



E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

CHEMICALS AND PIGMENTS DEPARTMENT

EEJ

PAW

for info

cc: JFGlas
PMNorling
NEKrauss
HBClark

January 12, 1983

TO: K. H. Dietz
FROM: G. C. CULLING

RE: Colored Pigments

TECHNOLOGY PLAN

Ref: Letter of PMN to HBC et al, 1/11/83 (attached)

As explained in the reference letter I am currently working with an interdepartmental committee to develop a corporate technology plan for Chemical Process R&D.

As part of the process of identifying those process-related technologies that are (or expected to be) key to the Du Pont Company, the committee will from time to time be asking for your input and judgement on various aspects of Colored Pigments technology.

As initial input we need your help to complete the attached matrix tables C-1, B-1 and B-2. Completed forms for some nylon intermediates are attached as examples of what is required. If additional categories as footnotes are needed to fit your situation, please don't hesitate to hand-write them in. We anticipate that the format of the tables may need to change as we gain more insight into the various technologies, and at this stage it is more desirable for us to get rapid input from you than a polished product.

Please return your responses to me as soon as possible, (by 1/19/83 at the latest) since the committee has been given an extremely tight schedule in which to complete its work.

Many thanks for your assistance. If you have questions please feel free to call me (299-4490). If I should be unavailable, please call our committee Chairman (Tom Sciance, 774-2728) rather than delay your response.

GCC/dmr
Attach.

N 26956

DUPONT

1870-1901

E. I. DU PONT DE NEMOURS & COMPANY

INCORPORATED

WILMINGTON, DELAWARE 19898

**CHEMICALS & PIGMENTS DEPARTMENT
RESEARCH & DEVELOPMENT DIVISION
EXPERIMENTAL STATION**

**H. B. CLARK
R. S. WEIS
F. MARASCIA**

TECHNOLOGY PLAN

Gerry Culling is currently working on an interdepartmental committee to develop a corporate technology plan for Chemical Process R & D.

To carry out his work, he needs a technical contact for each of our major products:

aniline
aromatics
THF
Teracol
colored pigments
fluorochemicals
formaldehyde

methanol
amines/amides
peroxygens
solid cyanides
sulfuric acid
titanates
TiO₂

The contact will help answer questions on key technologies, competitive position, and special R & D objectives.

Gerry would like the names of the technical contacts by January 12.

To simplify communications while Gerry is taking an ERD course this week, would you please phone the names of the people you would like to function as technical contacts to Linda Mahan at 772-4015 by 4 p.m. this afternoon.


**P. M. MORLING
LABORATORY DIRECTOR**

PMX:mjo

N 26956.01

**S. C. LODEWIG - C & P, JL
P. Wriede - C & P, JL
R. W. Hess/P. A. Vogelsberg,
C & P, Edgemoor
E. V. Beebe - C & P, E336
D. I. Garnett - C & P, E336
F. Knowles - C & P, E336
P. L. Meredith - C & P, E336
G. C. Culling - C & P, JL**

January 11, 1983

TABLE B-1
CHEMICAL REACTION TECHNOLOGY

Business: COLORED PIGMENTS	Process or Products	Catalyst Type			Chemistry												Reaction Phase												
		Catalyzed	Uncat. Organic	Uncat. Inorganic	Shape-Selective (General)	Shape-Selective (zeolite)	Metal Oxide	Metals	Organometallics	Coordination Complex	Acid	Other	Oxidation	Esterification	Hydrocyanation	Hydrogenation	Nitration / Coupling	Chlorination	Carbonylation	Fluorination	Solvolysis	RAFT FORMATION / Precipitation	Olefin/Alkyne Additions	Olefin Oligomerization	Other CONVERSION / CYCLIZATION	Vapor	Liquid	Multiphase	
	QA MANUF.	x					x																				x		
	QAG	x	x											x												x	x		
	SSE																												
	DAT	x									x																x	x	
	DQA	x	x																								x	x	
	QA	x	x											x													x	x	
	CPC MANUF.	x					x																				x	x	
	LENS CHROMATES MANUF.			x																									
	A20 PIGM. MANUF.		x															x											

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TABLE C-1
CHEMICAL PROCESS TECHNOLOGY

Business:		COLORED PIGMENTS	
Process or Product		QA MANUFACTURE	CPC
		ALL COLOR PIGMENTS	LEAD CHROMATES
Chemical Reaction	Engineering		
Fluid Dynamics			
Extraction/Decantation	X		
Mixing	X		
Multiphase Systems/slurry handling	X		
Aqueous Waste Treatment		X	
Packed Beds			
Membranes			
Particle Processing <i>(size reduction, etc.)</i>	X		
Inclination			
Fluidization			
Crystallization <i>(GRAVIMETRIC ANALYSIS)</i>	X	X	
Filtration	X	X	
Heat Transfer	X		
Distillation	X		
Absorption/Ion Exchange			
Electrochemistry			
Fermentation			
Process Control, Analysis & Data Acquisition			
Thermodynamics, Physical Properties & Equilibrium data			
Materials of Construction			
Occupational Health			
Other			

TABLE C-2

DEVELOPMENT WORK IS BEING DONE AND

THOSE WHICH ARE CONSIDERED KEYS TO THE INDICATED PROCESS STEP

[illegible]

work means development work (M-DV or M-D) is being done in 1983.

... means that this technology area is unusually important to the process.

RSW

RESEARCH ACCOMPLISHMENTS - SCHEDULE

CCO RSW
FAN
Paw
↑

January 24 - Agree on list to be submitted.

- Assign to Research Managers to prepare text and standard list of details.

February 4 - Research Managers submit text and detail lists to J. G. Ishikawa.

February 10 - Edited texts to R&D staff for review.

February 13 - Changes and corrections to J. G. Ishikawa.

February 17 - Final package to Corporate R&D.

RSW
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1/31

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C&P DEPARTMENT

PROPOSED LIST OF MAJOR RESEARCH ACCOMPLISHMENTS

- Threadline application of fluorochemicals to carpet fibers.
- Development of Teracol® TE.
- AW • New Quinacridone pigments for high solids paint systems.
- ~~• Deep Gold Quinacridone for automobiles.~~
- Aniline DHN process.
- ~~• Process for THF from butadiene.~~
- ~~• New catalyst for THF process.~~
- Formaldehyde water recycle process.
- Formaldehyde moderators (phosphites) } *COMBINE*
- Continuous hydrogenation of aromatic nitrates.
- ~~• Use of technology centers to promote productivity.~~
- ~~• Remote monitoring of processes to improve productivity.~~
- Azo free radical initiator without toxic byproducts.
- ~~• H₂O₂ fixed bed catalyst regeneration.~~
- AV • RPS (product composition and continuous process).
- ~~• New De Lisle TiO₂ finishing operation - CWT, pressure filtration, flash drying.~~
- ~~• Controlled reduction of sodium output with sodium sulfate.~~
- Technology for methanol modernization including computer modeling (Beaumont).
- ~~• Control of effects of heavy metals on Deer Park Syngas.~~

JGishikawa/pmt
1/24/83

N 26956.04