

1.1.3 Applicability Provisions and Applicable Regulations

- a. The "affected RSP process" for the purpose of these unit-specific conditions, is a RSP process as described in Conditions 1.1.1 and 1.1.2.
- b. The affected RSP process is subject to 40 CFR 63, Subpart JJJ: Group IV Polymers and Resins, because the affected RSP process is considered a thermoplastic product process unit (TPPU). The affected RSP process shall comply with the requirements for an existing affected source in Subpart JJJ by June 19, 2001.
- c. The affected RSP process is subject to 35 IAC Part 218, Subpart BB: Polystyrene Plants, because the affected RSP process is part of a polystyrene plant that uses continuous processes to manufacture polystyrene.

1.1.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected RSP process not being subject to the New Source Performance Standards (NSPS) for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry, 40 CFR Part 60, Subpart DDD, because the affected RSP process must comply with 40 CFR 63, Subpart JJJ [40 CFR 63.1311(i)].
- b. This permit is issued based on the affected RSP process not being subject to 35 IAC 218.642, because the affected RSP process does not have emissions from a material recovery section. Emissions from the RSP process are from fugitive emissions equipment and from the HIPS3 vent chiller.
- c. Except as provided in Condition 1.1.9(b) (see also 40 CFR 60.116b) tank F-710, which is a storage vessel with design capacity less than 75 m³, is exempt from the General Provisions of the NSPS and from the provisions of 40 CFR 60 Subpart Kb [40 CFR 60.110b(b)].

1.1.5 Operational And Production Limits And Work Practices and Control Requirements

- a. i. Production of polystyrene product from all lines combined shall not exceed 898 million pounds per year.

- ii. Compliance with annual production limits shall be determined from a running total of twelve months of data.
- b. The number of railcars of styrene unloaded shall not exceed 1,000 per calendar year.
- c. The affected RSP process must comply with all applicable emission standards, emissions control provisions, heat exchange system provisions and equipment leak provisions specified in 40 CFR 63.1313, 63.1316, 63.1328, and 63.1331 respectively.
- d. This permit authorizes the source not to maintain a constant level within the styrene day tank (F-703) when conducting activities associated with maintenance and repairs to F-703 and related equipment.

1.1.6 Emission Limitations

- a. Emissions from the following equipment shall not exceed the following limits. Attachment 2 provides a listing of equipment for each equipment group:

<u>Equipment Group</u>	<u>VOM Emissions</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Year)</u>
RSP Process	0.3	2.58
A/B/C Furnaces	0.1	0.81
Styrene Tanks	1.2	11.82
Miscellaneous Tanks	0.1	0.90
GPPS Production Units	0.1	0.54
HIPS Production Units	2.1	20.64
Cooling Towers	0.1	<u>0.40</u>

Total: 37.69

- b. Compliance with the annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
- c. The source has addressed the applicability and compliance of 35 IAC Part 203, Major Stationary Sources Construction and Modification (See Attachment 1). These limits continue to ensure that the construction and/or modification addressed in this construction permit does not constitute a new major source or major modification pursuant to these rules.

1.1.7 Testing Requirements

The affected RSP process must comply with all applicable testing and compliance demonstration provisions specified in 40 CFR 63.1318.

1.1.8 Monitoring Requirements

The affected RSP process must comply with all applicable monitoring provisions specified in 40 CFR 63.1317 and 63.1334.

1.1.9 Recordkeeping Requirements

a. The Permittee shall maintain records of the following items for the affected RSP process to demonstrate compliance with Condition 1.1.6:

- i. The affected RSP process must comply with all applicable recordkeeping provisions specified in 40 CFR 63.1319 and 63.1335.
- ii. Number of new components by type in the affected RSP Process.
- iii. Polystyrene produced from all lines combined (million pounds per month);
- iv. The number of railcars of styrene unloaded per month; and
- v. Calculated VOM emissions from the affected RSP process and associated debottlenecked/modified emission units (included in Attachment 1) including supporting calculations (tons/month and tons/year).

b. The Permittee shall maintain records of the following items for the storage tank F-710:

The Permittee shall keep readily accessible records showing the dimension of the storage vessels and an analysis showing the capacity of the storage vessels. This record shall be kept for the life of the source [40 CFR 60.116b(a), and 60.116b(b)];

1.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of noncompliance of the affected RSP process with the permit requirements as follows. Reports

shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

The affected RSP process must comply with all applicable reporting provisions specified in 40 CFR 63.1320 and 63.1335.

1.1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

1.1.12 Compliance Procedures

Compliance with Condition 1.1.6(a) shall be based on the recordkeeping requirements in Condition 1.1.9 and the following:

- a. RSP Process Fugitives: standard applicable emission factors published by USEPA may be used.
- b. RSP Wastewater: Emissions of VOM and HAPs shall be calculated using the WATER8 program, any updated version of that program, or equivalent.

2. The equipment identified in the permit may be operated for a period of 180 days under this construction permit.

Please note that the Permittee should seek to amend their CAAPP permit to include the construction and/or modification covered under this permit through the administrative amendment process by submitting an application that includes the information contained in form 273-CAAPP. This application must also identify and address any changes from the associated construction permit application. Note that information previously submitted in the construction permit application may be incorporated by reference into the updated information on fees as contained in form 292-CAAPP "Fee Determination for CAAPP Permit".

If you have any questions on this, please call Jason Schnepf at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JMS:jar

cc: Region 1

Attachment 1

Nonattainment NSR Applicability (VOM Emissions in Tons)

Contemporaneous Time Period of 1997 Through 2001

Emission Unit	Emission Unit	1999	2000	Actual	PTE	Proj	1994 ¹	1995 ¹	Avg ¹	Prev	Total
Project-affected Emission Units											
B301A	"A" Hot Oil Furnace	0.207	0.206	0.207	0.253	0.047					0.047
B301B	"B" Hot Oil Furnace	0.207	0.206	0.207	0.253	0.047					0.047
B301C	"C" Hot Oil Furnace	0.207	0.206	0.207	0.301	0.095					0.095
F701	Styrene Storage Tank	4.587	5.160	4.874	N/A	N/A	3.417	3.636	3.527	1.347	N/A
F708	Styrene Storage Tank	1.966	2.211	2.089	N/A	N/A	1.465	1.558	1.512	0.577	N/A
F701, F708	Styrene Storage Tanks (Combined)	6.553	7.371	6.962	11.200	0.280	4.882	5.194	5.038	1.924	2.204
F703	Styrene Day Tank	0.430	0.431	0.431	0.612	0.182					0.182
F704	Ethyl Benzene Storage Tank	0.045	0.048	0.047	0.054	0.008	0.035	0.042	0.039	0.008	0.016
F706	Oligomer Holding Tank	0.007	0.010	0.009	0.017	0.009	0.005	0.006	0.006	0.003	0.012
F212	GPPS Recycle Solvent Tank	0.046	0.140	0.093	0.177	0.084					0.084
F707	Ethyl Benzene Purge Tank	0.071	0.116	0.094	0.371	0.278	0.093	0.118	0.106	- 0.012	0.266
F111	HIPS 1 Rubber Dissolver	1.466	1.611	1.539	1.686	0.148					0.148
F121	HIPS 1 Rubber Solution Holding Tank	0.239	0.263	0.251	0.297	0.046					0.046
F123	HIPS 1 Rubber Solution Holding Tank	0.268	0.295	0.282	0.329	0.048					0.048
F113	HIPS 1 Additive Batch Tank	0.093	0.102	0.098	0.123	0.026				- 1.056	- 1.031
F127	Mercaptan Batch Tank	0.006	0.006	0.006	0.006	0.000	0.006	0.006	0.006	0.000	0.000
EF7	Mercaptan Room Vent Absorber	0.219	0.220	0.220	0.220	0.000					0.001
M161A	HIPS 1 "A" Die Plate Fugitive	0.039	0.047	0.043	0.061	0.018					0.018
M161B	HIPS 1 "B" Die Plate Fugitive	0.039	0.047	0.043	0.061	0.018					0.018
M234A	GPPS "A" Die Plate Fugitive	0.043	0.053	0.048	0.071	0.023					0.023
M234B	GPPS "B" Die Plate Fugitive	0.043	0.053	0.048	0.071	0.023					0.023
M234C	GPPS "C" Die Plate Fugitive	0.043	0.053	0.048	0.071	0.023					0.023

Attachment 1 - Continued

Emission Unit	Emission Unit	1999	2000	Actual	PTE	Proj	1994 ¹	1995 ¹	Avg ¹	Prev	Total
M266	LRCF Die Plate Fugitive	0.043	0.053	0.048	0.071	0.023					0.023
M276	LRCF Die Plate Fugitive	0.043	0.053	0.048	0.071	0.023					0.023
M301	HIPS 1 / GPPS Die Plate Electrostatic Precipitator	1.456	1.625	1.541	2.028	0.488					0.488
M303	HIPS 1 / GPPS Die Plate Electrostatic Precipitator	1.456	1.625	1.541	2.028	0.488					0.488
F1111	HIPS 2 Rubber Dissolver	1.544	1.830	1.687	1.905	0.218					0.218
F1123A	HIPS 2 "A" Rubber Solution Holding Tank	0.238	0.296	0.267	0.321	0.054					0.054
F1123B	HIPS 2 "B" Rubber Solution Holding Tank	0.238	0.296	0.267	0.321	0.054					0.054
F1123C	HIPS 2 "C" Rubber Solution Holding Tank	0.262	0.320	0.291	0.347	0.056					0.056
M1161A	HIPS 2 "A" Die Plate Fugitive	0.032	0.046	0.039	0.060	0.021					0.021
M1161B	HIPS 2 "B" Die Plate Fugitive	0.032	0.046	0.039	0.060	0.021					0.021
M1303A	HIPS 2 / HIPS 3 "A" Die Plate Electrostatic Precipitator	0.365	0.514	0.440	0.652	0.213	0.470	0.461	0.466	0.103	0.316
M1303B	HIPS 2 / HIPS 3 "B" Die Plate Electrostatic Precipitator	0.365	0.514	0.440	0.652	0.213	0.470	0.461	0.466	0.103	0.316
F-3111	HIPS 3 Rubber Dissolver	8.637	8.289	8.463	8.566	0.103				8.463	8.566
F-3123A	HIPS 3 "A" Rubber Solution Tank	0.219	0.137	0.178	0.282	0.104				0.282	0.386
F-3123B	HIPS 3 "B" Rubber Solution Tank	0.219	0.137	0.178	0.282	0.104				0.282	0.386
F-3123C	HIPS 3 "C" Rubber Solution Tank	0.317	0.288	0.303	0.342	0.040				0.342	0.382
M-3161A	HIPS 3 "A" Die Head	0.055	0.060	0.058	0.078	0.021				0.077	0.098
M-3161B	HIPS 3 "B" Die Head	0.055	0.060	0.058	0.078	0.021				0.077	0.098
M-3161C	HIPS 3 "C" Die Head	0.055	0.060	0.058	0.078	0.021				0.077	0.098
	Fugitive Emissions, Cooling Towers	1.260	1.260	1.260	0.160	0.000	1.260	1.260	1.260	0.000	- 1.100

Attachment 1 - Continued

Emission Unit	Emission Unit	1999	2000	Actual	PTE	Proj	1994 ¹	1995 ¹	Avg ¹	Prev	Total
E3380	Fugitive Emissions, Cooling Tower, E-3380	0.240	0.240	0.240	0.240	0.000	0.000	0.000	0.000	0.240	0.240
	Recycle Solvent Polymerization (RSP) Process Fugitives	0.000	0.000	0.000	1.277	1.277					1.277
	RSP Vent Chiller Bypass Emissions	0.000	0.000	0.000	0.015	0.015					0.015
	RSP Process Wastewater	0.000	0.000	0.000	1.150	1.150					1.150
Emission Unit	Emission Unit	1999	2000	Actual	PTE	Proj	1994 ¹	1995 ¹	Avg ¹	Prev	Total
F-710	RSP Hazardous Waste Tank	0.000	0.000	0.000	0.138	0.138					0.138
	Colorline	0.060	0.000	0.030	0.000	0.000	0.000	0.000	0.000	0.030	0.000
	IR Line	0.707	0.000	0.354	0.000	0.000	0.707	0.707	0.707	- 0.354	- 0.707
	Mineral Oil Tanks	0.185	0.192	0.189	0.231	0.042	0.018	0.019	0.019	0.170	0.212
Project Total						6.302					
Net Emissions Increase Subtotal											15.578
Other Contemporaneous Changes											
	Emergency Generator									0.519	0.519
F-3125	HIPS 3 Recycle Solvent Tank									0.088	0.088
F-3246	HIPS 3 Vent Knockout Pot									0.090	0.090
M-3248 A/B	HIPS 3 Vent Chiller									0.064	0.064
M-3248 Bypass	HIPS 3 Vent Chiller Bypass									0.273	0.273
	HIPS 3 Process Fugitives									2.450	2.450
	HIPS 3 Process Wastewater									1.620	1.620
B-301D	"D" Hot Oil Furnace									0.270	0.270
B-302, B-303	Boilers									0.205	0.205
Net Emissions Increase											21.157

Attachment 1 - Continued

¹ In 1996, BASF received a construction permit for the HIPS3 process. Some of the equipment that is modified/debottlenecked by this project, was also modified/debottlenecked by the HIPS3 project. As a result, some emission units have contemporaneous changes using two baseline periods (1994/1995 and 1999/2000).

Attachment 2 - Equipment List

Group Name	Designation	Description of Emission Unit
RSP Process	F-710	Recycle Solvent Polymerization (RSP) Process Fugitives RSP Vent Chiller Bypass Emissions RSP Process Wastewater RSP Hazardous Waste Tank
A/B/C Furnaces	B301A B301B B301C	"A" Hot Oil Furnace "B" Hot Oil Furnace "C" Hot Oil Furnace
Styrene Tanks	F701 F703 F708	Styrene Tanks (Combined) Styrene Storage Tank Styrene Storage Tank
Misc. Tanks	F704 F706 F707 F127 EF7	Ethyl Benzene Purge Tank Oligomer Holding Tank Ethyl Benzene Storage Tank Mercaptan Batch Tank Mercaptan Room Vent Absorber Mineral Oil Tanks
GPPS Production Units	F212 M234A M234B M234C M266 M276	GPPS Recycle Solvent Tank GPPS "A" Die Plate Fugitive GPPS "B" Die Plate Fugitive GPPS "C" Die Plate Fugitive LRCP Die Plate Fugitive LRCP Die Plate Fugitive
HIPS Production Units	F111 F121 F123 F113 M161A M161B M301 M303 F1111 F1123A F1123B F1123C M1161A M1161B M1303A M1303B F-3111 F-3123A F-3123B	HIPS 1 Rubber Dissolver HIPS 1 Rubber Solution Holding Tank HIPS 1 Rubber Solution Holding Tank HIPS 1 Additive Batch Tank HIPS 1 "A" Die Plate Fugitive HIPS 1 "B" Die Plate Fugitive HIPS 1 / GPPS Die Plate Electrostatic Precipitator HIPS 1 / GPPS Die Plate Electrostatic Precipitator HIPS 2 Rubber Dissolver HIPS 2 "A" Rubber Solution Holding Tank HIPS 2 "B" Rubber Solution Holding Tank HIPS 2 "C" Rubber Solution Holding Tank HIPS 2 "A" Die Plate Fugitive HIPS 2 "B" Die Plate Fugitive HIPS 2 / HIPS 3 "A" Die Plate Electrostatic Precip. HIPS 2 / HIPS 3 "B" Die Plate Electrostatic Precip. HIPS 3 Rubber Dissolver HIPS 3 "A" Rubber Solution Tank HIPS 3 "B" Rubber Solution Tank

Attachment 2 (Continued)

Group Name	Designation	Description of Emission Unit
	F-3123C	HIPS 3 "C" Rubber Solution Tank
	M-3161A	HIPS 3 "A" Die Head
	M-3161B	HIPS 3 "B" Die Head
	M-3161C	HIPS 3 "C" Die Head
Cooling Towers		Fugitive Emissions, Cooling Towers
	E3380	Fugitive Emissions, Cooling Tower, E-3380

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