

## EMISSION SOURCES - EMISSION CAPS AND RATES

Flexible Permit Numbers 4437A, PSD-TX-808, and N014M1

This table lists the maximum allowable emission caps or rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

### AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY

#### CO Sources

Polyethylene Catalyst Activation Facilities:

83	Activator No. 2 Main Burner	CO		
86	Activator No. 3 Main Burner	CO		
146	Activator No. 4 Main Burner	CO		
170	Activator No. 5 Main Burner	CO		
1000	Activator No. 1 Main Burner	CO		
1001	Activator No. 1 HEPA Filter	CO		
1003	Activator No. 5 HEPA Filter	CO		
<b>Emission Cap</b>		<b>CO</b>	<b>4.07</b>	<b>17.66</b>

Flare System \*\*

216	Flare	CO		
308	Flare	CO		
408	Flare	CO		
<b>Emission Cap</b>		<b>CO</b>	<b>192.80</b>	<b>446.72</b>

Flare System - Start-up, Shutdown, and Maintenance:

216	Flare	CO		
308	Flare	CO		
408	Flare	CO		
<b>Emission Cap</b>		<b>CO</b>	<b>114.95</b>	<b>7.76</b>

## EMISSION SOURCES - EMISSION CAPS AND RATES

### AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>

#### **NO<sub>x</sub> Sources:**

Polyethylene Catalyst Activation Facilities:

83	Activator No. 2 Main Burner	NO <sub>x</sub>		
86	Activator No. 3 Main Burner	NO <sub>x</sub>		
146	Activator No. 4 Main Burner	NO <sub>x</sub>		
170	Activator No. 5 Main Burner	NO <sub>x</sub>		
1000	Activator No. 1 Main Burner	NO <sub>x</sub>		
<b>Emission Cap</b>		<b>NO<sub>x</sub></b>	<b>3.12</b>	<b>13.45</b>

Flare System

216	Flare	NO <sub>x</sub>		
308	Flare	NO <sub>x</sub>		
408	Flare	NO <sub>x</sub>		
<b>Emission Cap</b>		<b>NO<sub>x</sub></b>	<b>24.08</b>	<b>52.10</b>

Flare System - Start-up, Shutdown, and Maintenance:

216	Flare	NO <sub>x</sub>		
308	Flare	NO <sub>x</sub>		
408	Flare	NO <sub>x</sub>		
<b>Emission Cap</b>		<b>NO<sub>x</sub></b>	<b>13.41</b>	<b>0.91</b>

#### **PM<sub>10</sub> Sources:**

Polyethylene Catalyst Activation Facilities:

83	Activator No. 2 Main Burner	PM <sub>10</sub>
86	Activator No. 3 Main Burner	PM <sub>10</sub>
146	Activator No. 4 Main Burner	PM <sub>10</sub>
170	Activator No. 5 Main Burner	PM <sub>10</sub>

## EMISSION SOURCES - EMISSION CAPS AND RATES

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>
1000	Activator No. 1 Main Burner	PM <sub>10</sub>		
1004	Quench Station Vent (5)	PM <sub>10</sub>		
1005	Raw Catalyst Charging Building	PM <sub>10</sub>		
1006	Drum Unloading Enclosure	PM <sub>10</sub>		
1007	Catalyst Fugitives (4)	PM <sub>10</sub>		

## Polyethylene Plants:

208	PE6 Pellet Blend Tanks	PM <sub>10</sub>
209	PE6 Off-Spec Tank	PM <sub>10</sub>
210	PE6 Pellet Silos	PM <sub>10</sub>
212	PE6 Pellet Blender	PM <sub>10</sub>
217 A, B	PE6 Extruder Feed/Blender	PM <sub>10</sub>
218	PE6 Fluff Loadout	PM <sub>10</sub>
219	PE6 Pellet Loadout	PM <sub>10</sub>
254	PE6 Pellet Blend Tanks	PM <sub>10</sub>
255	PE6 Off-Spec Tank	PM <sub>10</sub>
257	PE6 Pellet Silos	PM <sub>10</sub>
258	PE6 Pellet Blender	PM <sub>10</sub>
261 A, B	PE6 Extruder Feed/Blender	PM <sub>10</sub>
302	PE7 Powder Additive Tank	PM <sub>10</sub>
304	PE7 Pellet Blend Tanks	PM <sub>10</sub>
305	PE7 Pellet Loadout	PM <sub>10</sub>
311	PE7 Fluff Loadout	PM <sub>10</sub>
313	PE7 Extruder Feed/Blender	PM <sub>10</sub>
352	PE7 Powder Additive Tank	PM <sub>10</sub>
354	PE7 Pellet Blend Tanks	PM <sub>10</sub>
355	PE7 Extruder Feed/Blender	PM <sub>10</sub>
402	PE8 Powder Additive Tank	PM <sub>10</sub>
405	PE8 Pellet Loadout	PM <sub>10</sub>
411	PE8 Fluff Loadout	PM <sub>10</sub>
412	PE8 Pellet Loading	PM <sub>10</sub>
413	PE8 Extruder Feed/Blender	PM <sub>10</sub>
452	PE8 Powder Additive Tank	PM <sub>10</sub>
455	PE8 Extruder Feed/Blender	PM <sub>10</sub>

## HAC Polypropylene Plant:

## EMISSION SOURCES - EMISSION CAPS AND RATES

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>
39C	Pellet Loading Spot 14	PM <sub>10</sub>		
39Df	Hopper Car Loading	PM <sub>10</sub>		
716	Train 1 Pure Additive Hopper	PM <sub>10</sub>		
736	Trains 3, 4 Pure Additive Hopper	PM <sub>10</sub>		
748	Train 4 Extruder Feed Chute	PM <sub>10</sub>		
751	Baghouse	PM <sub>10</sub>		

## GPH Polypropylene Plant:

39D	S-E PP Hopper Car Loading	PM <sub>10</sub>		
810A	Additive Vent Filter A	PM <sub>10</sub>		
810B	Additive Vent Filter B	PM <sub>10</sub>		
810C	Additive Vent Filter C	PM <sub>10</sub>		
810D	Additive Vent Filter D	PM <sub>10</sub>		
811	Additive Pressure ELBF	PM <sub>10</sub>		
813	Powder Feed Weigher Vent Filter	PM <sub>10</sub>		
817A	Pellet Silo A Filter	PM <sub>10</sub>		
817B	Pellet Silo B Filter	PM <sub>10</sub>		
817C	Pellet Silo C Filter	PM <sub>10</sub>		
819A	Blender Silo A	PM <sub>10</sub>		
819B	Blender Silo B	PM <sub>10</sub>		
821 A, B	Pellet Feed Hopper	PM <sub>10</sub>		
822	Pellet Feed Hopper Filter	PM <sub>10</sub>		
827	Railcar Unloading Filter Receiver	PM <sub>10</sub>		
<b>Emission Cap</b>		<b>PM<sub>10</sub></b>	<b>2.50</b>	<b>6.49</b>

## February 2002 Amendment Submittal Emission Cap

39A	Tank Farm	PM <sub>10</sub>
39B	Pellet Loading Spot 13	PM <sub>10</sub>
206	PE6 Powder Additive Tank	PM <sub>10</sub>
252	PE6 Powder Additive Tank	PM <sub>10</sub>
312	PE7 Pellet Loading	PM <sub>10</sub>
404	PE8 Pellet Blend Tanks	PM <sub>10</sub>

## EMISSION SOURCES - EMISSION CAPS AND RATES

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>
454	PE8 Pellet Blend Tanks	PM <sub>10</sub>		
812 A, B	Grizzley Vent Filter	PM <sub>10</sub>		
823	GPH Dense Phase Conveyor System		PM <sub>10</sub>	
1001	Activator No. 1 HEPA Filter	PM <sub>10</sub>		
1002	Activator Nos. 2, 3, and 4 HEPA Filter		PM <sub>10</sub>	
1003	Activator No. 5 HEPA Filter	PM <sub>10</sub>		
	<b>Emission Cap</b>	<b>PM<sub>10</sub></b>	<b>0.67</b>	<b>1.23</b>
Non Polymer Sources				
10	Sandblasting Fugitives	PM <sub>10</sub>		
902	Rail Repair Sandblasting Fugitives	PM <sub>10</sub>		
	<b>Emission Cap</b>	<b>PM<sub>10</sub></b>	<b>2.10</b>	<b>1.26</b>

**SO<sub>2</sub> Sources:**

## Polyethylene Catalyst Activation Facilities

83	Activator No. 2 Main Burner	SO <sub>2</sub>		
86	Activator No. 3 Main Burner	SO <sub>2</sub>		
146	Activator No. 4 Main Burner	SO <sub>2</sub>		
170	Activator No. 5 Main Burner	SO <sub>2</sub>		
1000	Activator No. 1 Main Burner	SO <sub>2</sub>		
	<b>Emission Cap</b>	<b>SO<sub>2</sub></b>	<b>0.02</b>	<b>0.08</b>

**VOC Sources:**

## Polyethylene Catalyst Activation Facilities:

83	Activator No. 2 Main Burner	VOC
86	Activator No. 3 Main Burner	VOC
146	Activator No. 4 Main Burner	VOC
170	Activator No. 5 Main Burner	VOC
1000	Activator No. 1 Main Burner	VOC

## Polyethylene Plants:

# EMISSION SOURCES - EMISSION CAPS AND RATES

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>
201	PE6 Flash Tank	VOC		
207	PE6 Pellet Dryer	VOC		
208	PE6 Pellet Blend Tanks	VOC		
209	PE6 Off-Spec Tank	VOC		
210	PE6 Pellet Silos	VOC		
212	PE6 Pellet Blender	VOC		
217 A, B	PE6 Extruder Feed/Blender	VOC		
219	PE6 Pellet Loadout	VOC		
250	PE6 Flash Tank	VOC		
253	PE6 Pellet Dryer	VOC		
254	PE6 Pellet Blend Tanks	VOC		
255	PE6 Off-Spec Tank	VOC		
257	PE6 Pellet Silos	VOC		
258	PE6 Pellet Blender	VOC		
259	PE6 Piping Fugitives (4)	VOC		
260	PE6 Cooling Tower	VOC		
261 A, B	PE6 Extruder Feed/Blender	VOC		
300	PE7 Flash Tank	VOC		
303	PE7 Pellet Dryer	VOC		
304	PE7 Pellet Blend Tanks	VOC		
305	PE7 Pellet Loadout	VOC		
306	PE7 Piping Fugitives (4)	VOC		
307	PE7 Cooling Tower	VOC		
313	PE7 Extruder Feed/Blender	VOC		
350	PE7 Flash Tank	VOC		
353	PE7 Pellet Dryer	VOC		
354	PE7 Pellet Blend Tanks	VOC		
355	PE7 Extruder Feed/Blender	VOC		
400	PE8 Flash Tank	VOC		
403	PE8 Pellet Dryer	VOC		
404	PE8 Pellet Blending and Storage	VOC		
405	PE8 Pellet Loadout	VOC		
406	PE8 Piping Fugitives (4)	VOC		
407	PE8 Cooling Tower	VOC		

## EMISSION SOURCES - EMISSION CAPS AND RATES

### AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>
413	PE8 Extruder Feed/Blender	VOC		
450	PE8 Flash Tank	VOC		
453	PE8 Pellet Dryer	VOC		
454	PE8 Pellet Blend Tanks	VOC		
455	PE8 Extruder Feed/Blender	VOC		

#### HAC Polypropylene Plant:

39A	Tank Farm	VOC
39B	Pellet Loading Spot 13	VOC
39C	Pellet Loading Spot 14	VOC
56	Piping Fugitives (4)	VOC
132	Cooling Tower	VOC
729	Train 2 Pellet Dryer	VOC
748	Train 4 Extruder Chute	VOC
749	Train 4 Extruder Vent	VOC
750	Train 4 Pellet Dryer	VOC
751	Baghouse	VOC

#### GPH Polypropylene Plant:

39D	S-E PP Hopper Car Loading	VOC
801	Piping Fugitives (4)	VOC
803	Cooling Tower	VOC
816	Pellet Dryer Vent	VOC
817A	Pellet Silo A Filter	VOC
817B	Pellet Silo B Filter	VOC
817C	Pellet Silo C Filter	VOC
819A	Blender Silo A	VOC
819B	Blender Silo B	VOC
821 A, B	Pellet Feed Hopper	VOC
822	Pellet Feed Hopper	VOC

<b>Emission Cap</b>	<b>VOC</b>	<b>137.99</b>	<b>538.82</b>
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### AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>

#### February 2002 Amendment Submittal Emission Cap

256	PE6 Analyzer Vents	VOC		
356	PE7 Analyzer Vents	VOC		
456	PE8 Analyzer Vents	VOC		
752	Analyzer Vents	VOC		
754	Hot Oil Systems	VOC		
824	GPH Aeration Hopper	VOC		
	Transportation Blower			
825	GPH Powder Silo Transportation	VOC		
	Blower Vent			
	<b>Emission Cap</b>	<b>VOC</b>	<b>1.03</b>	<b>4.51</b>

#### Non Polymer Sources

DEG-1	Maintenance Shop Degreaser No. 1	VOC		
DEG-2	Maintenance Shop Degreaser No. 2	VOC		
DEG-3	Catalyst Activator Degreaser	VOC		
DEG-4	PE Maintenance Shop Degreaser	VOC		
DEG-6	Hoist and Crane Shop Degreaser	VOC		
8	Painting Fugitives	VOC		
901	Storage Fugitives (4)	VOC		
903	Painting Fugitives	VOC		
	<b>Emission Cap</b>	<b>VOC</b>	<b>28.07</b>	<b>23.19</b>

#### Wastewater Ponds

123	Wastewater Pond No. 1	VOC		
124	Wastewater Pond No. 2	VOC		



## EMISSION SOURCES - EMISSION CAPS AND RATES

### AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>

125	Wastewater Pond No. 3	VOC		
126	Wastewater Pond No. 4	VOC		
	<b>Emission Cap</b>	<b>VOC</b>	<b>0.86</b>	<b>2.21</b>

#### Flare System:

216	Flare	VOC		
308	Flare	VOC		
408	Flare	VOC		
	<b>Emission Cap</b>	<b>VOC</b>	<b>158.85</b>	<b>228.01</b>

#### Flare System - Start up, Shutdown and Maintenance:

216	Flare	VOC		
308	Flare	VOC		
408	Flare	VOC		
	<b>Emission Cap</b>	<b>VOC</b>	<b>147.86</b>	<b>11.83</b>

#### Hexene Sources:

#### Flare System:

216	Flare	Hexene		
308	Flare	Hexene		
408	Flare	Hexene		

#### Polyethylene Plants:

201	PE6 Flash Tank	Hexene		
217	PE6 Extruder Feed/Blender	Hexene		
250	PE6 Flash Tank	Hexene		
259	PE6 Piping Fugitives (4)	Hexene		
261	PE6 Extruder Feed/Blender	Hexene		
300	PE7 Flash Tank	Hexene		

EMISSION SOURCES - EMISSION CAPS AND RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			lb/hr	TPY
306	PE7 Piping Fugitives (4)	Hexene		
313	PE7 Extruder Feed/Blender	Hexene		
350	PE7 Flash Tank	Hexene		
355	PE7 Extruder Feed/Blender	Hexene		
400	PE8 Flash Tank	Hexene		
406	PE8 Piping Fugitives (4)	Hexene		
413	PE8 Extruder Feed/Blender	Hexene		
450	PE8 Flash Tank	Hexene		
455	PE8 Extruder Feed/Blender	Hexene		
	<b>Emission Cap</b>	<b>Hexene</b>	<b>21.85</b>	<b>81.18</b>
	<b>N014M1 Emission Cap</b>			
216, 308, 408	PE/PP Off-Gases	VOC***	35.67	101.46
20	Emergency Generator (100 hours per calendar year)	CO	2.61	0.13
		NO <sub>x</sub>	12.09	0.60
		PM <sub>10</sub>	0.78	0.04
		SO <sub>2</sub>	0.80	0.04
		VOC	0.96	0.05
27	Water Well Number Five Turbine (405 hours per calendar year)	CO	29.04	1.04
		NO <sub>x</sub>	17.25	0.62
		PM <sub>10</sub>	0.07	0.01
		SO <sub>2</sub>	7.34	0.26
		VOC	0.23	0.01
39Df	Hopper Car Loading Spot	PM <sub>10</sub>	0.01	0.01
		VOC	0.02	
65	Underground Gasoline Tank	VOC	8.33	0.04
65.2	Diesel Tank	VOC	0.26	0.01

## EMISSION SOURCES - EMISSION CAPS AND RATES

### AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			lb/hr	TPY
721	Train 2 Weigh Tank	PM <sub>10</sub> VOC 0.01	0.01 0.01	0.01
722	Train 2 Finishing Vent	PM <sub>10</sub> VOC 0.09	0.03 0.08	0.12
728	Train 2 Farrel Continuous Mixer Vent	VOC	0.20	0.17
732	Train 3 Finishing Vent	PM <sub>10</sub> VOC 0.62	0.03 0.58	0.12
741	Train 4 Weigh Tank	PM <sub>10</sub> VOC 0.02	0.01 0.02	0.02
823	GPH Dense Phase Conveyor System 0.01		PM <sub>10</sub>	0.01
900	Piping Fugitives (4) (6)	VOC	0.25	1.12
1001	Activator No. 1 HEPA Filter Vent	AA	0.55	1.71
1002	Activator No. 2-4 HEPA Filter Vent	AA	0.55	1.71
1003	Activator No. 5 HEPA Filter Vent	AA	0.55	1.71

(1) Emission point identification - either specific equipment designation or emission point number (EPN) from plot plan.

(2) Specific point source name. For fugitive sources use area name or fugitive source name.

(3) AA - acetic acid

CO - carbon monoxide

NO<sub>x</sub> - total oxides of nitrogen

PM<sub>10</sub> - particulate matter (PM) equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.

SO<sub>2</sub> - sulfur dioxide

VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

- (4) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (5) Emergency use only.
- (6) Isobutane, hexene, and n-hexane emissions only. Emissions of other materials at EPN 900 are covered in Permit No. 5662A.

\* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

24 Hrs/day 7 Days/week 52 Weeks/year

Flexible Permit Numbers 4437A, PSD-TX-808, and N014M1

Page 12

#### EMISSION SOURCES - EMISSION CAPS AND RATES

\*\* The PSD-TX-808 emissions are those CO flare emissions attributable to Polyethylene VI, VII, and VIII.

\*\*\* These are the N014M1 emissions only. The PE/PP off-gases are used as fuel gas in flares identified by EPN above. Other emissions associated with these flares are included in the emission caps found in the maximum allowable emission caps or rates table of this permit.

Dated December 22, 2004