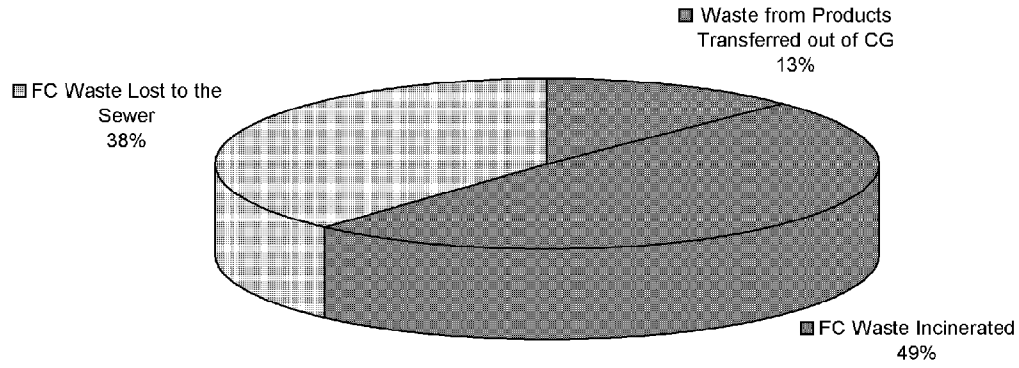


# Current CG FC Waste Status (221272 lbs./yr as of 8/21/00)

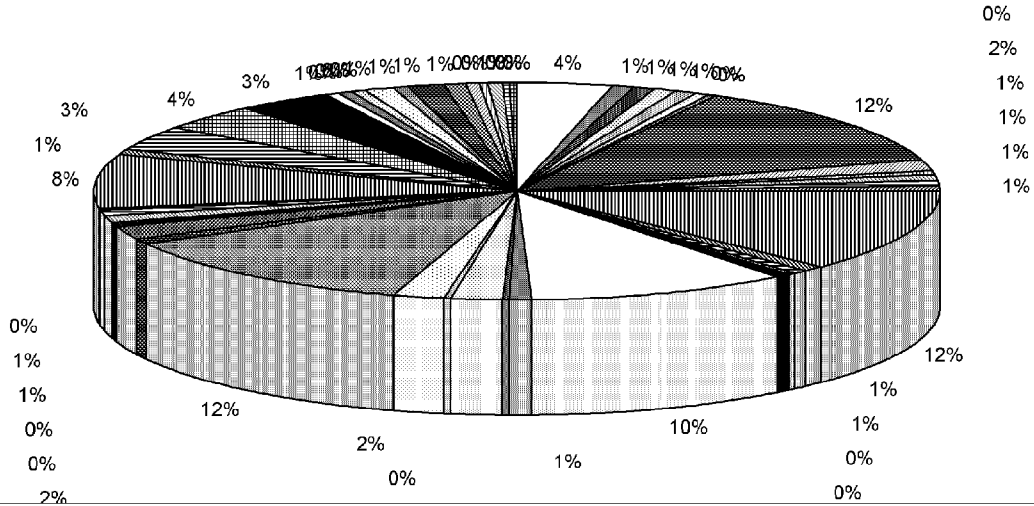


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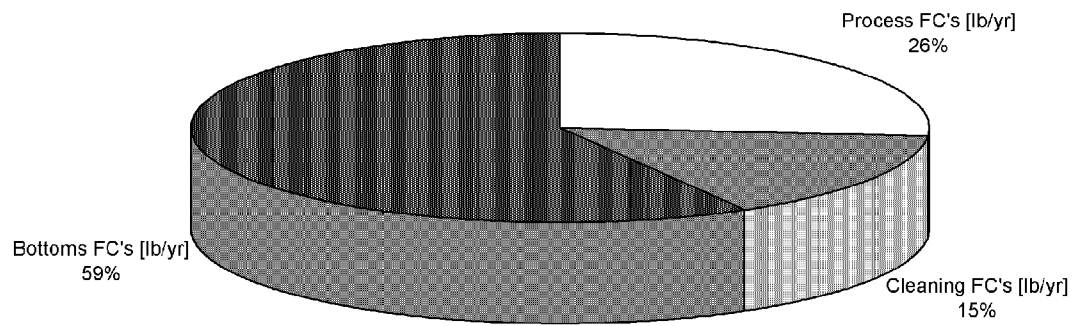
**Exhibit**  
**1735**  
State of Minnesota v. 3M Co.,  
Court File No. 27-CV-10-28862

# FC Waste Distribution

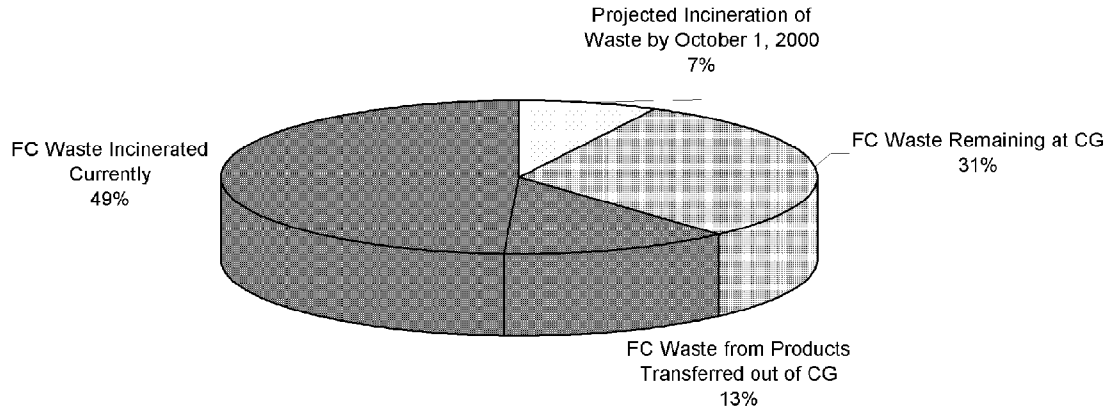


□ FM-3256	■ F-8400	■ FC-98	■ F-8469	■ F-5372	■ FM-3141	■ FC-95	■ F-6514	■ F-5619	■ F-7535	■ F-4863
■ F-8733	■ FM-3149	■ F-8439	■ F-7164	■ F-8450	■ F-7786	■ F-8443	■ FM-3173	□ F-8178	■ F-4865	■ F-7160
■ F-8451	■ F-7161	■ F-8462	■ F-6050	■ F-8485	■ F-8463	■ F-6272	□ F-8772	■ FM-4200	■ F-4866	■ F-9131
■ F-8167	■ F-8260	■ F-9125	■ F-8728	■ F-9126	□ F-8729	■ F-9124	■ F-7755	■ F-2196	□ F-8275	□ F-8166
■ F-8775	■ F-7524	■ F-7126	■ F-8497	□ F-7151	■ F-7152	■ FM-3373	■ FM-3702	■ F-8217	■ F-9117	■ FM-3602
■ F-1256	■ F-7939	□ F-9142	■ F-9144	■ F-9146	■ F-9179	□ FM-3405	□ F-8469	■ F-9110	■ F-8439	■ F-8652
■ F-7843	■ F-5372	■ F-7785	■ F-8420	■ F-8421	■ F-8452	■ F-8485	■ F-8798	■ F-9176	■ F-7946	□ F-7522
■ F-7757	■ F-7510	■ F-6952	□ F-7117	□ F-6537	■ FM-4074	■ F-8777	■ F-9132	■ F-9127	□ F-9128	■ F-8757
■ F-8228	■ F-8229	■ F-8701	■ F-8702	■ F-8703	■ F-8761	■ F-8776	□ F-9100	■ F-9112	■ F-5522	■ F-2191
■ F-8769	■ F-7584	■ F-7153	■ F-6567	■ F-6566	■ F-8227	□ FM-3131	■ FM-3144			

# FC Waste by Type



# Projected Results by October 1, 2000 (Phase I Complete)



	Demand [lots/yr]	Demand [lb/yr]	lots/yr	Total FC Waste [lb FC waste/yr]	FC Waste Reduced [lb FC waste/yr]	%	T %	Bldg.	BC	Total Waste [lb waste/yr]	% FC in Waste
FM-3256	31	296774	31	49321	37860	22	22	15	34	1356129	4%
F-8400	8	36985	8	34366	25959	16	38	15	33		
FC-98	7	35000	7	26755	26221	12	50	25	87/49	198989	13%
F-8469	6	36000	6	20750	20750	9	59	15	45	539936	4%
F-5372	8	71442	8	12150		5	65	15	45	284952	#REF!
FM-3141	4	13350	4	9935		4	69	15	33		
FC-95	4	19200	4	9753	9558	4	74	25	87/49	161764	6%
F-6514	106	276000	106	9200		4	78	15	37	249200	4%
F-5649		27030		6919	6919	3	81	15	33	42500	16%
F-7535	15	60500	15	6035		3	84	15	70		
F-4863	5	50260	5	6030	5000	3	86	15	33	189245	3%
F-8733	7	72000	7	5488		2	89	15	45		
FM-3149	7	22935	7	4281		2	91	15	33		
F-8439	7	25000	7	3500		2	92	3	70	301620	1%
F-7164	106	317400	106	3356	3356	2	94	15	32		
F-8450	8	29600	8	2631		1	95				
F-7786	5	24000	5	1920		1	96	3	70	138355	1%
F-8443	2	3260	2	1823		1	97				
FM-3173	4	28492	4	1500		1	97	15	33	62116	2%
F-8178	88	740000	88	1480		1	98				
F-4865	6.5	46800	7	1073		0	99	25	87	151710	1%
F-7160	2	10100	2	664		0	99	7	33		
F-8451	17	28600	17	660	660	0	99	15	32		
F-7161	2	7800	2	432	432	0	99				
F-8462	17	95000		397		0		15	36		
F-6050	106	658619		300		0		15	36		
F-8485	7	92000		276		0		15/25	45/74		
F-8463	17	148000		143		0					
F-6272	2	13444		98		0					
F-8772	3	18000		36		0					
FM-4200	10	145313		0		0		7	70		
F-4866	6	73955		0		0		25	87	10500	0%
F-9131	3	15000		0		0		7	70		
F-8167	69	62600		0		0	0	6	61		
F-8260	8	37360		0		0		7	31		
F-9125	30	22800		0		0		7	41		
F-8728	35	22750		0		0		7	41		
F-9126	30	9600		0		0		7	42		
F-8729	6	22750		0		0		7	33		
F-9124	3	40000		0		0		7	24		
F-7755	2	10793				0					
F-2196	4	5470				0		4	10		
F-8275		226362				0		25	87		
F-8166	10	113244				0		15	52		
F-8775	5	103532				0		15	51		
F-7524	10	87319				0		15	27		
F-7126	9	37115				0		15	27		
F-8497	3	21625				0		15	33		
F-7151	3	21361				0		15	33		
F-7152	5	20722				0		15	54		
FM-3373	2	14877				0		15	59		
FM-3702		939				0		15	59		
F-8217						0					
F-9117						0					
FM-3602						0					
F-1256	3	205				0			6		
F-7939		2506				0		7	42		
F-9142		1175				0		7	42		
F-9144		904				0		6	44		
F-9146						0					
F-9179						0					
FM-3405						0					
F-8469		8655				0		15	45		
F-9110		5850				0		15	45		
F-8439		2950				0		15	70		
F-8652		850				0		7	41		
F-7843						0		15	45		





F-5372					0					
F-7785					0					
F-8420					0					
F-8421					0					
F-8452					0					
F-8485					0					
F-8798					0					
F-9176					0					
F-7946	267448				0	4	8			
F-7522	54600				0	4	7			
F-7757	5713				0	6	17			
F-7510	5710				0	4	10			
F-6952	28463				0	15	36			
F-7117	10468				0	15	32			
F-6537	9420				0	15	37			
FM-4074					0					
F-8777	8245				0	7	70			
F-9132	8090				0	15	33			
F-9127	4121				0	7	41			
F-9128	3541				0	7	41			
F-8757	2770				0	4	10			
F-8228					0					
F-8229					0					
F-8701					0					
F-8702					0					
F-8703					0					
F-8761					0					
F-8776					0					
F-9100					0					
F-9112					0					
F-5522	4959				0	7	42			
F-2191	4407				0	25	87			
F-8769	36755				0	25	87			
F-7584					0					
F-7153	2906				0	4	10			
F-6567	1570				0	15	51			
F-6566					0					
F-8227					0					
FM-3131					0					
FM-3144					0					
Totals				221272	136715					
%				38.2	61.8					
% with scrubber										





Product	Name	Engineer	Base FC (POSF, C8 Acid, etc.)	Cleaning method (causitic, sulfuric, etc.)	Demand [lots/yr]	Demand [lb/yr]	Total FC Waste [lb FC waste/yr]	%	T %	FC's lost to the sewer [lb/yr]
FM-3256	C8 acid fractionation	DG	C8 Acid	Caustic and Water	31	296774	49321	22	22	49321
F-8400	fractionated PECHSF (FC-98)	KIH	PECHSF	caustic	8	36985	34366	16	38	8407
FC-98	FC-98 reaction and drying	KIH	PECHSF	caustic	7	35000	26755	12	50	26755
F-8469	HQ115 reaction	BLH	PMSF	Butyric, water	6	36000	20750	9	59	20750
F-5372	FC-24	BLH	C1, PMSF Acid	Butyric, water	8	71442	12150	5	65	12150
FM-3141	Distilled EBSF (FC-98)	KIH	EBSF	caustic	4	13350	9935	4	69	8155
FC-95	FC-95 reaction and drying	KIH	POSF	caustic	4	19200	9753	4	74	9753
F-6514	C8 acid powder	DG	C8 Acid	water	106	276000	9200	4	78	4007
F-5619	Base stabized butyric acid (FC-23)	KIH	PBSF	caustic		27030	6919	3	81	
F-7535	Dry Lithium Salt for FC-24/28	BLH	PMSF Lithium salt	water	15	60500	6035	3	84	6035
F-4863	Distilled PDSF (FC-120)	KIH	PDSF	caustic	5	50260	6030	3	86	1031
F-8733	Acid Hydrate Distill FC-156	BLH	PMSF	water	7	72000	5488	2	89	5488
FM-3149	Crude EBSF (FC-98)	KIH	EBSF	caustic	7	22935	4281	2	91	4281
F-8439	HQ115 drying	BLH	PMSF Lithium imide salt	water	7	25000	3500	2	92	3500
F-7164	One Plated C8 Acid for FC-143/118	DG	C8 Acid	none	106	317400	3356	2	94	0

Description and Composition of sewerage waste [Process step(lb/yr,composition)]	FC's lost to the air [lb/yr]	Description and Composition of air emissions [Process step(lb/yr,composition)]	FC's incinerated [lb/yr]	Description and Composition of incinerated waste [Process step(lb/yr,composition)]
222706 lbs/yr total waste is produced from fractionation bottoms. Of this 17% are FCs and 83% is water, sulfuric acid and filter cell. 665598 lbs/yr total waste is produced from cleaning. Of this 2% are FCs and 98% is water and sodium hydroxide.	0	any lowboilers lost out of the vacuum system will be condensed and sent to the sewer through the hot well.	0	Based on the material from Decatur, no amount is predicted since the amount today is zero.
Distillation(?,>99% water,<1% FC's (84 lb/yr));Cleanup(14371 lb/yr. 42% water, 58% FC's)	negligible	Charging, Distillation, Draining	25959	Bottoms(25959 lb/yr, 100% FC's)
Water washes/filtration (189,286 lb/yr, 86% water, 14% FC's);Cleaning(89066 lb/yr, 99.4% water, 0.6% FC's)	negligible	Charging, Draining	none	
Bottoms(103,000 lb/yr, 81.6% water, TEA, H2SO4, LiOH, Li Carbonate, 18.4% FC's);Clean-up (227,261 lb/yr, 99% water, TEA, H2SO4, LiOH, Li Carbonate, 1% FC's)	negligible			
Bottoms(212656 lb/yr, 94.8% water LiHSO4, Li2SO4 H2SO4, SiO2, 5.2% FC's);Clean-up (92150 lb/yr, 98.75% water, LiHSO4, Li2SO4, H2SO4, SiO2, 1.25% FC's)	negligible			
Distillation (? ,<1% FC's, < 41 lb/yr FC's); Clean-up (20122 lb/yr, 99.4% water, 0.4% FC's); Bottoms (19992 lb/yr, 60% water, 40 % FC's)	negligible	Charging, Distilling, Draining	1780	Bottoms(1780 lb/yr, 100% FC's)
Water washes/filtration (145973 lb/yr, 93% water, 7% FC's);Cleaning(106275 lb/yr, 99.8% water, 0.6% FC's)	negligible	Charging, Draining	none	
This is based on theoretical powder yields calculated for Lots 194-199 & 10001-10012. 30% of the total powder losses are assumed to end up in the sewer system. The total amount of waste to the sewer is estimated to be 400700 lbs/yr. Of this 99% is water.	73405	This is based on inert balances for lots 194-199 & 10001-10012		
Clean-up (338000 lb/yr, 98.2% water, 1.8% FC's)	negligible			
Distillation(?,>99% water,<1% FC's (258 lb/yr));Cleanup(183989 lb/yr, 99.6% Water, 0.4% FC's)	negligible	Charging, Distillation	5000	Bottoms(5000 lb/yr, 100% FC's)
Bottoms (63,000 lb/yr, 94.2% water H2SO4, Li2SO4, 5.8 % FC's); Clean-up (59,025 lb/yr, 98.9% water H2SO4, Li2SO4, 1.1 % FC's)	negligible			
Water washes/phase splits (60566 lb/yr, 93% Water, 7% FC's);Clean-up (17110 lb/yr, 99.5% Water, 0.5 % FC's)	negligible	Charging, Draining	none	
Clean-up (114,250 lb/yr, 96.9% water, 3.1% FC's)	negligible			
This reactor is almost never cleaned.	0		3356	61163 lbs/yr of total waste are produced from distillation bottoms. Of this 5.5% are FCs and 94.5% being sulfuric acid, potassium dichromate, and filter cell.

Bldg.	BC	Total Waste [lb waste/yr]	% FC in Waste
15	34	1356129	4%
15	33		
25	87/49	198989	13%
15	45	539936	4%
15	45	284952	#REF!
15	33		
25	87/49	161764	6%
15	37	249200	4%
15	33	42500	16%
15	70		
15	33	189245	3%
15	45		
15	33		
3	70	301620	1%
15	32		

F-8450	RC8 Acid from RC8 NH3 Salt	DG	C8 Acid	Caustic and Water	8	29600	2631	1	95	2631
F-7786	FC-122	BLH	PMSF Lithium salt	water	5	24000	1920	1	96	1920
F-8443	N-Ethyl Fosea monomer, FX-13	JPS	POSF	Acetone	2	3260	1823	1	97	1800
FM-3173	fractionated butyric acid (FC-23)	KIH	PBSF	caustic	4	28492	1500	1	97	1500
F-8178	20% Aq Ammonium Salt (FC-118)	DG	C8 Acid	None	88	740000	1480	1	98	1480
F-4865	C10 sulfonic acid (FC-120)	KIH	PDSF	caustic	6.5	46800	1073	0	99	1073
F-7160	MeFOSEMA decolorization	JPS	POSF	Acetone, water flush	2	10100	664	0	99	664
F-8451	One-Plated Recovered C8 Acid	DG	C8 Acid	none	17	26600	660	0	99	0
F-7161	Methyl FOSEMA reaction	JPS	POSF	Acetone	2	7800	432	0	99	0
F-8462	Recovered C8 - 35% NH3 Salt	DG	C8 Acid	Acetic Acid	17	95000	397	0		397
F-6050	FC-118/143 Ammonium Salt Slur	DG	C8 Acid	Acetic Acid	106	658619	300	0		300
F-8485	Triflic monohyd	BLH	PMSF C1 Lithium salt	water	7	92000	276	0		276
F-8463	Recovered C8 - 20% NH3 Salt	DG	C8 Acid	None	17	148000	143	0		143
F-6272	50/50 ET FOSEMA:ODMA Polymer	JPS	POSF	Acetone, xylene	2	13444	98	0		0

191183 lbs/yr of total waste is produced while performing the re-acidification/phase split steps. Of this 0.1% are FCs with the remaining 99.9% being sulfuric acid and water. 19964 lbs/yr of total waste is produced while draining bottoms from the distillation. Of this 4% are FCs with the remaining 96% being sulfuric acid and filter cell. 147152 lbs/yr of total waste is produced while cleaning. Of this 1.1% are FCs with the remaining 98.9% being sodium hydroxide and water.	0		0	
Clean-up (140,000 lb/yr, 98.6% water, 1.4% FC's)	negligible			
1. Water of reaction. 2. 3 Water/NaCl washes to remove acids. 36# acrylic acid, 12# H2SO4, 108# NaCl, 4986# water (1823# EtFOSEA)(150# EtFOSEA)	0	10# heptane from heptane strip from batch.	32	1. Pre-run acetone boil. 2. Heptane strip from batch. 3. Post-run acetone boil. 3,100# - 2000# acetone, 1,050# heptane, 32# EtFOSEA
Fractionation (? , <1% FC's, < 10 lb FC's/yr); Cleaning (90946 lb/yr, 99.98% water, 0.02% FC's); Bottoms (31777 lb/yr, 95% water, 5% FC's)	negligible	Charging, Fractionating, Draining	none	
This assumes a 99% yield based on powder weights. This is an assumption based on engineering judgement since pcducs does not accurately report the yield do to inaccurate heel weights. This does include residual powder left in the premix drums. However this neglects any rinse water used to clean the premix drums, pump and hoses. An estimated 7400 lbs (20% solids) total is lost per year.				
Water washes(199,304 lb/yr, 99.7% water, 0.3% FC's);Cleaning(1,958,830 lb/yr, 99.97% water, 0.03% FC's)	negligible	Charging, Draining	0	
(664# MeFOSEMA) Flush solids in reactor to sewer with water. 6000# flush water	0	N/A	0	Pre-run and post-run acetone boilouts.
The reactor is almost never cleaned	0		660	13210 lbs/yr of total waste are produced from distillation bottoms. Of this 5% are FCs and 95% are sulfuric acid with trace amounts of dichromate.
N/A	0	N/A	432	Post run kettle cleaning. 6,000# acetone, 432# MeFOSEMA
39700 lbs/yr of waste are produced while cleaning. Of this 1% are FCs and 99% are water and acetic acid.	0		0	
approximately 24500 lbs/yr total waste are produced from cleaning. This assumes that 0.1% of the F-6514 demand is lost while cleaning during the F-6050 step.				
Clean-up (160276 lb/yr, 99.8% water, 0.2% FC's)	negligible			
715 lbs/yr of total waste are produced during disconnecting hoses, flushing lines, and washing totes. Of this 20% are FCs and 80% is water.	0		0	
N/A	0	Solvent strip of FM-3546 raw material. 14# acetone vented	98	10,014 - 7022# acetone, 2800# xylene, 60# Amsco G solvent, 100# filter cake (98# EtFOSEMA polymer)

3	70	138355	1%
15	33	62116	2%
25	87	151710	1%
7	33		
15	32		
15	36		
15	36		
15/25	45/74		

F-8772	20% Aq Sodium Salt (FC-1090)	DG	C8 Acid	Acetic Acid	3	18000	36	0		36
FM-4200	Carbowx 350 Chlor F/FC760	JPS	ROH [C] with SOCl2	Solvent	10	145313	0	0		0
F-4866	Ammonium P-decane (FC-120)	KIH	PDSF	acetone	6	73955	0	0		
F-9131	Crude Trimesoyl Trichloride	JPS	ArylOOH [C] with SOCl2	Acetone	3	15000	0	0		0
F-8167	TBAPCL/TMS curative	JPS	Aryl Phos. Chl. Salt	Water Flush	69	62600	0	0	0	0
F-8260	Tributylallylphos chloride	JPS	Aryl Phos. Chl. Salt	Dilute acetic acid, acetone, dilute ammonia solution	8	37360	0	0		0
F-9125	HX-868 Aziridine Imidation	JPS	Aryl Aziridine	Acetone, caustic, water flush	30	22800	0	0		0
F-8728	HX-752 AZIR. CUR. FIN. Strip	JPS	Aryl Aziridine	Caustic, acetone	35	22750	0	0		0
F-9126	HX-868 Aziridine Purify	JPS	Aryl Aziridine	Acetone, water flush	30	9600	0	0		0
F-8729	Final HX752 Blend	JPS	Aryl aziridine	acetone	6	22750	0	0		0
F-9124	Distilled TMTC Solution	JPS	Aryl Acid Chloride	Solvent	3	40000	0	0		0
F-7755	Scotchban (FX-840)	HAH	POSF	bulk mixed cleaning solvents	2	10793		0		
F-2196	Crude EPX Catalyst	PJG	PMSF	Acetone	4	5470		0		
F-8275	FC Solvent for FC-143/118	DG	Inerts for spray drying			226362		0		
F-8166	SF-2	KIH	Inert	none	10	113244		0		
F-8775	PF-5058	KIH	Inert	none	5	103532		0		
F-7524	Heat Trt PTAA LB for FC-40	KIH	Inert	FCHC-123	10	87319		0		



This is based on an assumption that 1% of the F-8772 material (20% solids) could be caught up on the vessel walls after draining. The amount of acetic acid used for cleaning is based on 08/99 YTD data. The amount of water used for cleaning is based on 6000 lbs used per cleanup. Based on 08/99 YTD data a total of 3 cleanups are required to produce 18000 lbs of F-8772. The total waste produced would be approx. 18115 lbs/yr.				
(195,519 inorg salt; 8,583 chlorinated product; no FC) (195,519 inorg salt; no FC) Total waste per yr 529,486 lb. 1615 HC# from kettle sweetener; 86,900# off-gas/x's SOCl2 neutralization salts, 108,620# x's NaOH for neutralization; rest water; No FC	700	From vacuum strip of excess SOCl2 reactant. 203# product chloride; 497# flush hexane; No FC	73,500	20,000# pre-run acetone; 3380# filter cake( 2366# chlorinated product, 1014# clay); 50,120# solvent flush (6014# chlorinated product); no FC
(165,248 - 485# HCl, 14,700# NaCl, 26,692# Na2SO3, 15,874# NaOH, 4549# DMF, 49# SOCl2, 260# TMTC product. No FC) (146,088 - 485# HCl, 14,700# NaCl, 26,692# Na2SO3, 15,874# NaOH, 88,337# water. No FC) Dilute HCl solution for reactor sweetener. Neutralize rxn off-gases and excess thionyl chloride with caustic solution.	180 - 122# toluene, 49# SOCl2, 9# DMF. No FC	Solvent strip to concentrate and purify the batch.	18,980 - 6000# acetone, 260# TMTC product, 4540# DMF, 8180# toluene. No FC	Pre-series, post-series acetone cleaning. Vacuum solvent strip to concentrate and purify batch.
(69,310, no FC)(311 lb FX-5166 curative. No FC.) Post-series water flush of ribbon blender	None		35	Lost during blending to exhaust; captured in separator. No FC.
(253,088. No FC) (440 pounds excess allyl chloride No FC) Neutralize excess allyl chloride in scrubber with 50 % caustic.	64	48 lbs allyl chloride vapor lost during vacuum strip. No FC	36,000	48# allyl chloride; 1680# aqueous ammonia; 2275# butyl cellosolve; no FC
(5,340 inorg. potassium salts, no FC) (5,340 inorg. Pot. Salts, no FC) Phase split water phase away from organic product phase, caustic boils, water flushes	570 CO2, no FC	Gas evolution as reaction product.	None	6000# waste acetone solvent
(110,985 - none is FC) (22,750 - 6125# NaOH, 16,625# water. No FC.) Pre-series dilute caustic boilout	735# toluene. No FC	Assume 1% of solvent stripped from batch is vented.	14000# acetone, 73,500# toluene. No FC	Pre-series and post-series acetone boilout. Solvent strip of organic product phase.
(6030# isopropyl ether, 2520# toluene, 450# butylene imine. No FC) Waste wash water phase separation. Between lot reactor water flush.	90 - 6# butylene imine, 60# isopropyl ether, 24# toluene. No FC	Assume 1% of solvent stripped from batch is vented.	18000# - 9000# acetone, 6030# isopropyl ether, 2520# toluene, 450# butylene imine. No FC	Pre-series and post-series acetone boilout. Solvent strip of organic product phase.
N/A	None	N/A	0	(17,850 - 1050# HX-752 product, 16,800# acetone. No FC) Pre-run and post-run acetone boilouts.
None	None	None	None	Pre-run and post-run solvent boils yield 39,600# waste solvent.

7	70		
25	87	10500	0%
7	70		
6	61		
7	31		
7	41		
7	41		
7	42		
7	33		
7	24		
4	10		
25	87		
15	52		
15	51		
15	27		

F-7126	Heat treated PTAA Inert (FC-5312)	KIH	Inert	none	9	37115		0	
F-8497	frac top PTAA inert (FC-5312)	KIH	Inert	caustic	3	21625		0	
F-7151	Perm treated PTAA (FC-5312)	KIH	Inert	caustic	3	21361		0	
F-7152	Si-gel Trt PTAA Inert (FC-5312)	KIH	Inert	none	5	20722		0	
FM-3373	Si-gel/C8F18/C8F16O	KIH	Inert	none	2	14877		0	
FM-3702	FC-104	KIH	Inert	none		939		0	
F-8217	Fractionation for SF-2	KIH	Inert					0	
F-9117	PF-5056	KIH	Inert	none				0	
FM-3602	FC-75	KIH	Inert	none				0	
F-1256	One Plated Acid for FC-26	DG	C8 Acid	None	3	205		0	0
F-7939	Perfluorosulfonic acid	LMT	C8 Acid	Water Flush		2506		0	
F-9142	Esterification of C8 Acid	LMT	C8 Acid	water Flush/acetone boil		1175		0	
F-9144	C8 Distilled Alcohol	LMT	C8 Acid	water Flush/acetone boil		904		0	
F-9146	Distilled Polyfoma Monomer	LMT	C8 Acid	water flush, caustic boil, acetone boil, water flush				0	
F-9179	Polyfoma in HFE7100 (FC-732)	LMT	C8 Acid	acetone				0	
FM-3405	Glycine Persulfonicacid CPLX	LMT	C8 Acid	water boil				0	
F-8469	Li Trifluo Meth Sulfonimide	BLH				8655		0	
F-9110	Aqueous Lithium FC96	BLH				5850		0	
F-8439	Lithium Bis-Trifluoromethane	BLH				2950		0	
F-8652	N-Butyl FOSEA Monomer;FX-189	BLH				850		0	
F-7843	Li cake recovery	BLH						0	
F-5372	Crude Triflic Acid	BLH						0	
F-7785	FX-9161 Foam Stabilizer	BLH						0	
F-8420	Stabilized C8 Acid in inerts	BLH						0	
F-8421	C8 Acid (>96% C8;0.0-0.5%HB)	BLH						0	
F-8452	Triflic Anhydride	BLH						0	
F-8485	30% Lithium Salt (Aq)	BLH						0	
F-8798	Triflic Acid Monohydrate	BLH						0	
F-9176	Polyfoma in C6 Inerts (FC-722)	BLH						0	
F-7946	FC-226 Polyester Stain Rel	DEH				267448		0	
F-7522	100% Polyester for FC-226	DEH				54600		0	
F-7757	Ground PET for FC-226	DEH				5713		0	
F-7540	PET for FX-226	DEH				5710		0	
F-6952	FC-126 Ammonium Salt Slurry	DG				28463		0	
F-7117	One Plated C8 Acid for FC-126	DG				10468		0	
F-6537	Spray Dried FC-126	DG				9420		0	
FM-4074	Camphene Catalyst	EEG						0	
F-8777	640MW PECH Mono-OL/Dioxolane	JPS				8245		0	
F-9132	Dist Trimesoyl Trichloride	JPS				8090		0	
F-9127	HX-868 Final Solvent Strip	JPS				4121		0	
F-9128	HX-868 Blend and Package	JPS				3541		0	
F-8757	Peo-600 diacetate	JPS				2770		0	
F-8228	TEPAN HX879	JPS						0	
F-8229	TEPANOL	JPS						0	
F-8701	4500MW PECH DIOL/TRIOL (RXN)	JPS						0	
F-8702	4500MW PECH Polyol (Purify)	JPS						0	
F-8703	4500MW PECH Polyol/Dioxolane	JPS						0	
F-8761	Triphenyl Sulfonium Chloride	JPS						0	
F-8776	640MW PECH Mono-OL (Rxn)	JPS						0	



15	27		
15	33		
15	33		
15	54		
15	59		
15	59		
	6		
7	42		
7	42		
6	44		
15	45		
15	45		
15	70		
7	41		
15	45		
4	8		
4	7		
6	17		
4	10		
15	36		
15	32		
15	37		
7	70		
15	33		
7	41		
7	41		
4	10		

F-9100	Triton X100 Chloride	JPS					0	
F-9112	DICB Curative	JPS					0	
F-5522	FC-93	KIH			4959		0	
F-2191	perfluorooctanesulfonic acid (FC-93)	KIH			4407		0	
F-8769	Sulfonic Acid in IPE	LKR			36755		0	
F-7584	Purified PFBF for I-1176	LKR					0	
F-7453	Water Soluble Polyester Resin	PJG			2906		0	
F-6567	C8F160/HB (>20% HB) Inert	PJG			1570		0	
F-6566	C8F160/HB (11-20% HB) Inert	PJG					0	
F-8227	FX-9165 Foam Stabilizer	PJG					0	
FM-3131	Inert Main-Cut C8F160	PJG					0	
FM-3144	Fractionated C8F160 Inerts	PJG					0	

221272

7	42		
25	87		
25	87		
4	10		
15	51		







516728		2433747		560689	492
105132		495162		#DIV/0!	100
1		4		#DIV/0!	4



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B1	F-8400	a. Incinerate/minimize bottoms	1. Complete
B2	F-8469	a. Incinerate/minimize bottoms	1. Complete
B3	FM-3141	a. Incinerate/minimize bottoms b. Try MeOH as solvent vs H2O	1. Incinerate. Cost would be \$0.70/lb aq waste or \$10,124 per year or \$2,531/lot.
B4	F-5372	a. Incinerate/minimize bottoms	1. Review w/ "C1 6 Sigma Team" 2. Incinerate. Cost would be \$0.35/lb aq waste or \$74,430/yr or \$9,304/lot.
B5	FM-3256	b. Incinerate/minimize bottoms	1. Incinerate. Cost would be \$0.70/lb aq waste or \$155,894/yr or \$5,029/lot.
B6	F-4863		Incinerate. Cost would be about \$8,560/lot.
B7	F-8733	a. Incinerate	1. Incinerate. Cost would be \$0.35/lb aq waste or \$29,050/yr or \$4,150/lot.
B8	F-8450	a. Incinerate	

**FC Waste Team**

Mike Rappel  
Lynn Running  
George Bentz

## PHASE I COST ESTIMATE

Product	Waste Type	Lbs. of Waste (FC and Water) per Year	Cost to Incinerate per lb. of Waste	Cost to Incinerate per Year	Total Cost For Barrels per Year	Total Cost per Year	Lots per Year
FC-98	Process	259171	0.36	93301	12959	106260	7
FC-95	Process	45974	0.4	18390	2299	20888	4
F-5372	Bottoms	15714	0.75	11786	786	12571	8
FM-3256	Bottoms	37860	0.75	28395	4102	32497	31
F-8733	Bottoms	6876	0.75	5157	344	5501	7
F-8450	Bottoms	799	0.75	599	87	686	8
F-4863	Bottoms	5000	0.75	3750	250	4000	5
F-8400	Bottoms	25959	0.75	19469	1298	20767	8
Total		397353		180847	22123	202970	

Note

1. F-5372 and F-8733 are predicted as using 30% water to help drain from reactor.
2. FM-3256, F-8450, F-4863, and F-8400 are predicted to be able to drain straight bottoms.
3. FC-98 and FC-95 are predicted to use the same amount of water as last year.
4. Drum cost is based on \$65 drums for F-8450 and F-3256 along with \$30 drums for other wastes.
5. Drums are assumed to hold 600 lbs of waste.

<b>Cost per Lot</b>	<b>Product Demand per Year</b>	<b>Lbs. Product Produced per Lot</b>	<b>Increase in Cost per lb of Product</b>
15180	35000	5000	3.04
5172	19200	4800	1.08
1571	71442	8930	0.18
1048	296774	9573	0.11
786	72000	10286	0.08
86	29600	3700	0.02
800	50260	10052	0.08
2596	36985	4623	0.56

## **Plan Forward**

### **Phase I**

<b><u>Product</u></b>	<b><u>Chemical Name</u></b>	<b><u>Waste Type</u></b>	<b><u>Lbs. FC Waste</u></b>	<b><u>Method</u></b>	<b><u>Engineer on Project</u></b>	<b><u>Estimated Date of Completion</u></b>
FM-3256	C8 Acid	Bottoms	37860	b. Incinerate/minimize bottoms	Dean Graham	Complete
FC-98	PECHSF	Process	26221	a. Incinerate/minimize all washes.	Lynn Running	Complete
F-8400	PECHSF	Bottoms	25959	a. Incinerate	Lynn Running	Complete
F-5372	C1, PMSF Acid	Bottoms	11000	a. Incinerate/minimize bottoms	Lynn Running	09/15/00
FC-95	POSF	Process	9558	a. Incinerate/minimize all washes.	Lynn Running	Complete
F-4863	PDSF	Bottoms	5000	a. Incinerate	Lynn Running	Complete
F-8733	PMSF	Bottoms	4813	a. Incinerate	Briana Hagen	09/01/00
F-8450	C8 Acid	Bottoms	799	a. Incinerate	Dean Graham	10/01/00
Total			121210			



**Phase II**

<b><u>Product</u></b>	<b><u>Chemical Name</u></b>	<b><u>Waste Type</u></b>	<b><u>Lbs. FC Waste</u></b>	<b><u>Method</u></b>	<b><u>Engineer on Project</u></b>	<b><u>Estimated Date of Completion</u></b>
FM-3256	C8 Acid	Process	13312	a. Use vacuum pump instead of jets.	Dean Graham	To be determined.
FM-3141	EBSF	Bottoms	9853	a. Incinerate/minimize bottoms b. Try MeOH as solvent vs H2O	Lynn Running	To be determined.
F-8400	PECHSF	Cleaning	8335	a. Minimize water b. Try MeOH c. Incinerate clean-up water d. Incinerate	Lynn Running	To be determined.
F-7535	PMSF Lithium salt	Cleaning	6035	a. Minimize water b. Incinerate	Lynn Running	To be determined.
F-8439	PMSF Lithium salt	Cleaning	3500	a. Minimize water b. Incinerate	Briana Hagen	To be determined.
FM-3149	EBSF	Process	4196	a. Incinerate and or minimize.	Lynn Running	To be determined.
F-8450	C8 Acid	Cleaning	1619	a. Incinerate	Dean Graham	To be determined.
F-5372	C1, PMSF Acid	Cleaning	1150	a. Incinerate	Lynn Running	To be determined.
F-4863	PDSF	Cleaning	1031	a. Incinerate	Lynn Running	To be determined.
F-8733	PMSF	Cleaning	675	a. Incinerate	Briana Hagen	To be determined.