

PPG INDUSTRIES

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA
LABORATORY PRODUCT REPORT

PERCHLOR SHIPMENTS	1967 AVG.	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	1968 AVG.
TYPE 207														
COLOR APHA	9.	8	5	8	7	7	-	10	7	-	8	10	8	8
SPECIFIC GRAVITY 20/20 °C	1.624	-	-	1.622	-	-	-	-	1.624	-	-	-	-	1.623
DISTILLATION RANGE °C														
LOW	120.8	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH	121.7	-	-	-	-	-	-	-	-	-	-	-	-	-
WATER CONTENT CLOUD POINT °C	(0	(0	(0	(0	(0	(0	-	(0	(0	-	(0	(0	(0	(0
NON-VOLATILE GM/100 ML	(.0010	-	-	-	-	-	-	-	(.0001	-	-	-	-	(.0001
PH	8.4	8.5	8.4	8.6	8.5	8.4	-	8.4	8.4	-	8.2	8.3	8.2	8.4
ACID ACCEPTANCE % AS NaOH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COPPER CORROSION														
ACIDITY ML OF 0.01 N NaOH	-	-	-	-	-	-	-	-	1	-	-	-	-	1
FLASK MG/30 CM ²	-	-	-	-	-	-	-	-	1	-	-	-	-	1
SOXHLET MG/30 CM ²	-	-	-	-	-	-	-	-	4	-	-	-	-	4
CONDENSER MG/30 CM ²	-	-	-	-	-	-	-	-	4	-	-	-	-	4
CHLORIDES PPM	0.12	-	-	-	-	-	-	-	0.06	-	-	-	-	0.06
TYPE 208														
COLOR APHA	9	8	7	7	7	7	10	8	8	8	8	8	8	8
SPECIFIC GRAVITY 20/20 °C	1.624	1.624	1.624	1.624	1.624	1.624	1.624	1.624	1.624	1.624	1.624	1.624	1.623	1.624
DISTILLATION RANGE °C														
LOW	120.7	121.0	121.0	120.8	120.7	120.7	120.7	120.6	120.7	120.5	120.8	120.8	120.8	120.8
HIGH	121.6	121.6	121.6	121.6	121.5	121.4	121.5	121.5	121.6	121.5	121.6	121.5	121.4	121.5
WATER CONTENT CLOUD POINT °C	(0	(0	(0	(0	(0	(0	(0	(0	(0	(0	(0	(0	(0	(0
NON-VOLATILE GM/100 ML	(.001	(.001	(.001	(.001	.001	.0001*	.0006	.0003	.0006	.0004	(.0001	-	(.0001	.0003*
PH	6.8	6.9	7.2	7.0	6.8	6.9	6.7	6.9	6.8	6.7	6.7	6.8	6.8	6.8
COPPER CORROSION														
ACIDITY ML OF 0.01 N NaOH	2	2	2	3	2	2	2	2	2	1	2	2	2	2
FLASK MG/30 CM ²	1	(1	1	2	1	(1	1	1	(1	1	(1	1	1	(1
SOXHLET MG/30 CM ²	6	5	5	6	5	6	5	5	5	6	5	6	4	5
CONDENSER MG/30 CM ²	7	5	4	7	7	6	5	6	6	5	6	6	5	6
CHLORIDES PPM	0.07	(0.06	0.06	(0.06	0.06	(0.06	0.06	0.06	0.06	0.06	0.18	0.06	0.06	0.06
CONFIDENTIAL:														
Subject to Protective Order														
of 14th Judicial District Court														
No. 91-1145														

SL 013054

*Converted to Wt. %

*Wt. %

PPG INDUSTRIES

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA
LABORATORY PRODUCT REPORT

PERCHLOR SHIPMENTS	1967 AVG.	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	1968 AVG.
TYPE 203														
COLOR APHA	8	8	6	8	7	6	8	10	8	8	7	8	-	8
SPECIFIC GRAVITY 20/20 °C	-	-	-	-	-	-	-	1.624	-	-	-	-	-	1.624
DISTILLATION RANGE °C														
Low	-	-	-	-	-	-	-	120.8	-	-	-	-	-	120.8
High	-	-	-	-	-	-	-	121.2	-	-	-	-	-	121.2
WATER CONTENT CLOUD POINT °C	(0	(0	(0	(0	(0	(0	(0	(0	(0	(0	(0	(0	-	(0
NON-VOLATILE GM-100 ML	-	-	-	-	-	-	-	.0002	-	-	-	-	-	.0002
PH	8.6	8.6	8.6	8.7	8.5	8.6	8.6	8.5	8.6	8.6	8.6	8.6	-	8.6
ACID ACCEPTANCE % AS NaOH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COPPER CORROSION														
ACIDITY ML OF 0.01 N NaOH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLASK MG/30 CM ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SOXHLET MG/30 CM ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CONDENSER MG/30 CM ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHLORIDES PPM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TYPE 209														
COLOR APHA	10	-	-	-	-	-	-	-	8	-	-	-	-	8
SPECIFIC GRAVITY 20/20 °C	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DISTILLATION RANGE °C														
Low	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WATER CONTENT CLOUD POINT °C	(0	-	-	-	-	-	-	-	(0	-	-	-	-	(0
NON-VOLATILE GM-100 ML	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PH	6.9	-	-	-	-	-	-	-	8.6	-	-	-	-	8.6
ACID ACCEPTANCE % AS NaOH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COPPER CORROSION														
ACIDITY ML OF 0.01 N NaOH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLASK MG/30 CM ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SOXHLET MG/30 CM ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CONDENSER MG/30 CM ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHLORIDES PPM	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CONFIDENTIAL:

Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

SL 013055

PPG INDUSTRIES

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA

LABORATORY OPERATIONS REPORT

HEAVIES STILL BOTTOMS		1967 Avg.	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	1968 Avg.
TRICHLOROETHYLENE	%	(0.01	(0.01	0.00	0.00	0.00	0.00	0.00	0.00	(0.01	(0.01	(0.01	0.00	0.00	(0.01
1,1,2TRICHLOROETHANE	%	(0.01	(0.01	(0.01	0.00	(0.01	0.00	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01
PERCHLOROETHYLENE	%	22.02	24.48	21.33	23.10	25.76	25.13	27.60	22.94	23.22	18.85	18.16	14.39	13.84	21.57
U-TETRACHLOROETHANE	%	3.35	2.57	2.16	2.44	2.31	2.50	2.57	2.47	2.01	1.93	2.10	1.85	2.22	2.26
S-TETRACHLOROETHANE	%	35.29	32.51	30.32	32.44	28.66	30.72	28.55	38.60	40.19	43.59	44.73	48.76	48.12	37.27
PENTACHLOROETHANE	%	28.43	33.87	39.59	35.83	36.14	34.58	34.18	34.08	32.33	28.26	29.18	28.99	30.00	33.09
HEXACHLOROETHANE	%	2.27	2.74	2.13	1.92	2.27	2.20	2.33	1.74	1.39	1.05	1.10	0.94	1.03	1.74
HEAVY UNKNOWN	%	1.49	0.96	0.96	0.94	1.22	1.31	1.21	1.02	0.79	1.14	1.44	1.00	1.01	1.08
FeCl ₂	PPM	203	-	28	18	26	40	56	67	78	31	49	(12	-	66
NON-VOLATILE	%	1.18	-	.30	.19	.45	.15	.12	.28	.32	.15	.64	0.17	-	0.28
HEAVIES STILL REFLUX (PER STILL FEED)															
TRICHLOROETHYLENE	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2 TRICHLOROETHANE	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PERCHLOROETHYLENE	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
U-TETRACHLOROETHANE	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S-TETRACHLOROETHANE	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DRIED UNSTAB. PERCHLOR															
TRICHLOROETHYLENE	%	0	0	-	-	-	-	-	-	-	-	-	-	-	0
1,1,2 TRICHLOROETHANE	%	(0.01	(0.01	-	-	-	-	-	-	-	-	-	-	-	(0.01
PERCHLOROETHYLENE	%	99.93	99.73	-	-	-	-	-	-	-	-	-	-	-	99.73
U-TETRACHLOROETHANE	%	0.03	0.02	-	-	-	-	-	-	-	-	-	-	-	0.02
H ₂ O	PPM	(-5	-	-	-	-	-	-	-	-	-	-	-	-	-
PH		6.8	6.8	6.8	5.3	6.8	6.7	6.7	6.7	6.7	6.7	6.8	6.7	6.5	6.6
NAI TEST - OXIDES	PPM	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.	Neg.
CONFIDENTIAL:															
Subject to Protective Order															
of 14th Judicial District Court															
No. 91-1145															

SL 013056

PPG INDUSTRIES

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA
LABORATORY OPERATIONS REPORT

PERCHLOR STABILIZATION	1967 AVG.	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	1968 AVG.
TYPE 208 WT. %														
PERCHLOROETHYLENE	99.87	99.88	99.88	99.87	99.88	99.87	99.87	99.89	99.88	99.87	99.87	99.87	99.87	99.88
1,1-DICHLOROBROMOETHYLENE	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01
1,2-DICHLOROBROMOETHYLENE	0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	0.01	0.01	0.01	0.01	(0.01
1,1,2-TRICHLOROETHANE	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01
U ₄ TETRACHLOROETHANE	0.05	0.06	0.06	0.06	0.05	0.06	0.06	0.04	0.06	0.05	0.04	0.05	0.06	0.05
EPE	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
UNKNOWN, TOTAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TYPE 207 WT. %														
PERCHLOROETHYLENE	99.84	-	-	99.80	-	-	-	-	99.81	-	99.79	99.80	99.80	99.80
1,1-DICHLOROBROMOETHYLENE	0	-	-	0	-	-	-	-	0	-	0	0	0	0
1,2-DICHLOROBROMOETHYLENE	0	-	-	0	-	-	-	-	0	-	0	0	0	0
1,1,2-TRICHLOROETHANE	0.01	-	-	(0.01	-	-	-	-	0.01	-	(0.01	(0.01	0.01	(0.01
U ₄ TETRACHLOROETHANE	0.04	-	-	0.05	-	-	-	-	0.04	-	0.05	0.06	0.05	0.05
EPE	0.05	-	-	0.04	-	-	-	-	0.04	-	0.05	0.05	0.04	0.05
UNKNOWN, TOTAL	0	-	-	-	-	-	-	-	-	-	-	-	-	-
SL 013057														

CONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

Subject to Protective Order			
of 14th Judicial District Court			
No. 91-1146			

LABORATORY OPERATIONS REPORT

LABORATORY OPERATIONS REPORT														
TRICHLOR STABILIZATION	1967 AVG.	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	1968 AVG.
TYPE 110E WT. %														
BLM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THF	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CARBON TETRACHLORIDE	(0.01	(0.01	-	0.01	(0.01	(0.01	-	(0.01	(0.01	-	-	(0.01	(0.01	(0.01
ADH	0.03	0.03	-	0.06	0.06	-	-	0.06	0.05	-	-	0.06	0.06	0.05
NPL	0.27	0.27	-	0.34	0.29	-	-	0.31	0	-	-	0.30	0.28	0.26
TRICHLOROETHYLENE	99.15	99.04	-	99.85	99.01	99.98	-	99.01	99.50	-	-	98.96	99.03	99.30
PERCHLOROETHYLENE	(0.01	0.00	-	(0.01	(0.01	0.00	-	(0.01	(0.01	-	-	0.00	(0.01	(0.01
1,1,2-TRICHLOROETHANE	(0.01	0.01	-	0.01	0.01	0.01	-	0.01	0.01	-	-	(0.01	0.02	0.01
GDL	0.14	0.14	-	0.08	0.18	-	-	0.16	0.12	-	-	0.12	0.12	0.13
UNIDENTIFIED, TOTAL	0.03	(0.01	-	(0.01	0.02	0.01	-	0.01	(0.01	-	-	(0.01	(0.01	(0.01
TYPE 113 WT. %														
BLM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THF	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CARBON TETRACHLORIDE	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01
ADH	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NPL	0	0	(0.01	0	0	0	(0.01	0	0	0	0	0	0	(0.01
TRICHLOROETHYLENE	99.97	99.99	99.98	99.98	99.98	99.98	99.97	99.81	99.98	99.98	99.98	99.98	99.98	99.97
PERCHLOROETHYLENE	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	0.00	0.00	(0.01
1,1,2-TRICHLOROETHANE	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	0.01	(0.01
GDL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNIDENTIFIED, TOTAL	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	0	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01	(0.01

CONFIDENTIAL:
 Subject to Protective Order
 of 14th Judicial District Court
 No. 91-1145

SL 013059

PPG II SERIES

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA

LABORATORY OPERATIONS REPORT

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PPG INDUSTRIES

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA

PERCHLORETHYLENE - TRICHLOROETHYLENE DEPARTMENT OPERATIONS REPORT

CONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

GENERAL DEPARTMENT	1967 AVG.	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	1968 AVG.
PERCHLOR (STAB.) PRODUCTION T/D	80.3	94.2	116.0	115.5	121.7	125.5	123.4	109.8	102.4	106.3	106.4	103.4	102.1	110.6
SHIPMENTS T/D	79.1	68.5	132.4	97.8	102.5	117.9	150.8	141.5	87.1	129.4	54.0	85.1	77.8	103.7
INVENTORY TONS	2181.4	2173.6	1698.1	2248.2	2825.2	3060.1	2240.3	1255.4	1725.3	1031.1	2623.5	3172.9	3927.0	2331.7
TRICHLOR (STAB.) PRODUCTION T/D	89.0	84.7	83.2	85.8	88.5	93.8	84.6	85.3	97.4	116.0	116.3	118.3	117.0	97.6
SHIPMENTS T/D	85.7	61.8	100.2	97.6	93.2	144.8	82.1	98.0	109.9	114.6	79.1	119.2	129.8	102.5
INVENTORY TONS	3067.2	4598.0	4107.1	3739.4	3598.8	2018.3	2092.6	1698.9	1310.4	1354.6	2505.9	2478.4	2079.9	2631.9
UNSTAB. PERCHLOR PRODUCTION T/D	81.4	96.2	117.3	117.6	122.7	125.8	119.0	111.2	103.7	105.3	105.5	104.6	102.3	110.9
EDC T/T	0.738	0.742	0.669	0.700	0.653	0.675	0.668	0.671	0.669	0.663	0.637	0.617	0.619	0.665
Cl ₂ T/T	0.476	0.563	0.435	0.461	0.416	0.459	0.466	0.320	0.393	0.448	0.368	0.340	0.268	0.411
TRI-ETH. BOT. T/T	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NH ₃ LBS./T	12.8	7.3	2.7	5.3	5.9	4.9	7.9	10.0	11.6	7.0	10.2	12.3	12.2	8.1
Cl ₂ from HCl T/T	-	-	-	-	-	-	-	-	-	-	0.097	0.148	0.218	0.154
UNSTAB. TRICHLOR PRODUCTION T/D	91.0	79.4	83.3	87.8	90.6	93.6	87.1	86.6	98.5	114.7	116.9	117.5	114.7	97.6
EDC T/T	0.929	0.937	0.845	0.884	0.815	0.852	0.843	0.847	0.845	0.837	0.804	0.779	0.782	0.839
Cl ₂ T/T	0.300	0.256	0.275	0.291	0.311	0.290	0.294	0.202	0.248	0.283	0.233	0.215	0.169	0.256
TRI-ETH. BOT. T/T	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NH ₃ LBS./T	9.6	10.1	7.2	12.4	7.4	6.2	7.9	4.4	2.3	5.6	4.9	4.5	4.0	6.4
Cl ₂ from HCl T/T	-	-	-	-	-	-	-	-	-	-	0.061	0.093	0.138	0.097
UNSTAB. PRODUCT O ₂ T/T	0.280	0.278	0.259	0.259	0.252	0.261	0.264	0.291	0.282	0.264	0.262	0.263	0.275	0.268
N ₂ T/T	0.364	0.294	0.292	0.251	0.246	0.229	0.238	0.160	0.170	0.192	0.179	0.182	0.147	0.215
CATALYST LBS./T	3.34	2.46	3.89	3.10	2.47	3.34	2.62	4.11	1.54	3.41	1.58	2.53	1.53	2.72
400# STM. (ACTUAL) LBS./T	2844	3494	3027	2955	2710	2628	2892	2663	2707	2718	2833	3257	3521	2950
KWH/T	80.9	91.7	69.6	43.1	68.0	77.1	73.2	72.8	76.4	67.7	64.3	47.0	68.6	68.3
MC Hvy. STILL BOTTOMS T/T	-	0.050	0.063	0.025	0.075	0.025	0.039	0.060	0.030	0.035	0.053	0.072	0.084	0.051
UNSTAB. PRODUCT CL ⁻ YIELD %	82.9	78.5	87.8	86.2	87.5	88.2	86.6	84.1	85.7	87.8	88.6	87.0	86.2	86.2
C YIELD %	79.4	76.8	83.5	82.8	84.1	86.0	84.9	83.6	86.0	86.8	88.0	88.7	87.1	84.9
MAN HOURS/T STAB. PRODUCT														
PRODUCTION	0.542	0.522	0.447	0.420	0.407	0.385	0.378	0.431	0.437	0.389	0.398	0.376	0.367	0.413
MAINTENANCE	0.628	0.490	0.489	0.442	0.462	0.340	0.521	0.517	0.473	0.302	0.423	0.593	0.556	0.467
SALARIED	0.210	0.262	0.235	0.214	0.214	0.136	0.136	0.149	0.147	0.127	0.140	0.120	0.131	0.168
TOTAL	1.380	1.274	1.171	1.076	1.083	0.861	1.035	1.097	1.057	0.813	0.961	1.089	1.054	1.048
CONTRACT MAN HRS. INCLUDED	0.030	0.010	0.002	0.029	0.000	0.000	0.014	0.002	0.000	0.000	0.007	0.250	0.316	0.052
MAN HOURS/T SHIPPED														
BULK	0.062	0.076	0.037	0.050	0.046	0.044	0.051	0.047	0.083	0.054	0.081	0.051	0.052	0.056
DRUM	0.799	0.825	0.461	0.964	0.736	0.599	0.780	0.830	0.664	0.498	0.530	0.673	0.451	0.668
SALARIED	0.021	0.025	0.013	0.020	0.019	0.018	0.019	0.018	0.029	0.017	0.026	0.013	0.009	0.019

PPG INDUSTRIES
CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA

PERCHLORETHYLENE - TRICHLOROETHYLENE DEPARTMENT OPERATIONS REPORT

MATERIAL BALANCE	1967 AVG.	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	1968 AVG.
CARBON - TONS														
TOTAL CARBON IN FEED	1084.0	1147.5	1118.9	1238.8	1224.2	1273.4	1172.0	1183.9	1190.0	1251.7	1290.7	1239.4	1273.8	1217.0
CARBON IN UNSTAB. PRODUCT	864.9	881.8	934.1	1025.4	1029.7	1094.8	994.6	990.0	1023.6	1086.6	1136.1	1098.9	1109.4	1033.8
PROCESS LOSS BY DIFFERENCE	219.1	265.7	184.8	213.4	194.5	178.6	177.4	193.9	166.4	165.1	154.6	140.5	164.4	183.2
ACCOUNTABLE PROCESS LOSSES														
BLOWDOWN	15.0	22.0	24.4	18.1	17.7	25.1	23.1	20.2	19.8	18.1	17.1	19.5	18.7	20.2
REACTOR	184.1	223.7	140.4	175.3	156.8	133.5	134.3	153.7	126.6	127.0	117.5	101.0	125.7	143.0
MISCELLANEOUS	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
SUB TOTAL	219.1	265.7	184.8	213.4	194.5	178.6	177.4	193.9	166.4	165.1	154.6	140.5	164.4	183.3
UNACCOUNTABLE PROCESS LOSSES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CARBON LOADING LOSS	16.7	6.1	9.3	16.7	17.5	6.7	10.2	14.1	-2.6	6.7	7.7	-2.4	-12.0	4.9
TOTAL CARBON LOSSES	235.8	271.8	194.1	230.1	212.0	185.3	187.6	208.0	163.8	171.8	162.3	138.1	152.4	189.8
CHLORINE - TONS														
TOTAL CHLORINE IN FEED	5238.9	5788.0	5540.3	6175.2	6114.0	6438.9	5966.0	6091.3	6094.6	6253.7	6469.2	6367.4	6488.0	6148.9
CHLORINE IN UNSTAB. PRODUCT	4359.9	4542.9	4864.4	5320.4	5347.0	5682.4	5168.7	5121.6	5220.5	5488.1	5730.7	5537.9	5591.5	5301.3
PROCESS LOSS BY DIFFERENCE	879.0	1245.1	675.9	854.8	767.0	756.5	797.3	969.7	874.1	765.6	738.5	829.5	896.5	847.6
ACCOUNTABLE PROCESS LOSSES														
BLOWDOWN	83.2	122.2	135.6	200.7	98.4	139.4	128.8	134.6	110.2	100.2	94.9	108.4	103.9	123.1
REACTOR	695.9	1022.9	440.3	554.1	568.6	517.1	568.5	735.1	663.9	565.4	543.6	621.1	692.6	624.4
MISCELLANEOUS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SUB TOTAL	879.0	1245.1	675.9	854.8	767.0	756.5	797.3	969.7	874.1	765.6	738.5	829.5	896.5	847.6
UNACCOUNTABLE PROCESS LOSSES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHLORINE LOADING LOSS	80.3	43.0	49.5	83.2	84.5	36.3	45.9	72.7	-12.6	35.3	42.6	-5.3	-51.8	35.2
TOTAL CHLORINE LOSS	959.3	1288.1	725.4	938.0	851.5	792.8	843.2	1042.4	861.5	800.9	781.1	824.2	844.7	882.8

SL 013062

CONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

PPG INDUSTRIES

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANACONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

PERCHLORETHYLENE-TRICHOLORETHYLENE DEPARTMENT OPERATIONS REPORT No. 91-1145

REACTOR NO. 1		1967 AVG.	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	1968 AVG.
ON STREAM TIME	HRS.	7904*	744	696	672	720	744	687	743	744	670	744	719	744	8627*
DISCH. PRESS.	PSIG.	11.2	8.7	8.6	7.2	10.5	12.5	8.9	9.8	8.8	7.1	9.8	-	-	9.2
TEMP. OF VAPORIZER LIQUOR		272	255	250	243	271	260	247	277	276	266	282	281	279	266
DOWTHERM OUT		491	482	416	463	432	443	481	440	455	408	440	448	445	446
HIGHEST TUBE		818	-	-	-	-	-	-	-	-	-	-	-	-	-
LOWEST TUBE		780	-	-	-	-	-	-	-	-	-	-	-	-	-
SEC. COND. DISCH		37	18	13	24	17	15	26	22	38	26	18	13	16	20
CATALYST CHARGED	LBS.	50644*	2000	2550	10818	2643	2438	1988	2625	2100	13860	2184	2300	2060	47566*
CATALYST FROM CENTRIFIX	LBS.	47592*	2000	2550	10818	2643	2438	1988	2625	2100	13860	2184	2300	2060	47566*
FLOW GPM EDC		5.0	3.9	4.4	4.8	4.0	4.4	4.5	3.9	3.9	3.6	4.0	4.3	4.3	4.2
SCFH CL ₂		6332	6689	6928	6694	7549	7473	6851	8076	6681	5763	6152	6638	6908	6867
AIR		1534	1541	1530	1525	1519	1517	1496	1484	-	-	-	-	-	1516
O ₂		10282	9621	9712	9270	8301	11378	10190	12313	10930	9229	10974	11619	11960	10458
VENT ANALYSIS CO ₂	%	39.7	25.7	23.1	-	37.8	-	-	44.0	45.3	18.7	36.6	22.6	-	31.7
HCL	%	7.9	2.1	1.5	4.0	5.0	3.6	3.9	8.0	17.4	23.6	23.1	23.1	21.6	11.4
PER-TRI RATIO		1.10	1.41	1.50	1.51	1.61	1.61	1.89	1.59	1.18	0.87	1.37	1.17	1.02	1.39
PER 1 TRI IN CRUDE	%	80.99	81.15	81.44	79.83	85.09	86.58	87.56	87.41	86.57	82.92	83.56	80.99	84.40	83.96
REACTOR NO. 2															
ON STREAM TIME	HRS.	8035*	639	696	743	647	744	720	713	744	720	736	703	710	8515*
DISCH. PRESS.	PSIG.	11.2	7.0	11.7	12.8	11.1	12.4	11.5	9.7	8.0	10.3	10.0	-	-	10.4
TEMP. OF VAPORIZER LIQUOR		283	256	273	279	274	272	268	257	276	279	276	272	280	272
DOWTHERM OUT		489	478	430	426	434	432	436	441	473	457	443	441	430	443
HIGHEST TUBE		820	-	-	-	-	-	-	-	-	-	-	-	-	-
LOWEST TUBE		767	-	-	-	-	-	-	-	-	-	-	-	-	-
SEC. COND. DISCH.		40	22	15	25	43	19	28	35	44	23	24	18	20	26
CATALYST CHARGED	LBS.	42241*	5400	3079	2120	7138	2762	2162	14700	1575	2160	2184	2700	2060	48040*
CATALYST FROM CENTRIFIX	LBS.	42956*	5400	3079	2120	7138	2762	2162	14700	1575	2160	2184	2700	2060	48040*
FLOW GPM EDC		5.2	4.4	4.9	4.9	4.8	4.6	4.4	4.2	4.6	4.9	5.0	4.8	4.8	4.7
SCFH CL ₂		6272	5784	6177	6254	6608	6524	5840	7825	6606	6296	7198	7511	8371	6750
AIR		1506	1529	1521	1517	1494	1501	1463	1238	-	339	356	567	-	1152
O ₂		10238	8810	10373	10770	10450	11025	11104	13286	11485	12381	11734	11404	11812	11220
VENT ANALYSIS CO ₂	%	33.9	37.3	24.0	-	-	-	-	28.4	50.9	38.2	47.9	35.4	-	37.4
HCL	%	7.0	6.5	8.3	8.5	15.9	10.0	10.9	18.8	14.0	19.9	19.9	20.5	24.0	14.7
PER-TRI RATIO		1.11	1.40	1.54	1.49	1.48	1.36	1.79	1.64	1.32	1.22	1.55	1.10	1.02	1.41
PER 1 TRI IN CRUDE	%	79.90	82.83	86.37	85.15	87.01	89.38	90.53	85.27	86.41	89.45	88.42	85.49	83.73	86.67

*Totals

SL 013063

SL 013064

PERCHLORETHYLENE - TRICHLOROETHYLENE DEPARTMENT OPERATIONS REPORT

REACTOR NO. 3		1967 AVG.	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	1968 AVG.
ON STREAM TIME	HRS.	7976*	741	620	744	720	744	720	743	744	720	744	674	720	8634*
DISCH. PRESS.	PSIG.	10.6	7.0	8.8	9.6	12.4	12.3	11.2	7.8	6.2	7.2	9.3	-	-	9.2
TEMP. OF VAPORIZER LIQUOR		267	251	241	270	276	266	257	244	237	256	274	255	269	258
DOWTHERM OUT		508	534	453	437	430	451	436	424	444	439	443	419	441	446
HIGHEST TUBE		814	-	-	-	-	-	-	-	-	-	-	-	-	-
LOWEST TUBE		772	-	-	-	-	-	-	-	-	-	-	-	-	-
SEC. COND. DISCH.		58	23	25	23	19	20	24	24	40	23	19	12	16	22
CATALYST CHARGED	LBS.	44471*	2000	12215	2120	1993	2438	1988	2625	2100	2160	2184	6480	2060	40363*
CATALYST FROM CENTRIFIX	LBS.	45203*	2000	12215	2120	1993	2438	1988	2625	2100	2160	2184	6480	2060	40363*
FLOW GPM EDC		5.4	4.2	4.9	4.5	4.8	4.6	4.8	4.8	5.0	4.5	4.4	4.6	5.1	4.7
SCFH CL ₂		6268	5875	5274	7294	7930	8140	8539	8643	6812	6637	7882	7045	7694	7314
AIR		1455	1214	1490	1465	1455	1458	1470	1466	-	-	-	-	-	1431
O ₂		10144	8754	9397	10310	11230	10865	10813	9687	8357	9469	10811	-	-	9969
VENT ANALYSIS CO ₂	%	38.7	22.8	25.0	-	36.3	-	-	45.3	43.4	38.6	47.9	35.4	-	36.8
HCL	%	8.1	5.5	2.2	5.6	7.0	4.3	4.5	18.8	6.9	10.1	19.9	20.5	18.3	10.3
PER-TRI RATIO		1.15	1.73	1.92	1.60	1.73	1.53	1.84	1.64	1.65	1.19	1.55	1.10	1.14	1.55
PER 1 TRI IN CRUDE	%	82.71	86.35	88.51	84.93	87.70	85.13	85.66	84.51	84.12	84.30	88.42	85.49	78.44	85.30
REACTOR NO. 4															
ON STREAM TIME	HRS.	7902*	739	696	744	720	720	623	739	732	720	744	719	744	8640*
DISCH. PRESS.	PSIG	12.0	10.4	11.4	10.8	12.4	11.5	10.1	9.7	8.6	10.5	10.3	-	-	10.6
TEMP. OF VAPORIZER LIQUOR		267	263	266	265	264	243	245	267	271	280	278	263	265	264
DOWTHERM OUT		499	481	424	413	422	481	439	468	494	433	449	461	479	454
HIGHEST TUBE		815	-	-	-	-	-	-	-	-	-	-	-	-	-
LOWEST TUBE		783	-	-	-	-	-	-	-	-	-	-	-	-	-
SEC. COND. DISCH.		38	24	19	21	23	25	39	67	79	72	67	48	41	44
CATALYST CHARGED	LBS.	44952*	2000	2645	2550	1993	2438	8099	2625	1750	2160	2184	2700	2060	33204*
CATALYST FROM CENTRIFIX	LBS.	45839*	2000	2645	2550	1993	2438	8099	2625	1750	2160	2184	2700	2060	33204*
FLOW GPM EDC		5.1	4.6	4.4	4.5	4.5	4.4	4.4	4.7	4.6	4.5	4.6	4.8	4.4	4.5
SCFH CL ₂		6324	5776	6928	7106	7119	6490	7407	8315	7767	7805	8564	8832	8929	7670
AIR		1541	-	-	-	-	-	-	-	-	-	-	-	-	-
O ₂		10066	10014	10145	10600	10810	9482	11822	11335	11033	11264	11311	11068	10315	10767
VENT ANALYSIS CO ₂	%	44.4	30.3	29.8	-	-	-	-	48.5	51.1	27.4	45.1	35.8	-	38.3
HCL	%	10.5	12.4	9.0	5.4	4.4	3.8	6.6	8.5	7.6	10.4	15.8	9.8	11.2	8.7
PER-TRI RATIO		1.07	1.15	1.85	1.49	2.03	1.69	1.66	1.44	1.20	1.07	1.48	1.07	0.99	1.43
PER 1 TRI IN CRUDE	%	85.23	83.13	89.06	86.45	88.66	88.49	89.83	87.60	81.68	84.68	85.44	82.93	85.20	86.10

*Totals

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA

PERCHLORETHYLENE-TRICHLORETHYLENE DEPARTMENT OPERATIONS REPORT

[illegible]

***Totals**

PPG INDUSTRIES

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA

PERCHLORETHYLENE-TRICHLOROETHYLENE DEPARTMENT OPERATIONS REPORT

REFRIGERATED BRINE		1967 AVG.	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	1968 AVG.
TEMP. °F	WARM (OUT)	21	14	8	12	9	7	16	15	39	0	6	1	4	11
	COLD (IN)	16	9	4	7	5	0	8	8	36	-4	1	-3	-4	6
DRYING STILL															
TEMP. °F	BOTTOM	202	203	206	205	207	207	208	209	207	198	201	198	192	203
	TOP	164	167	173	171	174	175	171	175	177	170	171	165	161	171
BOTTOM PRESSURE	PSIG	1.24	1.42	1.33	1.33	1.35	1.53	1.59	1.59	1.39	1.27	1.35	1.52	1.33	1.42
PER-TRI STILL															
FEED	GPM	23.0	21.4	22.3	23.4	23.3	24.0	22.5	22.1	23.2	24.7	25.1	24.4	24.3	23.4
REFLUX	GPM	33.7	34.0	33.0	35.9	39.5	35.8	36.7	28.3	27.2	31.9	31.2	28.6	26.2	32.4
BOTTOM TEMP.	°F	28.8	280	280	285	288	286	286	279	280	285	284	276	273	282
OVERHEAD TEMP.	°F	187	176	180	182	184	185	186	185	185	186	184	178	175	182
HEAVIES STILL															
FEED	GPM	10.7	12.2	12.0	12.2	12.5	12.3	12.0	11.4	11.5	12.1	11.9	11.6	11.2	11.9
REFLUX	GPM	105.0	134.4	139.8	145.0	153.7	137.6	154.4	119.7	100.2	108.7	118.2	108.3	110.7	127.6
BOTTOM TEMP.	°F	337	333	340	340	340	340	340	341	338	340	340	340	340	340
OVERHEAD TEMP.	°F	250	242	252	256	256	258	260	265	240	255	256	250	247	253
PER STILL															
FEED	GPM	10.18	11.22	11.44	11.50	12.05	12.16	11.89	11.16	12.18	12.55	12.19	11.77	11.21	11.78
REFLUX	GPM	19.98	19.66	20.50	20.45	21.85	20.76	21.06	21.43	16.32	14.72	15.43	15.63	15.56	18.61
RECYCLE	GPM	0.118	0.158	0.165	0.179	0.181	0.180	0.248	0.248	0.241	0.220	0.375	0.382	0.380	0.246
TO WASH COLUMN	GPM	9.45	11.13	11.89	11.94	11.39	12.67	12.55	11.55	11.33	12.19	11.10	10.95	10.65	11.61
BOTTOM TEMP.	°F	274	276	279	282	283	284	284	283	267	286	283	279	278	280
OVERHEAD TEMP.	°F	233	231	237	238	238	242	242	242	232	245	246	238	236	239
TRI-STILL															
FEED	GPM	10.85	9.41	10.10	10.47	10.20	10.48	9.75	9.93	11.08	12.67	12.75	12.47	12.49	10.98
REFLUX	GPM	59.47	66.64	65.76	62.15	66.13	68.64	64.35	61.32	56.86	58.52	53.30	61.86	63.05	62.38
BOTTOMS	GPM	9.67	6.61	6.69	6.72	7.88	8.23	7.63	7.69	8.52	9.85	9.85	9.85	9.47	8.25
RECYCLE	GPM	1.687	3.930	0.851	0.854	1.687	1.274	1.220	1.234	1.579	1.424	2.407	1.927	2.072	1.709
BOTTOM TEMP.	°F	231	227	227	227	230	232	230	229	227	228	226	227	224	228
OVERHEAD TEMP.	°F	141	136	145	140	140	138	139	141	141	136	138	132	129	138

CONFIDENTIAL:

Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

SL 813066

CHEMICAL SECTION
LAKE CHARLES, LOUISIANA

PERCHLORETHYLENE-TRICHLORETHYLENE DEPARTMENT OPERATIONS REPORT

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SL 013067

CONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 81-1145