5/9 - Company Aroclor Meeting

Joe Cresce - $19M 1967 Est Sales - Funct. Fluids - Aroclors is Sl
$34M Antic Sales by 1971
Retn on Inv. 13% in 66 for Funct Fluids
Aroclors are mean 20% ROI

OBJ - of Funct Fluids -
Be worldwide leader in funct. fluids in an area not possible by petroleum prod.

Quality - Have enjoyed being #1 in U.S.
However - Foreign competitors have shown they are superior in quality.

Aroclors are a "high" profit group
Money for Expansion - Impr. Quality can be made available -

Joe has broken out Stg. facilities as an immediate need - is pushing these facilities - U.S. expansion program is imp. - but will follow.

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Geo. Buchanan

Worldwide Sales

	1966	1971
USA	74%	69%
UK	9%	11%
Rest of World	17%	20%
	$7655000	$10,657000

USA	5682	7360
UK	700	1200
Canada	619	
Brazil	134	
Mexico	97	
Italy	77	
Australia	72	in adder
Japan	63	5M in functional flow
Spain	56	4M in plasticizers
Sweden	56	
Argentina	36	
India	35	
Israel	13	
Pakistan	6	
South Africa	3	
Other	6	

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OBJ

1 - Maintain 100% of Business in USA & UK @ Pres Profits

2 - Except for EEC - establish dominant 2 MKt posn in ROW @ Max Profit

3 - Incr. Non-Domestic Sales

	1966	1971
Capacitors	4 M#	8.5 M#
Transformers	4 M	6.0

4 - Establish Global Mans. Image for Quality & Cust Serv.

5 - Work with Transformer Mfg in US & UK Demand preference for Askarel over Dry Units

6 - Est Mfg posn in Japan

7 - Maintain 25% global excess Capacity

Things we must do to Maintain & Expand Posn

1 - MKt Provide accurate Sales Forecasts

2 - 25% excess cap.

3 - Adequate storage for Surge orders - at least 25% over Sales Forecast

4 - Adequate TC fleet - quality & quantity to handle surge orders

5 - Maintain agreed to Min. Inv.

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6- Impr Qual Products & obtain satisfactory shipping containers

Must have a good product in container - does no good to have quality in stg tk if we can't deliver it to customer

7- Improve & Standardize Test Procedures so we can prove our quality all over world.-

Per Stenrod - Min Inv. is 30 da.- Sales.-

Roland Sipes did a study on Aroclor TC fleet
HCC will review TC fleet with Norris Sample

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Dave Wood = UK-Mkt

Review of Competition —

Bayer — In Aroclor since 38 — Large Co

Germany — Cap 1 M# overall very near Mons.

Xformer 3½-4 M #

Prodelec = Relatively Small — Make only Chlor & Pro

(a div. of Progil — a large Co)

Very active & aggressive gp. —

Bulk of Bus. in UK — Newport ships 75-80% to UK Mkt —

3 areas — ① Finnland — good bus. — No tariff — Prodelec & Bayer pay Tariff 10 Pro

Sweden

② EEC — Bayer & Prodelec lack good

3 — Eastern Europe — virgin territory — to be developed Will compete with Bayer & Prodelec

4 — other — India Etc. —

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Problem dix —

Plesse — Australia = Competitor — Prodelec

India — Import becoming difficult

Must meet shipping dates quantity — quality

Italy — Qual is Prob. —

have 80% of bus. — will drop to 20% if we don't meet

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Staty Amt = Used technique of putting
fullers Earth in drum -
He loved it. -

Sweden - 2 Major Producers. -
Told our quality is not
consistently good - -
so have 30% - one cent
50% - 2nd.
To improve sales - need to improve quality

Benignus *
Guts of meeting deal with quality -

Stressed 56 problem - Prob. was stability
essentially 1 ppm. reqd 500-1000 act. -
Today - have prob. is PF & Rest. -

Our Domestic Customers all refine our Aroclor
However - Competitors are doing a better
job in delivering high quality product

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RESISTIVITY - $\times 10^9$ ohm-cm

1254	125000 - Anal on Bayer	Our Spec is 500	
1242	9500 " " Prodelec	" " 500	

GOALS RESISTIVITY

	IN PLANT	AS PACKAGED	DELIVERED
1254	15000 >	10,000*	> 5000
PF	< 0.3% (±0.1)	< 0.4%**	< 0.5% ± 0.1%
1242	10,000	5000 *	> 3000
PF	< 0.6% (±0.1)	< 0.9%	< 1.0% (±0.1)

** Caution: Do not put power factor info on certificates of analysis - unless specifically asked for -

** - Paul wants plant to send info on power factor to be sent to him -

* - Any values less than these - must be cleared thru marketing in St. Louis -

[Charlie Williams will clear 0357936

Comment: When we cannot meet - St. Louis will clear shipments in order to get material to customer - Don't miss a shipment & go out of business because of quality

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Dev. of Imps Container - (Perry) have tested a coating with 30% epoxy - 70% Phenolic and did not have any degradation after 18 Wks. -

Gerald Miller

① GLC and of comp samples show similar isomer split for Mons. Bayer & Prodelec -
Kanecaluchi is different -
contains more high boilers -

② Test for Thermo Chemical Chlorides = at extreme of present test = Values less than 0.1 are questionable
Proposal - increase heating time from 2 to 4 hrs. - increase temp from 240°C to 245°C - an inner of 5° -

Dr Munch - Research dept. has done some work in this area and are ready to propose a better test - Will do tomorrow =

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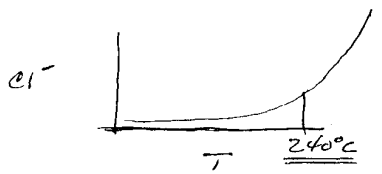
Benny - don't care what we do internally
However - don't let anything get out
to trade - Chlorides are murder
in a capacitor - don't want to do
anything which will draw attention
to this area. -



Jim Bryant

Dr Munch

Have new P.F. - 3 terminal bridges
which are more accurate - easier to use
than those we have been using. -

10^{15} ohm meas is possible with new bridge

Next need - adequate cell. -
Req ① - Not add or subtract from value
② Maintain temp
③ Contain aroclor. -

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cell must be adequately cleaned
① Vapor degreasing
② Aqueous treat - basic cleaner TSP etc
③ Rinse with top water
④ Dry

Must get good Samples.-

Possible Sources of error
1- atmospheric contaminants

N_2 - No affect
$N_2 + H_2O$ no
$N_2 + CO_2$ } weakened
$N_2 + SO_2$ } affect
O_2 - No change - if good H_2O
- However - if unstable - major affect -
NH_3 - No major affect
Acetic Acid - not affect.

- Things which are bad -
① HCl .04 ppm will incr PF 1% → 34%
② Fe Cl
extremely harmful
③ Tetrabutyl amonium Chloride -

HCl?

(H_2S)

Doc is interested in items which might affect quality -

Epoxide - 0.3% Unox Scavenger is good -

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Haven't enough info to develop a final procedure as yet

Have enough info to tell if we are meeting competition —

Can meas PF to 001 at any given level - same assurance at all levels. —

Haven't dev. techniques of handling samples necessary for the high values —

Some addn. work - of this type combined with efforts of 3 plant personnel - can dev. satisfactory procedures. —

Other items may get tricky
① - Meas. are not absolute + have to carefully control variables of time - temp -
② Relationships of PF & Constituty — can be done accurately & come close to theory —

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However - don't really know values to put in formula - What R Value? can change by a factor of 10 on DC Meas

Relationships of PF & R are currently gratitous

2 - Clean-up of materials in sample by electrodes
- cells do refine A/c -
- An in-line cell should show up changes in value - should parallel lab meas. which are static -



Ann. Pl. lab 0.3 → 0.5 using pure O_2

WGK 1.0% → 1.0

Tan Δ .01 ≈ 1% 0.5 ppm Westinghouse Stab.

2 ohr 1.05 or ×100

- .1% tan Δ → .1%
- .8% → 5.0%

Ann. Plant .3 - 1.2%

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Cural - good A/c can be exposed to O_2 without being affected -

C - Improving Quality

Jim Bryant

Dolas -

On Biphenyl -

Dolas believes that one of contaminants is Methyl biphenyl

found differences in Thermal Chemical Chlorides from 0.1 to 0.6

By Incr % Cat from 0.05 to 0.2 - get all TCC below 1.0% when Chlor @ 150

Temp - gave similar plot to just incr cat -

Addn Cat + Temp -
2 texts show impr -
1 - " decreased -

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Agitation —

does affect TCC

.05% cat — @ 150° — without agit TCC > 0.8
— with TCC .16

.20% cat — @ 200°C without agit .16
with .12
Concl — Temp & Cat

WGK — Has issued a tent Process Amend.

Proposed Plant Process

30 MT #/yr 1242
OST 90%
Yields 95%

ϕ_2 Std

Snift gas Cl_2 3400 air 154

ϕ_2 feed 240°C

$FeCl_3$ feed 5#/hr

Reaction 200°C → HCl 1750 air 154

Cat Removal → $FeCl_3$

Air → HCl Stripping → To down

Lime 31 → Dist → Monitor 100

Earth → Final Bauxite Cal Treat

IN LINE PF INSTR — Dual Control → 3850 1242 Stg

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Fe Cl_3 - gives rate adv

0.2 - 2 hrs time

0.05 - 4 hrs Cl_2 time

Mn Cl_3 - 6 hrs

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D - Maintaining Quality

J. Bryant

Drums. - Dave Wood mentioned

Drum Mfg & source of treating

Chemical - metal alkoxide -

FUTURE PLANS

Marketing - Buchanan -

Research - Harold Hubbard

Methods

Process Support

Mfg Dallas - Process

Fuhrmeister - Container

CED Support

Pl Test

Process

Mod. Pl. Fac.

Mallory - WGK - DITTO

CED - Doc Stephens

MCI - Jef Perry

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