

PPG Industries, Inc.
Industrial Chemical Division
Lake Charles, Louisiana

Chemicals



PROCESS CALCULATIONS

Job LOC By LOC
Date Jan 82 Page of

Shipments 1982 Projected
Perchlor

total shipped 76202 TPY

9.76% of 75522 = 7376.8
21.02% " = 15857.3
20.54% " = 15524.5
48.70% " = 36808.4

Drums = 620
TK TKR = 7380
TK GR = 15890 } 23270
Bayer = 15520
Shipr = 36810

Trichlor

total shipped 68300 TPY

13.19% of 67344 = 8882.7
24.47% " = 16479.1
22.26% " = 15037.9
35.07% " = 23911.3

Drums = 956
TK TKR = 9880
TK GR = 16480 } 26360
Bayer = 15360
Shipr = 23620

MC

total shipped 103000 TPY

11.27% of 100,322 = 11308.2
14.72% " = 14766.1
39.15% " = 39876.0
34.86% " = 35751.7

Drums = 2128
TK TKR = 15510
TK GR = 34280 } 49790
Bayer = 39280
Shipr = 34780

EDC

total shipped 47720

7.5% of 47520 = 3564.0
7.5% " = 3564.0
42.99% " = 20386.1
42.1% " = 20005.9

Drums = 200
TK TKR = 3564
TK GR = 3564 } 7128
Bayer = 20390
Shipr = 20010



(Following A. Plauder & Soyechinski from API EQ)
Emissions from Loading hydrocarbons can be estimated from

$$L_L = \frac{12.46}{D} \frac{SPM}{T} ; \text{ Tons lost per MTons Loaded when}$$

S is a factor depending on loading method.

M is molecular wt

P is vapor press in PSIG

T is Liquid Bulk Temp °R

D is lb per Gal for liquid loaded

							Tons/MTons Loaded
$\frac{12.46}{D} \times S \times \frac{P}{T} \times \frac{M}{T} = L_L$							
Per ; Drum	"	12.3	.6	.29	16	530	.0511
Tk Tks	"	"	.6	"	"	"	.0511
Barge	"	"	.5	"	"	"	.0426
Ship	"	"	.2	"	"	"	.0170
Tk ; Drum	"	12.1	.6	1.20	131	"	.1833
Tk Tks	"	"	.6	"	"	"	.1833
Barge	"	"	.5	"	"	"	.1528
Ship	"	"	.2	"	"	"	.0611
MC Drum	"	10.9	.6	2.02	133	"	.3477
Tk Tks	"	"	.6	"	"	"	.3477
Barge	"	"	.5	"	"	"	.298
Ship	"	"	.2	"	"	"	.1159
EDC Drum	"	10.2	.6	1.30	99	"	.1780
Tk Tks	"	"	.6	"	"	"	.1780
Barge	"	"	.5	"	"	"	.1483
Ship	"	"	.2	"	"	"	.0593

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Job _____ By Jac
Date Feb 82 Page _____ of _____

1982 Loading Emissions

		MT per yr Shipments	Loss Factor T/MT	Loss T per yr
Perchlor	Drums	.620	.0511	.03
"	Truckload	21.88 23.27	.0511	1.19
"	Barges	15.89 15.52	.0426	.66
"	Ship	15 36.81	.0170	.62
				<u>2.50</u>

Tuichlor	Drums	.956	.1833	.18
"	Truckload	25.36	.1833	4.65
"	Barges	18.36	.1528	2.81
"	Ship	23.62	.0611	1.44
				<u>9.08</u>

MC	Drums	2.678	.3471	.93
"	Truckload	26.28	.3471	9.14
"	Barges	39.28	.2980	11.71
"	Ship	34.78	.1159	4.03
				<u>25.91</u>

EDC	Drums	.20	.1780	.03
"	Truckload	7.128	.1780	1.27
"	Barges	20.39	.1483	3.02
"	Ship	20.00	.0593	1.19
				<u>5.51</u>

ALL Tons per Year 1982
42.9



Loading Fugitive Emission - 1982

Tabulated Like GBI breakdown of IO 682 part 6 ('81)

Ship Loading

*Perchlor .62
Trichlor 1.44
MC 4.03
6.09 T per Yr*

42 4.11

Barge Loading

*Perchlor .66
Trichlor 2.81
MC 11.71
15.18 T per Yr*

14.9 1.28

EDC

*Ship 1.19 T per Yr
Barge 3.02 T per Yr*

1.18 1.01

3.03 4.01

Solvent Shipping

*Per Drum .03
Tri " .18
MC " .93
Per TR & Cars 1.19
Tri " 4.65
MC " 9.14
16.12 T per Yr*

16.23 4.11

EDC Shipping

*Drum .03
TR & Cars 1.27
1.30 T per Yr
42.9 T per Yr*

1.30 1.02

Revised Volumes

1. 3. 1 10/27

LAKE CHARLES PROPERTY PLAN MODEL 1982

LAKE CHARLES MANAGEMENT REPORT-ORGANICS

PRODUCTION ANALYSIS

PRODUCTION FACILITY	UNITS/DAY	UNITS/365 DAYS	CAPABILITY MAX/DAY	CAPABILITY MAX/365 DAYS	PERCENT OF CAPABILITY
1162 FDC DRUMS TON/ MIN					
1163 FDC BULK SHIP TON/	135.10	49,220			
1164 TETRAHANE DRUM ONLY TON/	7.34	2,678			
1165 TETRAHANE BULK SHIP TON/	276.83	100,322			
1167 VJRIATIC AP SHIP TON/ MIN					
1168 DECHLOR DRUMS ONLY TON/	1.70	621			
1169 DECHLOR BULK SHIP TON/	207.37	74,882			
1170 TRICHLOR DRUMS ONLY TON/	2.62	956			
1171 TRICHLOR BULK SHIP TON/	104.50	37,344			
1173 VINYL CHLORIDE SHIP TON/	928.76	338,006			
5512 VCMII OMC EDC TON/ MIN	458.93	170,820	555.00	170,820	100.00
5513 VCMII LIQUID PH EDC TON/ MIN	570.00	208,050	570.00	208,050	100.00
5514 VCMII EDC PURIFIER TON/	1,837.80	670,707			
5515 VINYL CHLORIDE II TON/ MIN	621.00	226,310	621.00	226,310	100.00
5517 VCM TETA TON/	928.76	338,006			
5518 EDC (L.S. + IMPRT) TON/	560.82	204,608	1,100.00	401,520	50.98
5519 LID PH EDC (D.C. TET) TON/ MIN	150.00	54,750	150.00	54,750	100.00
5520 L3-EDC TOTAL TON/	1,261.01	460,268			
5521 L3-EDC TO 6001 TON/	1,130.82	412,749			
5522 EDC TOTAL TON/	2,772.18	1,011,847			
5523 VCM TETA TON/	32.33	11,800	85.00	32,120	36.74
5524 SET HCL (43) TON/	79.97	29,188	100.00	36,500	79.97
5525 WFAK OXY ACID AR TON/ MIN	37.41	12,196			
5526 HCL DISPOSAL TON/					
5527 CYJCE PER/TPI TON/	457.73	169,555	550.00	200,750	74.00
5528 TRICHLOR (ALL 3000) TON/	213.17	77,808	360.00	131,400	59.21
5529 TRICHLOR (ALL 3000) TON/	187.12	68,390	360.00	131,410	51.98
5530 TETRA TON/	479.73	175,102			
5531 ETHYL CHLORIDE TON/	80.01	32,489	170.00	62,050	52.36
5532 VINYL CHLORIDE TON/	978.76	357,745	510.00	186,150	46.66
5533 VCM TETA TON/ MIN	33.83	10,050	31.00	10,950	100.00
5534 VCM EDC 1-3 TON/	33.62	12,171	628.00	229,220	16.91
5535 VCM EDC 4 TON/ MIN	124.00	45,240	325.00	118,260	100.00
5536 VCM EDC TOTAL TON/	460.36	167,315			
5537 BUTTMS PROCESSING TON/	238.00	87,195	300.00	109,500	79.63
5538 TETRAHANE-II TON/	282.19	103,332	451.00	164,250	62.71
5539 T.E. II-VC FURNACE TON/	228.75	83,403	325.00	118,625	70.38
5540 T.E. II-DC TON/	112.00	40,882	500.00	182,500	62.40
5541 WCMV TON/	266.67	97,335	425.00	155,125	62.75

had
This has not been accepted as final
yet but it should be the best we've got
on 5/1/82 for 1982. (as of 1/8/82)

Got this from Whitney Jan 82

JWC