

317.916.8000 • www.augustmack.com 1302 North Meridian Street, Suite 300 • Indianapolis, Indiana 46202

June 28, 2024

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

> Re: Air Permit Revision Application Linde Advanced Material Technologies Inc. Indianapolis, Indiana FESOP Number 097-40170-00060

> > August Mack Project Number JY1553.250

Received State of Indiana

JUL 01 2024

Dept of Environmental Mgmt
Office of Air Quality

Dear Sir or Madam:

August Mack Environmental, Inc. (August Mack), on behalf of Linde Advanced Material Technologies Inc. (Linde), is submitting the attached permit revision application for the Linde source located in Indianapolis, Indiana. A description of the updates is included below. Air permit application forms are provided in Attachment A. Emission calculations are provided in Attachment B.

PERMIT UPDATES

Linde is requesting that the IDEM revise the current Federally Enforceable State Operating Permit (FESOP) to make the following changes to the emission units' descriptions. The changes are indicated by red fonts, bold texts and strikethroughs.

- 1. Building 1550 powder manufacturing process Linde plans to add:
 - Six (6) CSP spray dryers, each with the same throughput rate as the currently permitted dryers.
 - Three (3) natural gas-fired burners, each with the same maximum capacity as the current burners.
 - A baghouse and selective catalytic reduction (SCR) system for the six (6) spray dryers.
 - Three (3) rotary kilns.
 - Two (2) blenders.
 - Three (3) screeners.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]
This stationary source consists of the following emission units and pollution control devices:

1550 Polco Street

- a. One (1) powder manufacturing process, identified as CSP Department EU020, constructed in 2014, located at 1550 Polco Street, exhausting outdoors, and consisting of the following:
 - 1. One (1) raw material handling operation, identified as Raw Material Handling CSP, with a maximum capacity of 12.37 pounds of raw material per hour, consisting of a liquid pumping operation and solid scooping operation, and utilizing no control;
 - One (1) raw material mixing operation, identified as Raw Material Mixing CSP, in which raw materials are mixed inside of an enclosed 55-gallon drum, utilizing no control, and with no exhaust;
 - 3. One (1) combustion spray pyrolysis (CSP) operation, approved in 2023 and 2024 to increase its maximum capacity, with a maximum capacity of twelve (12) six (6) batches of powder per twenty (20) hours, including the following systems:
 - A. Spray drying and
 - B. Powder to an oxide foam converter and utilizing the following control devices:
 - C. One (1) cyclonic collection system and
 - D. Natural Gas Combustion Units:
 - i. One (1) natural gas combustion unit, identified as a Burner 1 Associated with EU020, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.
 - ii. One (1) natural gas combustion unit, identified as a Burner 2 Associated with EU020, approved in 2023 for construction, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.
 - iii. One (1) natural gas combustion unit, identified as a Burner 3 Associated with EU020, approved for construction in 2024, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.
 - iv. Three (3) natural gas combustion units, identified as Burners 4, 5 and 6 Associated with EU020, to be constructed in 2025, each with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.
 - E. One (1) CSP pollution control system, used to collect material not captured by the cyclonic collection system, which includes the following control devices:
 - i. One (1) dust collector, identified as BAG1 (CSP), and

- ii. One (1) selective catalytic reduction system, identified as SCR1 (CSP);
- iii. One (1) dust collector, identified as BAG2 (CSP), and
- iv. One (1) selective catalytic reduction system, identified as SCR2 (CSP).
- 4. One (1) powder handling operation to convey powder to a hopper after CSP, identified as Powder Handling After CSP, with a maximum capacity of 84.90 pounds of powder fed into a kiln per hour, and utilizing two (2) dust collectors, identified as DC033 and DC020A, as control.

This Powder Handling After CSP is approved in 2024 to add a control.

5. Ten (10) Seven (7) kilns:

- A. One (1) electrically heated kiln, identified as Kiln 1, permitted in 2022 to use a control, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC030033, as control;
- B. Two (2) electrically heated rotary kilns, identified as Kiln 2 and Kiln 3, constructed in 2022, approved in 2023 to increase its maximum capacity, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC033, as control;
- C. Four (4) electrically heated kilns, identified as Kiln 4, Kiln 5, Kiln 6 and Kiln 7, approved in 2024 for construction, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC033, as control.
- D. Three (3) electrically heated rotary kilns, identified as Kiln 8, Kiln 9 and Kiln 10, to be constructed in 2024, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC033, as control.
- 6. One (1) powder handling operation after the kiln, identified as Powder Handling After Kiln, with a maximum capacity of 84.90 pounds of powder conveyed to a hopper per hour, which feeds the milling process, and utilizing a dust collector, identified as DC-030033, as control;
- 7. Nine (9) enclosed mills:

IDEM June 28, 2024

A. One (1) enclosed ball mill, identified as Mill 1, permitted in 2022, with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;

- B. Two (2) enclosed DM1 post kiln mills, identified as Mill 2 and Mill 3, constructed in 2024, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;
- C. Two (2) enclosed DM1 pre-kiln mills, identified as Mill 4 and Mill 5, approved in 2024 for construction, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;
- D. Four (4) enclosed DM4 post kiln mills, identified as Mill 6 to Mill 9, approved in 2024 for construction, with a maximum capacity of 30 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;
- 8. One (1) powder handling operation after the mill, identified as Powder Handling After Mill, including six (6) three (3) screeners and one (1) packaging operation, with a maximum capacity of 70.77 pounds of powder screened per hour and then conveyed to the blending hopper, and utilizing a dust collector, identified as DC-03033, as control;
- 9. Five (5) Three (3) primary enclosed blenders
 - A. One (1) primary enclosed blender, identified as Blender 1, permitted in 2022 to use a control, used to homogenize the mixture, utilizing a dust collector, identified as DC-033, as control, and with no exhaust;
 - B. One (1) primary enclosed blender, identified as Blender 2, constructed in 2023, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;
 - C. Three (3) One (1) primary enclosed blenders, identified as Blender 3, Blender 4 and Blender 5, to be constructed in 2025, used to homogenize the mixture, utilizing a dust collector, identified as DC-033, as control, and with no exhaust.
- 10. One (1) final powder handling process, identified as Final Powder Handling, with a maximum capacity of 70.77 pounds

of powder screened and packaged (three six screeners) per hour, and utilizing a dust collector, identified as DC-030, as control.

This Final Powder Handling is approved in 2024 to change control.

Under NESHAP for Chemical Manufacturing Area Sources [40 CFR 63, Subpart VVVVVV], the one (1) powder manufacturing process, identified as CSP Department EU020, is considered an affected unit.

2. Linde is requesting that the CSP NOx and total HAPs limited potential to emit be adjusted as shown in Attachment B – Emissions Calculations.

SUMMARY OF POTENTIAL EMISSIONS

Detailed uncontrolled and limited potential emission calculations from the source are included as Attachment B.

CONCLUSION

Linde requests that the IDEM revise the air permit as described above. The facility still qualifies for a FESOP after the changes listed above.

If you have any questions regarding this submittal, please contact us.

Sincerely,

Jennifer Richards Senior Consultant

Alic Bent

Director of Specialty Projects

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Attachment

ATTACHMENT A

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:

Tax ID Number:

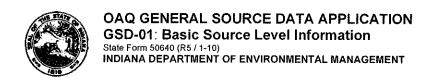
- The purpose of this cover sheet is to obtain the core information needed to process the air permit application. This cover sheet is required for <u>all</u> air permit applications submitted to IDEM, OAQ. Place this cover sheet on top of all subsequent forms and attachments that encompass your air permit 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:	
097-480 <u>3</u> 0-00060 <u>A</u> I# 12099)
DATE APPLICATION WAS RECEIVED:	
Received State of Indiana	
JUL 01 2024	_

Dept of Environmental Mgmt
Office of Air Quality

	PART A: Purpose of Application						
	ort A identifies the pource" refers to the						n, the term
2.	Source / Company N	lame: Linde A	dvanced Material	Technolog	jies Inc.	3. Plant ID:	097 — 00060
4.	Billing Address:	1500 P	olco Street				
<u> </u>	City: Indianapolis	·		State:	IN	ZIP Code: 462	224 –
5.	Permit Level:	Exemption [Registration	SSOA	☐ MSOP	☑ FESOP □ TV	OP PBR
6.	Application Summar choices selected below	' y: Check all thai w.	t apply. Multiple p	ermit num	bers may be a	nssigned as needed	based on the
	☐ Initial Permit	☐ Renev	val of Operating P	ermit		Asphalt General Pe	ermit
	Review Request	☐ Revoc	ation of Operating	Permit		Alternate Emission	Factor Request
	☐ Interim Approval	☐ Reloca	ation of Portable S	ource		Acid Deposition (Ph	nase II)
	Site Closure	☐ Emiss	ion Reduction Cre	dit Registr	<u>/</u>		
	☐ Transition (betwee	n permit levels)	From:	wa.		То:	
	☐ Administrative Ame	endment: [] Company Name (Change		☐ Change of R	Responsible Official
			Correction to Non	-Technical I	nformation	☐ Notice Only	Change
			Other (specify):				
	☑ Modification: ☑	🕽 New Emission U	lnit or Control Devic	e 🗌 Me	odified Emissior	unit or Control Device	e:
] New Applicable I	Permit Requirement	□ Ct	ange to Applica	ability of a Permit Req	uirement
] Prevention of Sig	gnificant Deterioratio	on 🔲 En	nission Offset	☐ MACT Preco	onstruction Review
		Minor Source Mo	odification 🔲	Significant	Source Modifica	ntion	
] Minor Permit Mo	dification 🔲	Significant i	Permit Modifica	tion	
		Other (specify):					
7.	Is this an application for	or an initial cons	truction and/or op	erating per	mit for a "Gre	enfield" Source?	☐ Yes ⊠ No
8.	Is this an application for	or construction c	of a new emission	s unit at an	Existing Sou	ırce?	⊠ Yes □ No

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.
Michael Bass Facility Manager
Name (typed) Title
Milael 6/28/24
Signature



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.lN.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 / Comp	any Location Information
1.	Source / Company Name: Linde Advanced Material Te	echnologies Inc. 2. Plant ID: 097 — 00060
3.	Location Address: 1500 Polco Street	
	City: Indianapolis	State: IN ZIP Code: 46224 –
4.	County Name: Marion	5. Township Name:
6.	Geographic Coordinates:	1
	Latitude: 39.786570 degrees	Longitude: -86.238131 degrees
7.	Universal Transferal Mercadum Coordinates (if know	n):
	Zone: 16 N Horizontal: 56	5235.28 m E Vertical : 4404346.57 m N
8.	Adjacent States: Is the source located within 50 miles of	f 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	n a non-attainment area for any of the criteria air pollutants?
	□ No ☑ Yes – Indicate Nonattainment Pollutant(s): □ 0	CO Pb NO _x O ₃ PM PM ₁₀ PM _{2.5} SO ₂
10.	. Portable / Stationary: Is this a portable or stationary so	urce?
	PART B: Sou	rce Summary
11.	. Company Internet Address (optional):	
12.	. Company Name History: Has this source operated und	er any other name(s)?
		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	s, or permits been issued to this source?
	No See See No. In Section In Section 1 See No. 1	oonding emissions units in Part M, Existing Approvals.
15.	. Unpermitted Emissions Units: Does this source have a	any unpermitted emissions units?
	☑ No ☐ Yes – List all unpermitted emissions units	s in Part N, Unpermitted Emissions Units.
16.	. New Source Review: Is this source proposing to constru	uct 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 Ri	sk Management Plan?
	Not Required ☐ No ☐ Yes → Date submitted:	EPA Facility Identifier: — —

PART C: Source Co	ontact Information				
IDEM will send the original, signed permit decis This person MUST be an employee of the permitted	ion to the person id	lentified in this section.			
18. Name of Source Contact Person: Michael Hess					
19. Title (optional): Director of Special Projects					
20. Mailing Address: 1500 Polco Street					
City: Indianapolis	State: IN	ZIP Code : 46224 –			
21. Electronic Mail Address (optional):	21. Electronic Mail Address (optional):				
22. Telephone Number : (317) 240 - 2101	23. Facsimile Number	(optional): () –			
IDEM will send a copy of the permit decision to the Individual or Responsible Official is different from the	person indicated in t	his section, if the Authorized			
24. Name of Authorized Individual or Responsible Officia	I: Michael Bass				
25. Title: Facility Manager					
26. Mailing Address: 1500 Polco Street					
City: Indianapolis	State: IN	ZIP Code : 46224 –			
27. Telephone Number : (317) 240 - 2533	28. Facsimile Number	(optional): () –			
29. Request to Change the Authorized Individual or Responsive change the person designated as the Authorized Individual IDEM, OAQ? The permit may list the title of the Authorized In	al or Responsible Official	in the official documents issued by			
No ☐ Yes – Change Responsible Official to:					
DART F. O.	av lu favorati av				
PART E: Own	•				
30. Company Name of Owner: Linde Advanced Material Te	crinologies inc.				
31. Name of Owner Contact Person: Michael Bass					
32. Mailing Address: 1500 Polco Street	Ctoto: IN	ZIP Code : 46224 –			
City: Indianapolis	State: IN 34. Facsimile Number				
33. Telephone Number: (317) 240 - 2533 34. Operator: Does the "Owner" company also operate the s					
No − Proceed to Part F below. Xes − Enter "SAME AS OWNER" on line 35 and proceed to Part G below.					
PART F: Opera	tor 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: Age	nt Information					
40. Company Name of Agent: August Mack Environmental	, Inc.					
41. Type of Agent: ⊠ Environmental Consultant □ Attorney □ Other (specify):						
42. Name of Agent Contact Person: Alic Bent						
43. Mailing Address: 1302 N. Meridian Street, Suite 300						
City: Indianapolis	State: IN	ZIP Code: 46202				
44. Electronic Mail Address (optional): abent@aug	ustmack.com					
45. Telephone Number: (317) 916 - 3124	46. Facsimile Number	(optional): (317) 916 – 8001				
47. Request for Follow-up: Does the "Agent" wish to receiv						
during the public notice period (if applicable) and a copy	or the final determination?					
PART H: Local Li	brary Information					
48. Date application packet was filed with the local librar	y: within 10 days of app	lication submittal				
49. Name of Library: Speedway Public Library						
50. Name of Librarian (optional):						
51. Mailing Address: 5633 W 25th Street						
City: Indianapolis	State: IN	ZIP Code : 46224 –				
52. Internet Address (optional):						
53. Electronic Mail Address (optional):						
54. Telephone Number: () –	55. Facsimile Number	(optional): () –				
DARTI O N	11:					
PART I: Company Name Complete this section only if the source has previously operated above in Section A.		at is different from the name listed				
56. Legal Name of Company		57. Dates of Use				
Praxair Surface Technologies		to 2022				
		to				
		to				
		to				
		to				
		to				
		to				
	to					
	to					
		to				
 58. Company Name Change Request: Is the source official on all official documents issued by IDEM, OAQ? ☒ No ☒ Yes – Change Company Name to: 	ly requesting to change th	e legal name that will be printed				

	PART J: Portable Source Location History (if applic	able)	
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.			
59. Plant ID	60. Location of the Portable Source	61. Dates at this Location	
-		to	
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P/	ART K: Request to Change Location of Portable Source	(if applicable)	

PART K: Request to	Change Location of Portable S	Source (if applicable)
Complete this section to request a change of	location for a portable source.		
62. Current Location:			
Address:			
City:	State:	ZIP Code:	-
County Name:			
63. 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.					
64. Process Description	65. Products	66. SIC Code	67. NAICS Code			
Coating, Engraving, & Allied Services	Coated Machinery Parts	3479	332812			
Manufacturing of Powders for Surface Coating and Polishing	Metallic and Non-metallic Powders	3999	339999			
		······································				

PART M: Existing Approvals (if applicable) Complete this section to summarize the approvals issued to the source since issuance of the main operating permit.					
68. Permit ID 69. Emissions Unit IDs 70. Expiration Dat					
46563	FESOP	4/1/2029			
47533	Pending Significant Permit Revision	4/1/2029			

	PART N: Unpermitted Em	issions Units (if applicable)			
Complete this se	ection only if the source has emission units the	nat are not listed in any perm	it issued by IDEM	, OAQ.	
		73. Actual	. Actual Dates		
71. Emissions Unit ID	72. Type of Emissions Unit	Began Construction	Completed Construction	Began Operation	

PART O: New or Modified Emissions Units (if applicable)						
Complete this se	ction	only	if the source is proposing to add new e	emission units or modify	existing emission	units.
	ם چ	۵	78. Estimated Dates			
74. Emissions Unit ID	75. NEW	76. MOD	77. Type of Emissions Unit	Begin Construction	Complete Construction	Begin Operation
	Х	Х	See Cover Letter			



OAQ AIR PERMIT APPLICATION - FORMS CHECKLIST

State Form 51607 (R5 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch 100 N. Senale 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 checklist is to help the applicant and IDEM, OAQ ensure that the air permit application packet is administratively complete. This checklist is a required form.
- Check the appropriate box indicating whether each application form is applicable for the current permit application. The source must submit only those forms pertinent to the current permit application.
- Place this checklist between the cover sheet and all subsequent forms and attachments that encompass your air permit application packet.

	Part A: General Source Data								
Applicable?	Form ID Title of Form		State Form Number	When should this form be included in my application packet?					
⊠Y □N	COVER	Application Cover Sheet	50639	Include for every application, modification, and renewal, including source specific operating agreements (SSOA).					
⊠Y □N	CHECKLIST	Forms Checklist	51607	Include for every application, modification, and renewal, including SSOA.					
⊠Y □N	GSD-01	Basic Source Level Information	50640	Include for every application, modification, and renewal, including SSOA.					
□Y ⊠N	GSD-02	Plant Layout Diagram	51605	Include for every new source application, and modification.					
□Y ⊠N	GSD-03	Process Flow Diagram	51599	Include one for every process covered by the application.					
□Y ⊠N	GSD-04	Stack / Vent Information	51606	Include for every new source application, and modification.					
□Y⊠N	GSD-05	Emissions Unit Information	51610	Include for every process covered by the application.					
□Y ⊠N	GSD-06	Particulate Emissions Summary	51612	Include if the process has particulate emissions (PM).					
□Y ⊠N	GSD-07	Criteria Pollutant Emissions Summary	51602	Include if the process has criteria pollutant emissions.					
□Y ⊠N	GSD-08	HAP Emissions Summary	51604	Include if the process has hazardous air pollutant emissions (HAP).					
□Y ⊠N	GSD-09	Summary of Additional Information	51611	Include if the additional information is included.					
□Y ⊠N	GSD-10	Insignificant Activities	51596	Include if there are unpermitted insignificant activities.					
□Y ⊠N	GSD-11	Alternative Operating Scenario	51601	Include if an AOS is requested.					
□Y ⊠N	GSD-12	Affidavit of Nonapplicability	51600	Include if the standard notification requirements do not apply.					
□Y ⊠N	GSD-13	Affidavit of Applicability	51603	Include if the standard notification requirements apply.					
□Y ⊠N	GSD-14	Owners and Occupants Notified	51609	Include if the standard notification requirements apply.					
□Y ⊠N	GSD-15	Government Officials Notified	51608	Include if the standard notification requirements apply.					
□Y ⊠N	RENEWAL	Renewal Checklist	51755	Include with every operating permit renewal packet.					

Continued on Next Page

Part B: Process Information									
			State Form Number	When should this form be included in my application packet?					
□Y ⊠N	AEF-01	Alternate Emission Factor Request	51860	Submit if you are requesting to use an emission factor other than AP-42.					
□Y ⊠N	PI-01	Miscellaneous Processes	52534	Include one form for each process for which there is not a specific PI form.					
□Y ⊠N	PI-02A	Combustion Unit Summary	52535	Include one form to summarize all combustion units (unless SSOA).					
□Y ⊠N	PI-02B	Combustion: Boilers, Process Heaters, & Furnaces	52536	Include one form for each boiler, process heater, or furnace (unless SSOA).					
□У⊠и		Combustion: Turbines & Internal	52537	Include one form for each turbine or internal combustion engine (unless SSOA).					
□Y ⊠N	PI-02D	Combustion: Incinerators & Combustors	52538	Include one form for each incinerator or combustor (unless SSOA).					
□Y ⊠N	PI-02E	Combustion: Kilns	52539	Include one form for each kiln (unless SSOA).					
□Y ⊠N	PI-02F	Combustion: Fuel Use	52540	Include one form for each combustion unit (unless SSOA).					
□Y ⊠N	PI-02G	Combustion: Emission Factors	52541	Include one form for each combustion unit (unless SSOA).					
□Y ⊠N	PI-02H	Combustion: Federal Rule Applicability	52542	Include one form for each combustion unit (unless SSOA).					
□Y ⊠N	PI-03	Storage and Handling of Bulk Material	52543	Include if the process involves the storage and handling of bulk materials.					
□Y ⊠N	PI-04	Asphalt Plants	52544	Include for each asphalt plant process (unless general permit).					
□Y ⊠N	PI-05	Brick / Clay Products	52545	Include for each brick and/or clay products process.					
□Y ⊠N	PI-06	Electroplating Operations	52546	Include for each electroplating process.					
□Y ⊠N	PI-07	Welding Operations	52547	Include for each welding process.					
□Y ⊠N	PI-08	Concrete Batchers	52548	include for each concrete batcher (unless SSOA).					
□Y ⊠N	PI-09	Degreasing	52549	Include for each degreasing process (unless SSOA).					
□Y ⊠N	PI-10	Dry Cleaners	52550	Include for each dry cleaning process					
□Y ⊠N	PI-11	Foundry Operations	52551	Include for each foundry process					
□Y ⊠N	PI-12	Grain Elevators	52552	include for each grain elevator (unless SSOA).					
□Y ⊠N	PI-13	Lime Manufacturing	52553	Include for each lime manufacturing process.					
□Y ⊠N	Pl-14	Liquid Organic Compound Storage	52554 (doc)	Include if the process involves the storage of liquid organic compounds.					
□Y ⊠N	PI-14ALT	Alternate version of Liquid Organic Compound Storage	52555 (xls)	Include if the process involves the storage of liquid organic compounds and there are several storage vessels.					
□Y ⊠N	PI-15	Portland Cement Manufacturing	52556	Include for each Portland cement manufacturing process.					
Y ⊠N	PI-16	Reinforced Plastics & Composites	52557	Include for each reinforced plastics and composites process.					

Continued on Next Page

Part B: Process Information								
Applicable?	Form ID	Title of Form	State Form Number	When should this form be included in my application packet?				
□Y ⊠N	Pl-17	Blasting Operations	52558	Include for each blasting process (unless SSOA).				
□Y ⊠N	PI-18	Mineral Processing	52559	Include if the process involves mineral processing (unless SSOA).				
□Y ⊠N	PI-19	Surface Coating & Printing Operations	52560	Include for each surface coating or printing process (unless SSOA),				
□Y⊠N	PI-20	Woodworking / Plastic Machining	52561	Include for each woodworking or plastic machining process (unless SSOA).				
□Y ⊠N	Pl-21	Site Remediation	52570	Include for each soil remediation process.				
□Y ⊠N	PI-22	Ethanol Plants (Under Development)	None	Include for each ethanol plant.				

	Part C; Control Equipment								
Applicable?	able? Form ID Title of Form		State Form Number	When should this form be included in my application packet?					
□Y ⊠N	CE-01	Control Equipment Summary	51904	Include if add-on control equipment will be used for the process.					
□Y ⊠N	CE-02	Particulates – Baghouse / Fabric Filter	51953	Include for each baghouse or fabric filter.					
□Y ⊠N	CE-03	Particulates - Cyclone	52620	Include for each cyclone.					
□Y ⊠N	CE-04	Particulates – Electrostatic Precipitator	52621	Include for each electrostatic precipitator.					
□Y ⊠N	CE-05	Particulates – Wet Collector / Scrubber / Absorber	52622	Include for each wet collector, scrubber, or absorber.					
□Y ⊠N	CE-06	Organics – Flare / Oxidizer / Incinerator	52623	Include for each flare, oxidizer, or incinerator.					
□Y ⊠N	CE-07	Organics – Adsorbers	52624	Include for each adsorber.					
□Y⊠N	CE-08	Organics - Condenser	52625	Include for each condenser.					
□Y ⊠N	CE-09	Reduction Technology	52626	Include for each control device using reduction technology (e.g., SCR, SNCR).					
□Y ⊠N	CE-10	Miscellaneous Control Equipment	52436	Include one form for equipment for which there is not a specific CE form.					

Indiana Department of Environmental Management Office of Air Quality State Form 51607 (R5 / 1-10)

	Part D: Compliance Determination for Part 70 Sources									
Applicable? Form ID		Title of Form	State Form Number	When should this form be included in my application packet?						
□Y ⊠N	CD-01	Emissions Unit Compliance Status	51861	Include for every Title V application, including modifications.						
□Y ⊠N	CD-02	Compliance Plan by Applicable Requirement	51862	Include for every Title V application, including modifications.						
□Y ⊠N	CD-03	Compliance Plan by Emissions Unit	51863	Include for every Title V application, including modifications.						
□Y ⊠N	CD-04	Compliance Schedule and Certification	51864	Include for every Title V application, including modifications and renewal.						
□Y ⊠N	FED-03	Compliance Assurance Monitoring	53377	Include for every Title V application, including modifications.						

	Part E: Best Available Control Technology									
Applic	cable?	Form ID	Title of Form	State Form Number	When should this form be included in my application packet?					
ΠY	⊠N	BACT-01	Analysis of Best Available Control Technology	None	Include for every BACT application.					
□Υ	⊠N	BACT-01a	Background Search: Existing BACT Determinations	None	Include for every BACT application.					
□Y	⊠N	BACT-01b	Cost/Economic Impact Analysis	None	Include for every BACT application.					
ΠY	⊠N	BACT-02	Summary of Best Available Control Technology	None	Include for every BACT application.					
ΠY	⊠N	PSD / EO-01	PSD / Emission Offset Checklist	None	Include for every PSD application and every NSR application that requires emission offsets.					

	Part F: Emission Credit Registry								
Applicable?	Form ID	Title of Form	State Form Number	When should this form be included in my application packet?					
□Y ⊠N	EC-01	Generation of Emission Credits	51783	Include if the modification results in emission reductions.					
□Y ⊠N	EC-02	Transfer of Emission Credits	51784	Submit whenever registered emission credits are transferred.					
□Y ⊠N	EC-03	Use of Emission Credits	51785	Include if the modification requires the use of emission credits for offsets.					
□Y ⊠N	EC-04	Emission Credit Request	51906	Submit if you are looking for emission credits for offsets.					

Continued on Next Page

Part G: Plantwide Applicability Limits									
Applicable?	Form ID	Title of Form	State Form Number	When should this form be included in my application packet?					
□Y ⊠N	PAL-01	Actuals Plantwide Applicability Limit	52451	Include if the modification results in emission reductions.					
□Y ⊠N	PAL-02	Revised Plantwide Applicability Limit	52452	Submit whenever registered emission credits are transferred.					
□Y ⊠N	PAL-03	Plantwide Applicability Limit Renewal	52453	Include if the modification requires the use of emission credits for offsets.					
☐ Y ☑ N PAL-04 Request for Termination of Plantwide Applicability Limit		52454	Submit if you are looking for emission credits for offsets.						

	Part H: Air Toxics								
Applicable?	Form ID Title of Form		State Form Number	When should this form be included in my application packet?					
□Y ⊠N	FED-01	Summary of Federal Requirements – NSPS & NESHAP	53512	Include for each 40 CFR Part 60 NSPS, 40 CFR Part 61 NESHAP, and 40 CFR Part 63 NESHAP applicable to the process.					
□Y ⊠N	FED-02	MACT Pre-Construction Review	51905	Include if constructing or modifying a process subject to a Part 63 NESHAP.					
□Y ⊠N	No Form ID	MACT Initial Notification	None	This form is available on the U.S. EPA website. Completed notifications should be submitted to the IDEM Compliance Branch.					

	Part I: Special Permits							
Applicable? Form ID		Title of Form	State Form Number	When should this form be included in my application packet?				
□Y ⊠N	INTERIM	Interim Approval	None	Submit if you are applying for interim operating approval.				
□Y ⊠N	ASPHALT	Asphalt General Permit	None	Submit if you are applying for or modifying an asphalt plant general permit.				
□Y ⊠N	NOXBTP	NO _x Budget Permit	None	Submit if you are a power plant or if you have opted in to the NOx budget trading program.				
□Y ⊠N	ACIDRAIN	Phase 2 Acid Rain Permit	None	Submit if you are applying for, modifying, or renewing a Phase 2 Acid Rain permit.				

Part J: Source Specific Operating Agreements (SSOA)								
Applicable?	Form ID	Title of Form	State Form Number	When should this form be included in my application packet?				
□Y ⊠N	OA-01	Summary of Application and Existing Agreements	53438	Submit if you are applying for or modifying a Source Specific Operating Agreement.				
□Y ⊠N	OA-02	Industrial / Commercial Surface Coating Operations -OR- Graphic Arts Operations (326 IAC 2-9-2-5)	53439	Submit if you are applying for or modifying a SSOA for industrial or commercial surface coating operations not subject to 326 IAC 8-2; or graphic arts operations not subject to 326 IAC 8-5-5.				
□Y ⊠N	OA-03	Surface Coating or Graphic Arts Operations (326 IAC 2-9-3)	53440	Submit if you are applying for or modifying a SSOA for surface coating or graphic arts operations.				
□Y ⊠N	OA-04	Woodworking Operations (326 IAC 2-9-4)	53441	Submit if you are applying for or modifying a SSOA for woodworking operations.				
□Y ⊠N	OA-05	Abrasive Cleaning Operations (326 IAC 2-9-5)	53442	Submit if you are applying for or modifying a SSOA for abrasive cleaning operations.				
□Y ⊠N	OA-06	Grain Elevators (326 IAC 2-9-6)	53443	Submit if you are applying for or modifying a SSOA for grain elevators.				
□Y ⊠N	OA-07	Sand And Gravel Plants (326 IAC 2-9-7)	53444	Submit if you are applying for or modifying a SSOA for sand and gravel plants.				
□Y ⊠N	OA-08	Crushed Stone Processing Plants (326 IAC 2-9-8)	53445	Submit if you are applying for or modifying a SSOA for crushed stone processing plants.				
□Y ⊠N	OA-09	Ready-Mix Concrete Batch Plants (326 IAC 2-9-9)	53446	Submit if you are applying for or modifying a SSOA for ready-mix concrete batch plants.				
□Y ⊠N	OA-10	Coal Mines And Coal Preparation Plants (326 IAC 2-9-10)	53447	Submit if you are applying for or modifying a SSOA for coal mines and coal preparation plants.				
□Y ⊠N	OA-11	Automobile Refinishing Operations (326 IAC 2-9-11)	53448	Submit if you are applying for or modifying a SSOA for automobile refinishing operations.				
□Y ⊠N	OA-12	Degreasing Operations (326 IAC 2-9-12)	53449	Submit if you are applying for or modifying a SSOA for degreasing operations.				
□Y ⊠N	OA-13	External Combustion Sources (326 IAC 2-9-13)	53450	Submit if you are applying for or modifying a SSOA for external combustion sources.				
□Y ⊠N	OA-14	Internal Combustion Sources (326 IAC 2-9-14)	53451	Submit if you are applying for or modifying a SSOA for internal combustion sources.				

ATTACHMENT B

Calculations

Appendu A: Emissione Summary Summary of Unhamed Emissione Refere Integral Controls

Company Hame.
Source Address: L245 and 1415 Main Street, Indianapolis, (#14224
1500 and 1550 Polco Street, Indianapolis, (#142224

Emissions Units					United Po	iential lo Emil (ons/year)			
	771	PH2.	PM ₂ ,	80,	NOx	Voc	co	Tetal HAPs	Singl	Word Case HAP
Ponder Manufacturing Process: CSP Department 20020										
Rant Maleral Handling CSP	285.44	1.76-64	1.36-04		-					
Ran Maleral Microy CSP	r-ext.	regt.	to::/L		T -		_	-		_
Contrator Spray Pyralysis (CSF) operators	95,20	75.29	35.29		230.44			7,25	7,25	Notel
Some s 1 to 6 Associated with EUXXX	1.66/12	0,07	(6 <u>07</u>	5,15E-63	0.84	0.65	0.72	1.6E-62	1,56/32	Havana
Paude: Honaling Alter CSP	3,56/79	1,EE-03	1,EE-20	_				9,7E-04	9.76-04	Nobel
Ten (10) Electrical Attended Karis 1 to 10	-	-			7.79	-	-			-
Powder Handing After Kitra	7.88-23	1.6E-63	1,8E-03	. :	-		_	R.7E-04	9.7E-04	Noted
th Enriched ASNs 1 to 9	10.53	77,63	77.03	_	-		_	(2,41	19.41	Hicket
Passer Handing After Miles	5.7E-63	2.6E-67	Z6E-03	-	-			1.2E-63	1,3E/20	Netel
5 Princy Endored Blades 1 to 5	-							_		_
: Fanal Provide: Manding	5,3E-03	2.0E-09	256-03	-			-	1.2E-03	1,35/33	Nistel
Twestpreven (27) Specially Panders Manufacturing Opinistons	15.10	15.10	15.10	-			_	1,61	1,12	Chromate
Titanien Favder Frantisea	35,64	종대	25.04	-	-		_	0.95	0.95	Cleanium
Seamatech Process	1.29	1.29	1.26		I -	1.53	_	0,03	0.66	Chemion
Fotplan (44) Gra Blazing Units	£5 C62	<i>च्या अ</i>	637.27	***	T =		_	_		
Dry les Elistry Vist (02°3 EUG3)	1.95	1,95	1,95					1		•
Tero (2) Wel Gret Blasting Units	12.14	2.20	9.20	-	ì	_				
Polishing Operation						·				
Powder Handing Operation	0.14	0,07	0.07		_			-		**
Poster Rung Operators		_	-	_		17.56	~	_		_
Specially Inpul Manufacturing process	VIII III III III III III III III III II			•		**********		,		
Material Transfer Parit	4.2E-01	2(E-63	265/0	-	T -	-	-			
:	0.22	2.ZE-63	2.35-63			-		0.92	0.02	Lead
Paci Diffusion Freques	1.99	1.95	1.95				-	0.24	0.24	Hydraftens Acid (HF)
Operation 1. Process 1 (O1Pt)	0.97	0.07	0.67	_		_				1 Manney Country
Operation 2 Floress 1 (D2F1)	0,62	0.02	9.02				_			
Operation 2 Proxess 2 (GZPZ)	3 SE-05	1.7E-4/5	1,76-06	-	 	0.64		9,70	0.79	Melland
Opinion 2. Process 4 (DIP4)		-			-			157	1.57	Habathon, And the
Palet Girdes	450,51	4°25)	450.51		 		<u>-</u>	=	1.02	1 Manager sendia.
Two-tefau (24) surface costing stations	101.60	105.60	165.60					77.76	45,90	Chronoum
Kerasene Cambustan (a. Suriaca Capting Stations	6.7E-04	4.1E-64	4.15-04	062	0.01	1.1E-04	1.65-00	216-06	635-07	Selerum
Physical Vapor Deposition (EU011)	3.3E-04	3.36-04	3.3E-04	-		7,12.7	-			2 commune
LSR1 TransportemeNande Capting Station (EUSIR)	77	-						691	0.91	Hotooblek Asia HCL
First-time (73) natural gas-fired combustom uses	0.26	1,13	5,13	0.00	14.65	0.52	12.48	0.28	0.27	Magas.
Seven (7) rational gaselined builers	0.77	l,ta	1.10	0.09	14.47	0.50	12.15	0.27	0.25	Herzes
Depreding	_	-		-	_	9,62	-	4.63	4.01	Feed transplant (PCE
Vectorn States		L						ļ		L
Epo-y Kt Operation (EUS-12)	7.5E-04	3.6E-04	36E/04			0.26	-			-
Get Reclassiva (EU020G)	7.5E-00 0.01				-	465				- ::::
Titres Gr 3D Portes		2,5E-63	2.7E-13		 -					
(wirely-regio) (25) granding and cutting operators.	regi	n/sk	n+3L		-			sept.	neal	Notes
Parties (13) well-ry and thermal outing operations	1,55	0.01	170					0.12	D 45	t-a-i
One (1) carperter shop	1.76	นข		-				ers	0.0%	Manganess
Fire (S) Jestico en Ca	0.12	4550	ZAE-OI		 		-			
Desil Energery Generalay	1691	teed	nepl			<u> </u>				
Lepaket for them at led att	0.21	0.21	6.21	0,19	251	0.24	0.63	25E-0)	7.76-04	Formaldeleyda
Tribunyat Laur Wil	-	-				-		1,39	0.52	Ce±alt
Francist Equi #3 Scale Cost #1					ļ		ļ	0.04	0.65	ļ
SCAR CORPY) Op-14Pm 1. Process 3 (C1P3)	_			ļ .		0.03		3.1E-04	1.36-04	Clyanom
CP12-W 1. P10-45 3 (CP13) IPA Raon Support w EUS-22								0.50	0.50	Hataken: And (HF)
			ļ -	-		2.92		_		_
Straping and Charving Operations						6.61		0.25	0.25	Hydrolune Acad (HF)
Librarian Application Processes	-	-		-	_	1.21		0.97	0,63	Etylere Glycal
Total without Fugitives Paved Roads	1,636,61	1,374,54	1,374,54	0.40	261,33	37,33	25,98	lie4i	51,62	Chromium
	7.65	1,60	6.34							-
Total with Fugitives	1,644,59	1,376.15	1,374.55	0,42	261,33	37,33	25,59	169,41	51.62	Chromium

Company Haise: Linde Advanced Material Technologies, Inc.
5001ce Address: 5245 and 1415 Main Street, Indianapolis, IN 46224
500 and 1859 Polco Street, Indianapolis, IN 46220

Enissiens Units						nual to Emit (to)				
Emissions unus	PU	PI.	PM,	\$O,	NO#	voc	CO	Total HAPs	Single	Weist Case HAP
Powder Hanslacturing Process: CSP Department EU020					***************************************					
files trend Harding CSP	2 FE-04	1.5E-64	1.3E-04		_ =					**
Ray Mend Myon CSP	regit	red	F.EG				-			
Ecritistos Spay Pychan (CSP) cperitos	10.02	10.60	iò an	_	Sara			6.15	7.25	Make
Bunners 1 to 6 Assect of with \$1500	1,65-02	0.07	10.0	1.26-00	0.85	8.65	0.72	1.65-02	1,56-92	Heate
Powder Handing After CSP	3 EE-03	1.65-63	1.6E-93		-			9.7E-64	9.7E-04	Retail
For \$10) Electrical Alexand Kit is 1 to 10		-		-	7.72					
Powder Handing After Killer	3.65-93	1,8543	1.6503					9.76-64	9.7E/04	Hotel
P Endord MN Table	576	3.00	300				-	2.00	200	Itokel
Powder Harding Alter Mile	5,35.03	24E43	265-68					1.3F-69	1.2E-03	thitel
[Spring Endors Hender 1 to 5		COLUMN TO A STATE OF THE PARTY					····	1,25407	1,25-33	1
Frui Payde Handins	435-371	2,66-63	25E-93			=		1,35-61	1,36-03	1 1614
Twenty-seven (27) Specially Powders Manufacturing Operations*	100000000000000000000000000000000000000	7.66	710					1.63	1,352	Chronisa
Transmission (or execute)		1.69			-			055	5.02	
Ermann Foader Frontes:	2.50	1.59	280 120		1 -	1.33		0.95	0.00	Chanem Chanem
					+				BUG	
Forgefour (44); Gra Blusting block ¹ Dry line Blusting Unit (G2P3 EUG3);	95.85	14.77	16.77			-	-	-	1	-
	1,65	1,65	1.65					ļ	ļ	
Yeo (2) Wel Gir Ebstug Unitr	0.45	0.45	043				L 		<u> </u>	
Pelahing Operation										
Pozder Handing Operators	0.14	0.07	267				-	_	1	-
Fouder Music Operation				•••		17.55			1	
Syecialty ingot manufacturing process	1									
Moternal Yearster Point	4 2E-03	3.(E-03	2 CE-C3							
late:	0.32	2.7E-61	2.0E-03		I -			0,62	6.63	Laf
Pack Diffusion Process	1.75	5.55	1.54	_	_	_	_	P.24	624	Hydrofluon: Analysi
Cporption 1, Francis (1 (G1F1)	0.07	e.07	0:07		T			-		
Operation 2 Fraces (1402F1)	602	0.02	0.02				-	-	· · · · · · · · · · · · · · · · · · ·	
Opinicas 2, Process 2 (OIP2)	3.55-05	1.7E-66	1.7E-05			604		0.72	6.79	Method
Otentran 2 Fro.ess 4 (Gar 4)					_			1,57	1.57	Madrature Feld IHP
Statise tiresdays	1.16	10 m 10 m 10 m	3.55					-	1	
Twesty-to-s (24) entres coates stay and 11.	31.04	22.71	3371		1			2.56	2.85	Cotat
Kurasone Cerebuston for Surface Couring Stations	6.2E-04	4.1E44	4.1E-04	0.62	10.0	1,1E-04	1.LE-03	2.1E-61	4.3E-47	Selvoicum
Plantical Vapor Deposition Station (EUDHT)	3.36-04	A3E-64	3.1E-03					4		
LSR1 Yitseven Tetracklands Center Statute (EU/18)	2.56-54	83544	73574	=-				0.F1	0.91	Hydrochland And DK
Thatlandere ICA natural assistant confusion units	9.26	1.13	515	0.62	14.65	652	12.4h	6.29	0.27	Heare
Secon (1) natural guardeed bolies	0.27	1.10	1.10	002	14.47	683	12.15	0.27	0.20	Mezano
De en (1) haar en gevelee bours	427	1.10	1.10	un.	14.47	620	12.15	027	0.3	Pre/ and
Degrasng	-	-	-	-	-	962	-	463	401	Furthment disc (FC
Vetavin Sed-t	-				-	026		 	-	-
Epo-y Ka Operation (EUS-12)	7.5E-04	345-64	3.65-04		+ =	465		-	1	
Get Rechaster (Ed/2003)	0.01	2,1E-03	255-00						 	
Trues (3) 3D Freiers				-				rad		head
Frent peoble(12) graving and outing operations	643	144	N-34						proj.	
Through egol (12) getter gland out rig spark ons	1.56	0.00	0.63					0.12	0.12	į (AS
Through (13) was no and the rest county operations One (1) corrector ships	1.76	1.70	1.10		-	<u> </u>		0.0%	6.6%	Manganese
	0.12	45564	265-94		- -			 	ļ	
Five (5) fersiving setts	sect.	regi.	ragi		-		-		1	
Daniel Emaignesy Green 2014	0.21	0,21	621	019	3,91	D 24	0.63	25E-63	7.72-61	Fernaldshyde
Taktores Lines (Livies #1 and #2)							<u> </u>	1,16	662	Coksk
Tubanet (see #)		1	ļ		4			0,64	0.62	
Seale Costrg				L		0.0)		3.2E-64	1.36-64	Chroniom
Operation 1, Pracess 5 (OIF3)	-	-	-		1 -	-	-	E-5/3	0.50	Hydrofacos: Acid (Hi
IFA Room Eviporany EUS-ZZ	-	-	-	-	-	2.92	-	_	l	
Shipping and Channy Operations			_			663	-	0.25	625	Hydraffyria: Acady H
Lubricant Application Frotesses						621		0.07	663	Etrahun Glassi
Tetal	164.76	83.37	\$3.17	0.40	59.97	37,33	25.5€	24.57	5,17	Chronism
Pa.ed Roads	7.55	1,69	9.39					_	7	~
Total with Fugitives*	172.73	64.96	12.74	9.40	55.57	37.13	25.54	24.97	5,17	Chrossum

Page 3 of 60, TSD App. A

Appendix A: Emissions Summary EU020 - Three (3) Kilns

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Batch Time (hours) =

20

¹NO Formed (kg)	⁴NO₂ Formed (kg)	² % NO/ NO2 Generated In Kiin vs. CSP	⁴ NO Emissions (kg)	⁴NO₂ Emissions (kg)	NO Emissions (kg/hr)	NO₂ Emissions (kg/hr)	NOx Emissions (kg/hr)	NOx Emissions (lbs/hr)	NOx Emissions (tons/yr)
32.325	198.27	1%	0,32325	1.9827	0.02	0.10	0.12	0.25	1.11
							To	tal for 3 Kilns:	3,34

¹NO and NO₂ generated per batch is based on a similar process at another Praxair facility. This value is based on an air flow rate of 1,000 cfm and known air compositions of 480 ppm NO and 1,920 ppm NO₂.

METHODOLOGY FOR ABATEMENT SYSTEM CALCS:

NO/NO2 Emissions (kg) = NO/NO2 Formed (kg) x % NO/NO2 Generated in Kiln vs. CSP

NO/NO2 Emissions (kg/hr) = NO/NO2 Emissions (kg) / Batch Time (hours)

NOx Emissions (kg/hr) = NO Emissions (kg/hr) + NO2 Emissions (kg/hr)

Uncontrolled NOx Emissions (tons/yr) = NOx Emissions (lbs/hr) \times (8,760 hrs/yr) / (2,000 lbs/ton)

²Note: 99% of the nitrates are reacted in the CSP, and the remaining 1% is reacted in the kiln.

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Appendix A: Emissions Summary EU020 - Four (4) Klins

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Batch Time (hours) =

20

¹NO Formed (kg)	⁴ NO₂ Formed (kg)	² % NO/ NO2 Generated in Kiln vs. CSP	⁴ NO Emissions (kg)	⁴ NO₂ Emissions (kg)	NÖ Emissions (kg/hr)	NO₂ Emissions (kg/hr)	NOx Emissions (kg/hr)	NOx Emissions (lbs/hr)	NOx Emissions (tons/yr)
32.325	198.27	1%	0.32325	1.9827	0,02	0.10	0.12	0.25	1.11
							To	tal for 4 Kilns:	4.45

¹NO and NO₂ generated per batch is based on a similar process at another Praxair facility. This value is based on an air flow rate of 1,000 cfm and known air compositions of 480 ppm NO and 1,920 ppm NO₂.

METHODOLOGY FOR ABATEMENT SYSTEM CALCS:

NO/NO2 Emissions (kg) = NO/NO2 Formed (kg) x % NO/NO2 Generated in Kiln vs. CSP

NO/NO2 Emissions (kg/hr) = NO/NO2 Emissions (kg) / Batch Time (hours)

NOx Emissions (kg/hr) = NO Emissions (kg/hr) + NO2 Emissions (kg/hr)

Uncontrolled NOx Emissions (tons/yr) = NOx Emissions (lbs/hr) x (8,760 hrs/yr) / (2,000 lbs/ton)

²Note: 99% of the nitrates are reacted in the CSP, and the remaining 1% is reacted in the kiln.

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Appendix A: Emissions Summary EU020 - Three (3) Kilns

Company Name: Linde Advanced Material Technologies, Inc. Source Address: 1245 and 1416 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Batch Time (hours) =

20

¹NO Formed (kg)	⁴NO₂ Formed (kg)	² % NO/ NO2 Generated in Kiln vs. CSP	⁴ NO Emissions (kg)	⁴ NO ₂ Emissions (kg)	NO Emissions (kg/hr)	NO ₂ Emissions (kg/hr)	NOx Emissions (kg/hr)	NOx Emissions (lbs/hr)	NOx Emissions (tons/yr)
32,325	198.27	1%	0,32325	1.9827	0.02	0.10	0.12	0,25	1.11
						****	To	tal for 3 Kilns:	3,34

¹NO and NO₂ generated per batch is based on a similar process at another Praxair facility. This value is based on an air flow rate of 1,000 cfm and known air compositions of 480 ppm NO and 1,920 ppm NO₂.

METHODOLOGY FOR ABATEMENT SYSTEM CALCS:

NO/NO2 Emissions (kg) = NO/NO2 Formed (kg) x % NO/NO2 Generated in Kiln vs. CSP

NO/NO2 Emissions (kg/hr) = NO/NO2 Emissions (kg) / Batch Time (hours)

NOx Emissions (kg/hr) = NO Emissions (kg/hr) + NO2 Emissions (kg/hr)

Uncontrolled NOx Emissions (tons/yr) = NOx Emissions (lbs/hr) x (8,760 hrs/yr) / (2,000 ibs/ton)

²Note: 99% of the nitrates are reacted in the CSP, and the remaining 1% is reacted in the kiln.

Page 6 of 60, TSD App. A

Appendix A: Emissions Summary EU020 - Raw Material Handling CSP

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Processes	Throughput (lbs/hr)*	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)
4 Batches	12.37	0.0069	0.0033	0,0002	0.0001
2 Batches	6.19	0.0069	0.0033	0.0001	0.0000
6 Batches	18.56	0.0069	0.0033	0.0003	0.0001
	37.12		Total:	0.0003	0.0001

METHODOLOGY:

Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

^{*}The throughput is based on the batch weights for dry materials. There are a total of 6 batches with a combined total weight of 18.56 pounds. None of the dry materials contain HAPs.

^{**}Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer

Appendix A: Emissions Summary Combustion Spray Pyrolysis (CSP) Operation

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 State Street, Indianapolis, 31 45224
1500 and 1550 Polco Street, Indianapolis, JN 46222

Calculation of Process Rates and Masses

Barth Toric (hours) is	29									
		Solution	n Weight	Sobds 1	Weight	Weight Water Ev	abotated ja Ochet	Oxida:	s Weight	
Batch	Humber of Batcher	Weight for All Batches (kg)	(hg/h)	(kg)	For all Batches per Hour (kg/hr)	For all Balches	Process Rate for all Balches (kg/h/)	For all Balches (kg)	i indean i	
Eatches 1-17	12	2465.13	173.26	PS.2144	50.8	1643.46	82.57	616,64	29.50	

NETHODOLOGY FOR DETERMINO PROCESS RATES AND HASSE!
Weighter back to School. 64th, and Overley to Mandon Nothinesey. Fasions 100. . capacition of work and 100.0 can exposite order
Weighter back to School. 64th, and Overley has backed visited and Bitches p.gd. - 64th Weighter or de Overley (bytes)
Weighter back (64th) = Weight deplotations/88710 Top (2014)

Weight on the Weight of Weight of Weight of All Medical Adalement System Colorbotons:

Person Product Catalones in Colorboton System

Person of Onder the Allement System

Fercant of Onder the Allement System

Batch Time Record of

Bajeh	Sohda Weight (bg)	Ozides Weight (hg)		Sobde to Abatement (kg)	Osides lo	woutement (må)	HD t-otm40 (83)	'NO, Formed (kg)	% HOTHO2 Generated in CSP vs Ken	fiệt la Abalement	al _t ON ² Abstement (eg)
Earthea 1-12	1615,65	516,64	6.34	72.90	6,04	1649.46	64,55	395.54	69%	£4,0015	392,5745

Balch	Solds to Abstement (kglls)	(Noffe)	Sobds	Weight % Allso Solids	Solide	SHALLAN NAME	"Ketght": littin Oxides	Total HAPs In
Batches 1-12	3.6	0.33	8,13%	15.377	16.37%	21535	50.185	55 16%

	Balch	Mn to Abajement (kgfh2)	M Io Abatement (I-gilu)	**********	Water to Abatem ent (Fg/br)	NO to Abatement (Aprix)	hiO, to Abatemeni (kg/hr)	NOs to Abatement (kg/br)	PMPANO PM2.5 to Abalement	Mn (a Abatement (lbs/hr)	Hi to Abstement (Body)	(Street)	(to setur)	
Į	Batches 1-12	0.77	0.75	6,75	12.47	7.20	19.63	23.63	864	0.61	1.55	1.65	50:33	1

Baich		Uncontrolled Ma HAP Emissions (tens/yr)	Uncontrolled fil Emissions (tons/yr)	Uncontrolled Total HAP Emissions (lonslyt)	Uncontrolled NOx Emissions (tons/gr)	Dust Collector Control Existicacy	Gonbolled PMPN to P42.5 EMISSION (tonsly)	Controlled Mn Emissions (tobolys)	Controlled Ni Entissions (tonsiye)	Emissions (tons/yr)	SCR Control Efficiency	Controlled HO: Entraiona (tonstys)
Batches 1-12	25,20	3,55	7.25	7.25	229,44	\$9.5%	Q. (4	0.62	0,034	204	\$6%	22.53
PM, PM (0, and PM 2,5 t		***************************************						126 2-8 FE3O	P Required cont	rolettekney	18,4%	179,81
	Philip 1	totyl									b/N	tonlyt
PSD and FESUP Required hostations	2.28	10.00						326 24	FESOP Require	ed junitations	13.49	59,08

326	324 IAC 6,5						
Dost Collecter	Airfow (octos)		Able to Comply with 326 IAC 6,5				
DC-026A	4,037	9.0212	YES				

The product in the day or is copious all by a collection system, they product not explained by a collection system, they product not explained gives to the excitance of the exc

METHODOG GOY FOR ABATEMENT SYSTEM CALCS:
Solds and older regislation Thickes Rakes and Masses abox.
First On Codes Golds - Henomical Calcius Weight play (Theoretical Solds, Verystap).
Solds is Abatement pig = Solds (Verystap) or (p. Percent Captures in Calcius System). Percent of Solds is Capture System

#10/1002 to Absonvert #\(\psi_1 = \text{MOVIOP Formal Qis_1 \text{ is, it is identified Converted in CEP v.t. \text{ NA} \)

Table 6 50% of the above an extracted in the CEP and the remaining TS in tasked in the Above in the CEP v.t. \text{ NA} \)

**SANO-New Microsoft (1007) 20 to Absonvert the Qisyal Section Conference (1007) 20 to Absonvert (1007) 20 to Absonve

Appendix A: Entissions Summary Combination Spray Pytolysis (CSP) Operation

Company Name: Linde Advanced Malerial Technologies, loc.

Source Address: 1245 and 1416 Main Street, Indonaspots, 81 46224
1560 and 1550 Petro Street, Indianapolis, IN 47222

Calculation of Process Sales and Masses

Earth Tens (figure) 5									
		Solyba	n Weight	Sebds	Weight	Weight Water Ex	aparated in Diyes	Drife	s Weight
Batch	Hember of Batches	Weight for AN Natches (Ay)	Process Rale for all Batches (Fgfte)	Fer vit Buishes (Fg)	Fot all Batches per Hour (Egiler)	Fer all Batches	Process Rate (or all Balches (kg/h)		Process Raje lo j all Baiches Sights
Batched 6 and 6	7	1555.04	57.75	€05.23	30.70	5.19 5.3	77.12	205.54	10.75

METHODOLOGY FOR DETERMINED PROCESS RATES AND MASSES:
Weytiges habited Schoon. Side and Glock for based or neidolimate, Januare 1901; inappration of naturand Most concernion to elides
Weytiges for proceed and attacking plasman Weytiges all Bettler (p.g.). Edd Micyall for all Bytler (p.g.) about)
Weytiges for an epigning tilling (f. plasman) (Federal Bettler (p.g.). Edd Micyall for all Bytler (p.g.) about)

We gid for hose figure.

Abstence of System Calculations:

Percent Pandart Expressed on Calculate System

Parcent of Solds to Astronom System

Forces of Ovides to Astronom System

Forces of Ovides to Astronom System

Each Time (Asson) 2

Batch	Selids Weight (kg)	Oxides Weight (kg)	Fraction Daldes to Solds	Schas In Abatı ment (Ag)	Coades to Abalement (Fg)	^h Water to Abalement (kg)		'NO, Folmed (kg)	% HO/HO2 Ochstaled in CSP vs Kila	180 to Abolement (kg)	'NO ₂ to Abatement (kg)
Estitles 5 and 6	E05.23	205.55	0.34	24.30	2.01	549.82	21,55	132.16	69%	21,3345	133,6582

•									
	Batch	Solvis to Abatement (kg/hr)	Oxides to Abatement (AgAa)	'Weight's Main Selida	⁽ Weigld ≒ Hi in SoNSs	'Weight 1: Total HAPs in Saids	"Weight": Mn in Oxides	'Weight's Hith Galdes	Weight's Total HAPs in Duider
I	Bather f end 6	1,2	0,10	8,137	16,37%	16,37%	23,5315	51,16%	51,16%

	Batch	Mn to Abatement	Hi to Abatement	Abatement	Water to Abalement	NO to Abatement	IIO, to Abatement	NOx to Abalement	PREPRIOR PRES to Abalement			Total HAPs (sampledA of	
		(ydys)	(z:g/mz)	(FgAr)	(եկմիլ)	(kg/ht)	(kg/hr)	(Aghr)	ADDIESSER:	(10 5/54)	(Bratia)	(Risibl)	(jibs/ht()
1	Patikes Fland 6	6.12	0.25	B.25	27,45	1,555725	6.54291	7,607,515	2.56	0.27	0,55	0.55	16,7s

Batch		Uncontrolled Ma HAP Emissions (tons/yr)	Uncontrolled Hi Emissions (Ronsys)	Uncontrolled Total HAP Emissions (Ionsly)	tincunitoBed NOs Emissions (lons/yr)		Controlled PLAFIA IN FIA2.5 Entirelists (tonsiye)	Controped bin Emissions (tensiys)	Controlled its Emissions (tonsiya)	Controlled Total HAP Emissions (lonsity)	SCR Control Elficiency	Controlled HOs Entissions (tensiys)
Esthes 6 and 6	11,73	1.18	2.42	2.42	73.48	99.5%	60,0	0,61	0,012	0.01	50%	7.25
PM, PM10, and PM2.5 L	Hugadora							326 2-8 FE50	P Required conf	uo) elliciency	18,4%	59,94
	tions	toplyr									#ofter	towys
PSD and FESOP Required limitations	2.28	10,03						325 2-6	PESOP Requi	ed limitations	13,70	59.69

324 IAC E.5									
Dust Collector	Airthon (actm)	Controlled PM Emissions (gr/th)	Able to Comply with 326 SAC E.S						
DC-6294	4 000	0.0334	YES						

The production to the increases by a collection system. Any production collection depends on a bilaterical system.

Service as early process distinct work to get \$5 + 4 service as yet and representative and order to get \$5 + 4 service as yet and representative as the process of the collection of the

METHODOLOGY FOR ADATEMENT SYSTEM CALCS:
Solids and under weights from Through Richs and Master's about.
Fortice of the desired weights from Through Richs and Master's about.
Fortice of the Solids of Telemental Collection (Weight Agid Throut Ica) End-in. Verifield by a
Fortice of Solids of Capture System
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Appendix A: Emissions Summary Burner Associated with EU020

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

	out Capacity tBlu/hr	
Burner #1	0.4	
Burner #2	0.4	
Total:	0.80	

Potential Throughput

MMCF/yr 6.87

			F	ollutant			
	PM'	PM10*	PM2.5	SO ₂	NOx	Voc	co
Emission Factor in Ib/MMCF	1.9	7.6	7,6	9,0	100,0 **see below	5.5	84,0
Potential Emission in tons/yr	0,01	0,03	0.03	0,00	0,34	0.02	0,29
Control Efficiency (%)	99.5%	99.5%	99,5%	0%	90%	0%	0%
Controlled Emissions in tons/yr	0.00	0.00	0.00	0,00	0.03	0.02	0,29

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

		HAPs - Organics									
	Benzene	Dichtorobenzene	Formaldehyde	Hexane	Taluene						
Emission Factor in lb/MMcf	2,1E-03	1.2E-03	7.5E-02	1.8E+00	3,4E-03						
Potential Ensission in tons/yr	7.21E-06	4.12E-06	2.58E-04	6,18E-03	1.17E-05						

		HAPs - Metals								
	Lead	Cadmium	Chromium	Manganese	Nickel					
Emission Factor in Ib/MMcf	5,0E-04	1.1E-03	1,4E-03	3,8E-04	2.1E-03					
Potential Emission in tons/yr	1.72E-06	3,78E-06	4,81E-06	1.31E-05	7.21E-06					
The five highest organic and metal HAPs	Total HAPs:	6.48E-03								

Total HAPs: 6.48E-03

METHODOLOGY

Note: The CSP Burner is routed to an abatement system with a dust collector (particulate control eff = 99,5%) and an SCR (NOx control eff = 90%).

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBlu/hr) x 8,760 hrs/yr x 1 MMCF/1,900 MMBlu

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supplement D 3/98)

Emission (lons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Controlled Emissions (tons/yr) = Emissions (tons/yr) x (1- Control Efficiency)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (25) 326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary Burner Associated with EU020

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

	ut Capacity	Potential Throughput
MM	Blu/hr	
Burner #3	0.4	
Burner #4	0.4	MMCF/yr
Burner #5	0.4	10.31
	Contraction Colories	

	Pollutant										
	PM'	PM10*	PM2,5	SO ₂	NOx	voc	CO				
Emission Factor in Ib/MMCF	1.9	7.6	7.6	0.6	100,0	5.5	84.0				
					**see below						
Potential Emission in lons/yr	0.01	0.04	0.04	0,00	0.52	0,03	0,43				
Control Efficiency (%)	99,5%	99,5%	99,5%	0%	90%	0%	0%				
Controlled Emissions in tons/yr	0.00	0.00	0.00	0.00	0.05	0.03	0.43				

^{&#}x27;PM emission factor is filterable PM only, PM10 & PM2,5 emission factors are filterable and condensable fractions combined. "Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

		HAPs - Organics									
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene						
Emission Factor in Ib/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03						
Potential Enviscion in togethe	1.08E-05	6 185-06	3 865-04	D 28E-03	+ 75G-05						

		HAPs - Metals						
	Lead	Cadmium	Chromium	Manganese	Nickel			
Emission Factor in Ib/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2,1E-03			
Potential Emission in tons/yr	2.58E-06	5.67E-06	7.21E-06	1,96E-06	1.08E-05			

The five highest organic and metal HAPs emission factors are provided above.

Total HAPs:

METHODOLOGY

Note: The CSP Burner is routed to an abatement system with a dust collector (particulate control off = 99.5%) and an SCR (NOx control off = 90%). All emission factors are based on normal firing.

MMBtu = 1,000,000 Bto MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supplement D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Controlled Emissions (tons/yr) = Emissions (tons/yr) x (1- Control Efficiency)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (25

326 IAC 6.5 equivalent limit (lib/hr) = fimit in the rule (0.03 gr/dscf) x air flow rate of control device (dscl/min) x 1 fb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary EU020 Powder Handling After CSP

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Percent Product Captured in Collection System¹

Batch Time (hours) =

95% 20

Batch	Solids Weight (kg)	Oxides Weight (kg)	Total Powder (kg)	Total Powder Captured (kg)	Powder Throughput (lbs/hr)	Weight % Mn In Solids	Weight % Ni In Solids	Weight % Mn in Oxides	Weight % Ni in Oxides	Weight % Mn in Powder	Welght % Ni in Powder
Batches 1-12	1815,68	616,64	2432.31	2310,70	254,71	8,13%	16.37%	23,53%	51,18%	12,03%	25,19%

The powder product is captured by a collection system. Any product not captured goes to the abatement system.

See "Emission Calculations for CSP" for reference in determining manganese and nickel compositions.

See "Emission Calculations for CSP" for reference in determining powder from CSP,

	Batch	Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	Mn Composition (Weight %)	Ni Composition (Weight %)	Uncontrolled Mn HAP Emissions (tons/yr)		Total Uncontrolled HAP Emissions (tons/yr)
8	Baiches 1-12	254.71	0.0069	0,0033	0,0038	0,0018	12.03%	25.19%	4,63E-04	9,70E-04	9.70E-04

Batch	Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)	Controlled Mn HAP Emissions (tons/yr)	Controlled Ni Emissions (tons/yr)	Total Controlled HAP Emissions (tons/yr)
Batches 1-12	99.9%	0.000004	0,000002	4.63E-07	9.70E-07	9.70E-07

326 IAC 6,5							
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5				
DC-033	4,000	0,0000	YES				

Powder Throughput (libs/hr) = Total Powder Captured (kg) x (2,20462 lbs/kg) / Batch Time

Weight % HAP in powder = [(Solids Weight (kg) x Weight % HAP in Solids) + (Oxides Weight (kg) x Weight % HAP in Oxides)} / (Solids Weight (kg) + Oxides Weight (kg))

Total HAPs are based on worst-case HAP.

'Raw material handling PM and PM10/2,5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer

326 IAC 6.5 equivalent limit (lb/h): = limit in the rule (0.03 gridsch) as if flow rate of control testic (dsc/fmin) x 1 lb/7000 gr x 50 mins/hr Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/hon) * (8,760 hrs/yr) / (2,000 lbs/hon)

Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)

Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

'Note: Emissions are controlled by a dust collector with a control efficiency of 99,9%.

Appendix A: Emissions Summary EU020- Powder Handling After Kiln

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, iN 46224 1600 and 1650 Polco Street, Indianapolis, IN 46222

Batch	Powder Handling after CSP Throughput (lbs/hr)	PM Emissions Handling after CSP (lbs/hr)	Powder Handling after Kiln Throughput (lbs/hr)
Batches 1-12	254.71	88000,0	254.71

Batch	Powder Throughput (#bs/hr)	PM EF (lbs/ton)	PM10/PM2,5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM18/PM2.5 Emissions (tons/yr)	¹ Mn Composition (Welght %)	¹ Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Baiches 1-12	254.71	0.0069	0,0033	0.0038	0.0018	12.03%	25,19%	4,63E-04	9.70E-04	9.70E-04

Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)	Controlled Mn Emissions (tons/yr)	Controlled Ni Emissions (tons/yr)	Controlled HAP Emissions (tons/yr)
99.9%	0.000,0	0.00000	0.00	0.00	0.00

	.5			
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5	
DC033	4,000	0.00	YES	

¹See "Powder Handling after CSP" to determine HAP Composition (Weight %)

METHODOLOGY:

Throughput (lbs/hr) = Powder Handling alter CSP Throughput (lbs/hr) - [CSP PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr] 'Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer Total HAPs are based on worst-case HAP.

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)

Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %) Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

*Note: Emissions are controlled by a dust collector with a control efficiency of 99.9%.

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Appendix A: Emissions Summary Enclosed Mills 1 to 3

Company Name: Linde Advanced Material Technologies, Inc. Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

Batch	Powder Handling	PM Emissions	Milling
	after Kiln	Handling after	Throughput
	Throughput (lbs/hr)	Kiln (lbs/hr)	(lbs/hr)
Batches 1-12	254,71	0,00088	254.71

***************************************	Batch	Throughput (lbs/hr)	PM EF (ibs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	¹ Mn Composition (Weight %)	¹ Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)		Total Uncontrolled HAP Emissions (tons/yr)
1	Batches 1-12	254,71	76,00	64.60	42,39	36,03	12.03%	25.19%	5,10	9,08	9.08

	Batch	² Controlled PM Emissions (tons/yr)	² Controlled PM10/PM2.5 Emissions (tons/yr)	² Controlled Mn Emissions (tonslyr)	² Controlled Ni Emissions (tons/yr)	² Total Controlled HAP Emissions (tons/yr)
Ī	Batches 1-12	2.12	1.80	0.26	0.45	0.71

¹See "Powder Handling after CSP" to determine HAP Composition (Weight %)

METHODOLOGY:

Throughput (ibs/hr) = Powder Handling after Kiln Throughput (ibs/hr) - [Handling after Kiln PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr) Emission factors for PM and PM10/2,5 from WebFIRE, SCC 3-05-00802 for Crushing, Grinding, & Milling during Ceramic Clay/Tile Manufacture Total HAPs are based on worst-case HAP.

Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (ibs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton) Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)

326 IAC 6.5 equivalent limit (lb/hr) ≈ limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

²The milling operation is completely enclosed. Any emissions from milling would be during loading and unloading. Unloading and loading is already accounted for in "Powder Handling after Kiln" and Powder Handling After Milling" calculations.

Appendix A: Emissions Summary Enclosed Mills

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

Process	Milling Throughput (lbs/hr)
Four (4) Enclosed Post Kiln Mills 6 to 9	120.00
Two (2) enclosed pre-kiln mills 4 and 5	169.80
Total	289.80

Process	Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	¹ Mn Composition (Weight %)	¹ Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Six (6) Enclosed Kiln Mills	289.80	76.00	64.60	48.23	41.00	12.03%	25.19%	5.80	10.33	10.33

Process	² Controlled PM Emissions (tons/yr)	² Controlled PM10/PM2.5 Emissions (tons/yr)	² Controlled Mn Emissions (tons/yr)	² Controlled Ni Emissions (tons/yr)	² Total Controlled HAP Emissions (tons/yr)
Six (6) Enclosed Kiln Mills	2,41	2,05	0.29	0.52	0.81

PM Limitations									
	lb/hr	ton/yr							
PSD and FESOP Required limitations	1.14	5.00							

	Нарѕ	
	łb/hr	ton/yr
PSD and FESOP Required limitations	0.46	2.00

PM10 and PM2,5 Limitations						
	lb/hr	ton/yr				
PSD and FESOP Required limitations	0.68	3,00				

^{&#}x27;See "Powder Handling after CSP" to determine HAP Composition (Weight %)

Throughput (bs/fu) = Powder Handling after Kiln Throughput (bs/fu) - [Handling after Kiln PIM Envissions (lons/yı) * (2,000 lbs/fon) / 8,760 hrs /yı)
Emission factors for PIM and PIM10/2.5 from WebFIRE, SCC 3-05-00802 for Crushing, Grinding, & Milling during Ceramic Clay/Title Manufacture

Total HAPs are based on worst-case HAP.

Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)

Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %) 326 IAC 6.5 equivalent limit (Ib/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 tb/7000 gr x 60 mins/hr

The milling operation is completely enclosed. Any emissions from milling would be during loading and unloading. Unloading and loading is aheady accounted for in "Powder Handling after Kiln" and Powder Handling After Milling" calculations.

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Appendix A: Emissions Summary EU020- Powder Handling After Mill

Company Name: Linde Advanced Material Technologies, Inc. Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

Batch	Milling Throughpul (ibs/hr)	Milling PM Emissions (lbs/hr)	Powder Handling after Milling Throughput (lbs/hr)
 Batches 1-12	254.71	0.68	245.02

Batch	Powder Throughpul (ibs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF {ibs/ton}	Uncontrolled PM Emissions (lans/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	¹ Mn Composition {Weight %}	¹ Ni Composition (Weight %)	Uncontrolled Mn Emissions (lans/yr)	Uncontrolled NI Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Batches 1-12	245,03	0,0069	0,0033	3.70E-03	1,77E-03	12,03%	25.19%	4.46E-04	9,33E-04	9.33E-04

See "Powder Handling after CSP" to determine HAP Composition (Weight %)

Batch	Control Efficiency		Controlled PM10/ PM2.5 Emissions		Controlled Ni HAP Emissions	Controlled Total HAP Emissions
		(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
Batches 1-12	99.9%	3.70E-06	1.77E-06	4.46E-07	9,33E-07	9.33E-07

326 IAC 6.5										
Dust Collector	Airflow (acfm)	Controlled PM Emissions (grift3)	Able to Comply with 326 IAC 6.5							
DC033	4,000	0.00	YES							

METHODOLOGY:

Throughput (lbs/hr) = Milling Throughput (lbs/hr) - [Milling PM Emissions (lons/yr) * (2,000 ibs/hon) / 8,760 hrs /yr]
*Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer

Total HAPs are based on worst-case HAP.

326 IAC 6.5 equivalent fimil (fb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 fb/7000 gr x 60 mins/hr

Uncontrolled Emissions (tons/yr) = Throughput (libs/hr) * Emission Factor (libs/ton) * (8,760 hrs/yr) / (2,000 libs/ton) Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)

Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

^{&#}x27;Note: Emissions are controlled by a dust collector with a control efficiency of 99,9%,

Appendix A: Emissions Summary EU020- Powder Handling After Mill

Company Name: Linde Advanced Material Technologies, Inc. Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

Process	Milling Throughput (lbs/hr)	Milling PM Emissions (lbs/hr)	Powder Handling after Milling Throughput (lbs/hr)
Handling After Mill	120.00	11.01	108,99

Process	Powder Throughput (libs/hr)	PM EF (lbs/ton)	PM10/PM2,5 EF {lbs/ton}	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	¹ Mn Composition (Weight %)	¹Ni Composition (Weight %)	Uncontrolled Mn Emissions (tans/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Handling After Mill	108,99	0.0069	0.0033	1.65E-03	7.88E-04	12,03%	25,19%	1,98E-04	4.15E-04	4.15E-04

See "Powder Handling after CSP" to determine HAP Composition (Weight %)

Process	Control Efficiency		Controlled PM10/ PM2.5 Emissions (tons/yr)		Controlled Ni HAP Emissions (tons/yr)	Controlled Total HAP Emissions (tons/yr)
Handling After Mill	99,9%	1.65E-06	7.88E-07	1.98E-07	4.15E-07	4,15E-07

1	326 IAC 6.5			
Dust Collector	Airflow (acfm)	Controlled PM Emissions (grift3)	Able to Comply with 326 IAC 6,5	
DC033	4,000	0,00	YES	

METHODOLOGY:

Throughput (lbs/hr) = Milling Throughput (lbs/hr) - [Milling PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr]

'Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer

Total HAPs are based on worst-case HAP.

Total rAPS are based on worst-case FAP.

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr
Uncontrolled Emissions (tons/yr) = Throughput (lbs/tip) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)
Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)
Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

^{&#}x27;Note: Emissions are controlled by a dust collector with a control efficiency of 99.9%.

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Appendix A: Emissions Summary EU020- Final Powder Handling

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Batch	Powder Handling after Milling Throughput (lbs/hr)	Powder Handling After Milling PM Emissions (ibs/hr)	Final Powder Handling Throughput (lbs/hr)
Batches 1-12	245,03	0.00085	245.03

	Batch	Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2,5 Emissions (tons/yr)	¹ Mn Composition (Weight %)	¹ NI Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
ı	Batches 1-12	245,03	0,0069	0.0033	0,0037	0,0018	12.03%	25,19%	9.33E-04	9,33E-04	9,33E-04
		245.03									

Batch	Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2,5 Emissions (tons/yr)	Controlled Mn Emissions (tons/yr)		Controlled Total HAP Emissions (tons/yr)
Batches 1-12	99,9%	3,70E-06	1.77E-06	9.33E-07	9.33E-04	9,33E-07

	326 IAC 6.5										
Dust Collector	Airflow (acfm)	Controlled PM Emissions (grift3)	Able to Comply with 326 IAC 6.5								
DC033	4,000	0.00	YÉS								

See "Powder Handling after CSP" to determine HAP Composition (Weight %)

METHODOLOGY:

Throughput (lbs/hr) = Powder Handling after Milling Throughput (lbs/hr) - [Powder Handling after Milling PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr]

*Raw material handling PM and PM10/2,5 emission factors are from AP 42, Table 11,12-2, Concrete Batching-Aggregate Transfer

Total HAPs are based on worst-case HAP.

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)

Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)

Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

^{*}Note: Emissions are controlled by a dust collector with a control efficiency of 99,9%,

Appendix A: Emissions Summary EU020- Final Powder Handling

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

s: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

Batch	Powder Handling after Milling Throughput (lbs/hr)	Powder Handling After Milling PM Emissions (lbs/hr)	Final Powder Handling Throughput (lbs/hr)
Final Handling	108,99	0.00038	108.99

Batch	Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	¹ Mn Composition (Weight %)	¹ Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled NI Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Final Handling	108.99	0.0069	0.0033	0.0016	8000,0	12.03%	25,19%	4.15E-04	4.15E-04	4,15E-04
 	108,99									

Batch	Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)	Controlled Mn Emissions (tons/yr)	Controlled Ni Emissions (tons/yr)	Controlled Total HAP Emissions (tons/yr)
Final Handling	99.9%	1,65E-06	7,88E-07	4.15E-07	4.15E-04	4.15E-07

	326 IAC 6,5										
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5								
DC030	4,000	0,00	YES								

¹See "Powder Handling after CSP" to determine HAP Composition (Weight %)

METHODOLOGY:

Throughput (lbs/hr) = Powder Handling after Milling Throughput (lbs/hr) - [Powder Handling after Milling PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr]

*Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11,12-2, Concrete Batching-Aggregate Transfer

Total HAPs are based on worst-case HAP.

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (6,760 hrs/yr) / (2,000 lbs/ton)

Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)

Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

^{*}Note: Emissions are controlled by a dust collector with a control efficiency of 99.9%,

Appendix A: Emissisco Gazanas Sankhog 1514 - Speakly Ponders, Manufarketing Operations Comparty Martic: Limbs Advanced Martind Section-logies, Box. Boxes Address: 1240 and 5419 Mem Street, brokening class, 86 40 Act. 1500 and 5550 Pelco Sarren, Sankanapolis, 86 40 277

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1,25	9000F :			P%	49%	62	474	9.00	es t 1	0.50	601	0.9221	157
D2523	Octo:	450)	1 1	15 /	15	6%	457	O.Fr	640	\$.00	0.51	6.16/22	125
BJ544 S	t-cym :	4770		F.	75%	150	: MSV	CD3	5,67	6.0	Q.£÷	6.00%	VZ1
	6024	4507	i	4/	15%	352	767	9.60	4.00	00	0,11	94025	NE:
tubujany. Tanjitum	GCON	4602		F.		n.c	97	000	400	0.67	250	1600)EL
Healer -							<u> </u>						121
ELIS-99.D	DC074	400)	1	6-	0.	t∩:	F 7	6/63	6,5%	1.55	ECC	d.#301	145
\$05 HE	_	± 903		80.1	574	17-	107				-		
EJ5-IEH	BCX75	100	, , , , , ,	67	65	61.	64	620	0,60	Q.SP	B (4)	0.8501	YES
€15-15I	EC(D)	4 (20)		16%		Eos.	1 849 1	N/P	651 1	0.61	6.03	6001	755
			27				Total damphi: 1	6.25	L32	AH	141	1	

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Total (Fig. 1) and described public and produce of the second of

Appendix A: Emissions Sommary Gelt Blasting

Company Name: Litide Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222

Emission Factors for Abrasives

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	Etn.s	ove Factor
Aleanie	to FEE/Billion	h fittach ft
೯೩೬೩	0,641	0.76
Gr4	0,540	0.76
55-455-4	9360	1000
	0.6410	0.76

LC 05.36	Ex CW Bloken	Cast Collection H•	epek ¶y≱e	Car Throughy 3 (0 - 27)	PEREMISER Facility (1) 字相	Fizhe-Pary 5 Ele-Ssinn fizh-Schlitzelle gelly	E-Micolly for Costs: EBA-may	Universal Bud Fishered FM Enterpre (Universal	Color Bot fine led Entert Section (In 67 Year	Corrected Fara tal Fit Envisores (femograf	Craffellia February EM to A PLC E En exper Johnsey
	EUREC	CSHC	Magazinen Cad-	300	5:115	9.6%	5911	16,77	11.fta	0.36	9.11
	EUESIG	C091G	Артыкин Сы д ғ	103	6.016	0.637	93%	26,26	16,45	0.26	0,15
	EGe/16	C1053	Allesanem Colde	₹0)	G-016	0,637	9.5	76.08	15.23	0.24	6.15
	6M0043	00947	Alemanian Oxes	603	0.016	0.037	99.97.5	26.28	16.49	0.03	9.01
	E00052	Ctosc	Hassnori Cris.	4,07	6,615	0:607	9÷	26.39	16,49	D.s.	0,48
	EU00/19	COREG	Alemanara Oxide	600	0,010	0,657	500.	15.2%	16.60	0.20	0.15
1	EUMGS	60105	Materians Chide	693	9,009	0.007	93.970	16.2%	18.49	0:01	6,01
	E0011/5	C011C	Abminos Orde	600	0,010	0,6,17	65/	45.30	58,46	0.76	0.15
	EU0115	C513G	Abantara Posts	(0)	0.046	81/31	95	6.76	6.53	0.09	8.00
town train.	E1/5145	66143	Akminiam Cods	693	6.616	6.657	44	76.28	16.49	0.29	0.18
Sheet	£0011.6	6016G	Abstraction Code	660	0,630	0,555	45	77.7%	\$6,40	025	9.15
	EUGING	C0163	Alanaian Code	050	1,0.51	6,0067	99.0	107,75	75,42	1,66	0.75
	8tr2495	00100	Alumation Grafe	(9)	6,641	0.0287	929	197,75	75,42	5,06	0,75
	EU3175	C697G	Stron Cari de	V.3	0,010	0,007	930	15.37	11,04	0.16	0.17
	E03125	C012G	Alleman Ouds	10	6.010	0,007	5977	51è	1.53	0.02	0.02
	EU010	Catti	Fire 5M	(6)	6,010	6,507	591	24,98	16,45	0,74	9,16
	E002W	COIN	First Gra	4.60	9,640	6,016	95	_0,25	15.00	0.50	0.16
	€D5N	COL	55 M Feeti	5.95	0.004	6.69	9371	0.09	20.19	0.65	6.20
	EUMGE	COIGE	Glass Essa	(9)	0,016	0,007	59%	1,6,24	16,4)	0.05	9,15
	80020B	CALGE	Ghas Bead	703	6.016	0.607	520	26.25	16.03	0.05	0.19
	EU021G	00001G	Alamatam Cords	120	0.016	0.667	95	5,26	2,68	0.07	0,04
	ELFOOL	D002L	Shal Fean	4,36	6,034	8.65344	92.	0,1/2	9765	0,00	9.67
	EUG1C	COSC	Amorana Cost	549	0.619	0.507	59.1	15.77	11.64	0.16	6.11
	£130.40	CMC	Atomirano Cristo	360	6,616	9,607	295.	15,73	17,64	0,40	D, 11
	EU000	COSC	Aluminum Critis	370	0,010	0,1/22	920	15.77	E11,14	11-16	5.11
	Ences	CMC	Montene Cods	760	0.010	0.097	19	25.77	11.04	0.16	0,11
	EU07C	COTC	Abminus Ords	560	0.016	6.667	65()	55,77	11,04	0.17	0.11
	EU090	CUEC	Alanemen Cy de	249	9,059	0.537	10	56.77	71,62	0.16	6.11
	Euter	C16C	Aleman Cos-	200	0.030	0.057	24	15,77	10,64	0.16	L,11
	EU123	C12C	Abrillaro Osta-	660	0,610	0,557	ti	15,24	15,49	621	514
	EURC	C160	Аштоват Смат	(91)	0,510	0,637	50.771	16.26	16.40	0.07	9,05
car gan	Euore	CF3C.	Alasson Outs	260	0.010	0.637	654.	15,77	11,0-	614	0.15
5044	EU310	Costs	At immum Colds	C21	0.010	9,007	99.1	76.75	16,39	034	0.1:
	DIF1 EUSs	0.56	Allen men Over-	17.	5,616	0.557	95.7%	7.76	5,39	8,57	9,62
	U1F1 EU57	JG7	Also non Coor	£1	6,616	0,607	5÷.7.1	. 55	7,45	0,91	0,01
	OLFS EUG1	061/2	Allowmen Great	124	6.015	0,107	59,741	9.51	6 1.7	6,03	0.62
	OUR S EUG?		Handson Orde	124	6,016	0.637	EE.7%	13.8	577	0.05	7,0
	00F1E0G3	0094	Almanim Orde	P1	0,010	0.637	93,371	5.75	2.41	0.01	0,61
	OSF 1 EUGS	ggs.	Alequinan Onde	50	0.010	0.037	92,711	2.15	1.53	0.01	0.00
	GIFS EDGS	CG1	Calained Albriens	221	9.010	0.637	44.7	5,0 ₆	6,76	0,03	0,03
	00F3 E032	563	Calcined All Apena	221	6,016	0,107	49,711	93.5	67t	0.05	1000
	EutifG	C116	Efrancist d	160	0.610	0.1/37	50.67	7,59	5.52	0.0%	6,67
	EULS	C21	Mannen Coar	Fo	9,010	0,007	\$6.70	2.12	1.43	10.01	0.40
1500 Fell o bleet	EU190	C12C	Mannon Cett	179	6,610	5(2)	99,70	5.45	394	0.02	9.01
						Entaš	PTE (lons/wit	881,62	637,27	1	1

Fig. and representation

Fry (1-1) - 7: (14) - 5

Linde Advanced Malerial Technologies, Juc. 1245 and 1456 Main Street, Indianopolis, III 46224 1500 and 1550 Polco Street, Indianapolis, III 46222

| FESOP Limits | FESOP Clinits | FESOP Clinits | FESOP Clinits | FESOP Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits | Grand Clinits PSD Minor Limits ontidle a P.B. AER to Comply Encyclin (1991) La Mora Double of Elasters on Elm to K Control (Co Anthon (artice) ABD PLEATURE FROM PER (Berly Lond (1997)) Emocrator, (archity) 0.0041 0.0046 90046 90046 9.0041 6.7 Mes
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Methodology Emery a Farty In an 81640 King Central of Cooling France - Wild Section Advance Classicy (1804 - 2004) Charlot differ prints of Son Through a Bong a Biometodranes disclosingly a LaCound Estatory of This may 1/2000 be recy

 $\frac{\textbf{Notes}}{d^2 a^2 b^2 + \text{total-initial density knot within the 10.00 generally should state of control density (distinguish the 70.00 galaxies are transparently as a first of the 10.00 galaxies and the 10.00 galaxies are transparently as a first of the 10.00 galaxies and the 10.00 galaxies are the 10.00 galaxies and the 10.00 galaxies are the 10.00 galaxies and the 10.00 galaxies are the 10.00 galaxies a$

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Appendix A: Emissions Summary Vacuum Sealer VS1

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Poico Street, Indianapolis, IN 46222

Solvent	Solvent Usage (gal/yr)	Density (lb/gal)	% voc	VOC Usage (gal/yr)	VOC (lb/hr)	VOC (ton/yr)
Damisol-3500	55	9,40	100%	55	0.06	0,26
Total					0.06	ß 26

Methodology

Solvent Usage (gal/yr) = Solvent Usage (gal/wk) *52 % VOC and Density (lb/gal) from MSDS sheet VOC (gal/yr) = Solvent Usage (gal/yr) * % VOC VOC (ton/yr) = VOC (gal/yr) * Density (lb/gal) * (1 ton/ 2000 lbs) Solvent contains no HAPs per the SDS.

Appendix A: Emissions Summary Titanium Powder Processes 1 and 2

Company Name: Linde Advanced Material Technologies, Inc. Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

Titanium Process Emissions

2	
8,00	lbs/hr
2.70%	of particulates
98,00%	
	8,00 2.70%

Potential Emissions Before Control

Uncontrolled Particulate Emissions (lb/hr) =	8,00	bs/hr
Uncontrolled Particulate Emissions (ton/yr) =	35,04	tons/yr
Uncontrolled Chromium Emissions (ton/vr) =	0.95	lons/vr

Potential Emissions After Control

Controlled Particulate Emissions (lb/hr) = 0.16 lbs/hr Controlled Particulate Emissions (ton/yr) = 0.70 tons/yr Controlled Chromium Emissions (ton/yr) = 0.02 tons/yr

PSD Limits (PM, PM10, and PM2.5)

Limited Particulate after control (lb/hr) =	0,80	lbs/hr
Limited Particulate after control (ton/yr) =	3.50	tons/yr

FESOP Limits (PM10 and PM2.5)

Limited Particulate after control (lb/hr) =	0.80	lbs/hr
Limited Particulate after control (ton/yr) =	3.50	lons/yr

	326 IAC	6,5	
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
Rotoclone Wet Collector	4,000	0.00	YES

Methodology

Amount to wet collector provided by source,

Uncontrolled Particulate Emissions (fb/hr) = Amount to wet collector (fbs/hr)

Uncontrolled Particulate Emissions (tons/yr) = Uncontrolled Emissions (tb/hr) * 8,760 (hr/yr) * 1/2,000 (ton/lbs)
Uncontrolled Chromium Emissions (ton/yr) = Uncontrolled Particulate Emissions (tons/yr) * % Chromium

Controlled Particulate Emissions (lb/hr) = Uncontrolled Particulate Emissions (lb/hr) * (1 - %CE)

Controlled Particulate Emissions (ton/yr) = Controlled Particulate Emissions (lb/hr) *8,760 * 1/2,000 (ton/lbs)

Controlled Chromium Emissions (ton/yr) = Controlled Particulate Emissions (tons/yr) * % Chromium

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/f

Appendix A: Emissions Summary Tribomet Line #3 (Building 1415)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222

Tank IO	Materials	Amount in Tank	Units	Amount Added per Month	Units	Total Added per Year (lbs/yr)	Density (ibs/gal)	Estimaled Evaperation Rate	Total Emissions (lbs/yr)	VOC Content	HCi Content (%)	Nickel Compound Content (%)	Chronium Compound Content (%)	Uncontrolled PTE VOC {lons/yr}	Uncontrolled PTE HCl (lons/yr)	Uncontrolled PTE Nicket Compounds (tons/yr)	Uncontrolled PTE Chromium Compounds (tons/yr)
2	HCI	33,069763	lbs	١	łb\$	12,00	B,\$-5	20%	2,40	0.4	35%	0%	0%	60,0	0,00	0,00	00,0
	Inckel Chloride	385,80247	lbs	1	1bs	12,00		20%	2.40	0 %	0%	100%	0%	0,00	0,00	0,00	0,00
3	Sulfaric Arid	33.068783	li15	1	lbs	12.00	15.31	7%	0.84	0%	2.0	0%	6%	0.00	0.00	0.00	0,00
	Hickel Sulfate	275,57319	libs	5	lbs	60.00	,	26%	12.00	0%	0%	100%	07.	0,00	0.00	0,01	0,00
5	Nickel Cloude	38,560247	įbs	1	lbs	12.00	·	20%	2,40	D%.	0%	100%	9%	60,0	0,05	00,00	0,00
	Suric Acid	38,560247	lbs	5	lbs	60.00	•	26%	12.00	0%.	0'A	0%	970	0.00	0,00	0.00	0,00
	SCB11 60 80 Grit	2,4601587	lbs	5	lhs	60,00		2674	12.00	0%	0%	0%	0°#	0.00	0.00	0.00	0.00
	Hickel Sulfate	275,57319	lbs	5	žis	60,00	•	3674	1200	0.2	01.6	100%	0/4	0.00	0.00	0,81	0,00
6	Hickel Clouds	38,580247	lbs	í	fbs	12,00		267	2,40	0%	07.0	160%	0,7	0.00	0.00	0.00	0.00
٠ ا	Boric Acid	33,059783	b\$	5	(65	60,00		20%	12,00	0%	0%	0%	05(0.00	0,00	0,00	0.00
	TM329 Pavydet	22.045855	lbs	5	lbs	60.00		20%	12,00	6%	0%	0%	70%	0.00	0,00	0.00	8.00
	Hickel Sulfate	275,57319	fhs.	5	Eb6	60,00		20%	12.00	3,0	0%	100%	0.7	0,00	0,00	0.01	0.00
7	Mickel Cloride	38.580247	lbs	1	lihs	12.00	,	20%	2.40	0%	0%	100%	0.1	0,00	0,00	00,00	0.00
•	Boric Acid	33.068783	lbs	- 5	払s	60.00	``	20%	12.60	0%	0%	0%	0%	0,03	0,00	0,00	8,00
	TI//329 Pov/dej	22.045855	lbs	5	lbs	60.00	•	20%	12.00	0%	0%	6%	70%	0.00	0.00	0.00	8,00
	Hickel Sulfale	275,57319	lbs	5	lbs	60,00	· · · · · · · · · · · · · · · · · · ·	26%	12.00	0%.	0%	100%	07.	0.00	0,00	0.01	0.00
8	Nickel Clotide	38,580247	Hus	1	lbs	12.00	*	20%	2,40	0%	0લ	100%	0.57	0.00	0.00	0.00	6.00
	Sorle Acid	33,059783	ibs	5	lbs	60,00		20%	12.00	0%	0%	6%	0%	6.00	0.00	0.00	6,00
	TM329 Poyrder	22.045555	lbs	5	lbs	60,00		20%	12,00	0%	0%	0%	70%	0.00	0.00	0.00	0.00
	Nickel Sulfale	275,67319	lbs	5	fbs	60.00	,	20%	12,00	0%	0.%	100%	0.A:	0.00	0,00	0.01	0.00
9	Hickel Cloride	38,580247	lbs	1	fbş	12.00	. ;	20%	2,40	0%	6%	100%	0:%	0,00	0,00	0,00	0,00
	Boric Acid	33,059783	ibs	5	fbs	60.00		26%	12,00	0%	01.0	0%	0%	0,00	0.00	0,00	0,03
	TM329 Povider	22.045855	il)s	5	lbs	60.00		20%	12.00	0%	0%	0%	70%	0,00	00,0	0,00	0,00
	Hickel Sullate	275,57319	lbs	5	∄vs	60,00		267	12.00	0%	0%	100%	07.	0,06	0.00	0,01	00,0
to	Mickel Cloride	38,560247	lbs	I	lbs	12.00	,	20%	2.40	6%	0%	100%	0.7	0,00	0.00	0.00	0.00
,,,,	Boric Actd	33,059783 22,045855	lbs.	5	ins	60,00	-:-	20/4	1200	0% 0%	0%	074	0.4	0.00	0.00	0.00	0,00
	TM329 Povyder	lbs	5	lis	60.00	0%	0%	70%	0.00	0.00	0.00	0.00					
													d PTE (tons/ys)		0.00	0.04	B.02
Methodology: Control Efficiency 99.60% 99.50% 99.50% 99.50% 95.50%																	
Density not provided in SDS and or solid material Total Controlled PTE (tons/yr) 0.00 0.0000 0.0002												6.0902	0.0001				

Authonology.

**Densify not provided in SDS and or solid material

**Tanks are changed out once every 2 years.

The Tribonnet kine #3 is controlled by a scrubber system with a control efficiency of 92.57.

Total Amount Added Per Year (its y)
For amounts given in its:
Total Amount (its 3y) = Amount Added per Month (its month) > (12 months yr)

Total Emissions = Amount Added per Year (fits yr) x Evaporation Rate (1:-)

Evaporation rate of 20'x is a conservative angineeting estimate, based on the amount that is added per month compared to the tank contents. The evaporation percentage is not an evact ratio of the amount added divided by the tank contents, because the percentage accounts for the pottion of the liquid that remains on the product or is wasted.

Appendia A: Emissions Summary Degressing/Sofrent Cleaning

Company Name: Linde Advanced Material Technologies, for.

Source Address: 1245 and 1415 Hein Street, Indianapoles, 81 46224
1500 and 1550 Polco Bisen), Indianapoles, 84 46222

Location	Emission Unit ID	Material	Density (LEXPat)	Weight S Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume 1. Water	Max Gal of Max Added (gallys)	Waste Material (g=Pyr)	Peunds VOC per gatton of solvent has water	Pounds VOC per gallon of solveni	Potenbal Yo fons per ye
				CoM C	anti Degreasi	:FS						
1245 Man Sheet	Mantenance Parts Washer	5 Sety When Solvent	6.69	202 G3X	0.07	100,0%	0.0%	19.93	0.00	6.10	8.80	0,63
	Maintenance Parts Washer	Safety (Been Schent)	620	100,00%	0.0%	109.0%	0.0%	18.00	00)	640	6,60	D:93
1414 Man 50est	Operation 1 and 2 Lifactime Shap Parts Vassilier	Salety Kloon Sigh est	6,80	100,00%	0.0%	100.0%	0.65.	160,00	0,02	6.50	6.50	6:51
				Conveyorb	rd Vapor Depr	tastif	· · · · · · · · · · · · · · · · · · ·					
1415 Kiso Speet	Two (2) Operation 2 Degreaters	Nover 720E	10,65	100,00%	0.0%	100.0%	0.0%	410,11	G,03	10,58	10,€8	2.19
7-1- 10a-101C1-	One (1) Operator 2 Degreaser	Dane 7∂DE	10,64	100,00%	8.0%	100,0%	0.0%	599,0	0.0	10.69	10.65	257
				Орел Тор	Vapor Depres	set's						
	LPFS Vaxor Degleater	(#Frag./Bramde	16,69	100,00%	0.01	91,00	0.0%	650.60	82.00	6.91	9,91	285
1415 Main Stress		£¢€.,	13.57	100 00%	64%	100.0%	0.6%	640,00	165 (0)	6.00	0.00	9.50
THE NEW YEAR	Tea arrest Line Yapon Degrape	FCE"	13,59	160.00%	0,0%	360.0%	100,00,	299.93	155.92	6.62	0,00	0.60
	l	Inhibitor Concentrate	16 60	100,00%	0.0%	100.0%	0.0%	20,60	0.03	10,63	10,00	0.10
				Man	tal Dagraas ing							
1245 Man Speet	£tanuitDepreasing	"MEK	5,7ā	100.00%	60%	100.0%	0.0%	149.03	0.00	6.76	5,76	0.47
12 /	Pots Washer	MDL-125	9.40	100.90%	0.0%	10/2.0%	0.0%	10.00	0.03	640	9:40	0.65

Hetbodology

Founds of VICk per Gallery School kess Vision = (Density (hi-jul) * Visionjul X (Organos) / (H-Visions X) enther)

Founds of VICk per Gallery School kess Vision = (Density (hi-jul) X (Organos) / (H-Visions X) enther)

Founds of VICk Tens per Year > Founds of VICk put Gallery controj (hi-jul) * (Har Gall of Ellery Gallery) + Vineth (Kastrol (paly)) * (H tensions) his)

tiols.

"Max Paraminan ediar MEK IPA and Zanilahkan-Jahry Bayanaran the Bulding (246 Hamust Beyanana). Therefore AIEX was need between Arms norsheass for VCCs.

"Parameter 40 CER 51,100(AIE) FCER nota VCC, have in, the co-risker of a NAP.

HAP Emission Calculations	
	_

Lesation	Emission tiest ID	Material	Density	Max Cat of Raterial	Waste Material	Weight %	Weight's	Weight %	Weight %	Weight S	₩eight %	Benzone Emissions	f,2. Epuxybutsay Emissions	p-dichioto benzene Emissions	Takent Emissions	fer Emissions	PCE Emissions
			(பங்களு	(936)(1	(galfyr)	Benzene	1,2- Epozybutane	p-dichloro benzene	Tojuene	ЯF	PCE	(totalyr)	(tons/ye)	(tons/yr)	(tounly)	(tonstyr)	(tranys)
					^ 		Соја Сјавае!	Degrasses		•		<i>'</i>	·				·
1245 Main Beast	Literatura Perts V/asher	Salely Nicen Salvent	6.50	10,59	0,00	0,000059.	0.00%	0.071%	9.604%	0,66%	0,50%	1,655-95	0.00€+60	259€-07	1.35E-05	0.00E+00	a
	Maintenance Parts Washer	Safety Milyan Salvent	6.40	10,00	0.00	0.000059.	3,600.0	0 6012	6,004%	0.00%	0.56%	1,65E-05	0.00E+03	2.60E-07	1,25E-04	0,65€+0>	0
1414 Elsin Ebeel	Operation 1 and 2 Machine Shop Parts Wardler	Safety Kloen Schent	4,80	189,00	6.00	0.056055.	0.09%	0,603%	0,004%	69090	0.93%	2,57€-97	0.666103	1.75E-05	2.25E-05	0.61€+¢0	9
						C	onveyorized Va	por Deglesse.	1								•
1415 Live Street	Two (I) Operation 2 Degreeasers	Novec 720E	10.60	410,11	0:00	90%	0.0311	0.92%	0.00%	0.02%	9.95%	0,00E+0.0	CQ+303:0	0.63E+60	0.00E+03	0.035+60	ú
, , , , , , , , , , , , , , , , , , , ,	One (1) Operation 2 Depears	Bita ec 72€€	10,61	\$07.03	0.00	0.03%	D.D9%	0.03%	D,DQ3q	0.00%	9.97%	0.03E+03	0.00E+00	D-50E+60	0,00E403	6.60E+66	0
							Open Top Vap	or Degreaters									
	LPPS Votor Degresser	TIMC-377	10,65	660,00	62,02	0,09W	1,05%	0.00%	0.00%	25,00%	0,02%	0,65E+00	3,155-02	0.015+07	0.00E+00	7.67E-01	. 0
1415 Man Stest		PCE"	13,59	649.03	165.50	0.03%	0,03%	0,03%	0,00%	0,00%	193.09%	9.00E+03	0:05E+00	9,60E+60	0,00E+03	0,00€+66	3.35
	Teterruttine Vapor Degreaser	10E"	13.59	250,00	165,60	9,00%	0,00%	0,00%	0.03%	0.02%	100,032	0,90E+00	0,000,000	0.00E+60	0.00E+03	0.93E+60	0,65
		John bitar Concentrate	10	20,00	0.01	0.99%	0.039	0.93%	0.00%	0.03%	0.03%	0.00E+03	0.00E+00	9.025+00	0.605400	0.63E+00	9
					•		Manual De										
1245 Idao Sheet	ManualDeyeasny	"!!EK	676	140.00	0.00	2 00 Y	0.00%	0.03%	0.00%	0.02%	9.93%	0.60E+03	0.06E+10	0.036+93	€.00€909.9	0.0E+69	6
	Parts Washer	MDL-125	2.40	16.03	0.00	0.00%	0.03%	0.03%	0,00%	0.00%	\$,00%	0.00E+07	6.00500	0.00E+60	0.D0E+D0	0.60E+66	P
								P:	oteniuj HAP Emi		HAPs (lensivi)	0,00E+00	\$.15E-02 4.83	0,00E+00	0,00E+00	7,970-01	4,01

 $\label{eq:methodology} \text{METhodology} = 0 \text{cov}_0 \text{ alrgel}^{-1} \text{Mer Gal all My mid (gally)}^{-1} \text{We gal} \approx \text{HAP}^{-1} \text{ for CS20 bs}$

1FPS Vaya Degrate Prior to Modicaco												
Location	Emission Unit Ed	Material	Density (Lb/Gzf)	Weight % Yokstde (H20 & Organice)	Weight 4 Water	Weight 's Diganics	Volume % Water	Man Cal of Mal, Added (gallyt)	Wasta Material (gallys)	Pounds VOC par gallon of solvent lass water	Pounds VOC per gallon of notyent	Potential VOC lohs per year
1415 Man Sheet	UPFS Vapor On pleasur	. Hores 72DE .	19,63	100,00%	0.9%	107.0%	0.0%	663,60	62.00	10,68	10,65	3,60

	(PPS Vapor Day to Montalities																
Lecation	Emission Unit ID	########	Density	Mas Galot Material	Waste Majerial	Weight S	Weight ";	Y/eight %	Weight %	Weight %	Weigts %	Server.	1,2- Eposybitane Emissions	p-dictiloro bendene Emissions	Tojuene Emissions	Aylene Emissions	PCE Emissions
			(reson)	(gəliyr)	(gnByr)	Веплене	1,2- Epoxybutant	p-dichiero benzene	Toluens	Xylene	PCE	(tons/yr)	(tonstyr)	(tonstys)	(tonstyt)	(tons/rt)	(lonelyr)
1415 Man Street	UPF5 Vapoi Depleaser	Herec 720E	10.66	850.00	. 62.00	9 60%	2,99%	NC0.0	9.00%	0.03%	0.00%	0.035+05	5.17E-02	0.00€+60	9.00E+03	D16F108	0

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Appendix A: Emissions Summary Dry Ice Blasting - Operation 2 Process 3 (1415 Main Street)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Dry Ice / Air Blasting (O2P3-EUG3)								
Residual Powder (lb/part)	Maximum Production Rate (parts/week)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)					
0,5	150	1.95	1.95					

METHODOLOGY:

Residual powder is dislodged from parts using a dry ice blasting cabinet.

Uncontrolled PM Emissions (ton/year) = Residual Powder (lb/part) * Maximum Production Rate (parts/week) * 52 weeks/year * (1 ton / 2,000 lbs)

Appendix A: Emissions Summary Wet Grit Blasting

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

Emission Factors for Abrasives

	Emissi	on Factor
Abrasive	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0,041	0,70
Grit	0.010	0.70
Steel Shot	0,004	0.86
Other	0.010	0.70

								Total (Controlled PTE	(tons/vr):	0.13	0,09
						Total P	TE (tons/yr):		13.14	9.20		
Street	EU15C	C15C	Aluminum Oxide	600	0.010	0,007	50%	99%	13.14	9,20	0,13	0,09
1415 Main	EU14C*	C14C	Aluminum Oxide	600					<u> </u>		***	
				(maire)	(apano gitt)	(lbs/lb grit)	Diasility		(torisiyi)	(lons/yr)	(tons/yr)	(lons/yr)
Location	Grit Blaster ID	Dust Collector ID	Grit Type	Max Throughput (lbs/hr)	PM Emission Factor (lbs/lb grit)	PM10/ PM2.5 Emission Factor	PM Mitigated by Wet Blasting ¹	Control Efficiency	Potential PM Emissions (tons/yr)	Potential PM10/ PM2.5 Emissions	Controlled Potential PM Emissions	Controlled Potential PM10/ PM2.5 Emissions

							PSD Min	or Limits	FESOP	Limits
Location	Number of Blasters	Grit Blaster ID	Dust Collector ID	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6,5	PSD PM, PM10, & PM2.5 Limit (lb/hr)	PSD PM, PM10, & PM2,5 Limit (ton/yr)	FESOP PM10 & PM2,5 Limit (lb/hr)	FESOP PM10 & PM2,5 Limit (ton/yr)
1415 Main	1	EU14C*	C14C	_	_				_	_
Street	1	EU15C	C15C	4,000	0.0009	YES	0,50	2.19	0.11	0.48
	2			TE (tons/yr):	2.19		0.48			

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Potential PTE (ton/yr) = Max Throughput (lb/hr) x Emission Factor (lbs/lb grit) x (1- Control Efficiency) x (8,760 hr/yr) / (2,000 lbs/ton)

¹ Per STAPPA/ALAPCO

^{*}No emissions from this wet grit blasting unit was determined in FESOP F097-40276-00060, issued on April 1, 2014

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Appendix A: Emissions Summary Polishing Operation: Powder Handling Operation

(Lens Polish Mixing, Suspension Room Custom Blend Loading, Suspension Room Powder Packaging, Powder Loading)

Company Name: Linde Advanced Material Technologies, Inc. Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Total Powder Throughput (lbs/hr)	PM EF (Ibs/ton)	PM10/ PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	Uncontrolled PM Emissions (lbs/hr)	Uncontrolled PM10/PM2.5 Emissions (lbs/hr)	Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)
9152.86	0,0069	0,0033	0.14	0.07	0.03	0.02	99.5%	0.00	0.00

326 IAC 6.5									
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5						
DC030 and DC032	4,000	0,0000	YES						

Information from Praxair:

-The throughput is a combined throughput for Lens Polish Mixing Tank Loading, Suspension Room Custom Blend Loading, Suspension Room Powder Packaging, and Premix, There are 4 mixing tanks in Lens Polish, but the throughput is limited to two mixing tanks, based on a bottleneck created by the bottle filling line and the pail filling line. The powder handling operations are controlled by dust collectors with a control efficiency of 99.5%. There are no HAPs in the dry materials used in the Polishing Department,

METHODOLOGY:

*Handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer Uncontrolled Emissions (tons/yr) = Powder Throughput (lbs/hr) / (2,000 lbs/ton) * EF (lbs/ton) * (8,760 hours/year) / (2,000 lbs/ton) 326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

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Appendix A: Emissions Summary Polishing Operation: Polish Mixing Operation (Lens Polish Mixing and Filing & Suspension Room Mixing Operation)

Company Name: Linde Advanced Material Technologies, Inc. Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

Material	Weight % Volatile (H20 & Organics)	Density (Lb/Gal)	Weight % Water & Exempt Solvents	Weight % Organics	Maximum Hourly Throughput (gal/hr)	Pounds VOC per gallon of coating	Emission Rate (% Material Emitted)	VOC Potential (ton/yr)
ens Polish Mixing Tan	k samanang palak dibir					(BROWN)	BUNGAN PERSON	asarasi afii
Material 1	66,00%	8,35	65,9%	0.10%	0,36	0,008	0,89%	0,00
Material 2	80,00%	10,01	79,0%	1.00%	6,69	0,10	0,89%	0.03
Material 3	100,00%	8,68	0.0%	100.00%	24.77	8.68	0.89%	8,40
			P	otential Emis	sions for Lens P	olish Mixing	Tank 1 (tons/yr)	6,43
ens Polish Mixing Tan	k 2:	verrier ver						State State of A
Material 1	66,00%	8,35	65,9%	0,10%	0.36	0.008	0,89%	0.00
Material 2	80,00%	10,01	79,0%	1.00%	6.69	0.10	0.89%	0.03
Material 3	100.00%	8,68	0.0%	100,00%	24.77	8,68	0,89%	8.40
			P	otential Emis	sions for Lens P	olish Mixing	Tank 2 (tons/yr)	8,43
uspension Room Mixi	ng Tank:	no significan	gagagaragaga	e ale segue	den Handeler	NA PONTENCE	and the first state of the same	151153500000
Material 3	100,00%	8,68	0.0%	100,00%	1.99	8.68	0.89%	0.67
Meterial 4	100,00%	8,18	1.0%	99.00%	0.12	8.10	0,89%	0,04
			Potent	lal Emissions	for Suspension	Room Mixir	g Tank (tons/yr)	0.71

Total Potential Emissions (tons/yr)

Description of Process:

Lens Polish and Suspension Room mixing operations are used to mix various lens polishes. The Suspension Room Mixing operation is a small-scale mixing operation, and the composition of the final product is different than the Lens Polish area. There are other components of the mixtures, but they do not contain VOCs or HAPs,

Max Throughput Description;

- -The batch compositions were provided by the facility,
- -Maximum gallons of material is based on the usage of each chemical per batch.
- -There are 4 mixing tanks in Lens Polish, but the throughput is limited to two mixing tanks, based on a bottleneck created by the bottle filling line and the
- -There are 2 suspension room batches every 8 hours (one every 4 hours).

METHODOLOGY

Based on a meterial balance of the raw material in and product out, the 99,03% of the raw materials remain in the final product. Therefore, 0,97% is lost. Part of the loss is due to waste material remaining on the tank due to surface tension, and the other portion is due to air emissions. The waste remaining in the mixing tank was estimated using the "instructions for Completing Part II of EPA Form R: Summary of Residue Quantities," and a median point was chosen between water and motor oil (water = 4 cp, motor oil = 94 cp, Malerial 3 = 46 cp) for disti-bottom steel lanks. The weight % of the drum's capacity, based on a median between 0.034% for water and 0.191% for motor oil. The weight % of 0.0785% was subtracted from 0.97% to determine that 0.892% of the contents are emitted.

Weight % Water & Exempt Solvents = Weight % Volatile (H20 & Organics) - Weight % Organics

Material compositions are from MSDSs.

Pounds of VOC per Gallon Material = Density (lb/gal) x Weight % Organics

VOC Potential (tons/yr) = Pounds of VOC per Gallon Material (tb/gat) x Max Gat of Material per Batch (gal/hr) / Batch Time (hrs/batch) x Emission Rate (%) x (6,760 hrs/yr) x (1 ton/2000 lbs)

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Appendix A: Emissions Summary Building 1415 - Bader Grinders

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Unit ID	Control Efficiency	Outlet Grain Loading (grains/dscf)	Air Flow Rate (cfm)	PM/PM10/PM2,5 before Controls (lbs/hr)	PM/PM10/PM2.5 before Controls (tons/yr)	PM/PM10/PM2,5 after Controls (lbs/hr)	PM/PM10/PM2.5 after Controls (tons/yr)
Bader Grinder #2	99.70%	0,003	4000	34.29	150.17	0.10	0.45
Bader Grinder #3	99,70%	0,003	4000	34.29	150,17	0,10	0,45
Bader Grinder #4	99.70%	0.003	4000	34,29	150,17	0,10	0.45
				Total:	450.51	Total:	1.35

					PSD Mir	nor Limits	FESOP	Limits
Emissions Units	Control Unit ID	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6,5	PSD PM, PM10, & PM2.5 Limit (lb/hr)	PSD PM, PM10, & PM2.5 Limit (ton/yr)	FESOP PM10, & PM2.5 Limit (lb/hr)	FESOP PM10, 8 PM2,5 Limit (ton/yr)
Bader Grinder #2	C03B	4,000	0.00	YES	0.10	0.45	0.10	0,45
Bader Grinder #3	C07B	4,000	0.00	YES	0.10	0.45	0,10	0.45
Bader Grinder #4	C08B	4,000	0.00	YES	0.10	0,45	0.10	0.45
				Total:	_	1.35		1.35

Methodology

PM10 and PM2.5 emissions assumed equal to PM emissions.

PM/PM10/PM2.5 after Controls (lbs/hr) = [Outlet Grain Loading (grains/dscf)] * [Air Flow Rate (cfm)] * [60 min/hr] * [ib/7000 grains]

 $PM/PM10/PM2.5 \ after \ Integral \ Controls \ (tons/yr) = [PM/PM10/PM2.5 \ after \ Controls \ (ibs/hr)] + [8760 \ hr/yr] + [ton/2000 \ lb]$

PM/PM10/PM2.5 before integral Controls (lbs/hr) = [PM/PM10/PM2.5 after Controls (lbs/hr)] / [1 - control efficiency]

PM/PM10/PM2.5 before Integral Controls (tons/yr) = [PM/PM10/PM2.5 after Controls (tons/yr)] / [1 - control efficiency]

This source is only subject to the pound/hour limitations. The ton/year "limits" are for calculation purposes only and are not federally enforceable limitations.

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary Surface Coating at 1245 Main Street and 1416 Main Spert

Company Ham: Linde Advanced Moterial Technologies, Inc.
Source Address: 1345 and 1415 Main Obset, Indonapoles, It 46224
1550 and 1550 Poleo Street, Indianapoles, It 46222

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sefere Cooten ID EUNA EURO EURO EURO EURO EURO EURO EURO EURO	Costal Decello Costa Cos	16.68 16.68	Arrand Cellected photosyl 21,7 21,7 21,7 21,7 21,7 21,7 21,7 21,7	69.67% 69.67% 59.67% 69.67% 69.67% 69.67% Ever Pres 60.27%	HSFA FRei Control Ensenny Hallon Stathers G 59.50% 99.90% 99.90% 99.90% 92.50%	21,71 21,71 21,71 21,71 21,71 21,71 21,71 21,72 rsy Ceating St	Fidential Pitt Envisors (2-24) p) of rubject to 18 95,67 95,97 95,97 95,97 95,97 95,97 95,97 95,97 95,97 95,97 95,97	2.85E-66 2.85E-66 2.85E-66 2.85E-66 2.85E-66 2.85E-66	FMC.5 Lent (BN-5	-	FESOP PM998 PM25 Sand (E-5-)		193 153 163 163 163 163	Galloui di Costagi Pai Day (paliby) 7.72 7.72 7.72 7.72 7.72 7.72	PHEN
12-65 Main Scient 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EUTA EUGA EUGA EUGA EUGA EUGA EUGA EUGA EUG	C01A C02A C16A C37A C16A C06A C06A C01S** C194 C20A**	12.15 32.15 32.16 32.16 32.16 32.16 44.52 16.68	21.7 21.7 21.7 21.7 21.7 21.7 21.9 800	60.67% 65,67% 55,67% 65,67% 95,97% 95,97% Low Prin 62,27% High V	64,65% 19 2077 70,02% 19 26% 92,93% 92,93% oute Planna Sp	21,71 21,71 21,71 21,71 21,71 21,71 21,71 21,72 rsy Ceating St	95,67 95,67 95,97 95,97 96,97 96,97 96,97 Section 1 Ubject 1	2,875-66 2,875-66 2,875-66 2,875-66 2,875-66 2,875-66 NESHAP 6W	- - - - -	-	1 1 1 1		193 153 163 163 163 163	7.72 7.72 7.12 7.72 7.72 7.72	YES YES YES YES YES
125 Non Stort 1755 No	ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA ELIOSA	C02A C16A C37A C16A C06A C06A C01S*	12.15 32.15 32.16 32.16 32.16 32.16 44.52 16.68	21.7 21.7 21.7 21.7 21.7 21.7 21.9 800	65,97% 55,97% 90,97% 90,97% 90,97% Low Price 62,27% High V	19 207) 70,004) 70,004) 70,964 92,995 92,976 potry Planna Sp	21,71 21,71 21,71 21,71 21,71 21,71 21,71 20,00	95.67 95.67 95.67 96.67 96.67 96.67 Section 4 (b) (red 1	2.6/E-66 2.5/E-66 2.5/E-66 2.5/E-66 NESHAP W	-	-	11111		159 163 109 160 160	7.72 7.12 7.72 7.72 7.72	YES YES YES YES
126 Mgs Steat 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EUIGA EUITA EUIGA EUIGA EUIGE EUIGE EUIGE EUIGE EUIGE	C16A C57A C16A C06A C06A C01S** C194 C20A**	32.19 32.16 32.16 32.16 32.16 41.62 41.62 16.68	21.7 21.7 21.7 21.7 21.2 0.00	25,97% 95,97% 97,97% F6,97% Low Print 62,97% High V	90,904 Pr 96/2 92,995 Street Planna Sp Socity Cay Fuel	21,71 21,71 21,71 21,71 25,71 ray Ceaping 51 9,00	95.07 95.07 95.07 95.07 95.07 beton subject t	2.596-00 2.55E-46 2.65E-66 2.55E-66 NESHAP 6W	-	-	-		163 103 151 163	7,72 7,72 7,72 7,72	YES YES YES
1,25 Main Street 1 1,25 Main Street 1 1,25 Main Street 1 1,25 Main Street 1 1,25 Main Street 5 1,25 Main Street	EUIYA EVIGA EUXA EUXIS EUXA EUXA EUXIA	C97A C18A C05A C01S** C194 C20A**	32,16 32,16 32,16 41,62 41,62 16,04 16,68	21.7 21.7 21.7 0.00 9.00 9.00	90,97% 90,97% 90,97% Low Print 62,97% High V	99.99% 99.99% 99.99% utile Planma Sp — worthy Coy Fuel	21,71 21,71 21,71 21,71 ray Ceating 51 9,00	95.07 36.07 96.07 Selton 10bjed 1 0.07	2,63E-46 2,63E-66 2,63E-66 NESHAP 6W	=	=	=		102 161 163	7,72 7,72 7,72	YES YES
1 1 1 1 1 1 1 1 1 1	EUIGA EUOSA EUGIS EUIGA EUIGA EUIGE EUIGE EUIGE	C164 C06A C015* C194 C204*	72.76 72.76 44.62 44.62 16.68 16.68	21.7 21.7 0.00 9.00 9.00	97.97% 97.97% Low Prior 62.97% High V	93.99% 93.99% with Planma Sp alocity Gry Fun	21,71 21,71 ray Ceatraig 51 9,00	26.07 96.07 Sation 10bjed 1 0.09	2.6/E-66 2.5/E-66 NESHAP 6W	=	=	=		169 169	7,72 7,72	YES
1415 Main Street 1 1245 Main Street 1 1245 Main Street 1 1255 Main Street 5 1 1 15	ELKYSE ELKYSE ELKSE ELKSE ELKSE ELKSE	C05A C01S** C194 C20A**	72.16 44.52 14.53 16.04	21.7 0.00 9.00 9.00	62.97% Low Price 62.27% High V	SANCE SUITE Plante Sp Society City Fool	21.71 ray Ceating 51 9,00	96.07 betten 14bjed 1 0.07	2.63±406 NESHAP EW					163	7,72	YES
#315 Main Street 1 1245 Main Street 1 1245 Main Street 1 1245 Main Street 5 1 1245 Main Street 5	EUNSE EUNSE EUNSE EUNSE EUNSE	C194 C204*	#4,52 16,68 16,68	0.00 5,00 9,00	62275 High V 93,575	auta Plasma Sp — Hocity Gry Feel	ray Ceathig St	tation subject t 0.07	NESHAP EW							
1245 Main Street 1 1245 Main Street 5 1245 Main Street 5	EUISA BUXMA EUISB EUISB	C194 C204**	16.68 16.68	0.00 9.00 9.00	62275 High V	docity Gry Fuel	9,00	0.00			en, register					7. 7
1245 Main Street 1 1245 Main Street 5 1245 Main Street 5	EUISA BUXMA EUISB EUISB	C194 C204=	16.64 16.64	9,00 9,00	95,57%				2.64E-54							
1245 Main Street 1 1245 Main Street 5 1	EUXSB EUXSB	C194 C204**	16.68 16.68	9,00 9,00	95,57%		Costing Staffs						-	103	10.58	ÆS
1245 Main Street 1 1245 Main Street 5 1	EUXSB EUXSB	C20A*	16,04 16,04	9.00		£ 60.000		ons subject to I	HESHAP BY	300000000	Service Section	diametrical	assessed to the	Participation of	SECTION OF THE	-500
125 Man Street 5	EUKSB EUKSB	C040	16.64		90,97%		5,00	22,43	1.7±E-05	-	-	-	-	100	1.55	110
1245 Main Street 1	ELXYSB	CO-CO	16.68	Contraction of		5-5-56At	2.00	24.43	1.18E-06	0.23	1.00	0.15	0.57	100	3,56	ilo
1245 Main Street 1	ELXYSB	CO-O			PE	sma Stafface Go	ating Stations	subject to IES	HAP CY.	-050,55				St. Sec.	C 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	
		C0:00		9,00	07.97%	\$73,792%	9.00	33.43	1.16E-65		-			160	186	110
	Елгов.		8.64	6.42	65.87%	69.95A	5.42	22,75	7.12E-07			_	_	100	1.63	FIG
		CHID	EQ4	5.42	P2.97%	69.99%	5.42	20.75	7.12E-07			-		160	1,67	110
	E.WisB	COIB	16.64	9.60	83.5T%	F3.95%	9.00	32.43	1.1EE-65		-	-	_	163	3.63	110
	EU02B	COZB	15.63	E GO	62.97%	99.96%	9.00	39,43	3,16E-26		_	_		150	165	UO.
	EJOSE	C23	1653	960	90.57%	93.99%	5,00	55,49	1,1+E-68	_		_	-	100	1,63	110
1 1	EUVSS	COSB	16,65	6,60	9/2,57%	PG,95%	9,06	39,43	1.185-66	-	-	_		100	3.86	l lio
1415 Nam 50-4	E/778	C078	1263	B 60	\$2.97%	99,56%	900	19,45	1,18E-0)	360	13.14	302	13.54	192	3.66	llo.
} '	EUVIS	Baffes**	16,68	2,60	6,1000	0,61%	11.25	CANAL STREET	269	3,01	18.14	307	11,74	3102	1,60	f No
	EUV#	Cres	10.05	9,00	93.97%	Pa. 999.	9.00	39.43	1.18E-0)	i		_		102	3.05	HO
1	Eu 78	C098	10.60	9,02	93.97%	93.99%	9.00	39.43	1.16E-66	_		_		100	146	110
	Bitte	C11B	16.65	1.50	63.27%	93.3(4)	2.00	32.43	1.18E-56				-	16-3	166	110
	0.000		11000000000		Jogh Vels	city Oxy Fuel C	pating Station	t HOT emblect i	D HESHAP ON	Section bearing	2000/00/2005		-5-11-11-11-11-11		and a property	10.1000
1245 Mary Street 1	EUOIA	Estina .	tátě	£65	E6%	9/4	10.65	47,52	8.50	-		_		160	1,64	110
rakerrana (gazariyana rakerr	service and a service	1,141213.444.514.4			Plane	a Surface Cost	ng Stations H	of publication	ESHAP BY			200	0011111111111111111	100100000000	2017/02/04/04	
1245 Main Street 1.	EU03B	Bettes	6,04	4.34	EU:	Øz.	5.43	23,76	475	T -		-	T - 1	160	1,93	110
(415 Man Street 1	E/178	C12B	14.64	267	92,97%	99:35/6	9,60	35,43	1,16E-0%					100	3.85	110
1500 Police Street	EUMR	Ha Carnel	1,00	0,02	40%	0.00%	0,60	2/3	1 -	-	-	-		100	0.24	110
24			·			TetalP	E (lens/yrt	1174,83	25.74	· · · · · · · · · · · · · · · · · · ·	·	·	·			
	_		Tetal I	PN PNID an	d PM 2.5 Emis	signs Aller inte		105.50								
									, Issiens Aller i	SO times	11,54	ì				

NOTES
"The to bridge, its are not integral to these seria. Therefore, PTE's, convious before counts,
Consider SUDA SUDA serials and SUDA bear SESOP terms, See Continue with extend another information.
"The cooling number in used on 1972 and is, and are completed of notable and continue compassed. This results in high counting decrease,

Aggendu. A: Emissions Summary Surface Coating at 1245 Main Street and 1416 Main Street

Company Hame: Linds Advanced Haterial Technologies, Inc. Source Address: 1245 and 1416 Main Street, Indianapoles, B142274 1800 and 1850 Poleo Street, Indianapoles, B145222

			HAP End	ssiens				F	Co	introlled NAP			Uncontrolled HAPs					
beaton	Elatize Coder ID	Cortrol Device ID	Téznism Tehurhkeige Cortent(%)	13 rhall Corriers	Стопыя: Собн4 (11)	Cotat Cost-nt(%)	Contest():)	Cortrolled Teament Terrestando Entresens (type/p)	Controlled Field Engelses (Gesty)	Corballed Entorway Smashina (lone(y)	Controlled Cotol Environs (tensily)	Controlled Tabil HAP Enverious (tabil)	Uncertailed Texture Textellists Environs (000/fp)	Uncontrolled Isolal Envelope Bonsyg	Uscarbalid Civarion Enserces port(y)	Uncontrolled Cohalt Emissions (love)(s)	ticorta Tetal Hi Emisso dersiy	
						Octon	abon Surface C	paing Station	s subject to NE	SHAP GV	**********	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	10 100 K			100		
3 7 7 7 7	ENDIN	COIA	0%	56%	7552	04	95%	0,00	1,43E-05	214E-05	0.03	0.03	2.00	47.54	71.31	0.00	10.72	
	EVOLA	CC2A	94	56%	759.	6%	95%,	6,03	1,45E-05	214E-05	0.03	0.00	0.00	47,54	71,31	0.06	50.33	
	EUJEA	C16A	0%	E(A)	75%	G4	0.5%	6,03	1,425-01	2.14E-06	60,0	0.03	6.00	47.54	71.31	0.06	91.72	
1247 Dan Street	EU17A	C17A	6,4	500	75%	6/4	66%	0.00	1,41E-03	2.14E-05	0.03	0.00	0,00	47,54	71,31	0,06	50.32	
	EUREA	CIŁA	07.	55/0	75%	₹/×	95%	0.00	1.4°E-75	21/6/6	0.00	0.07	6.00	47.54	71,35	0.06	50.32	
	EUKKA	CDSA	0½	10%	75%	641	1476	6.00	1.428-05	2145-01	0.03	0.00	0.00	47.54	71.31	0.00	60.32	
The same of the same of						LOW Press	ure Plaster Sp	ray Coabite St	torion subject	NESHAP DY								
1415 Mark Street	Energ	C:\\S'	04	7553	59X	5%	56%	-	_	-	-		ംകര	0.01	70.01	30.0	0.01	
elevent (pleate						Hig	h Yelecity Oxy	Fuel Coaling s	ubject to HESI	MA CAN		*****			********	~-(costo-6)	annada	
1245 Man Sheet	EU19A	CIOA	ÇΛ	Ø.∀	94	26%	20%	0,00	0.00	200	0.03	0.00	6.09	663	030	7,69	7.19	
ITAS BOTH STICK	EUZD/	CZA	64	566	759.	6%	90%	0.00	551E-07	BETE-CT :	0.05	1.126-96	0.00	1972	29.57	0.05	27.43	
***********			91211	11000000000		flas	ma Surface Co	abny Stabons	subject to NES	HAPEW		1441114	10000000000	14.00	(1994)	(55) (10)	(101-4, 111)	
and the feet and	EUUE	C05D	- 0λ.	ers:	297.	7574	79%	0.03	hrei±eo	237E-67	6.93	6.00	0.00	0.00	4.75	17.61	10,76	
12 5 Mars Street	ETYCE	C0(2)	DA	O.	20%	75%	70%	0.00	0,00	1.42E-07	0.00	0.00	0.00	0.07	4.76	17.51	15.74	
and a second	FLITOR	CSSD	O'é	Đ¼	29%	75%	794	0.00	6.03	1,42±47	0.03	0.03	0.00	060	4.75	17.51	15.76	
	EU016	COID	0.4	50'rs	50%	5644	95%	0.03	5.94E-07	5.91E-67	862	0.00	0.00	12.72	19.72	19.72	37.46	
	EU035	C#26	0%	50%	50%	50%	95%	0,63	5,51E-07	5,51E-67	0,00	6,03	6,03	54,72	19,72	19,72	37,45	
	EU0AB	Ct/8	0.0	86%	F07/	50Yr	55%	060	5,91E-07	5-91E-07	0.00	0.00	0.00	19.72	10.72	19.72	57,44	
	EUDEL	C(-69	0%	56%	50%	50%	56%	0.60	5.64E-07	551E47	0.00	0.00	0.10	19.72	1972	19,72	37,44	
1419 Man Street	ELETE	Coza	07.5	50%	50%	50%	9 (4)	0.00	6.61E-07	5 1E-07	6.63	0.00	0.00	19.72	19.72	19.72	57,40	
	EUVIB	ealis."	θX	57.	Driv	OS.	σx	0.99	0.93	9.69	0.00	0.00	0.001	460	E-60	0.99	000)	
	Ence:	COST	0.9	500	E0%	5047	95%	0.00	6 91E-07	5 91E-07	0.01	0.00	0.00	12,72	10.72	19,72	27.45	
	£U659	C099	0%	55%	592	SEA.	65%	6,00	591E-07	5.91E-07	0,03	0.00	0.03	19.72	19.72	19.72	37,45	
	EU11B	C118	0%	56%	50%	50%	5215	0,00	5.61E-07	5.91E-07	0,03	0,03	5,00	19.72	19.72	16.72	57.At	
			-533,53333	10000000		Hope Velo	aty Day Feel C	eating Stations	NOT subject I	NESHAP CY	10000000000	position of the	talian in processing			**********		
1245 Mary Street	EUOIA	Parli-	ΩX	QA.	0%	20%	30%	9.00	0.00	0.00	1,90	1,50	0.00	0.00	0.00	9.00	3.50	
					100000000000000000000000000000000000000	Plesm	Surface Cost	ing Stations IX	of project to it	ESHAP AV					100000000000000000000000000000000000000	100000000000000000000000000000000000000	Jack State	
1245 Mars Stress	. ELKGG	Batter	O:X	0%	63	20%	28%	600	£60	969	6.95	0.95	0.03	0.02	0.6/3	4.75	4.75	
1415 Man Sheet	Ev126	C129	67.	0:0	6%	EV.	9%	603	Ø₽₩+03	QD/E+D3	0.03	0.03	0.03	663	0.60	0.00	0.00	
1500 Pales Street	EUMB""	No Corpul	6%	0%	6:1	fră.	0%	-	_				0.00	622	7,00	0.00	0.00	
	HAPs Emissions After Integral Control and Before FESOP Limits:					ESOP Limber	0,00	15,41	49,50	22.57	77.76							
				P. Enissions				0.09	0.01	10.0	2.85	2.66						

Retholology,

Washum Throughy a Amount Culorial, and Custral Efficiences also founded source.

Bounded Particular Particular Environs (Environs Culorial Efficiences) (Dank Culorial Custral Efficiency (Vi)) (8,720 km², es) (1,200 km², es)

Controlled MAP Emissions (post/y) = Controlled Patential Parcellar Emissions (post/y) = MAP Content (%)
MAP Control in Based on versibease cocksys.
MAMES are from patentials postate.

VEH STATE IN CALLED BY	Tries a franci
Spray Type:	Coating:
D-Gun	CEC-104
HNOF	VAC-550
1245 Plutria	EQ-111
1345 Fluores :	V/C-160
STOCES	
1415 Planto :	CO-159
LEFS	14-595-2
1509Phenu****	YO-113
1693 Fluina****	151.055 74

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Appendix A: Emissions Summary Kerosene Combustion Only MM BTU/HR <100

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Location	Equipment Name	gal/month
1415	Kerosene used in EU08B	26
1245	Kerosene used in EU19A	26
	Total Capacity (gal/month)	52
	Total Capacity (kgal/month)	0.052
	Heating Value (MMBtu/gal)	0,135
	Total Capacity (MMBtu/month)	7.0

S = Weight % Sulfur 0.5

				Pollutant			
	PM*	PM10*	PM2.5	SO ₂	NOx	VOC	co
Emission Factor in lb/kgal	2.0	1.3	1.3	71.0 (142.0S)	20,0	0,34	5.0
Potential Emission in tons/yr	6.24E-04	4.06E-04	4.06E-04	2.22E-02	6.24E-03	1.06E-04	1,56E-03

^{*}PM emission factor is filterable PM only. PM10 & PM2.5 emission factors are filterable and condensable fractions combined.

	HAPs - Metals					
	Arsenic	Beryllium	Cadmium	Chromium	Lead	
Emission Factor in lb/MMBtu	4,0E-06	3.0E-06	3.0E-06	3,0E-06	9.0E-06	
Potential Emission in tons/yr	1.68E-07	1.26E-07	1,26E-07	1.26E-07	3.79E-07	

	HAPs - Metals, continued					
	Mercury	Manganese	Nickel	Selenium		
Emission Factor in lb/MM8tu	3,0E-06	6.0E-06	3.0E-06	1,5E-05		
Potential Emission in tons/yr	1,26E-07	2.53E-07	1.26E-07	6,32E-07		

The five highest organic and metal HAPs emission factors are provided above. Total HAPs: 2,06E-06

Application topological

Appendix A: Emissions Summary

Company Name: Linde Advanced Material Technologies, Inc.
Source Address; 1245 and 1415 Main Street, Indianapolis, IN 46224
1580 and 1550 Polco Street, Indianapolis, IN 48222

Heat Input Capacity MMEto hr Potential Throughpul ММСЕ/уг 297,09 34,59

	Pollulant						
Emission Factor in Ib MMCF	9.1 9.1	P#A10* 7.6	P442,5 7.6	50 , 0,6	NO1 100.0 "see below	VOC 5,5	84,0 CO
Potential Emission in lons yr	0.28	1.13	1.13	0.69	14,85	0.82	12.48

PM emission factor is filterable PM only. PM10 & PM2.5 emission factors are filterable and condensable fractions combined.

"Ensission Factors for NOx:	Uncontrolled = 100, Law	HOy Burnet = 50, Low HOx	Burners'Flue gas recirculation = 32

	Н	APs + Organics			
Benzene	Dichlorobenzene	Formaldeliyde	Hexane	Totuene	
2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
3,12E-04	1,78E-04	1.11E-02	2.67E-01	5,05£-04	Total HAP
	***************************************				0.28
		HAPs - Metats			
Lead	Cadmina	Chromium	Manganese	Nickel	1
5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
7,43E-05	1.63E-04	2.08E-04	5.54E-05	3.12E-04	
	2.1E-03 3.12E-04 Lead 5.0E-04	Benzene Dichlorobenizene 2,1E-03 1,2E-03 3,12E-04 1,76E-04 Lead Cadmium 5,0E-04 1,1E-03	2,18-03 1,2E-03 7,5E-02 3,12E-04 1,78E-04 1,11E-02 HAPs - Metals Lead Cadmium 5,0E-04 1,1E-03 1,4E-03	Benzene Dichlorobenzene Formaldeliyde Hexaue 1.2E-03 7.6E-02 1.8E+00 3.12E-04 1.78E-04 1.11E-02 2.67E-01 HAPs - Metals Lead Gadmiss Chromium Mangamese 5.0E-04 1.1E-03 1.4E-03 3.8E-04 3.8E-04	Benzane Dichlorobenzene Formaldeliyde Hexane Toluene 1.2E-03 7.6E-02 1.8E+00 3.4E-03 3.12E-04 1.78E-04 1.11E-02 2.67E-01 5.05E-04

The five highest organic and metal HAPs emission factors are provided above.

Methodology
All enjassion factors are based on normal firing.

MARINE = 1,000,000 Bits
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Heaters for the Kolene tank:	(IMMBushr) sin Street 0.15 0.15 0.15 sin Street
Heaters for the Kolene tank: Kild for LSR1 1445 Me RTU-A2 RTU-A3 RTU-F RTU-C1	0.15 0.15 0.15 sin Street
Kilane tank Kilanfor LSR1 1415 Me RTU-A2 RTU-A3 RTU-F RTU-C1	0.15 0.15 sin Street
Kilo for LSR1 1415 Me RTU-A2 RTU-A3 RTU-F RTU-G1	0.15 sin Street
1415 Me RTU-A2 RTU-A3 RTU-F RTU-G1	sin Street
1415 Me RTU-A2 RTU-A3 RTU-F RTU-G1	sin Street
RTU-A2 RTU-A3 RTU-F RTU-G1	
RTU-A3 RTU-F RTU-G1	
RTU-F RTU-G1	0.35
RTU-G1	0,35
	D, I 15
RTU-E1	0.25
	0,525
RTU-B2	0.525
RTU-A5	0.525
RTU-A6	0,525
ACPR4-I	0.133
ACPR4-2	0.115
RTU-00	0,567
ACPR1-1	0.117
ACPR1-2	0.117
RTU-B1	0,3
RTU-A-1	0.3
RTU-A7	0.699
RTU-E1	0,18
RTU-D2	0.54
RTU-C1	0.27
1650 Po	ico Street
EU001	3
EU002	3
EU003	3
EU004	3
EU005	3
EU005	3
EU007	3
EU005	3
EU009	3
EUP-11	0,3
EUP-11A	0.3

Floor of chair Tab App. A

Appendix A: Emissions Summary Natural Gas Combustion Only MM BTU/HR <190

Company Name: Linde Advanced Material Technologies, inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Poico Street, Indianapolis, IN 46222

Heat Input Capacity
MMBtuffs Potential Throughput MMCF/yr 33,69 289.36

			,				
				Poliutant			_
	PM*	PM101	PM2.5	80,	Nox	Voc	
Emission Factor in Ib/MMCF	1.9	7.6	7,6	0,6	160,0	5.5	l

Potential Emission in tons/y 0.27 1.10 1.10 0.09 14.47 0.6

'PM emission factor is filterable PM only. PL/10 5 PM2.5 emission factors are filterable and condensable hactions combined.

"Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50. Low NOx Burners/Flue gas recirculation = 32 0.80

		HAPs - Organics						
	Benzana	Dichlorobenzene	Formaldehyde	Hexane	Toluene	1		
Emission Factor in Ib/MMcf	2.1E-03	1,2E-03	7,5€-02	1.8E+00	3.4E-03	ļ		
Potential Emission in tons/yr	3,04E-04	1.74E-04	1.09E-02	2.60E-01	4.926-94	Total HAP:		
						0.27		
		H	APs - Metals					
	Lead	Cadmium	Chromium	掛anganese	Nickel	1		
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3,8€-04	2.1E-03]		
Potential Emission in tonefur	7 22C 06	1 505 04	2.025.04	E 605 06	2015.01	İ		

The five highest organic and metal HAPs emission factors are provided above.

Methodology $\label{eq:Methodology} Alf emission factors are based on normal firing, \\ MMStu = 1,000,000 \ Btu$

MMCF = 1,000,000 Cubic Feet of Gas

MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (JAMCF) - Heal Input Capacity (MidBtu/hr) x 8,760 hrs/yr x 1 AMCF/1,020 MMBhu
Emission Factors from AP 42, Chapter 1.4, Tables 1,4-1, 1,4-2, and 1,4-3, SCC #1-01-005-01, 1-01-006-04 (AP-42 Su
Emission (tonsyly) = Throughput (JAMCF/s) x Emission Factor (bit/JAMCF) 2,000 inton
The H/2C Emission Factor for uncontrolled is 2,7 The 4/2C Emission Factor (bit/No burner is 0,64,
Emission Factors are from AP 42, Table 1,4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.

Emission Factors and a uniform 22. State 1442 Sept. 144

Emission Unit ID	Maximum Capacity (MMBtu/hr)					
1500 Poico Street Powerhouse						
EU002	8,369					
EU003	8,369					
€U004	14.645					
1550 P	olco Street					
B-001	1.26					
B-002	0.150					
E-003	0.45					
B-004	0,45					
Total	33,69					

84,0

12,15

Emission Unit ID Maximum Capacity
(MMBtufur)
1550 Polco Street

Appendix A: Emissions Summary Natural Gas Combustion Only This sheet is used only to calculate the PTE of the one (1) new natural gas-fired boller (0-402) AMB TUARE - COO

Company Name: Linde Advanced Material Technologies, finc.
Source Address: 1245 and 1415 Main Street, indianapolis, IN 46224
1500 and 1580 Polco Street, Indianapolis, IN 46222

Heat Input Capacity

Potential Throughput

MABIUM

MMCFAyr

0,15

1,29

	Pollutant						
	PM*	PM101	P142.5	\$0,	Nox	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100.0	5.5	84.0
					''tee below		
Potential Emission in Ions/yr	0,00	0,00	0.00	0.00	0.06	0.00	0.05

* 111 - 411 110 414 11 14 415 115	rings to the best to the property in the same interest and collections the class collections
"Emission Factors for	Dx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

		HA	Ps - Organics			1
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	
Emission Factor in lb/AtlAct	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/vr	1.35E-06	7.73F-07	4.83E-05	1.16E-03	2.19E-06	Total HAPs
•		1				0,00
		}	IAPs - Metals			
	į,ead	Cadmium	Chromium	Manganese	Nickel	
Emission Factor in lb/MMcf	5,0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tonsily:	3,22E-07	7,09E-07	9.02E-07	2.45E-07	1.35E-06	

The five highest organic and metal HAPs emission factors are provided above.

Methodology All emission factors are based on normal firing. MtAB(u \simeq 1,000,000 B(u MtACF \simeq 1,000,000 Cubic Feet of Gas

MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBturin) x 8,760 hrs/yr x 1 MMCF/) 020 MMBtu
Emission Factors from AP 42. Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC \$1-01-006-01, 1-01-006-04 (AP-42 Su
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (BMMCF)/2,000 Biton
The N2O Emission Factor for uncontrolled to 2.2. The N2O Emission Factor for No Nxo burner is 0.6-4.
Emission Factors are from AP 42, Table 1.4-2 SCC \$1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Wanning Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (BMMCF)/2,000 Biton
CO2e (fons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

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Appendix A: Emissions Summary Building 1550 Specialty Ingot Manufacturing Process - Material Transfer Point

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

]				
Powder Throughput	PMEF	PM10/PM2.6	1	Uncontrolled PM10/PM2.5			Controlled PM10/PM2,5
(lb/hr)	(lb/ton)	EF (lb/ton)	PTE (tons/yr)	PTE (tons/yr)	Efficiency (%)	PTE (tons/yr)	PTE (tons/yr)
275.00	0.0069	0,0033	0,0042	0,0020	99,90%	4,16E-06	4,16E-03

METHODOLOGY:

Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * 1/2,000 (ton/lb) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton) Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

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Appendix A: Emissions Summary Building 1550 Specialty Ingot Manufacturing Process - Ingot Machining Lathe

Company Name: Linde Advanced Material Technologies, Inc. Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

					Part	iculates		H/	Ps
		May Thr	ughput Rate*	Emissio	n Factor **	Potenti	al to Emit		
Location	Process:	max imoughput Nate		PM	PM10/PM2.5	PM	PM ₁₀ /PM _{2,5}	Lead Content (%) ***	PTE of Lead
		(lbs/hr)	(tons iron/hr)	(lbs/ton)	(lbs/ton)	(tons/yr)	(tons/yr)	(76)	(tons/year)
1550 Polco Street	Ingot Machining Lathe	100	0.05	0.01	0.0045	2.19E-01	2.19E-03	7.70%	1,69E-02
			Total			2.19E-01	2.19E-03		1.69E-02

Notes

" Emission factors are from FIRE Volume II, Chapter 14, Grey Stone Iron Foundries - SCC 3-04-003-60 (July, 2001)

*** Lead Emission are based on the lab test conducted by Precision Process Division in Walkerton, Indiana

****In the Building 1550 Crucible Cutting room, the product cut is graphite, not metal. Therefore, there are no HAP emissions.

In the absence of valid PM2.5 Emission Factors, it is assumed that PM2.5 emissions = PM10 emissions.

Methodology
PTE PM/PM-10 (tons/year) = Max. Thorughput Rate (tons/hour) * Emission Factor (lbs/ton) * 8760 hours/year * 1 ton/2000 lbs
PTE Lead (tons/year) = Max. Throughput Rate (tons/hour) * PM Emission Factor (lbs/ton) * 8760 hours/year * 1 ton/2000 lbs * Lead Content (%)

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Appendix A: Emissions Summary Buiolding 1550: Coating Mixing Operation - Sermatech Process

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Mixing Type	Max Throughput (lbs/hr)	Density (lbs/gal)	Max Throughput (gal/hr)	Solid Weight %	Particulate EF (lbs/ton pigment)*	VOC Content (lbs/gal)	VOC Emission Rate	Chromium Compound Content (%)	
Water-Based Paint Mixing	60,00	13.77	4.36	35%	20	0,00	2%	6%	
Solvent-Based Paint Mixing	24.00	10,01	2,40	35%	20	6,33	2%	0%	

Scrubber PM Control Efficiency (%)	Uncontrolled Particulate PTE (tons/yr)	Uncontrolled VOC PTE (tons/yr)	Uncontrolled Chromium PTE (tons/yr)	Controlled Particulate PTE (tons/yr)	Controlled Chromium PTE (tons/yr)	Pounds of VOC per Day
99%	0.92	0,00	0,06	0.01	0.00	_
0%	0.37	1,33	0.00	0,37	00,0	_
Total (tons/yr)	1,29	1,33	0.06	0.38	0.00	7.28

Info from Praxair:

Maximum Throughput was provided by the facility.

METHODOLOGY

The VOC and HAP content are based on the MSDS of the worst-case final product, so it is multiplied times the powder and liquid material throughputs, combined. The VOC emission rate comes from AP-42, 6.4.1.

The PM emission factors come from AP-42, Table 6.4-1. The PM Emission factor is based on pigment throughput, so it is only multiplied times the solid content.

Two scrubbers are used to control powder from the water-based paint mixing process.

The worst-case water-based paint is Sermatel 962, based on HAP content.

The worst-case solvent-based paint is Sermatel 1140, based on VOC content.

Uncontrolled Particulate PTE (tons/yr) = [Max Throughput (lbs/hr) x Solid Weight % / (2,000 lbs/ton)] x Particulate EF (lbs/ton pigment) x (8,760 hrs/yr) / (2,000 lbs/ton) Uncontrolled VOC PTE (tons/yr) = Max Throughput (gal/hr) x VOC Content (lbs/gal) x (8,760 hrs/yr) / (2,000 lbs/ton)

Uncontrolled Chromium PTE (lons/yr) = Uncontrolled Particulate PTE (tons/yr) x Chromium Compound Content (%)

Controlled PTE (tons/yr) = Uncontrolled PTE (tons/yr) x [1 - Scrubber PM Control Efficiency (%)]

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Appendix A: Emissions Summary Building 1415: Operation 1, Process 1 (O1P1)

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Waste Particulate Collected (lbs/yr)	Hours Operated per Year	Dust Collector Control Efficiency*	PTE Particulate (lbs/hr)	PTE Particulate (tons/yr)	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
39795	7392	99.7%	0.02	0.07	4,000	0.00	YES

Methodology:

"Waste Particulate Collected" and "Hours Operated per Year" were provided by Praxair based on waste and operating records. The waste number excludes large chunks that were cleaned out of the equipment.

PTE Particulate During Cleaning (lbs/hr) = (Waste Particulate Collected (lbs/hr))/ Dust Collector Control Efficiency (%) / Hours Operated per Year x (1-Dust Collector Control Efficiency (%))

PTE Particulate from Dust Collector (tons/yr) = PTE Particulate During Cleaning (lbs/hr) x (8,760 hrs/yr) / (2,000 lbs/ton)

*Dust Collectors are integral control devices.

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

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Appendix A: Emissions Summary Building 1415 - Operation 2, Process 1 (O2P1)

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Unit	Maximum Current (Amp)*	PM Emission Factor (grains/A-hr)	PM Emissions (tons/year)	PM ₁₀ /PM _{2.5} Emissions (tons/year)**
Q-Salts Tanks (6)	42	0.63	0.02	0.02
Total	42		0.02	0.02

 $^{^{\}star}$ PM₁₀ and PM_{2.5} emissions are assumed to be equal to PM emissions Assuming there will be 6 "Q-Salts" tanks being electrically charged at 7.0 amps each.

Methodology

Potential Emissions (tons/year) = Maximum Current (Amps) * Emission Factor (gr/A-hr) * (1 lb / 7,000 gr) * (8,760 hours / year) * (1 ton / 2,000 lbs)

¹ AP-42, Table 12.20-4 for Other Metals Electroplating

^{*}Note: There is no specific emission factor for the true metal being used in AP-42, Table 12.20-4. For calculations, the emission factor that was worst case was used. Nickel emission factor was used = 0.63 g/A-hr

² Schwartz S, Lorber M. 1999. Characterizing site-specific source emissions for EPA's risk assessment tool for the metal finishing industry. 326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary Building 1415 - Operation 2, Process 2 (O2P2)

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

	Building 1415 - Operation 2, Process 2 (O2P2) Totals													
PM														
0.00	0.00	0.00	0.04	0.79	0.00	0.00	0.79							

	Slurry Masking											
Material	Material Maximum Usage (lbs/fhr) Density (lbs/gal) VOC Content (lbs/gal) VOC Content (lbs/gal) Content (%) (lbs/gal) Wethanol Content (%) (lbs/gal) Wethanol Content (%) (lbs/fr) (lbs/fr) (lbs/fr) (lbs/fr) (lbs/fr) (lbs/fr) (lbs/fr) (lbs/fr) (lbs/fr)											
Material 1	<12.0	20,96	0.02	1,50%	0.04	0.79	0.01	13.74				

Methodology:

VOC Emissions (tons/yr) = Maximum Usage (lbs/hr) / Density (lbs/gal) x VOC Content (lbs/gal) x (8,760 hrs/yr) / (2,000 lbs/ton) Single HAP Emissions (tons/yr) = Maximum Usage (lbs/hr) x HAP Content (%) x (8,760 hrs/yr) / (2,000 lbs/ton) Combined HAP Emissions (tons/yr) = Sum of Single HAP Emissions (tons/yr)

Notes:

-There are no particulate emissions from slurry masking because the transfer efficiency is 100%.

	Dry Masking/Buffering												
Material	Maximum Usage (lb/yr)	% Nickel	% Chromium	PM EF (lb/lon)	Emiceione	PM10/PM2, 5 Emissions (tons/year)	Nickel Emissions (tons/year)	Chromium Emissions (tons/year)	Material Density (lbs/gal)	Usage Rate (gal/day)			
Material 2	20000	50%	5%	0,0069	0,0033	3.45E-05	1.65E-05	1.73E-05	1.73E-06	100	0,55		
·			Pote	ntial Emissi	ons (tons/yr)	3,45E-05	1.65E-05	1.73E-05	1.73E-06		-		

Combined HAPs (tons/yr) 1.90E-05

Methodology:

*Handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer PM/PM10/PM2.5 Emissions (tons/year) = Throughput (tons/year) * EF (lb/ton) * (1 ton / 2,000 lb)

HAP Emissions (ton/year) = PM Emissions (ton/year) * % HAP

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mlns/hr

Appendix A: Emissions Summary Bullding 1550- Epoxy Kits (EUS-12)

Company Name: Linde Advanced Material Technologies, Inc. Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Epory Kit Filling

	Volume of Container (oz)	Volume of Container (ft3/can)	Container Throughpu t (cans/hr)	V _{Talı} (ft3/yr)	MEK Batch Amount (g/can)	Density MEK (g/cm3)	MEK Batch Amount (ft3/can)	Volume % MEK	V _{sir} (ft3/yr)	Tոր (K)	VP _{MEK} (mmHg)	IAASIDUT MEVI	K _{MEK}	C _{biend}	VOC Potential Emissions (tons/yr)
ſ	10	0.01	120	10978.52	70	0.810	0,003	29%	3208,14	298,15	90,6	72.11	1.09	29%	4.03

Note: The materials for the epoxy kit are added directly to the bottles. The filling is sealed to minimize VOC emissions. There are 6 products manufactured on the epoxy kit line. The worst-case VOC product, UCAR 106 Epoxy/MEK was used in the calculations.

The methodology is from the American Chemical Council "MDI Emissions Reporting Guidelines for the Polyurethane Industry," Section 5-27 Filling/Blending, published May 2012. MEK chemical properties are from the MSDS.

Volume % MEK = MEK Batch Amount (ft3/can) / Volume of Container (ft3/can)

V_{Tak} (ft3/yr)= Container Throughput (cans/hr) x (8,760 hrs/yr) x Volume of Container (ft3/can)

V_{ab} (ft3/yr) = V_{Tab} (ft3/yr) x Volume % MEK

 $T_{\text{re}} = 298.15 \text{ K (ambient temperature)}$

 K_{MEK} = MEK Concentration in Feedstock (100%) x T_{RB} (K) /273.15K

C_{blend} = Volume % MEK

VOC Emissions (tons/yr) = Vatr x (1 / 359) x [273.15 / Trat (K)] x (VP_{MEK} (mmHg) / 760) x Molecular Weight MEK (g/mol) x K_{MEK} x C_{Mond} / (2,000 lbs/ton)

*Vermiculate Pouring:

	Material	Max Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/ PM2.5 EF (lbs/ton)	DM	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	Control Efficiency Dust Collector	Control Efficienc y HEPA Filters	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2,5 Emissions (tons/yr)
I	Vermiculate	50	0,0069	0,0033	7.56E-04	3.61E-04	99,50%	99,999%	3.79E-06	1.81E-06

[&]quot;Vermiculate is used in the packaging for the epoxy kits. It is controlled by dust collector DC014, which is equipped with HEPA filters.

Methodology:

Maximum throughputs were provided by Praxair.

VOC content and density are from the MSDSs.

Vermiculate pouring PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer. อภาราชาวิทยา ของ ค.ศ. (เดาราชา) = พระมา เกษาอยู่เหตุน (ดูสหาย) x ของ อดากิยาก (กอรกุล) x ของ อกิยากรรเอก หลาย x (จ. rob (กรรหฺา) / (∠,เมือ

Ins/fon)
Uncontrolled Particulate PTE (tons/yr) = Max Throughput (ibs/hr) / (2,000 lbs/ton) x EF (lbs/ton) x (8,760 hrs/yr) / (2,000 lbs/ton)

Controlled Particulate PTE (tons/yr) = Uncontrolled Particulate PTE (tons/yr) x [1- (Control Eff Dust Collector x Control Eff HEPA Filters)]

Appendix A: Emissions Summary Pack Diffusion Process (1415 Main Street)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 48222

Before/After Control		Pack Diffesion PTE (tons/yr)								
Deloistatiei Control	PM	PM40	PM2.5	HF	Total HAPs					
Before Control	1.95	1.95	1.95	0,24	0.24					
After Control	1,95	1,95	1,95	0.02	0.02					

Material Handling - Pack Station										
Total Powder T(troughput (lbs/hr)	PM EF (lbs/ton)	PM10/ PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2,5 Emissions (tons/yr)						
100	0.0069	0.0033	1.51E-03	7,23E-04						

	Material Handling - Unpack Station										
Total Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/ PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)							
100	0.0069	0.0033	1.51E-03	7.23E-04							
	Potential Emi	3,02E-03	1.45€-03								

METHODOLOGY:

'Handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer Uncontrolled Emissions (tons/yt) = Powder Throughput (lbs/htt) / (2,000 lbs/htm) * EF (lbs/htm) * (6,760 hours/year) / (2,000 lbs/htm) There are no HAPs in the day materials used in the Polishing Department.

Additive Usage										
	Usage (lbs/hr)	Molecular Weight of Additive (g/mol)	Molecular Weight HF (g/mol)	Ralio Moles HF to Moles ABF	HF PTE before control(ton/yr)	Scrubber Control Efficiency	HF Emissions After Control (ton/yr)			
	0,10	37,04	20,01	1.B0	0.24	90%	0.02			

METHODOLOGY:

Assume that 100% of the HF generated evaporates.

The ratio of moles of HF to moles of additive is based on the reaction. There is one mole HF reacted for every mole of additive.

Uncontrolled PTE (fonsiyr) = Usage (fibs/fin) y Molecular Weight HF (g/mol) / Molecular Weight additive (g/mol) x Ratio x (8760 his/yr) / (2 000 lis/nor)

	Ory loe / Al: Blasting									
Residuai Powder (ib/pari)	Maximum Production Rate (parts week)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)							
0.5	150	1.95	1.95							

METHODOLOGY:

Redidual powder is dislodged from parts using either a dry ice blasting cabinet or an air blasting cabinet.

Uncontrolled PM Emissions (ton/year) = Redidual Powder (ib/part) - Maximum Production Rate (parts/week) - 52 weeks/year - (1 ton / 2.000 lbs).

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0.00003

Appendix A: Emissions Summary EU020G • Grit Reclassifier Building 1245

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

Uncontrolled Uncontrolled Controlled Uncontrolled Uncontrolled Controlled PM PM10/ PM2,5 PM10/PM2.5 Control PM10/ PM2.5 PM PM EF (lbs/ton) Throughput (lbs/hr) PM Emissions PM10/PM2.5 Emissions EF (lbs/ton) Emissions Emissions Efficiency Emissions (tons/yr) (tons/yr) Emissions (lbs/hr) (tons/yr) (lbs/hr) (tons/yr)

0.0014

0.003

0.0007

99.0%

0.00006

METHODOLOGY:

400

0,0069

Emission factors for PM and PM10/2.5 from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer.

Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) / (2,000 lbs/ton) * EF (lbs/ton) * (8,760 hours/year) / (2,000 lbs/ton)

0.01

0.0033

Appendix A: Emissions Summary **Grinding and Metal Cutting Operations**

Company Name: Linde Advanced Material Technologies, Inc. Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1560 Polco Street, Indianapolis, IN 46222

						Parti	culates		НА	Ps
					Emission Factor**		Potential to Emit		T	
Location	Process:	Number of Units	Maximum Throughput Rate		PM	PM10/PM2.5	PM	PM ₁₀ /PM _{2.5}	Lead Content	PTE of Lead
		Units	(lbs/hr)	(tons iron/hr)	(lbs/ton)	(lbs/ton)	(tons/yr)	(tons/yr)	(/~/	(tons/year)
	Building 1245 Maintenance Shop	HARRING AND	100	0,05000	0.01	0.0045	2,19E-01	2,19E-03	7.70%	1,69E-02
1245 Main Street	Fifteen (15) Building 1245 Various Grinders	15.11.15	100	0,05000	0,01	6,0045	2,19E-01	2,19E-03	7,70%	1,69E-02
	Brown and Sharp Grinder	Maria estili	3.00	0.00150	0,01	0,0045	6.57E-03	6.57E-05	7.70%	5.06E-04
1415 Main Street	Maintenance Shop #1	1	100	0.05000	0,01	0,0045	2.19E-01	2.19E-03	7.70%	1.69E-02
1413 Mail) Sileet	Maintenance Shop #2	1	100	0.05000	0.01	0.0045	2.19Ё-01	2.19E-03	7,70%	1.69E-02
	Building 1500 Machine Shop	10,000.100	100	0.05	0.01	8,0045	2.19E-01	2.19E-03	7.70%	1,69E-02
1500 Polco Street	Building 1500 Fabrication Shop		50	0,025	0,01	0,0045	1,10E-01	1,10E-03	7,70%	8,43E-03
	Maintenance Welding Shop	180,000 1 10,000	5	0,0025	0,01	0,0045	1.10E-02	1.10E-04	7.70%	8.43E-04
1550 Polco Street	1550 Mainenance Shop	1,340,410,404	100	0,05	0,01	0,0045	2.19E-01	2.19E-03	7,70%	1.69E-02
Land Lates 28561	Specialty Powders Crucible Culting (CC019)***	Telligat tree;	5	0.0025	0.01	0.0045	1.10E-02	1.10E-04	7.70%	8.43E-04
Facility-Wide	Downdraft Tables	Various	2000	1	0.01	0,0045	4.38E-02	1.97E-02	7.70%	3,4E-03
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				Total (tons/yr):			1,50	0,03		0,12

The four (4) vented tables used for insignificant grinding are assumed to have negligible PM, PM10, and PM2,5 emissions.

PTE PM/PM-10 (lons/year) = Max. Thorughput Rate (tons/hour) * Emission Factor (lbs/ton) * 8760 hours/year * 1 ton/2000 lbs

PTE Lead (tons/year) = Max. Throughput Rate (tons/hour) * PM Emission Factor (fbs/ton) * 8750 hours/year * 1 ton/2000 lbs * Lead Content (%)

Notes
"The maximum metal throughput is based on 3 grinders grinding a maximum of 5 lbs/day and 1 metal saw cutting a maximum of 1 lb/day, with a work shift of 6 hours per day.

The maximum metal throughput is based on 3 girinders granding a maximum of 5 lbs/day and 1 metal saw cutting a maximum "

Emission factors are from FIRE Volume II, Chapter 14, Grey Stone Iron Foundries - SCC 3-04-003-50 (July 2001)

"Lead Emission are based on the lab test conducted by Precision Process Division in Walkerton, Indiana

""In the Building 1550 Crucible Cutting room, the product cut is graphite, not metal, Therefore, there are no HAP emissions, In the absence of valid PM2.5 Emission Factors, It is assumed that PM2.5 emissions = PM10 emissions.

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Appendix A: Emissions Summary Welding and Thermal Cutting

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

PROCESS	Number of	Max, electrode			EMISSION F	ACTORS*			EM	SSIONS	_	HAPS
	Stations	consumption per			(lb pollutant/l	b electrode)				(lbs/hr)		(lbs/hr)
WELDING		station (lbs/hr)		PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Metal Inert Gas (MIG)(carbon steel)	3	3		0,0055	0.0005			0.050	0.005	0.000	0	0,005
Tungsten Inert Gas (TIG)(carbon steel	g			0.0055	0.0005			0.000	0.000	0.000	0	0,000
Arc	6	2.4		0,0211	0,0009			0.304	0,013	0,000	0	0.013
	Number of	Max, Metal	Max. Metal		EMISSION FACTORS		EMISSIONS				HAPS	
	Stations	Thickness	Cutting Rate	(lb polk	rlant/1,000 inc	:hes cut, t" ll	hick)**			(lbs/hr)		(lbs/hr)
FLAME CUTTING		Cut (in.)	(in./minute)	PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Plasma**	1	0,5	300	0.0039				0,035	0.000	0.000	0.000	0,000
EMISSION TOTALS												
Potential Emissions lbs/hr								0,39	0,02	0,00	0.00	0.02
Potential Emissions lbs/day								9,32	0.42	0.00	0.00	0.42
Potential Emissions tons/year	10							1.70	0.08	0.00	0,00	0.08

Notes

Welding and plasma cutting stations are part of the metal grinding and cutting operations,

Methodology:

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

'Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission Using AWS average values: (0.25 g/min)/(3.5 m/min) x (0.002 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

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

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

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

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

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Appendix A: Emissions Summary Carpentry Shop (1500 Polco Street)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Emission Unit ID	Maximum Througput (lb/hr)	PM Emission Factor lb/ton	PM10 Emission Factor (lb/ton)	PM2.5 Emission Factor (lb/ton)	Control Efficiency (%) **	Uncontrolled Potential to Emit PM (tons/yr)	Uncontrolled Potential to Emit PM10 (tons/yr)	Uncontrolled Potential to Emit PM2.5 (tons/yr)	Controlled Potential to Emit PM (tons/yr)	Controlled Potential to Emit PM10 (tons/yr)	Controlled Potential to Emit PM2.5 (tons/yr)
Band Saw	50	3,50E-01	2.00E-01	2.00E-01	0%	3,83E-02	1.53E-04	8,76E-05	3,83E-02	1,53E-04	8,76E-05
Drill Press	50	3,50E-01	2.00E-01	2.00E-01	0%	3.83E-02	1.53E-04	8,76E-05	3,83E-02	1,53E-04	8,76E-05
Belt Sander	50	3,50E-01	2.00E-01	2.00E-01	0%	3.83E-02	1.53E-04	8,76E-05	3,83E-02	1,53E-04	8,76E-05
Circular Saw	50	3,50E-01	2.00E-01	2.00E-01	90%	3.83E-02	1.53E-04	8.76E-05	3,83E-03	1,53E-05	8,76E-06
Table Saw	50	3,50E-01	2.00E-01	2.00E-01	90%	3.83E-02	1.53E-04	8.76E-05	3,83E-03	1,53E-05	8,76E-06
						1.92E-01	7.67E-04	4,38E-04	1,23E-01	4,91E-04	2,80E-04

Emission factors based off of FIRE Version 5.0 August 1995 SCC 3-07-00802 (Log Sawing)

Uncontrolled Potential to Emit (PM/PM10/PM2.5) tons/yr = Maximum Throughput (lb/hr) / Emission Factor (lb/ton) * 8760 hrs/1 year Controlled Potential to Emit (PM/PM10/PM2.5) tons/yr = Uncontrolled Potential to Emit (PM/PM10/PM2.5) tons/yr * (1-Control Efficiency (%))

Appendix A: Emissions Summary Reciprocating Internal Combustion Engines - Diesel Fuel Output Rating (<=600 HP)

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Generator	Location	hp
Generac Generator	Building 1500	207.0
ONAN/Cummins Generator	Powerhouse	168,0
	Total	375.0

Emissions calculated based on output rating (hp)

Output Horsepower Raling (hp)	375,0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	187,500

		Pollutant									
	PM*	PM10*	direct PM2.5*	502	NOx	Voc	co				
Emission Factor in lb/hp-hr	0,0022	0,0022	0.0022	0.0021	0.0310	0,0025	0,0067				
Potential Emission in tons/yr	0.21	0.21	0.21	0,19	2,91	0.24	0,63				

[&]quot;PM and PM2.6 smission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Poliutants (HAPs)

				Po	llutant			
	Benzene Toluene Xylene 1,3- Formaldehy		Formaldehyd	Acetaidehyd	Acrolein	Total PAH		
		Totalio	Aylelle	Butadiene	e	e	ALTOJESII	HAPs***
Emission Factor in lb/hp-hr****	6.53E-06	2.85E-06	2,00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	6.12E-04	2.68E-04	1.87E-04	2.57E-05	7.74E-04	5,03E-04	6.07E-05	1.10E-04

^{***}PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

^{***}Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/y	7) 0,0025	l

Methodology

Emission Factors are from AP42 (Supplement B 10/95), Tables 3.3-1 and 3.3-2 CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2, Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/np-hr]

Potential NOx Emissions = (1,273,280 hp-hr/yr) * (0.0310 lb/hp-hr) / (2,000 lbs/ton) = 19.74 tons/yr

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission

^{**}NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by Ignition timing retard = 0.013 lb/hp-hr

Appendir A: Emissions Summary Tribumet Lines 1 and 2 (Building 1415)

Company Hanne: Linde Advanced Baterial Technologies, bx.

Source Address: 1245 and 1455 Males Street, indianapole, Bt 46228
1500 and 1558 Poleo Street, indianapole, Bt 46228

Tank (D	IX aberiajis	Amount for Tank	Units	Arnound Added yet Month	Units	Total Arided per Year (libsiys)	Deasity (Rusigal)	Erlimded Evaporation Rate	Fotal Emissions (fbs/yr)	VOC Centent	HCI Control (%)	Hickel Compound Content (%)	Cobak Compound Content (%)	Chromkin Gampaund Content (%)	Unix antiralité PTE VOC (tandyi)	Uncontrolled PTE HCI (folisiye)	Uncontrolled PTE Histori Compounds Bonsfyri	Uncontrolled PTE Cobalt Compounds (lons/ys)	Uncontrolled PT Chromken Compounds (fonsiys)
104	H:1	:9	9.4	15)	7.4	1191.07	5.93	.6%	219.03	t.:	155	601	46,	50 1	0.65	gar.	0.02	atr.	U,03
" 1	1) 0 4 (4) 2 d-	202	geli	40	117	State :	F1,1 ⁴	163	3043	d/2	0.5	£41.	C:	674	660	Ogta	6,03	0,5 %	0,03
314	HO	:0	gal	10	97	1891,67	5,91	120	250,00	٤.	367	6.1	fi .	5	0.05	0.63	0,03	940	0,60
.,,	R Made de	(09	rel .	49	F-1	450,05	11,15	1 35	ejar.	u.	u'.	÷41.	- f		6.65	ti f-i	0,63	646	0,60
	T104CS Fire for	110	Ė,	40	1.5	25.166.	,	\$15.	20/03	60	07	9%	F(5)	PG1.	687	ern	0.00	967	0.54
rr.	Cold Set/ 24	1255	R-1	46	k.:	4:100	E-3.27	.y.	5,313	6	67.	60	16773	6%	19,05	64-3	tien .	965	0.80
1	Euro Aura	75	k.c	10	R.v.	121,63	12.10	20%	24,10	60	o.	570	651	627	03.9	967	0.01	9.03	0.03
	T104CE Pakası	57.2	Li	40	L	210.55		233	95 (2)	5/	9.	67.	6.	25.	0.65	95-3	0.00	0.00	0.94
18.4	Critical Edition	702.9	hs.	20	F1	dento	16,19	20%	95.09	o.	677	9.0	MC55	164	0.66	957	0.01	03.5	0,4-3
- 1	Environ	2.3	l-s	ın	1/2	12 (6)	12.62	2/1.	22.63	60	37	9.5	975	125	0,5%	36)	90)	3.63	64.7
	TRC4LS Proades	116	lin.	46	155	1 4-100		10%	44,03	67	0.2	ust.	ti	£61.	0.05	610	661	u to	unt
100	Cital 54:55%	1054	1.5	45	10.5	4.963	16 (7	375	25,01	0	e.	13	16.55	6.5	P,65	963	1001	310	4+1
	Port And	75	la s	10	t:	120.60	13.52	41:	24.03	4.	67	67	G :	6.1	0.64	963	361	0.00	
	199405 Pezder	186	li:	46	Jan.	25946		16.5	2500	9.7	67	0.5	67	167.	0.05	0.69	6.69	oth	916
187	Cital Edition	1770	1.5	44	1:5	20367	16.27	11.	90.00	10'	90	035	16.77	63	960	263	150	0.00	973
	Erra And	73		19		12307	12,62		24,63		6.	6:	5.	6":	9.86	63.0	0.50	0.50	959
_	DIMES FOR HE	186	1.1	40	E.	4:715	12.00	1877	1 00.00	0/.	a,	0.5	6-1	£5/1.	0.00	nto	0.03	0.03	0.01
15-	Catal Eutrale	1250	1.5	40	£.5	4-3(-)	15.27	270	25.00	0.1	0.	9.5	100	G1:	0.15	0.00	0.01	0.52	9.03
	Boo Acri	75.	114	10	200	12000	12.02	28%	24.02	n.	67	92	60	61	015	0.60	910	0.0-	0.03
	FINCS FAMO	110	179	×20	1	8/3/15	1 12 2	1 2	95,00	07	107	62	15	FG:	0.65	uto	667	u (-)	0.04
115	Coral Sulphate	1277	114	26	E.	2:310	16.27	15.	45.60	0.	67	97	105.5	6.	0.60	0.60	0.03	053	9.65
''''	Escésa	75	17	10		153(3	10.00	1	32.63		102	90	46.	6:	665	0.5-2	60)	0.60	000
_	T104C5 F02.54	310		40	15	210,00	1237		52,60	0.4 6.7	1 07	07	6.5	A51.	3.05	007	0.93	0,60	07/4
X1			1:0		F.			1 3/1					14.75	65	750	067		955	
.112	Cohal Subflore	1,50	R-	20	. F:	\$1010	55.37		95.63 24.63	0.:	0.	60				0.90	0.03	0.50	0.19
	Ever And	75	b r	10	L:	120,61	12.60	2.75		01	107	6.1	60,	C/c	0.65				
	T104CE Follow	\$10	bra	49	F~	4-9,55		321	200	51.	0.	97	6	76	5.60	89/)	0.60	63,0	0,61
211	Cot at 5(4)/a/4	1154	ks.	46	k:	# About	14, 27	, v.,	y'n)	c;	977	93	10.0%	45	049	973	0,03	1137	10/-1
	Ent-And	115	1.1	19	k.	12305	12.	2.30	24,03	áť.	47	43	1.5		eto	461	063	681	0,91
	Trodus Feature	110	Ps.	46	Jan.	451,88	٠.	10%	1 6,34	6.1	67	6//	L:-	15%	11,60	Ct-7	6,63	61.1	Und
215	CH# 547#	1229	ķ::	46	R:	450,60	86 GS	10	80	6',	0.4		10-5	F	1165	317	0.0	045	0.0
	8 ma Aria	75	j~ç	10	1.4	120,00	12:52	24.5	34,03	G.,	67	49.7	C.		0.05	3.50	0.60	Q 1.5	061
	TM4CS Preade	111-	L Ex	45	. F	4-700		765-	9500	9.0	9.7	07	6%	8572	1:05	815	0.63	0.67	0,64
214	C4 d 54529	1770	tı.	40	Ŀv	47160	16.27	2701	50.00	G:	400	9.5	105.0	50.	0.65	969	0.93	ar-	0.43
	Bon. Aud	15	lis	10	PA.	12040	12.62	297	22,00	6.	0.7	611	67	0.5	0.65	(J.C)	0.69	53.6	0.69
	1492C5 Fee661	130	h s	61)	1:1	219,875		2774	55.03	67.	0.7	0%	t (3)	26%	0.05	d+3	0.00	0.03	itez
295	Gebah Selenare	1250	he.	46	ks.	2-3(-)	15.27	29%	16.00	0.0	0.	6.5	1000	0.0	0.66	(3,6	0.65	23,0	0.53
	Envir Avid	75	į ke	10	10.5	1.23(9)	12,62	20%	24,01	ů.	67	0.5	fet"	657	0,66	9,63	[(tex	0,f-3	0,60
	District of a water point, you	154,1	93)	46	\$14	5-34-3	10,15	170	F-01	FG.	6%	47%	((:	664	0.65	903	{ n ~>	964	0.00
119	1174 a) Orleans	7.7	99	4l)	\$1.5	2 (3) 6	14,16	1371	93.03	67	67	9.2%	C5	6":	6.65	n to	0 (-3	814	673
	€:es./est	174.4	11.5	16	P1	12000	12.00	.3.	(4,81	0	0.3	ort	C)	6/3	016	9,03	(10)	0.63	9.01
	CRIFESA:	16,6	₹ 5	48	¥.	443,00	29.21	25	5.60	0.	67	011	67	4:	36.0	0.62	667	0,6/9	0.03
	D. GESSMANN (CSC)***	11)	gall	Ζŋ	91	40910	23.19	25.	57,63	ι.	(b.:	625.	n;	0.7	669	0.62	0.0:	nro	910
117	100 d Orlean	4.7	928	70	1.0	27.17%	H.17	27%	35.60	0.5	168	541.	4 ° ;	6%	0,00	910	669	agn	973
	E-n: 4:13	75	k-s	111	B. s	10,009	12.62	271	54.01	0.5	000	0.1	677	5%	0.65	9,63	691	983	0113
	CENF- A3-I	6.5	k:	- 20	l-s	459.62	27.21	25%	9.00	6.	01.	67;	65,	et.	665	0.01	0,03	436	6,03
	TIOAT PCAD-4	110	k-i	45	l:+	450.00	· ·	20.1	55.00	úr.	1 67	64	6.5	16:	646	0.63	6,01	0.60	6.04
_H+	Crist Side av	1279	li s	å(,	P.s	450.60	16.27	,900	55(0)	0.:	07	(4%	1675	65	ાદ	0,00	0.03	1162	01-3
	Enc. Asst	75	J: s	10	E۵	600	12.62	170	24,01	4.	67	77	74.	1 74	4.65	973	0.03	961	0.01
-	Thirt-9- Foreign	116	J-s	24	F+	4 453,60	53.60	1.35	(95.00	t	6.:	62	0	TC:.	6,55	0.00	6,63	663	0,63
71.	C4.9 (d):527	1350	1.5	40	177	4-0,00	16.07	2074	35.01	0	000	0:	10%	G.	0179	0.74	0.00	0.64	0,03
	Fire Feed	15	E.	10		150.60	13.07	75.7	34.03	e.	97	6.7	671	60	01.9	0.61	0.00	0.60	0.00
					•			·		<i></i>				d PTE (tonsly)	0,00	0.09	0.17	6.62	6.49
thedalog	Dr.													shel Effektey	29,50%	39,50%	39,50%	39.50%	55,50

Methodologic

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Appendix A: Emissions Summary VOC and Particulate Building 1500 - Scale Coating

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Material	Density (Lb/Gal)	Weight % Organics	Volume % Non-Volatiles (solids)	% Cr Compounds	% Ni	% Co	Gal of Mat. (gal/unit)	Maximum (unit/week)	Gal of Mar. (gal/day)
ST570A (Part 1)	10.8	0,00%	28%	8%	0%	0%	0.01321	10	0.02
ST570A (Part 2)	7.9	94,66%	0%	0%	0%	0%	0.01321	10	0.02
ST1740	16.7	0,00%	80%	24%	18%	18%	0.02642	10	0.04

Potential VOC (ton/yr)	Particulate Potential (ton/yr)	Potential Cr Compounds (ton/yr)	Potential Ni (ton/yr)	Potential Co (ton/year)	Transfer Efficiency
0.00E+00	5,01E-05	1.43E-05	0.00E+00	0.00E+00	75%
2.58E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	75%
0.00E+00	4,41E-04	1,29E-04	9.64E-05	9.64E-05	75%
2.58E-02	4.41E-04	1.29E-04	9.64E-05	9.64E-05	

Potential Emissions (tons/yr): Combined HAPs (tons/yr):

3.22E-04

Methodology

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/wk) * (52 wk/yr) * (1 ton/2000 lbs) PM10 emissions is assumed equal to PM

PM/PM10/HAP Tons per Year = (units/wk) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(52 wk/yr) *(1 ton/2000 lbs)

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Appendix A: Emissions Summary Building 1245 - Physical Vapor Deposition Coating Station (EU01T)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1416 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Surface Coater ID	Control Device ID	Surface Coating Type	Max Throughput (lbs/hr)	Amount of Dust Cleaned (lbs/week)	% Dust in Coater Emitted during Cleaning	PTE Particulate during Cleaning (tons/yr)	Density of Coating^ (lbs/gal)	Gallons of Coating Per Day (gal/day)	Applicable
EU01T	N/A	PVD	0.25	0,25	5%	0.0003	100	0.06	NO

There are no HAPs in the titanium pucks.

Methodology:

PTE Particulate During Cleaning (tons/yr) = Amount of Dust Cleaned (lbs/week) \times (% Dust in Coater Emitted During Cleaning) \times (52 weeks/year) / (2000 lbs/ton)

[^]The coating materials used are 100% solids, and are comprised of metallic and ceramic compounds. This results in high coating densities.

Appendix A: Emissions Summary Building 1245 - LSR1 Titanium Tetrachloride Coating Station (EU01R)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

				HAPs												
Surface Coater ID	Control Device ID	Surface Coating Type	Max Throughput (ibs/hr)	Molecular Weight TiCl4 (g/mol)	Molecular Weight HCI (g/mol)	Mol HCI/ Mol TICI4	Uncontrolled PTE HCI (tons/yr)	Scrubber Control Efficiency	Controlled PTE HCI (tons/yr)							
EU01R	Scrubber	CVD	0.27	189.679	36,46094	4	0.91	90%	0.09							

(6.5 Applicability	1
Density of Coating^ (lbs/gal)	Gallons of Coating Per Day (gal/day)	Applicable
100	0.06	NO

Methodology:

HAPs are emitted from the conversion of TiCl4 to HCl. In this reaction, there are 4 moles of HCl per mole of TiCl4.

Uncontrolled PTE HCI (tons/yr) = Max Throughput (lbs/hr) x Molecular Weight HCI (g/mol) / Molecular Weight TiCl4 (g/mol) x (Mol HCI/Mol TiCl4) x (8,760 hrs/yr) / (2,000 lbs/hr)

Controlled PTE HCI (tons/yr) = Uncontrolled PTE HCI x (1 - Scrubber Control Efficiency)

^The coating materials used are 100% solids, and are comprised of metallic and ceramic compounds. This results in high coating densities.

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Appendix A: Emissions Summary Building 1415 - Operation 1, Process 3 (O1P3)

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Tank Contents	Usage (lbs/week)	Molecular Weight ABF (g/mol)	Molecular Weight HF (g/mol)	Ratio Moles HF to Moles ABF	HF Emissions (ton/yr)
Ammonium Bifluoride (ABF)	55.00	57.04	20.01	1	0.50

Operation 1 Process 3 includes a dip tank containing a mixture of compounds. There are no VOC compounds or HAP compounds added to the tank. However, ammonium bifluoride in the tank reacts when in contact with water to generate HF and ammonium fluoride (NH4F). Further decomposition of NH4F takes place at temperatures of 100 degree C and above, however, the O1P3 process operates at less than 100 degree C. Therefore, one mole of ABF reacts to form one mole of HF.

Usage (lbs/week) is based on the amount added to the dip tank.

Assume that 100% of the HF generated evaporates.

The ratio of moles of HF to moles of ABF is based on the reaction. The reaction of ABF generates HF and Ammonium Fluoride, There is one mole HF reacted for every mole of ABF.

Uncontrolled PTE (tons/yr) = Usage (lbs/week) x Molecular Weight HF (g/mol) / Molecular Weight ABF (g/mol) x Ratio x (52 weeks/yr) / (2,000 lbs/ton)

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Appendix A: Emissions Summary Building 1415 - Operation 2, Process 4

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

	HAPs												
Material	Control Device ID	Max Throughput (lbs/hr)	(MW HF/MW Material) x (Mol HF/Mol Material)	Percent Reacted	Uncontrolled PTE HF (tons/yr)	Scrubber Control Efficiency	Controlled PTE HF (tons/yr)						
Material 1	Wet Scrubber	<1	0.71	50%	1.57	90%	0.16						

Methodology:

The maximum hourly usage is from Praxair.

HAPs are emitted from the material conversion to HF.

Uncontrolled PTE HF (tons/yr) = Max Throughput (lbs/hr) x Molecular Weight HF (g/mol) / Molecular Weight Material (g/mol) x (Mol HF/Mol Material) x (Percent Reacted) x (8,760 hrs/yr) / (2,000 lbs/hr)

Controlled PTE HF (tons/yr) = Uncontrolled PTE HF x (1 - Scrubber Control Efficiency)

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Appendix A: Emissions Summary Building 1550- IPA Room

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224

1500 and 1550 Polco Street, Indianapolis, IN 46222

Material	Max Throughput (lbs/hr)	Density (lbs/gal)	Max Throughput (gal/hr)	VOC Content (lbs/gal)	VOC Emission Rate	Uncontrolled VOC PTE (tons/yr)
IPA	0.67	6.57	0.10	6.57	100%	2.92

Explanation of Process:

IPA is mixed with powder for milling in the Powder 7 processing area (EUS-22). The IPA is then evaporated out by ovens. The powder handling is already accounted for in the 1550 Powders calculations.

Methodology:

Maximum usage is based on 16 gallons used in 24 hours of operation.

The density and VOC content are from the MSDS.

The VOC emission rate comes from AP-42, 6.4.1.

Uncontrolled VOC PTE (tons/yr) = Max Throughput (gal/hr) x VOC Content (lbs/gal) x VOC Emission Rate x (8,760 hrs/yr) / (2,000 lbs/ton)

Appendix A: Emissions Summary Stripping and Cleaning Operations

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Poico Street, Indianapolis, IN 46222

Building	Stripping Line	Tank	Material	Tank Capacity (gal)	Turnovers/Year	Amount Used per Year (gal)	Density (lbs/gal)	VOC Content (%)	HF Content (%)	HCI Content (%)	VOC Emissions (tons/yr)	HF Emissions (tons/yr)	HCI Emissions (tons/yr)	Combined HAP Emissions (tons/yr)
	Hydrochloric Acid	1	Hydrochloric Acid	30	2	60	9,60	0%	0%	38%	0,00	0.00	0.11	0.11
1415	Stripping Line	2	Hydrochłoric Acid	30	2	60	9.93	0%	0%	38%	0.00	0.00	0,11	0.11
	Stripping Line	3	Hydrochloric Acid	30	0,5	15	9,93	0%	0%	38%	0,00	0,00	0,03	0,03
1245	Crest Cleaning Line	1	T-4181	28	2	56	10.35	10%	0%	0%	0,03	0,00	0.00	0,00
									Total PTE	(tons/yr);	0,03	0,00	0,25	9.25

Note; Calculations are not included for the stripping operations where there are no VOCs or HAPs. The following are stripping tanks at Praxair that do not emit VOCs or HAPs.

Building 1415- Hydrochloric Acid Stripping- Two (2) water rinse tanks and one (1) caustic tank

Building 1415- Nitric Acid Stripping - One (1) nitric acid tank and one (1) water rinse tank

Building 1245- Electrotytic Stripping Line - One (1) electrotytical stripping tank (NAOH, tartaric acid, water, and soda ash), one (1) nitric acid tank, one (1) immersion fluid tank, and one (1) Kolene tank Building 1245- Titanium Nitrate Cleaning Operation- One (1) phosphoric acid cleaning tank

METHODOLOGY:

Tank capacities and turnovers per year were provided by Praxair.

The densities are the densities for pure hydrofluoric acid and hydrochloric acid, as a worst-case scenario.

Emissions (tons/yr)= Tank Capacity (gal) x Turnovers per Year x Density (lbs/gal) x Content (%)

	Hydrochloric Acid Stripping Line Prior to Modification													
Building	Stripping Line	Tank	Material	Tank Capacity (gal)	Turnovers/Year	Amount Used per Year (gal)	Density (lbs/gal)	VOC Content (%)	HF Content (%)	HCI Content (%)	VOC Emissions (tons/yr)	HF Emissions (tons/yr)	HCI Emissions (tons/yr)	Combined HAP Emissions (tons/yr)
1415	Hydrochloric Acid Stripping Line	1	Hydrofkioric Acid	30	2	60	9,60	0%	41%	0%	0,00	0,01	0,00	0,01
	Stubburg Fine	2	Hydrochloric Acid	30	2	60	9.93	0%	0%	38%	9,00	0,00	0.11	0.11
		3	Hydrochloric Acid	30	0.5	15	9,93	0%	0%	38%	0,00	0,00	0.03	0.03
									Total PTE	(tons/yr):	0.00	9.01	0.14	0.15

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Appendix A: Emissions Summary Miscellaneous Lubricant Usage

Company Name: Linde Advanced Material Technologies, Inc.

Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224 1500 and 1550 Polco Street, Indianapolis, IN 46222

Building Lubricant		Maximum Usage (gal/yr)	Density (Ibs/gal)	VOC Content (lbs/gal)	Ethylene Glycol Content (%)	Toluene Content (%)	Antimony Compound Content (%)	Lead Compound Content (%)	
1415	DP Lubricant Blue	55	6.84	6.78	15%	0%	0%	0%	
1245	Molydag	10	11.18	5,14	0%	30%	30%	10%	

VOC Emissions (tons/yr)	Ethylene Glycol Emissions (tons/yr)	Toluene Emissions (tons/yr)	Antimony Compound Emissions (tons/yr)	Lead Compound Emissions (tons/yr)	Combined HAP Emissions (tons/yr)
0.19	0.03	0.00	0.00	0.00	0.03
0.03	0.00	0.02	0.02	0.01	0.04
0.21	0.03	0.02	0.02	0.01	0.07

Total PTE (tons/yr):

DP Lubricant Blue is a lubricant used in the polishing process in a quality assurance lab. It is applied to polishing wheels by hand, and is used at a maximum annual rate of 55 gallons per year.

Molydag is a production material that is applied to some customer parts at Building 1245. The maximum annual usage is 10 gallons.

Methodology:

VOC Emissions (tons/yr) = Maximum Usage (gal/hr) x VOC Content (lbs/gal) x (8,760 hrs/yr) / (2,000 lbs/ton)

HAP Emissions (tons/yr) = Maximum Usage (gal/hr) x Density (lbs/gal) x HAP Content (%) x (8,760 hrs/yr) / (2,000 lbs/ton)

Appendix A: Emissions Summary Fugitive Oust Emissions - Paved Roads

Paved Reads of Industrial Site
The following of Children of the Common C

Building	Турғ	number of vehicles per day	per day per yeMck	trips per day (trip/day)	Weight Loaded (tons/trip)	dièven per day (Ion/day)	(feet/trip)	one-Way distance (mi4tip)	one-way miles (milus(day)	miles (miles/yr)
1407	Sens Trucks (enlaring tordly) (one-way top)	1	1	1.0	40	42,0	556	6.123	0.1	44,0
1550	Sent Trucks dearing facility) (answay high	l l	1	1,0	45	43.0	150	0.123	0.1	44,9
1590	Box Trucks centering tack by screency hip)	1	1	1.0	37.5	10,5	-550	6,123	0,1	وينت
Viu:	E-+ Trust's (t-aving facility) (one-way try)	3	1	1,0	17.5	17,4	650	0.123	0.1	-24.9
1=01	Delivery Vanz (entering facility) (on-way hip)	5	1	<u>≥</u> n	12.5	25.0	655	9,123	0.2	E9,9
1000	Delivery Vant deaving far lifty (one-way top)	;	1	2.0	12.5	71.0	059	ta123	0.2	60.9
1245	Seroi Fracks (enforced for \$1/) (onswer) top)	a	1	4.0	329	120.0	1250	6.237	6.5	3.41,6
1241	Servi Trucks (leaving facility) (crevialy tru)	- 4	1	4.0	30	120,0	1259	0.007	0.9	240.6
1249	Ep- Trucks entering foldity) (one-vey try)	4	1	4.9	12	45.0	1250	9,237	6.0	245,6
1545	Exi Tricks (having lacility) (unwiver top)	4	1	4.0	12	45.0	1255	9,717	0,9	745,6
1415	Semi Frunks (erdaning famility) (on-way top)	Ł	1	1.0	30	240.0	250	9,6:47	9.4	136.4
5415	Seria Trucks (bacasa (anilly) (ane-way tup)	Ŀ	1	£.9	±0	249.0	250	64,047	0.4	138,3
1416	Es. Trucks perfering facility) (one-way trip)	- 4	1	40	12	42.0	250	6.647	0.2	59.1
1415	Box Trucks (knowing facility) (core-way hip)	- 4	1	4,0	12	45.0	25.0	9.6-17	9.2	69.1
1415	Sent Tracks (externing late(1)) principlay trips	6	1	5.9	42	240.0	1700	5,227	1,4	497.7
1415	Semi Trocks dealing to display ton-way top)	- 5	7	5,0	47	2400	1200	0.2.	3,4	497.7
141*	Eo. Tracké gerleting facility) (on-cast tup)	7	1	7.9	5,5	35.5	1200	0.227	1,6	559,7
1415	Ess Trocks descript lack by you-way top)	î	3	7,11	5.5	30.5	17/0	0.237	1.6	550.7
1550	Semi Trucks (entering for \$1) (one-way trip)	10	1	10,0	41	440.0	400	0.076	0,6	276.5
1569	Senii Trucks (fra. 41) 10:41/((one-nay trip)	10	- 1	10.0	44	449,0	400	0,076	0,6	276.5
1550	Except thucks tester at facility) (one-say tran	7	1	2,0	\$4.	45.0	490	0.079	0.2	50.0
1450	Straight Trunks (Maving Society) (unimakey Help)	3	1	3,0	15	45,0	400	0.077	0,2	#3,D
1650	Dalivery Trucks (entenny family) (une-nay trig)	1	1	139	- 5	€.0	293	0.076	0.1	27.7
1550	Debyory Trucks (braining facility) (one-maying)	,	1	1,0	5	5.0	403	0.076	0,1	27.7
1550	Po- Trucks (entering facility) (une-way trip)	1	1	1.0	ŧ	P,Đ	400	D.074	D, 1	27.7
4956	Ear Tracks (Boving for My) (one-way trip)	1	1	1,0		£,0	400	0.07%	0.1	27.7
1.555	Delicery views (entering facility) (innovably trip)	- 6	1	5.0		39.0	1100	0,798	1,3	4553
1555	Delivery Vans deading facility (one-day tripy	•	1	6.0	۸.	10,0	1115	0.706	1,3	452.9
3555	Sens Trucks centering facility) (on-way flip)	à	1	3,9	30	60.0	1109	9,235	6.5	22F,1
1555	Sean Trucks (kaking facility) (one-way top)	7	1	3.0	20	67.0	1160	9.298	0.6	226.5
1655	Fair of Tauritis (entening facility) (one-any trip)	,	1	1.0	10	9.03	1160	0.258	0.6	226.1
1555	Parcel Trucks (feacing facility) (one-may Imp)	7	1 1	1.9	10	30.0	116/0	9,708	0,5	735.9
1555	Eenis Tizd-is (erdenina lac4ty) (uni⇔nzy tiigo	2.6	1,9	3,6	49,0	110.0	1195	0.22E	0,6	£26.1
		1	1		4 5	1	***************************************		1 00	

	Delivery Trucks (entenny famility) (uni-nay top)	1	1 1	139	5	f.0 1	293	0.076	0.1	27.7
	Debyery Trucks (beaving facility) (processoring)	1	1	1,0	5	5.0	403	0.076	0,1	27.7
	Po- Trucks (entering facility) (une-way trip)	1	1	1.0	Ł	8,0	400	D.074	D, 1	27,1
	Ear Trucks Blaving focility) (one-way trip)	1	1	1,0		6,0	490	0.075	D.1	27.7
	Delicery views (entering facility) (one-alsy try)	- 6	1	5.0	- 5	30.0	1169	0,798	1,3	4553
_	Delivery Vans (Jeaning facility) (one-day tripy	•	1	5.0		10,0	1155	0.256	1,3	452.9
_	Sens Trucks centering facility) (on-way flip)	٤	1	3,73	3.9	6/1/0	1109	9,2%	0,5	22F.1
Τ	Sean Trucks (having facility) (one-very trip)	,	1	3.0	20	(3.9	1163	9.298	0.6	228.5
-	Fairel Tauths (effenns facility) (one-any trys)	,	1	7.0	19	9.03	1160	0.258	0,6	220.1
_	Parcel Teucks (feating facility) (one-may Imp)	7	1	1.19	10	30.0	116/3	9,708	0,5	735.9
_	Eenin Trad-is (erdennin TacAty) func-nay tripy	2.6	1,9	3,10	49,0	110.0	1195	11.22E	6,5	22t.1
_	Senii Tradeis (braving for \$45) (mo-may thip)	3,0	1,0	3,6	45,0	12100	\$250	6.276	0,6	224.1
			Totals	134.0		3110.0			20,3	7424.4
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Province Company

Appendix A: Emissions Summary Fugitive Oust Emissions - Poved Roads

Company Hame: Linde Advanced Material Technologies, Inc.
Source Address: 1246 and 1415 Main Street, Antianapolis, IN 48224
1600 and 1660 Polco Street, Indianapolis, IN 48222

Building	Туре	Unmitigated FTE of PM (tons/yr)	Unmittigated PTE of PA110 (lons/yr)	Unmitigated PTE of PM2.5 (lons/yr)	Alligated PTE of PAI (lonstyr)	Miligated PTE of PM10 (loaslys)	Mitigated PTE of PM2.6 (lons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (lons/ys)	Controlled PTE of PM2.5 (lens/yr)
1660	Semi Tracks proteining for digg gove-way trad-	1.95	0.61	9,00	0.64	9.01	6.69	6.04	0.51	6.60
1690	Semi Yorks description by governing	0,68	0,01	9,0%	0,64	0,01	6.65	6,64	0,61	6,60
1500	Ess Trucks problemg to displace was true	0.95	0.01	0.05	(4.64	0,01	0.00	(1:04	0,01	1(0)
1°a)	Bas Trucks than natar dita (or oscial) topi	0,95	0.01	6,0%	9,64	0,01	0.75	6.64	5.61	9,01
1500	Delivery Year performationally) (one-way topy	5.50	0.02	0.05	0.63	0.03	0.63	6.63	0.62	0.65
1507	Estivery Vant (traver) factory) (one-way top)	6.50	0.02	6.00	0.Cc	0.02	6769	0.69	0.62	0.00
1225	Eems Yearks (either optacelly) (en-wally trai)	0,32	0,07	0.07	0,34	0.07	0,63	6,34	0,67	0.02
1345	Sems Trucke (Fraungafecety) (proceway top)	0.27	0.07	9,62	0.25	0.07	0.62	6.54	0.67	0,62
1,45	Envilonity (interceptantity) (inter-vey top)	0.37	0.07	0.02	0.14	0.07	£152	6.34	0.617	6.02
1045	Easthert spleasing far \$50 (inn-way top)	0.37	0.07	9.0;	0,34	fl.t07	41/52	0,74	6,97	9.02
\$410	Semi Trucks (entering facility) (emi-way topy	ti.15	0.03	0.01	0.14	0.05	0.01	6.14	0.63	6:61
1415	Serra Trucke (locurity facility) (1000-2003 (top)	0,15	0.03	0,61	0,14	10,0	0,01	6,14	0.63	E-D1
1415	Bue Treates centering facility; (centexally high)	0.67	0.01	6.65	9,67	0.01	tr.50	6.67	0,01	6.00
1415	En- Trucks (I-executor (ity) (one-way top)	(407	0.01	0.65	0.07	0.01	0.69	0.07	£.01	6.00
1415	Seem Brucks (entering fecility) ponessing top)	6,59	0,11	5,05	0.45	8,19	11,02	6,49	0,16	6,00
1415	Serve Teacks disasory for digg conservagitory	0.59	0.11	0.03	41, 4,4	0.15	0.02	4,25	0.10	6.02
1415	Eco Teachs (entering facility) (cine-day hip)	6.62	9,12	สุดา	0.57	0,11	0,63	6.7	0.11	6.03
1415	East Treat & (fun array to all (a) (consens by Imp)	6.67	0.17	0.05	0,57	0,17	0.03	0,9	0.11	6,51
1556	Sens Trucks (ext-registratify) pare-way top)	6.33	0.60	5.51	0.27	6.05	6.01	0.27	0.65	6.07
1559	Setu Hurks deacon/facility) (per-way top)	0,33	0,66	0,01	0.07	5,05	D,U1	0.27	1-,65	6,61
1550	Streight Tracks protecting for \$5% por-easy topic	9.00	0.07	0.05	0.05	0.02	0.00	10,64	6.02	900
1*50	Straight Tricks decomplan by jon-was by:	0.69	0.02	ሚበ)	1595	Đ.G.	0.00	661	0.02	4.5)
1750	Orlivery Trust's gentening facility (con-say top)	0.02	0.01	0.05	0.63	9.61	C ('G	0,03	0.01	9,61
1450	Delizery Transis (fearing facility) (enc-way log)	0.63	0.01	6,05	0.03	0.01	0.00	0.63	0.61	6.63
1510	Bus Thicky professing facility) (attention top)	0.09	0,01	0,05	0,63	0,01	6,00	6,03	6.61	0.97
1550	Exi Tresks (Having total by Armenica, 1991)	19,0%	0.01	0,05	0,63	9.01	BU5	1,63	0.01	6.69
1555	Did very Varia (entering fanéty) (one-way top)	6.49	0.16	0.02	0.45	0.03	0.1/2	0.45	0.05	0.02
1255	Cell very Vans (f-2 mg) for high (one-way hip)	6,49	0.19	9,00	0.45	0.09	0.97	0.45	0,00	9.00
1555	Some Trucks proteorigate (194) (cms-way top)	6.25	0.05	0.01	0.52	0.04	0.01	0.32	0.64	0.01
1955	Sens Trucks (kanadafacility) (enc-saytop)	0.25	0.03	0.01	0.22	0,04	0.01	5.22	0.04	0.01
1955	Farcel Trucks (extensing the Hy) (cross Any Hip)	6,25	9,00	10,0	9.77	0.04	605	0.32	0.04	0.01
1655	Percel Trusts (Fraving fee Hy) (cns-weg trup)	0,15	5.05	6.61	0.22	0.04	0.04	0.32	0.64	(-01
1655	Sensi Tiabis (extenses tackly) (me-way high	0,25	0.0%	0.01	0.22	0.04	0,01	0.27	6,64	0.01
\$50.0	Sens traders deaving tard by (out-way top)	0.25	0.0"	0,01	0.22	0.44	0/1	0.22	5.94	9,41
	Tetals	7,55	1,60	0,19	7,20	1.16	0.16	7.20	1,46	0,36

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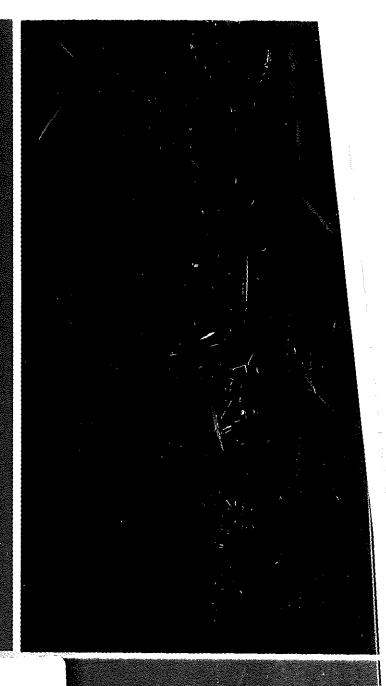
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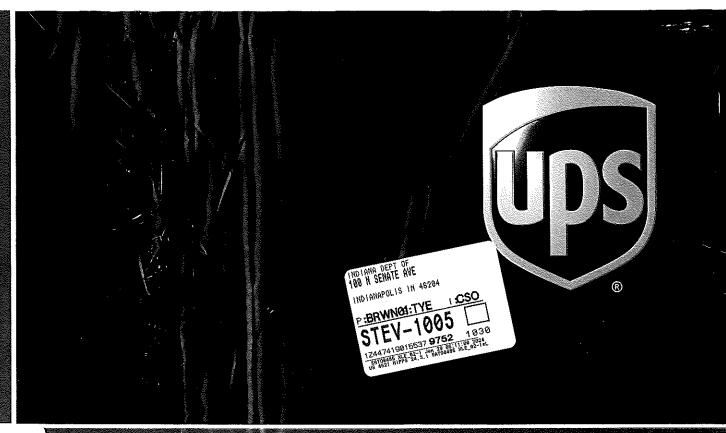
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