimethoxysilane
Bioaccumulation: No relevant data found.

Mobility in soil

Bisphenol-A, Epichlorohydrin Polymer
Potential for mobility in soil is low (Koc between 500 and 2000).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient(Koc): 1800 - 4400 Estimated.

Propylene glycol methyl ether acetate
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 1.7 Estimated.

Methyl ethyl ketone

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 3.8 Estimated.

Toluene

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 37 - 178 Estimated.

Dipropylene glycol methyl ether acetate

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 2.27 Estimation by liquid chromatography

Glycidoxypropyltrimethoxysilane

No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: For disposal, incinerate this material at a facility that complies with local, state, and federal regulations.
(See 40 CFR 268)

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Adhesives
UN number	UN 1133
Class	3
Packing group	II
Reportable Quantity	Toluene, Methyl ethyl ketone

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ADHESIVES
UN number	UN 1133
Class	3
Packing group	II
Marine pollutant	No
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Adhesives
UN number	UN 1133
Class	3
Packing group	II

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Acute Health Hazard
Chronic Health Hazard
Fire Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product contains a chemical which is listed in Section 313 at or above de minimis concentrations. The following listed chemicals are present: (Quantity present is found elsewhere on this MSDS.)

Components	CASRN
Toluene	108-88-3

Pennsylvania
Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

California (Proposition 65)
This product contains a component or components known to the state of California to cause cancer and birth defects or other reproductive harm:

Components	CASRN
Epichlorohydrin	106-89-8

California (Proposition 65)
This product contains a component or components known to the state of California to cause birth defects or other reproductive harm:

Components	CASRN
Toluene	108-88-3

California (Proposition 65)

This product contains trace levels of a component or components known to the state of California to cause cancer and birthdefects or other reproductive harm:

Components	CASRN
Benzene	71-43-2

California (Proposition 65)
This product contains trace levels of a component or components known to the state of California to cause birth defects or other reproductive harm:

Components	CASRN
Methanol	67-56-1

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System
HMIS

Health	Flammability	Physical Hazard
2*	3	0

* = Chronic Effects (See Hazards Identification)

Revision
Identification Number: 101112527 / 1001 / Issue Date: 03/15/2016 / Version: 3.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
BEI	Biological Exposure Indices
CEIL	Acceptable ceiling concentration
Dow IHG	Dow Industrial Hygiene Guideline
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-2	USA. Occupational Exposure Limits (OSHA) - Table Z-2
Peak	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
SKIN	Absorbed via skin
STEL	Short term exposure limit
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY* urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

SAFETY DATA SHEET

encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: THIXON™ 423 BLUE

Recommended use of the chemical and restrictions on use
Identified uses: This product is used in coatings, textiles, binders and adhesives.

COMPANY IDENTIFICATION

EMERGENCY TELEPHONE NUMBER
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
GHS classification in accordance with 29 CFR 1910.1200
Flammable liquids - Category 2
Skin irritation - Category 2
Eye irritation - Category 2A
Skin sensitisation - Category 1
Reproductive toxicity - Category 2
Specific target organ toxicity - single exposure - Category 3
Specific target organ toxicity - repeated exposure - Category 2 - Inhalation

Label elements
Hazard pictograms

Signal word: **DANGER!**

Hazards
Highly flammable liquid and vapour.
Causes skin irritation.
May cause an allergic skin reaction.

Bisphenol-A, Epichlorohydrin Polymer	25068-38-6	22.0 - 24.0 %
Propylene glycol methyl ether acetate	108-65-6	23.0 - 25.0 %
Methyl ethyl ketone	78-93-3	38.0 - 40.0 %
Toluene	108-88-3	6.0 - 8.0 %
Dipropylene glycol methyl ether acetate	88917-22-0	3.0 - 5.0 %
Glycidoxypropyltrimethoxysilane	2530-83-8	1.0 - 3.0 %

4. FIRST AID MEASURES

Description of first aid measures
Inhalation: Move to fresh air. Give artificial respiration if breathing has stopped. Get prompt medical attention. In case of shortness of breath, give oxygen.

Skin contact: Remove contaminated clothing. Wash off with soap and plenty of water. Wash contaminated clothing before re-use. Do not take clothing home to be laundered. Consult a physician.

Eye contact: Rinse immediately with plenty of water for at least 15 minutes. Get prompt medical attention.

Ingestion: Drink 1 or 2 glasses of water. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Careful gastric lavage may be indicated. IMMEDIATELY see a physician. If vomiting occurs spontaneously, keep airway clear. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed:
Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Massive ingestion of methyl ethyl ketone may cause gastric irritation with absorption leading to metabolic acidosis with an anion gap. CNS narcosis and cardiac arrhythmias effects may be similar to other organic solvents. Glycol ethers can cause delayed liver and kidney damage. Acute massive exposure to toluene can cause transient hematuria and albuminuria. Cardiac arrhythmias can occur after massive inhalation.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water spray Foam Carbon dioxide (CO2) Dry chemical

Unsuitable extinguishing media: No data available

disposal or re-use of this container may be dangerous and illegal. Refer to applicable local, state and federal regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Bisphenol-A, Epichlorohydrin Polymer	Dow IHG	TWA	10 mg/m3
Propylene glycol methyl ether acetate	Dow IHG	TWA	30 ppm
	Dow IHG	TWA	SKIN
	Dow IHG	STEL	90 ppm
	Dow IHG	STEL	SKIN
	US WEEL	TWA	50 ppm
Methyl ethyl ketone	Dow IHG	TWA	50 ppm
	Dow IHG	STEL	100 ppm
	ACGIH	TWA	200 ppm
	ACGIH	STEL	300 ppm
	OSHA Z-1	TWA	590 mg/m3 200 ppm
Toluene	ACGIH	TWA	20 ppm
	OSHA Z-2	TWA	200 ppm
	OSHA Z-2	CEIL	300 ppm
	OSHA Z-2	Peak	500 ppm
Glycidoxypropyltrimethoxysilane	Dow IHG	TWA	0.5 ppm

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Methyl ethyl ketone	78-93-3	methyl ethyl ketone	Urine	End of shift (As soon as possible after exposure ceases)	2 mg/l	ACGIH BEI
Toluene	108-88-3	Toluene	In blood	Prior to last shift of workweek	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of	0.3 mg/g	ACGIH

Freezing point	No data available
Boiling point (760 mmHg)	79.00 °C (174.20 °F) Initial
Flash point	**closed cup** -4.00 °C (24.80 °F) *SETAFLASH CLOSED CUP*
Evaporation Rate (Butyl Acetate = 1)	5.70 Methyl ethyl ketone
Flammability (solid, gas)	Not Applicable
Lower explosion limit	1.20 % vol Toluene
Upper explosion limit	11.40 % vol Methyl ethyl ketone
Vapor Pressure	22.0000000 mmHg
Relative Vapor Density (air = 1)	3.1000 Toluene
Relative Density (water = 1)	0.9360
Water solubility	insoluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	480.00 °C (896.00 °F) Toluene
Decomposition temperature	No data available
Dynamic Viscosity	No data available
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No data available
Percent volatility	78.5 - 80.5 %
Volatile Organic Compounds	700 g/L

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Stable.

Possibility of hazardous reactions: Product will not undergo polymerization.

Conditions to avoid: No data available

Incompatible materials: Avoid contact with the following: Strong Oxidizers Bases

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

At room temperature, exposure to vapor is minimal due to low volatility. Vapor from heated material may cause respiratory irritation. The LC50 has not been determined.

Skin corrosion/irritation
Irritating to skin.

Serious eye damage/eye irritation
Irritating to eyes.

Sensitization
Has caused allergic skin reactions in humans.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
No relevant data found.

Carcinogenicity
No relevant data found.

Teratogenicity
Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity
In animal studies, did not interfere with reproduction.

Mutagenicity
In vitro studies showed both positive and negative effects In vivo tests did not show mutagenic effects

Propylene glycol methyl ether acetate

Acute oral toxicity
Observations in animals include: Lethargy. LD50, Rat, > 5,000 mg/kg

Acute dermal toxicity
LD50, Rabbit, > 5,000 mg/kg

Acute inhalation toxicity
LC0, Rat, 6 Hour, vapour, > 23.5 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation
Prolonged contact is essentially nonirritating to skin.
Repeated contact may cause skin irritation with local redness.

Serious eye damage/eye irritation
May cause pain disproportionate to the level of irritation to eye tissues.
May cause slight eye irritation.
May cause slight corneal injury.

Sensitization

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause drowsiness or dizziness.
Route of Exposure: Inhalation
Target Organs: Nervous system

Specific Target Organ Systemic Toxicity (Repeated Exposure)
In animals, effects have been reported on the following organs:
Liver.
Methyl ethyl ketone has caused liver effects in laboratory animals exposed by inhalation to high concentrations.
Methyl ethyl ketone is probably not neurotoxic in itself but it potentiates the neurotoxicity of methyl-n-butyl ketone and n-hexane.

Carcinogenicity
Available data are inadequate to evaluate carcinogenicity.

Teratogenicity
Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Has caused birth defects in laboratory animals only at doses toxic to the mother.

Reproductive toxicity
For similar material(s): In animal studies, did not interfere with reproduction.

Mutagenicity
In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were negative.

Toluene

Acute oral toxicity
LD50, Rat, 5,580 mg/kg

Acute dermal toxicity
LD50, Rabbit, 12,267 mg/kg

Acute inhalation toxicity
Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness. Alcohol consumption and exertion may increase the adverse effects of toluene. LC50, Rat, male, 4 Hour, vapour, 25.7 mg/l

LC50, Rat, female, 4 Hour, vapour, 30 mg/l

Skin corrosion/irritation
Brief contact may cause slight skin irritation with local redness.
Prolonged contact may cause moderate skin irritation with local redness.
May cause drying and flaking of the skin.

Serious eye damage/eye irritation
May cause slight eye irritation.
May cause slight temporary corneal injury.

Corneal injury is unlikely.

Sensitization
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Carcinogenicity
No specific, relevant data available for assessment.

Teratogenicity
For similar material(s): Did not cause birth defects in laboratory animals.

Reproductive toxicity
For similar material(s): In animal studies, did not interfere with reproduction.

Mutagenicity
In vitro genetic toxicity studies were negative.

Glycidoxypropyltrimethoxysilane

Acute oral toxicity
LD50, Rat, 8,025 mg/kg

Acute dermal toxicity
LD50, Rat, 4,250 mg/kg

Acute inhalation toxicity
LC50, Rat, 4 Hour, dust/mist, > 5.3 mg/l

Skin corrosion/irritation
Prolonged contact may cause moderate skin irritation with local redness.

Serious eye damage/eye irritation
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Sensitization
Did not cause allergic skin reactions when tested in guinea pigs.
Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 134 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, 408 mg/l, Method Not Specified.

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (microalgae), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC10, 0.5 Hour, > 1,000 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 21 d, >= 100 mg/l

Methyl ethyl ketone

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 2,993 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 308 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (microalgae), static test, 96 Hour, Growth rate inhibition, 2,029 mg/l, OECD Test Guideline 201

Toxicity to bacteria
EC50, Bacteria, 96 Hour, > 1,000 mg/l, hUCC

Toluene

Acute toxicity to fish
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 5.8 mg/l

Acute toxicity to aquatic invertebrates
LC50, water flea Ceriodaphnia dubia, semi-static test, 48 Hour, 3.78 mg/l

Acute toxicity to algae/aquatic plants
EbC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Biomass, 12.5 mg/l, OECD Test Guideline 201

Toxicity to bacteria
IC50, Bacteria, 16 Hour, 29 mg/l

Chronic toxicity to fish
NOEC, Fish, flow-through test, 40 d, growth, 1.4 mg/l

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).
10-day Window: Pass
Biodegradation: 83 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
10-day Window: Not applicable
Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 1.82 mg/mg

Methyl ethyl ketone

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 98 %
Exposure time: 28 d
Method: OECD Test Guideline 301D or Equivalent

Theoretical Oxygen Demand: 2.44 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	71 - 76 %
10 d	71 - 82 %
20 d	71 - 89 %

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 8 d
Method: Estimated.

Toluene

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 100 %
Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 3.13 mg/mg Calculated.

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 2 d
Method: Estimated.

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.73 Measured
Bioconcentration factor (BCF): 13.2 - 90 Fish Measured

Dipropylene glycol methyl ether acetate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.61 OECD Test Guideline 107 or Equivalent

Glycidoxypropyltrimethoxysilane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.5 Calculated.

Mobility in soil

Bisphenol-A, Epichlorohydrin Polymer

Potential for mobility in soil is low (Koc between 500 and 2000).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient (Koc): 1800 - 4400 Estimated.

Propylene glycol methyl ether acetate

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 1.7 Estimated.

Methyl ethyl ketone

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 3.8 Estimated.

Toluene

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 37 - 178 Estimated.

Dipropylene glycol methyl ether acetate

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 2.27 Estimation by liquid chromatography

Glycidoxypropyltrimethoxysilane

No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: For disposal, incinerate this material at a facility that complies with local, state, and federal regulations. (See 40 CFR 268)

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

DOT

Pennsylvania
Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

California Prop. 65
WARNING: This product can expose you to chemicals including Benzene, which is/are known to the State of California to cause cancer, and Toluene, Methanol, Benzene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System
HMIS

Health	Flammability	Physical Hazard
2*	3	0

* = Chronic Effects (See Hazards Identification)

Revision
Identification Number: 10094975 / 1001 / Issue Date: 10/15/2018 / Version: 4.2
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
CEIL	Acceptable ceiling concentration
Dow IHG	Dow Industrial Hygiene Guideline
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-2	USA. Occupational Exposure Limits (OSHA) - Table Z-2
Peak	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift
SKIN	Absorbed via skin
STEL	Short term exposure limit
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Full text of other abbreviations
AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the

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To: Bernie Paul
Subject: RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation
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Attachments: image001.png

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IDEM, OAQ will notify you when a draft permit has been submitted for public notice and/or when a final permit has been issued. As part of the notification, IDEM, OAQ will provide information on how to access the draft and/or final permit electronically on IDEM's website. If Bottcher America Corporation would prefer to receive paper copies of the entire draft and/or final permit, please let me know prior to the end of the applicant review period. If you prefer to receive paper copies of the entire permit, IDEM, OAQ will mail a paper copy of the draft permit and/or original signed final permit to the source contact. If you do not request to receive paper copies of the entire permit, IDEM, OAQ will only mail a paper copy of the original signed final permit signature page to the source contact.

Please feel free to contact me at any time if you have questions, concerns, or important information regarding your permit. For your convenience, my section chief (Heath Hartley) may be contacted at 317-232-8217 or HHartley@idem.IN.gov.

Thank you in advance for your time and assistance. I look forward to working with you.

Sincerely,

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From: Germann, Sarah R (IDEM)
To: Bernie Paul
Subject: RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation
Date: Friday, June 14, 2024 3:24:00 PM
Attachments: image001.png

Hello Bernie,

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Date: Friday, June 14, 2024 3:43:18 PM
Attachments: image001.png

Hi Sarah,

Sorry I missed your call - I was on a conference call at the time.

When I put the application together I didn't realize there was an area source NESHAP rule for polyurethane foam. I knew there were some major source NESHAPs for it, but didn't think to check the area source rules.

I will talk to Bottcher to see if the polyurethane rollers they are producing would be considered foams – i.e., have open cells or whether they materials are solid and thus would not be considered a foam. Subpart OOOOOO applies to foam production, so this is a key question. To my knowledge they are not introducing a blowing agent to create air pockets or cells, but they may not need to do that. I just don't know at the moment.

Hopefully I'll have an answer by Monday for you.

_____

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Sincerely,

Sarah Germann
Environmental Manager, Office of Air Quality
Indiana Department of Environmental Management
Direct Phone: 317-234-6555
Fax: 317-232-6749
Email: SRGerman@idem.IN.gov

From: Germann, Sarah R (IDEM)
To: Bernie Paul
Subject: RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation
Date: Friday, June 14, 2024 3:44:00 PM
Attachments: image001.png

Perfect, thank you Bernie. Have a good weekend.

Indiana Department of
Environmental Management
Sarah Germann
Environmental Manager
• (317) 234-6555 • srgerman@idem.IN.gov

Protecting Hoosiers and Our Environment

From: Bernie Paul <bernie@bpaulconsulting.com>
Sent: Friday, June 14, 2024 3:43 PM
To: Germann, Sarah R (IDEM) <SRGerman@idem.IN.gov>
Subject: RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation

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To: Germann, Sarah R (IDEM) <SRGerman@idem.IN.gov>; kerry.jackson@boettcher-systems.com

Subject: RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation

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From: Bernie Paul
To: Germann, Sarah R (IDEM)
Subject: RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation
Date: Monday, June 17, 2024 12:04:12 PM
Attachments: image001.png

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Subject:	RE: IDEM OAQ Contact Information for Application No. 159-47853-00015 for Bottcher America Corporation
Date:	Monday, June 17, 2024 12:32:00 PM
Attachments:	image001.png

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From:	Germann, Sarah R (IDEM)
To:	kerry.jackson@boettcher-systems.com; bernie@bpaulconsulting.com
Subject:	Applicant Review for Registration AA No. 159-47853-00015 for Bottcher America Corporation
Date:	Friday, June 21, 2024 1:01:00 PM
Attachments:	47853tsd.docx 47853per.docx 47853let.docx 47853calcs.xlsx image001.png

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Dear Kerry Jackson and Bernard Paul:

Attached please find the draft Registration Administrative Amendment and supporting documents for review. As a courtesy, this draft is being provided to you for an opportunity to review and provide comments prior to the issuance of the permit approval.

The time clock for Registration Administrative Amendment permit No.: 159-47853-00015 will be stopped during your review until you either provide comments or indicate that you do not have any comments. Due to permit accountability and IDEM's intention to issue the permit in a timely manner, you are being allotted one week to provide comments in writing. If you have any conflicts or special circumstances that would impede your review process during the time allotted, please notify me directly at the email address or phone number listed below as soon as possible. If you have not responded on or before June 28, 2024, IDEM will assume that you have no comments pertaining to this draft and all files will be forwarded for issuance.

During this review period, I will be available to address your concerns, answer any questions that you may have, or make necessary revisions to this draft.

Pursuant to 326 IAC 2-1.1-7, the fee for this permitting action is expected to be $0, which is based on the following:

$0	Registration Administrative Amendment

Please note: This is not a bill. This represents the anticipated fee and is subject to change if additional review is required or the permit level changes for some reason (e.g. an additional NESHAP review is required). You will receive a final bill from the OAQ Permits Administration and Support Section.

Sincerely,
Sarah Germann

IDEM
Indiana Department of
Environmental Management
Sarah Germann
Environmental Manager
• (317) 234-6555 • srgerman@idem.IN.gov

Protecting Hoosiers and Our Environment

From: Bernie Paul
To: Germann, Sarah R (IDEM); kerry.jackson@boettcher-systems.com
Subject: RE: Applicant Review for Registration AA No. 159-47853-00015 for Bottcher America Corporation
Date: Friday, June 21, 2024 1:30:57 PM
Attachments: image001.png

Sarah,

Thank you for sending over the Applicant Review drafts of the permit documents for Bottcher America. We'll review them and let you know if we have any comments by next Friday.

Bernie Paul
President, B Paul Consulting, LLC
Zionsville, Indiana 46077

bernie@bpaulconsulting.com
Office | Mobile | Text: 317-344-9730
Alternate Mobile | Text: 317-730-1939

https://bpaulconsulting.com

From: Germann, Sarah R (IDEM) <SRGerman@idem.IN.gov>
Sent: Friday, June 21, 2024 1:02 PM
To: kerry.jackson@boettcher-systems.com; Bernie Paul <bernie@bpaulconsulting.com>
Subject: Applicant Review for Registration AA No. 159-47853-00015 for Bottcher America Corporation

Dear Kerry Jackson and Bernard Paul:

Attached please find the draft Registration Administrative Amendment and supporting documents for review. As a courtesy, this draft is being provided to you for an opportunity to review and provide comments prior to the issuance of the permit approval.

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Sincerely,
Sarah Germann

Indiana Department of
Environmental Management
Sarah Germann
Environmental Manager
• (317) 234-6555 • srgerman@idem.IN.gov

Protecting Hoosiers and Our Environment

From:	Bernie Paul
To:	Germann, Sarah R (IDEM)
Cc:	kerry.jackson@boettcher-systems.com
Subject:	RE: Applicant Review for Registration AA No. 159-47853-00015 for Bottcher America Corporation
Date:	Monday, June 24, 2024 2:54:17 PM
Attachments:	image001.png 47853tsd with Bottcher America comments.docx 47853per with Bottcher America comments.docx

Sarah,

Attached are Bottcher America's comments on the draft permit and draft TSD. We do not have any comments on the Excel spreadsheet or the letter.

The comments are shown using the Word "Track Changes" feature and the "Comments" feature. Please let me know if you have any questions or need anything else.

Bernie Paul
President, B Paul Consulting, LLC
Zionsville, Indiana 46077

bernie@bpaulconsulting.com
Office | Mobile | Text: 317-344-9730
Alternate Mobile | Text: 317-730-1939

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From: Germann, Sarah R (IDEM) <SRGerman@idem.IN.gov>
Sent: Friday, June 21, 2024 1:02 PM
To: kerry.jackson@boettcher-systems.com; Bernie Paul <bernie@bpaulconsulting.com>
Subject: Applicant Review for Registration AA No. 159-47853-00015 for Bottcher America Corporation

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2024, IDEM will assume that you have no comments pertaining to this draft and all files will be forwarded for issuance.

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Sincerely,
Sarah Germann

Indiana Department of
Environmental Management
Sarah Germann
Environmental Manager
• (317) 234-6555 • srgerman@idem.IN.gov

Protecting Hoosiers and Our Environment

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration Administrative Amendment (AA)

Source Description and Location

Source Name:	**Bottcher America Corporation**
Source Location:	**717 Industrial Dr., Tipton, IN 46072**
County:	**Tipton County**
SIC Code:	**2796 (Platemaking and Related Services)**
Registration No.:	**R 159-37288-00015**
Registration Issuance Date:	**August 15, 2016**
Registration Administrative Amendment No.:	**159-47853-00015**
Permit Reviewer:	**Sarah Germann**

On May 20, 2024, the Office of Air Quality (OAQ) received an application from Bottcher America Corporation related to changes at an existing stationary manufacturing facility for rubber coated rollers for printing presses.

Existing Approvals

The source was issued Registration No. 159-37288-00015 on August 15, 2016. There have been no subsequent approvals issued.

County Attainment Status

The source is located in Tipton County.

Pursuant to amendments to Indiana Code IC 13-17-3-14, effective July 1, 2023, a federal regulation that classifies or amends a designation of attainment, nonattainment, or unclassifiable for any area in Indiana under the federal Clean Air Act is effective and enforceable in Indiana on the effective date of the federal regulation.

Pollutant	Designation
SO_2	Unclassifiable or attainment effective April 9, 2018, for the 2010 primary 1-hour SO_2 standard. Better than national secondary standards effective March 3, 1978.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective January 16, 2018, for the 2015 8-hour ozone standard.
$PM_{2.5}$	Unclassifiable or attainment effective April 15, 2015, for the 2012 annual $PM_{2.5}$ standard.
$PM_{2.5}$	Unclassifiable or attainment effective December 13, 2009, for the 2006 24-hour $PM_{2.5}$ standard.
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Unclassifiable or attainment effective January 29, 2012, for the 2010 NO_2 standard.
Pb	Unclassifiable or attainment effective December 31, 2011, for the 2008 lead standard.

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Tipton County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements of Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Tipton County has been classified as attainment for $PM_{2.5}$. Therefore, direct $PM_{2.5}$, SO_2, and NOx emissions were reviewed pursuant to the requirements of Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Other Criteria Pollutants
Tipton County has been classified as attainment or unclassifiable in Indiana for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of regulated air pollutants and hazardous air pollutants (HAP) are counted toward the determination of Registration (326 IAC 2-5.1-5) applicability and source status under Section 112 of the Clean Air Act (CAA).

Greenhouse Gas (GHG) Emissions

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHG emissions to determine operating permit applicability or PSD applicability to a source or modification.

Source Status - Existing Source

This table reflects the unrestricted potential emissions of the source prior to the proposed administrative amendment. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

	Unrestricted Source-Wide Emissions Prior to Administrative Amendment (tons/year)								
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NOx**	**VOC**	**CO**	**Single HAP[3]**	**Total HAPs**
Total PTE of Entire Source Including Source-Wide Fugitives	24.73	22.94	22.60	negl.	0.60	12.33	0.50	3.80	9.47
Registration Levels	< 25	< 25	< 25	< 25	< 25	< 25	< 100	< 10	< 25

[1]Under the Part 70 Permit program (40 CFR 70), PM_{10} and $PM_{2.5}$, not particulate matter (PM), are each considered as a "regulated air pollutant."
[2]$PM_{2.5}$ listed is direct $PM_{2.5}$.
[3]Single highest source-wide HAP.

These emissions are based on the TSD of Registration No. 159-37288-00015, issued on August 15, 2016.

Emission Units and Pollution Control Equipment
Constructed Under the Provisions of 326 IAC 2-1.1-3 (Exemptions)

As part of this permitting action, the source requested to add the following existing emission unit(s) constructed under the provisions of 326 IAC 2-1.1-3 (Exemptions):

(h) Polyurethane Rollers refurbishing line, constructed in 2023, with a maximum capacity of 30 rollers per day, using a baghouse as control, and exhausting to a stack. The line consists of the following:

i. removal station
ii. aqueous cleaning system
iii. adhesive application
iv. production of new polyurethane coating
v. polyurethane material application
vi. electric curing oven
~~vi.~~ vii. trimming, grinding, and polishing station

Commented [BPC1]: This station should be added to the polyurethane roller line

The total potential to emit of the emission unit(s) is less than levels specified at 326 IAC 2-1.1-3(e)(1)(A) through (G) and the addition of the emission unit(s) did not require the source to transition to a higher operation permit level. Therefore, pursuant to 326 IAC 2-5.5-6(d), the registration requirements under 326 IAC 2-5.5-6(g) do not apply to the emission unit(s). See Appendix A of this Technical Support Document for detailed emission calculations.

Enforcement Issues

There are no pending enforcement actions related to this administrative amendment.

Emission Calculations

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

Permit Level Determination – Registration Administrative Amendment

The following table is used to determine the appropriate revision level under 326 IAC 2-5.5-6. This table reflects the PTE before controls of the administrative amendment. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

	PTE Before Controls of the New Emission Units (ton/year)								
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$[1]**	**SO_2**	**NO_x**	**VOC**	**CO**	**Single HAP[2]**	**Total HAPs (Toluene)**
Polyurethane Roller Processing	0.13	0.13	0.13	-	-	1.46	-	-	-
Polyurethane adhesive	-	-	-	-	-	3.29	-	0.34	0.34
Total PTE Before Controls of the New Emission Units:	**0.13**	**0.13**	**0.13**	**-**	**-**	**4.75**	**-**	**0.34**	**0.34**

[1]$PM_{2.5}$ listed is direct $PM_{2.5}$.
[2]Single highest HAP.

Appendix A of this TSD reflects the detailed potential emissions of the administrative amendment.

Pursuant to 326 IAC 2-5.5-6(d)(11), this change to the permit is considered an administrative amendment, because the permit is amended to add or modify emissions unit(s) described under 326 IAC 2-1.1-3(e)(1) through 326 IAC 2-1.1-3(e)(31). The emission unit(s) being added is a polyurethane refurbishing like, and the total potential to emit of the emission unit(s) is less than levels specified at 326 IAC 2-1.1-3(e)(1)(A) through (G).

PTE of the Entire Source After Issuance of the Registration Administrative Amendment

The table below summarizes the after issuance source-wide unrestricted potential to emit. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

	Unrestricted Source-Wide Emissions After Issuance (ton/year) (tons/year)								
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NO_x**	**VOC**	**CO**	**Single HAP[3]**	**Total HAPs**
Total PTE of Entire Source Including Source-Wide Fugitives	24.86	23.07	22.72	negl.	0.60	17.08	0.50	3.80 (Carbon disulfide)	9.81
Registration Levels	< 25	< 25	< 25	< 25	< 25	< 25	< 100	< 10	< 25

[1]Under the Part 70 Permit program (40 CFR 70), PM_{10} and $PM_{2.5}$, not particulate matter (PM), are each considered as a "regulated air pollutant."
[2]$PM_{2.5}$ listed is direct $PM_{2.5}$.
[3]Single highest source-wide HAP.

Commented [BPC2]: Missing decimal point

(a) This administrative amendment will not change the registration status of the source, because the source-wide uncontrolled/unlimited potential to emit of PM, PM10, PM2.5, SO2, NOx, and CO will each still be within the ranges listed in 326 IAC 2-5.5-1(b)(1) and the potential to emit of all other regulated air pollutants will each still be less than the ranges listed in 326 IAC 2-5.5-1(b)(1). Therefore, the source will still be subject to the provisions of 326 IAC 2-5.5 (Registrations).

(b) This administrative amendment will not change the registration status of the source, because the source-wide uncontrolled/unlimited potential to emit of any single HAP will still be less than ten (10) tons per year and the uncontrolled/unlimited potential to emit of a combination of HAPs will still be less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5 (Registrations). This source is an area source under Section 112 of the Clean Air Act (CAA).

Federal Rule Applicability Determination

Due to this administrative amendment, federal rule applicability has been reviewed as follows:

New Source Performance Standards (NSPS):

(a) The requirements of the New Source Performance Standard for the Rubber Tire Manufacturing Industry, 40 CFR 60, Subpart BBB and 326 IAC 12, are not included in the registration for this source, because this source is not a rubber tire manufacturing plant, and this unit is not any of the units listed in §60.540(a).

(b) There are no New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included in the registration.

National Emission Standards for Hazardous Air Pollutants (NESHAP):

(a) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Flexible Polyurethane Foam Production, 40 CFR 63, Subpart III and 326 IAC 20-22 are not included in the registration for the polyurethane roller refurbishing line, since it does not meet the criteria in §63.1290(a)(1) through (3) because it is not located at a major source of HAPs.

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Rubber Tire Manufacturing, 40 CFR 63, Subpart XXXX and 326 IAC 20-55 are not included in the registration for this source, since this source is not a major source of hazardous air pollutant (HAP) emissions, and it does not own or operate a tire manufacturing facility.

(c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Flexible Polyurethane Foam Fabrication Operations, 40 CFR 63, Subpart MMMMM and 326 IAC 20-66 are not included in the registration for this source, since it is not a flame lamination affected source as defined in §63.8784(b)(2) and it is not located as a major source of HAP.

(d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Flexible Polyurethane Foam Production and Fabrication Area Sources, 40 CFR 63, Subpart OOOOOO are not included in the registration for the Polyurethane Roller Refurbishing Line, since the polyurethane product created does not have open cells which means the material is not a foam. This plant does not produce flexible polyurethane foam or rebond foam and does not laminate or bond polyurethane foam together or to other substrates.

(e) There are no National Emission Standards for Hazardous Air Pollutants under 40 CFR 63, 326 IAC 14 and 326 IAC 20 included in the registration.

Compliance Assurance Monitoring (CAM):

Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the registration, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability - Entire Source

Due to this administrative amendment, state rule applicability has been reviewed as follows:

326 IAC 2-5.5 (Registrations)
Registration applicability is discussed under the PTE of the Entire Source After Issuance of the Registration Administrative Amendment section of this document.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The new emission unit(s) will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)
This source is not subject to 326 IAC 2-6 (Emission Reporting), because it is not required to have an operating permit pursuant to 326 IAC 2-7 (Part 70), it is not located in Lake or Porter County, and its potential to emit lead is less than 5 tons per year. Therefore, this rule does not apply.

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

(1) 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.

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A,

Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)
The source is subject to the requirements of 326 IAC 6-4, because the paved roads have the potential to emit fugitive particulate emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
This source is not subject to the requirements of 326 IAC 6-5, because the source has potential fugitive particulate emissions of less than twenty-five (25) tons per year.

326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
Pursuant to 326 IAC 6.5-1-1(a), this source (located in Tipton County) is not subject to the requirements of 326 IAC 6.5, because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

326 IAC 6.8 (Particulate Matter Limitations for Lake County)
Pursuant to 326 IAC 6.8-1-1(a), this source (located in Tipton County) is not subject to the requirements of 326 IAC 6.8, because it is not located in Lake County.

State Rule Applicability – Individual Facilities

Due to this administrative amendment, state rule applicability has been reviewed as follows:

Polyurethane Rollers refurbishing line

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), the refurbishing line is not subject to the requirements of 326 IAC 6-3, since the PTE of PM is less than 0.551 lb/hr. Pursuant to 326 IAC 6-3-1(b)(8), the adhesive application is not subject to the requirements of 326 IAC 6-3, since the adhesive is applied by brush coating.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Even though, this polyurethane rollers refurbishing line was constructed after January 1, 1980, it is not subject to the requirements of 326 IAC 8-1-6, because its unlimited VOC potential emissions are less than twenty-five (25) tons per year.

326 IAC 8-2-9 (Miscellaneous Metal and Plastic Parts Coating Operations)
Pursuant to 326 IAC 8-2-9(a)(1)(E) the polyurethane roller refurbishing line is not subject to the requirements of 326 IAC 8-2-9, because this source has the SIC code 2796, which is not in any of the major groups #33, #34, #35, #36, #37, #38, or #39 and thus not regulated by this rule.

Proposed Changes

The following changes listed below are due to the administrative amendment. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

(1) Addition of the Polyurethane Rollers refurbishing line to the source permit.

Additional Changes

Upon further review, IDEM, OAQ has decided to make the following changes to the registration. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

(1) Minor updates to language in the B and D sections of the permit.

(2) Updates to the annual notification form to include the email address and phone number of the authorized individual.

***

A.2 Emission Units and Pollution Control Equipment Summary

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

***

(h) Polyurethane Rollers refurbishing line, constructed in 2023, with a maximum capacity of 30 rollers per day, using a baghouse as control, and exhausting indoors. The line consists of the following:

i. removal station
ii. aqueous cleaning system
iii. adhesive application
iv. production of new polyurethane coating
v. polyurethane material application
vi. electric curing oven
~~**vi.**~~**vii. trimming, griding, and polishing station**

Commented [BPC3]: This station should be added to the polyurethane roller line

(~~i~~**h**) Paved **Roads**~~roadways~~.

***

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration **R159-37288-00015** is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

***

D.1.1 Particulate Emission Limitations ~~for Manufacturing Processes~~ [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2~~(e),~~ (Particulate Emission Limitations for Manufacturing Processes), **particulate emissions from the Wheelabrator enclosed shot blast system, identified as EU03,** ~~the allowable particulate matter (PM) emissions from the Wheelabrator enclosed shot blast system, identified as EU-03,~~ shall not exceed the emission limits as shown in the table below.

***

E = 4.10 P0.67

Where **E = rate of emission in pounds per hour; and**
P = process weight rate in tons per hour
~~P = process weight in tons/hr; and~~
~~E = rate of emission in pounds per hour.~~

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

A Preventive Maintenance Plan is required for this facility and its control device. Section B - Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

***

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

REGISTRATION
ANNUAL NOTIFICATION

***

Authorized Individual (typed):	
Title:	
Signature:	**Date:**

Email Address~~Date~~:	**Phone:**

***

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on May 20, 2024.

IDEM Contact

(a) If you have any questions regarding this permit, please contact Sarah Germann, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 234-6555 or (800) 451-6027, and ask for Sarah Germann or (317) 234-6555.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: https://www.in.gov/idem/airpermit/public-participation/; and the Citizens' Guide to IDEM on the Internet at: https://www.in.gov/idem/resources/citizens-guide-to-idem/.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

REGISTRATION
OFFICE OF AIR QUALITY

Bottcher America Corporation
717 Industrial Drive
Tipton, Indiana 46072

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. R159-37288-00015 Master Agency Interest ID.: 61267	
Original signed by: Jason R. Krawczyk, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 15, 2016

Registration Administrative Amendment No. 159-47853-00015	
Issued by: Heath Hartley, Section Chief Permits Branch Office of Air Quality	Issuance Date:

SECTION A SOURCE SUMMARY

This registration 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 Registrant 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 Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary manufacturing facility for rubber coated rollers for printing presses.

Source Address:	717 Industrial Dr., Tipton, IN 46072
General Source Phone Number:	(765) 675-4449
SIC Code:	2796 (Plate Making and Related Services)
County Location:	Tipton County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

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

(a) Two (2) rubber removal stations, identified as EU-01 and EU-02 respectively, constructed in 1997 and 2013, with a capacity of 270 standard rollers per day and 9 industrial rollers per day, each station equipped with a baghouse, and exhausting to the atmosphere through stacks S-01 and S-02, respectively.

(b) One (1) Wheelabrator enclosed shot blast system, identified as EU-03, constructed in 1997, with a maximum throw rate of 28,500 lb/hr of shot material, with a capacity of 270 standard rollers per day and 9 industrial rollers per day, equipped with a baghouse, and exhausting to the atmosphere through stack S-03.

(c) One (1) Solutioning table for brush-applied primer and adhesive, identified as EU-04, constructed in 1997, with a capacity of 270 standard rollers per day, 9 industrial rollers, and 72 flexographic sleeves per day, exhausting to the atmosphere through stack S-04.

(d) One (1) steam-powered Vulcanizer autoclave, identified as EU-05, constructed in 1997, with a capacity of 270 standard rollers per day, 9 industrial rollers, and 72 flexographic sleeves per day, exhausting to the atmosphere through stack S-05.

(e) Two (2) roller finishing stations, identified as EU-06 and EU-07 respectively, constructed in 1997 and 2013, each consisting of a trimming station, grinding station, and polishing station, with a capacity of 270 standard rollers per day, 9 industrial rollers, and 72 flexographic sleeves per day, each equipped with a baghouse, and exhausting to the atmosphere through stacks S-06 and S-07, respectively.

(f) One (1) natural gas-fired boiler, with a maximum heat capacity of 1.4 MMBtu/hr, constructed in 1997, identified as EU-08, exhausting to the atmosphere through stack S-08.

(g) A flexographic sleeve make-up operation, consisting of brush-applied epoxy and hardener and an electric curing oven, constructed in 2006, identified as EU-09, with a capacity of 72 flexographic sleeves per day, exhausting indoors.

(h) Polyurethane Rollers refurbishing line, constructed in 2023, with a maximum capacity of 30 rollers per day, using a baghouse as control, and exhausting to a stack. The line consists of the following:

i. removal station
ii. aqueous cleaning system
iii. adhesive application
iv. production of new polyurethane coating
v. polyurethane material application
vi. electric curing oven
~~vi.~~ vii. trimming, grinding, and polishing station

Commented [BPC1]: This station should be added to the polyurethane roller line

(i) Paved Roads.

SECTION B GENERAL CONDITIONS

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

Terms in this registration 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 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration R159-37288-00015 is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

B.3 Registration Revocation [326 IAC 2-1.1-9]

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

(a) Violation of any conditions of this registration.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.

(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 registration shall not require revocation of this registration.

(d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to Registration No. R159-37288-00015 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 registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)][326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

(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 registration.

(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.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

B.8 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this registration, the Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration or ninety (90) days after initial start-up, whichever is later, 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.

If, due to circumstances beyond the Registrant's control, the PMPs cannot be prepared and maintained within the above time frame, the Registrant may extend the date an additional ninety (90) days provided the Registrant notifies:

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 Registrant shall implement the PMPs.

(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 Registrant 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 Registrant is required by 40 CFR Part 60 or 40 CFR Part 63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such OMM Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)][326 IAC 2-5.5-4(b)]

C.1 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 registration:

(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.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant 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).

SECTION D.1 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description:

(b) One (1) Wheelabrator enclosed shot blast system, identified as EU-03, constructed in 1997, with a maximum throw rate of 28,500 lb/hr of shot material, with a capacity of 270 standard rollers per day and 9 industrial rollers per day, equipped with a baghouse, and exhausting to the atmosphere through stack S-03.

(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 2-5.1-2(f)(1)][326 IAC 2-5.5-4(a)(1)]

D.1.1 Particulate Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from the Wheelabrator enclosed shot blast system, identified as EU03, shall not exceed the emission limits as shown in the table below.

Operation	Process Weight Rate (tons/hr)	Allowable Emission Rate (lbs/hr)
Wheelabrator enclosed shot blast system (EU-03)	14.25	24.31

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 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

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

A Preventive Maintenance Plan is required for this facility and its control device. Section B - Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

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

REGISTRATION
ANNUAL NOTIFICATION

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Bottcher America Corporation
Source Address:	717 Industrial Dr.
City:	Tipton, Indiana, 46072
Phone Number:	(765) 675-4449
Registration No.:	R159-37288-00015

I hereby certify that Bottcher America Corporation is:
☐ still in operation.
☐ no longer in operation.

I hereby certify that Bottcher America Corporation is:
☐ in compliance with the requirements of Registration No. R159-37288-00015.
☐ not in compliance with the requirements of Registration No. R159-37288-00015.

Authorized Individual (typed):	
Title:	
Signature:	**Date:**
Email Address:	**Phone:**

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.

Noncompliance:

From: Germann, Sarah R (IDEM)
To: Bernie Paul
Cc: kerry.jackson@boettcher-systems.com
Subject: RE: Applicant Review for Registration AA No. 159-47853-00015 for Bottcher America Corporation
Date: Tuesday, June 25, 2024 3:25:00 PM
Attachments: image001.png

Hi Bernie,

Thank you for your prompt review. I have read your comments and will make the requested changes. Once completed, I will send the permit documents to be issued.

Indiana Department of
Environmental Management
Sarah Germann
Environmental Manager
• (317) 234-6555 • srgerman@idem.IN.gov

Protecting Hoosiers and Our Environment

From: Bernie Paul <bernie@bpaulconsulting.com>
Sent: Monday, June 24, 2024 2:52 PM
To: Germann, Sarah R (IDEM) <SRGerman@idem.IN.gov>
Cc: kerry.jackson@boettcher-systems.com
Subject: RE: Applicant Review for Registration AA No. 159-47853-00015 for Bottcher America Corporation

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Sarah,

Attached are Bottcher America's comments on the draft permit and draft TSD. We do not have any comments on the Excel spreadsheet or the letter.

The comments are shown using the Word "Track Changes" feature and the "Comments" feature. Please let me know if you have any questions or need anything else.

_____

Bernie Paul
President, B Paul Consulting, LLC
Zionsville, Indiana 46077

bernie@bpaulconsulting.com
Office | Mobile | Text: 317-344-9730
Alternate Mobile | Text: 317-730-1939

https://bpaulconsulting.com

From: Germann, Sarah R (IDEM) <SRGerman@idem.IN.gov>
Sent: Friday, June 21, 2024 1:02 PM
To: kerry.jackson@boettcher-systems.com; Bernie Paul <bernie@bpaulconsulting.com>
Subject: Applicant Review for Registration AA No. 159-47853-00015 for Bottcher America Corporation

Dear Kerry Jackson and Bernard Paul:

Attached please find the draft Registration Administrative Amendment and supporting documents for review. As a courtesy, this draft is being provided to you for an opportunity to review and provide comments prior to the issuance of the permit approval.

The time clock for Registration Administrative Amendment permit No.: 159-47853-00015 will be stopped during your review until you either provide comments or indicate that you do not have any comments. Due to permit accountability and IDEM's intention to issue the permit in a timely manner, you are being allotted one week to provide comments in writing. If you have any conflicts or special circumstances that would impede your review process during the time allotted, please notify me directly at the email address or phone number listed below as soon as possible. If you have not responded on or before June 28, 2024, IDEM will assume that you have no comments pertaining to this draft and all files will be forwarded for issuance.

During this review period, I will be available to address your concerns, answer any questions that you may have, or make necessary revisions to this draft.

Pursuant to 326 IAC 2-1.1-7, the fee for this permitting action is expected to be $0, which is based on the following:

$0	Registration Administrative Amendment

Please note: This is not a bill. This represents the anticipated fee and is subject to change if additional review is required or the permit level changes for some reason (e.g. an additional NESHAP review is required). You will receive a final bill from the OAQ Permits Administration and Support Section.

Sincerely,
Sarah Germann

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Sarah Germann
Environmental Manager
• (317) 234-6555 • srgerman@idem.IN.gov

From: Germann, Sarah R (IDEM)
To: Bernie Paul
Cc: kerry.jackson@boettcher-systems.com; Estes, Ashley
Subject: RE: Applicant Review for Registration AA No. 159-47853-00015 for Bottcher America Corporation
Date: Wednesday, June 26, 2024 11:57:00 AM
Attachments: image001.png

Hello Bernie,

There is one more question about the Bottcher America application. The address you have listed on your application and on previous permits is 717 Industrial Dr. However, USPS and the census reporter lists the address as 717 W Industrial Dr. Can you please confirm which address is correct?

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Protecting Hoosiers and Our Environment

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Subject: RE: Applicant Review for Registration AA No. 159-47853-00015 for Bottcher America Corporation
Date: Wednesday, June 26, 2024 12:10:38 PM
Attachments: image001.png

717 Industrial Drive and 717 W. Industrial Drive are the same location. If USPS and the census are using 717 W. Industrial Drive, then I guess that's the "official" address. There is no East Industrial Drive in Tipton.

I am guessing that at some point USPS started designating East-West-North-South for streets just to clarify locations, even when it's not necessary.

Bernie Paul
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Office | Mobile | Text: 317-344-9730
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To: Bernie Paul <bernie@bpaulconsulting.com>
Cc: kerry.jackson@boettcher-systems.com; Estes, Ashley <AEstes1@idem.IN.gov>
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Protecting Hoosiers and Our Environment

BILLING WORKSHEET

MSOP, Registration, Exemptions

For Applications Received On and After October 1, 2019

Permit #:	159-47853-00015
Permit Reviewer:	Sarah Germann
Application Received Date:	20-May-16

Instructions: Permit Reviewers will fill out yellow-highlighted cells (as necessary) and check the appropriate box or fill in the number of reviews. The total fee will be calculated at the bottom and transferred to the billing amount on the first page. Permit Reviewers will change the bottom worksheet tab color to yellow to indicate the permit billing worksheet that was filled out. PASS staff will fill out the green-highlighted cells (as necessary).

Note: See "Transition scenarios - permits and fees" document located in SharePoint for more information on handling transition permits and associated fees.

MSOP Fees			
☐		$100	MSOP
☐		$600	MSOP w/NSR (120)*
☐		$3,500	MSOP w/NSR (120)*
☐		$600	MSOP Min Permit Revision (45)
☐		$100	MSOP Renewal
☐		$600	MSOP Renewal / Minor NSR (120)*
☐		$3,500	MSOP Renewal / Sig NSR (120)*
☐		$3,500	MSOP NSC (Minor PSD/EO) (120)
☐		$6,000	MSOP NSC (Major PSD/EO) (270)
☐		$3,500	MSOP SPR (Minor PSD/EO) (120)
☐		$6,000	MSOP SPR (Major PSD/EO) (270)
☐		$100	MSOP Relocation

** Bill $600 when the permit includes a modification (new or modified equipment) at MPR levels. Bill $3500 when the permit includes a modification (new or modified equipment) at SPR levels.*

Registration Fees			
☐		$600	Registration – (New Source subject to 326 IAC 2-5.1-2)
☐		$100	Registration Relocation
☐		$600	Registration Revision and Re-Registration – (Existing Sources subject to 326 IAC 2-5.5)

Exemption Fees			
☐		$100	Exemption

NSPS / NESHAP / 326 IAC 8-1-6 BACT / 326 IAC 2-4.1 MACT Review			
Number of Reviews	Total Fee	Fee	*See "NSPS-NESHAP-BACT Billing Info" document for instructions.*
		$500	for each review for an applicable NSPS
		$500	for each review for an applicable NESHAP
		$600	times each 326 IAC 8-1-6 BACT and each 326 IAC 2-4.1 MACT

For each best available control technology (BACT) analysis for VOC under 326 IAC 8-1-6 and for each maximum achievable control technology (MACT) under 326 IAC 2-4.1. [326 IAC 2-1.1-7(m)(5)]

Other Fees			
☐		$500	Interim – Any type
☐		$500	Public Hearing

$0 **Total Applicable Fee**

OAQ Permits Branch Invoice Worksheet

Instructions: Permit Reviewers will fill out yellow-highlighted cells (as necessary). Permit Reviewers will change the bottom worksheet tab color to yellow to indicate the permit billing worksheet that was filled out. PASS staff will fill out the green-highlighted cells (as necessary).

Source Name: Bottcher America Corporation

TEMPO AI: 61267

Permit #: 159-47853-00015

CST #:

Credit for permit fees: $

Credit Received Date:

Note: IDEM's accounting office requires that fee bills or refunds, be sent to the accounts Department at the billing address listed on application. If a courtesy copy is needed, please indicate at the bottom of this page.

Permit Reviewer please indicate applicable fees on page #2. Total will carry over to this page.

Total Due: $ $0

Total Credit: $ $0

Total Permitting Fees Applicable: $ $0

Total Refund Due: $

Reason for Refund:

Adjustments to Applicable Fees: $

Explanation of adjustments:

A courtesy copy of the billing has been requested by the applicant, please send to:

Name/Title:

Address:

Permit Reviewer: Sarah Germann

Date: 6/12/2024