

## EMISSION SOURCES - EMISSION CAPS AND RATES

Permit No. 4437A and PSD-TX-808 and N014

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

#### CO, NO<sub>x</sub> Sources:

Flare System \*\*:

216	Flare	CO, NO <sub>x</sub>
308	Flare	CO, NO <sub>x</sub>
408	Flare	CO, NO <sub>x</sub>

#### Polyethylene Catalyst Activation Facilities:

83	Activator No. 2 Main Burner	CO, NO <sub>x</sub>
86	Activator No. 3 Main Burner	CO, NO <sub>x</sub>
146	Activator No. 4 Main Burner	CO, NO <sub>x</sub>
170	Activator No. 5 Main Burner	CO, NO <sub>x</sub>
1000	Activator No. 1 Main Burner	CO, NO <sub>x</sub>
1001	Activator No. 1 HEPA Filter	CO
1003	Activator No. 5 HEPA Filter	CO

<b>Emission Cap</b>	<b>CO</b>	<b>165.9</b>	<b>482.5</b>
<b>Emission Cap</b>	<b>NO<sub>x</sub></b>	<b>22.2</b>	<b>68.7</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>
1000	Activator No. 1 Main Burner	PM <sub>10</sub>

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## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
1001	Activator No. 1 HEPA Filter		PM <sub>10</sub>	
1002	Act. Nos. 2,3,4 HEPA Filter		PM <sub>10</sub>	
1003	Activator No. 5 HEPA Filter		PM <sub>10</sub>	
1004	Quench Station Vent (5)	PM <sub>10</sub>		
1005	Raw Catalyst Charging Bldg.		PM <sub>10</sub>	
1006	Drum Unloading Enclosure	PM <sub>10</sub>		
1007	Catalyst Fugitives (4)	PM <sub>10</sub>		

## Polyethylene Plants:

206	PE6 Powder Additive Tank	PM <sub>10</sub>
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>
213	PE6 Supply Silos	PM <sub>10</sub>
214	PE6 Loading Bin	PM <sub>10</sub>
217	PE6 Extruder Feed/Blender	PM <sub>10</sub>
218	PE6 Fluff Loadout	PM <sub>10</sub>
219	PE6 Pellet Loadout	PM <sub>10</sub>
252	PE6 Powder Additive Tank	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	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>
312	PE7 Pellet Loading	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>
404	PE8 Pellet Blend Tanks	PM <sub>10</sub>

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## AIR CONTAMINANTS DATA

Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
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>		
454	PE8 Pellet Blend Tanks	PM <sub>10</sub>		
455	PE8 Extruder Feed/Blender	PM <sub>10</sub>		

### HAC Polypropylene Plant:

39A	Tank Farm	PM <sub>10</sub>
39B	Pellet Loading Spot 13	PM <sub>10</sub>
39C	Pellet Loading Spot 14	PM <sub>10</sub>
39D	Hopper Car Loading	PM <sub>10</sub>
39E	Bagging and Boxing	PM <sub>10</sub>
52	Fluff Filter	PM <sub>10</sub>

### HAC Polypropylene Plant (continued):

53	Bagging House	PM <sub>10</sub>	
701	Train 1 Fluff Surge Tank	PM <sub>10</sub>	
702	Train 2 Fluff Surge Tank	PM <sub>10</sub>	
704	Train 4 Fluff Surge Tank	PM <sub>10</sub>	
716	Train 1 Pure Add. Hopper	PM <sub>10</sub>	
719	Train 1 Pellet Dryer	PM <sub>10</sub>	
729	Train 2 Pellet Dryer	PM <sub>10</sub>	
736	Trains 3,4 Pure Add. Hopper		PM <sub>10</sub>
739	Train 3 Pellet Dryer	PM <sub>10</sub>	
750	Train 4 Pellet Dryer	PM <sub>10</sub>	
751	Baghouse	PM <sub>10</sub>	

### GPH Polypropylene Plant:

810A	Additive Vent Filter A	PM <sub>10</sub>
810B	Additive Vent Filter B	PM <sub>10</sub>

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## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
810C	Additive Vent Filter C	PM <sub>10</sub>		
810D	Additive Vent Filter D	PM <sub>10</sub>		
810E	Additive Vent Filter E	PM <sub>10</sub>		
810F	Additive Vent Filter F	PM <sub>10</sub>		
810G	Additive Vent Filter G	PM <sub>10</sub>		
811	Additive Pressure ELBF	PM <sub>10</sub>		
816	Pellet Dryer Vent	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>		
817D	Pellet Silo D Filter	PM <sub>10</sub>		
818	Pellet Service Hopper	PM <sub>10</sub>		
819A	Blender Silo A	PM <sub>10</sub>		
819B	Blender Silo B	PM <sub>10</sub>		
820	Off Pellet Hopper	PM <sub>10</sub>		
821	B-Pellet Feed Hopper	PM <sub>10</sub>		
822	Pellet Feed Hopper Filter		PM <sub>10</sub>	
39D	S-E PP Hopper Car Loading		PM <sub>10</sub>	
39E	PP Boxing and Bagging	PM <sub>10</sub>		
	<b>Emission Cap</b>	<b>PM<sub>10</sub></b>	<b>5.3</b>	<b>16.5</b>

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## AIR CONTAMINANTS DATA

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

**VOC Sources:**

## Flare System:

216	Flare	VOC
308	Flare	VOC
408	Flare	VOC

## Hydrocarbon Loading/Unloading Facility:

900	Piping Fugitives (4) (6) VOC
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## 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:

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
213	PE6 Supply Silos	VOC
217	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

## EMISSION SOURCES - EMISSION CAPS AND RATES

## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
257	PE6 Pellet Silos	VOC		
258	PE6 Pellet Blender	VOC		
259	PE6 Piping Fugitives (4)	VOC		
260	PE6 Cooling Tower (4)	VOC		
261	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		

## Polyethylene Plants (continued):

307	PE7 Cooling Tower (4)	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 Blend Tanks	VOC		
405	PE8 Pellet Loadout	VOC		
406	PE8 Piping Fugitives (4)	VOC		
407	PE8 Cooling Tower (4)	VOC		
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:

## EMISSION SOURCES - EMISSION CAPS AND RATES

## AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
39A	Tank Farm	VOC		
39B	Pellet Loading Spot 13	VOC		
39C	Pellet Loading Spot 14	VOC		
39E	Bagging and Boxing	VOC		
56	Piping Fugitives (4)	VOC		
132	Cooling Tower (4)	VOC		
701	Train 1 Fluff Surge Tank	VOC		
702	Train 2 Fluff Surge Tank	VOC		
704	Train 4 Fluff Surge Tank	VOC		
719	Train 1 Pellet Dryer	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:

801	Piping Fugitives (4)	VOC
803	Cooling Tower (4)	VOC
815	Extruder Vent	VOC
816	Pellet Dryer Vent	VOC
817A	Pellet Silo A Filter	VOC
817B	Pellet Silo B Filter	VOC

## GPH Polypropylene Plant (continued):

817C	Pellet Silo C Filter	VOC
817D	Pellet Silo D Filter	VOC
818	Pellet Service Hopper	VOC
819A	Blender Silo A	VOC
819B	Blender Silo B	VOC
820	Off Pellet Hopper	VOC
821	B-Pellet Feed Hopper	VOC

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AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
822	Pellet Feed Hopper	VOC		
39D	S-E PP Hopper Car Loading		VOC	
39E	PP Boxing and Bagging	VOC		
	<b>Emission Cap</b>	<b>VOC</b>	<b>300.7</b>	<b>925.2</b>

Hexene Sources:

Flare System:

216	Flare	Hexene
308	Flare	Hexene
408	Flare	Hexene

Hydrocarbon Loading/Unloading Facility:

900	Piping Fugitives (4) (6)	Hexene
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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	
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



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AIR CONTAMINANTS DATA

Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
	<b>Emission Cap</b>	<b>Hexene</b>	<b>22.1</b>	<b>82.3</b>
216, 308, 408, 83, 86, 146, 170, 1000, 524, 533, 536	PE/PP Off-Gases	VOC***	37.43	68.34

- (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) CO - carbon monoxide  
 NO<sub>x</sub> - total oxides of nitrogen  
 PM<sub>10</sub> - particulate matter less than 10 microns  
 VOC - volatile organic compounds as defined in General Rule 101.1
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (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:

Hrs/year 8,760

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

\*\*\* These are the N014 emissions only. The PE/PP off-gases are used as fuel gas in the combustion devices identified by EPN above. Other emissions associated with the listed combustion devices have either

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AIR CONTAMINANTS DATA

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

been included in the emission caps found in the maximum allowable emission caps or rates table of this permit (EPNs 216, 308, 408, 83, 86, 146, 170, 1000) or are found in the maximum allowable emission rates table of Permit No. 5562A (EPNs 524 and 536) and/or Permit No. 7602A (EPNs 524 and 533).

Dated\_\_\_\_\_