68 50
62 60
15 780
28,840

8/22/51

t4cB – Bas 65-84

		#/#	¢/lb	¢/ll t4cB
mcB	61,572	2.0	10.0	20.0
Cl_2	28,000	2.87	3.0	8.6
$SbCl_3$	114		30¢	.1
T4CB (100%)	30,700			28.7 ¢/ll t4cB

tcp ← Bas 150-206 ? too low

t4cB	30,700	1.07	28.7	30.7
NaOH	14,104	.50	4.0	2.0
Methanol	2530 gal	.089	44¢	3.9
tcp	28,638			36.6

245T

		#/#		
tcp	? 30,538	1.0	36.6	36.6
mca	16,400	.54	20¢	10.8
NaOH 52%		.9	2¢	1.8
H_2SO_4		.5	1¢	.5
245T	30,350			51.7 ¢/ll 245T

low

28,800 esters calcs 245T = 30,5[illegible] 245T

11/6/51
TB

25
Ba 282-306
Recorded production TCP } = 12,544# as is
Storage to 1 drum
To Ba # 305 (plus B #317)

Recorded by J.H.S.T as received — as is 11,988

D = 556

The water layer from the storage tank was returned to the T.C.P. system and the work.

12,544 x .95 x 1/25 = 478 #/hr
11,988 x .951/25 = 485 #/hr

DS 00007907

MAXUS1239121

T. BARNA

Tetrachlorbenzene Process

Inventory 8/31/51

	Quantity	
On hand:	~~Pounds~~	
Catalyst Antimony Trichloride ($SbCl_3$)	~~525~~ 11	#
Monochlorobenzene - in process	2625	gallons
Tetrachlorbenzene Centrifuged cake (85%)	2730	
Mother liquor -	0	
In process -	0	
Last Batch this month #95 (completed)		
Distilled T.C.B. (by product)	49 drum	700 # Est
Undistilled T.C.B. M.L. (By product (undistilled))	5000 gal	-

DS 00007908

Copy 4

TB

Trichlorophenol (TCP)
Inventory 8/31/[illegible]

T Barnes

		#	gallons
Caustic [illegible]	34 [illegible]	11,300	—
Methanol [illegible]	82 drums	—	4210
7 [illegible]	[illegible]	5500	—
In process Bat # 227			
Methanol	—	—	170 gal
N[illegible] [illegible]	—	365	—
TCB	640# [illegible]	590# [illegible]	
In storage TCP		2119#	

53
16
3[illegible]8
548

53
3
[illegible]

1237
848
389

DS 00007909

25-30

215.5
T4CB

Ba 25-30 = 8796# real, 10,436# as is

		¢/#	theory ¢/#		
112.5 mCB	16.5 gal 1792 gal	1.9	.52	10¢	19¢
Cl2	23,000#	2.6	1.0	3.5¢	9.1
SbCl3	90#	.01		4¢	.4
					28.5¢/# T4CB

+ mCB loss in scavenger
- Credit for 1.3# ML

Labor

total (tcp + T4CB) - $200/5000# T4CB = 4¢

ML was 1.57 - NG

1.9/112 = 26¢

1/216

tcp cost Ba 35-51

Assume 425# product/hr

		#/#	Elec #/#	¢/lb	
tetrachlorobenzene	585#	1.38		28.5	39.3
NaOH	~~225~~ 287#	.77		5.4	4.2
MeOH	64 gal	.15 gal		50¢	7.8
HyPh	28#				
H_2SO_4	10 gal				
					51.3¢
Labor					8¢
					60¢
Assume 90% pure					66¢

at a credit of 10¢/lb of HCl,

28.5 - 1.3 x 10¢ = 15.5¢/# tCB

1.3 x 1.38 x 10¢ = 18¢ saving on tcp

= 48¢ tcp

T.C.P. Summary. 6/9/51.

Batches 30 — Ba # 91 to 121

T4CB used (crude):	=	19,657 # @ 0.184	3634.
NOOH "	=	8,610 # @ .0375 = ?	323.
MEOH (net usage)	=	990 gal @ 52/gal	510.
			$ 4567

Estimated yield Crude @ 450 #/Ba
= 13,500 #

Estimated yield of distilled product (10% loss) 12,150 #

$4567 / 12,150 = $ 0.376 / lb TCP

T.C.P.

Usage: (44 Batches) * 67 to * 111.

TCB	30,360
NaOH	22,54
New Methanol	1620 gal (25 drums).

yield TCP Produced = 44 X 435 Rec'd
= 10,-620 #

Fatty acid	44 X 10 #	441 #
H_2SO_4	10 gal/Ba	440 gal

In process
Distilled TCP: 1800 #
TCP in Storage 8 Ba (approx 3600 #):—

Summary 5/31/51

T.C.P.

Batches Produced from 10 Ba of TCB (Ba 55 to 64 Incl)
= 29 Ba (122 to 150 Incl).

TCB used = 20,010 # a.i.s
= 17,000 # Real

NaOH used = 1,250 # flake

Methanol used = 1,134 gal = (39 gal/Ba)

Calculated TCP produced at 425 #/Ba.
= 12,350 #

DS 00007914

(18-24)

3/5/51
T. Barna

Tetrachlor Benzene

Summary of process since batch # 18 — the first batch which was centrifuged and subsequent mother liquors were rechlorinated. There was 950 gal in the chlorinator previous to Ba # 18, but a considerable portion of this was lost when the piping broke at the nipple under the chlorinator.

Ba #	# catalyst	new Mono	Recycled ML	# Cl_2	[illegible] yield acid	Real
18	20	480 gal	—	7050	2200	
19	10	0	915	1540	1220	
20	10	640	—	8500	1370	
21	15	0	1440	1430	2200	
22	10	0	1440	1550	1150	
23	10	0	1275	780	1900	
24	10	0	1050	1150	0 *	
Totals-	85 #	1120 gal	—	21,000 #	10,000 #	8000 #
25	10	1360	0	12,200	In process	

* The batch # 24 after chlorination was difficult to blow down the lines & was very difficult to centrifuge. The material was blown to storage and is available for HCB manufacture.

DS 00007915

MAXUS1239129