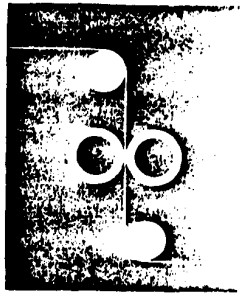
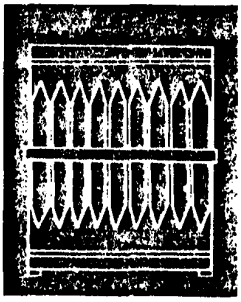
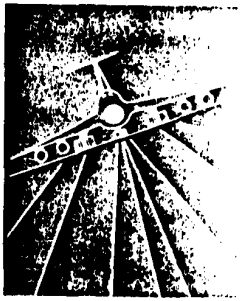
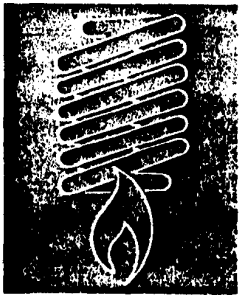
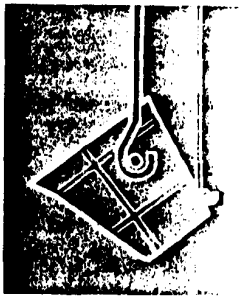
Specialty Products Business Group











MONTHLY REPORT

MAY 1972

MONS 041213

SECURITY CONFIDENTIAL

MICC

FUNCTIONAL PRODUCT GROUPS

Monsanto

SPECIALTY PRODUCTS BUSINESS GROUP MONTHLY REPORT

ST. LOUIS GENERAL OFFICE DISTRIBUTION

R. S. Baker - B2SB
R. E. Beal - B2SL
J. J. Burbage - B2NL
W. R. Corey - B2SL
L. B. Crosby - B2NK
C. P. Cunningham - B2SA
J. E. Maurer - E1SA
T. F. Gogan - B2SA
T. L. Gossage - B2SL
E. Greene - A2NA
F. J. Holzapfel - B3NA
N. T. Johnson - B2SF
A. J. Koenig - B3NF
G. G. Kosup - B2SL
R. M. Kountz - F4WA
R. J. Kozacka - F4WA
W. B. Papageorge - B2NK
E. M. Potter - B2NK
W. R. Richard - T3A
C. W. Roos - B2SA
J. R. Savage - B2SL
J. E. Tucker - A2NE

ANNISTON 1060
G. L. Jessee

KRUMMRICH 1740
G. L. Bratsch

NITRO 1670
B. G. McGuire
D. Tippey

QUEENY 1760
D. E. Munie

AUSTRALIA (Melbourne) 5020
R. B. Giles/A. D. Lapthorne

BRUSSELS 5040
P. J. A. Marsh
J. Mason

CANADA (Montreal Office) 5080
H. F. Dixon

CANADA (Montreal Plant) 5090
D. Goodwillie

MONS 041214

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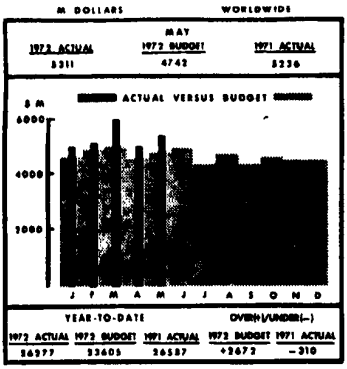
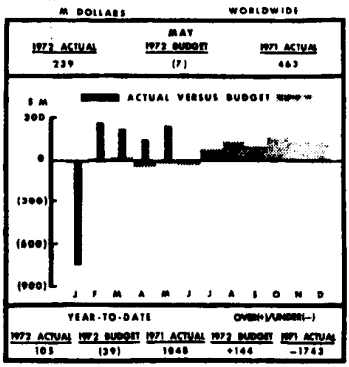
SPECIALTY PRODUCTS

SALES



NET INCOME



WORLDWIDE FINANCIAL RESULTS
($, M)

	MAY		YEAR-TO-DATE	
	ACTUAL	BUDGET	ACTUAL	BUDGET
SALES	5311	4742	26277	23605
GROSS PROFIT	969	750	4056	3716
SARE-DIV.	368	600	2882	2995
NET INCOME	239	- 7	105	- 39

Worldwide sales exceeded budget due to over-budgeted sales of Paper & Wood Chemicals, Hydraulics and Lubricants, Process Fluids, Dielectric Fluids, PCT's and FRP. Only Latex Binders were under budget.

On an area basis, sales were over budget in the U.S.A., Latin America, and Europe. Europe was 124% of budget, rebounding from a below budget April. Canadian sales were considerably below budget due to slow dielectric sales.

Major sales highlights included:

--- An extensive trial of EVCl latex at Coronet Industries with 100M dry pounds sold
--- Also have obtained a successful trial on EVCl by Vinatex (Textile Rubber) Wellco.
--- Brown Company has scheduled two tanktrucks of Mersize TFL for trial. If successful this could mean 650M pounds of new business.
--- Brunswick Pulp & Paper was in for an additional 3 truckloads of Mersize TFL as they run approximately three times budgeted rate.

WORLDWIDE FINANCIAL RESULTS Continued

--- Santobrite and Penta had a good sales month with price increases posted in the U.S.A. and other World areas.
--- Hughes Aircraft accepted our proposal to supply Coolanol 25 ($25M over the next 12 months), versus a Chevron bid.
--- First orders for our new Pydraul products came from these major accounts:

GM-Pontiac - Pydraul 312C ($60M potential)
Gale Products - Pydraul 50E ($50M potential)
Armco Steel - Pydraul 50E ($70M potential)

--- Aeronaves de Mexico ordered 1,000 gallons Skydrol 500C, and a two-year Skydrol contract has been extended at Airlift International.
--- European airbus will use Skydrol LD in their first production model.
--- First 5,000 gallon shipment of Santosol 100 to NCR was completed from interim production at the J. F. Queeny Plant.
--- Therminol heat transfer sales were significantly over budget with the following new business received:

Dravo - 3,000 gallons Therminol 55
Pottstown Newcrete - 2200 gallons Therminol 55
DuPont - 2300 gallons Therminol 66

--- Total of 240 tons Aroclor 1242 was shipped to Russia, with a further 120 tons scheduled for June.

Gross profit and net income after tax in May exceeded budget due to good sales volume and manufacturing operations.

Total manufacturing performance was a gain variance of $59M. However, price and idle occupancy variances were in excess of budget to the extent of $80M and $225M respectively, bringing the total variances versus budget to a negative $246M. The major factors in this variance were idle occupancy of $205M consisting of "EE" Building at J. F. Q. ($50M), EVCl ($60M), Solid Aroclor at Anniston ($85M), and price variance due to NC Phosphate ($46M), and HB-40 at Anniston due to purchased hydrogen ($35M).

Gross profit was favorably affected by good M-E and Mersize operations. At month end Penta was operating full rate in anticipation of the price increase and Santobrite had its second successive profit month.

Latex production at Texas City was approximately 200M pounds, or 13% of rated capacity. Fixed costs are being held to bare minimum levels while operations continue at this level.

WORLDWIDE FINANCIAL RESULTS Continued

The NC Phosphate ester production run was concluded by mid-month and the department was shut down to complete construction. Yield experience was the best to date and very close to AR levels. However, the variance picture was marred by rework of 1971 production which created a $46M loss variance. "EE" Building idle capacity variance of approximately $60M were assigned against this product line, part of which had been earlier budgeted for the NCR Santosol 100 product.

Polyphenyl production at Anniston was only 56% of capacity, reflecting the first full month without solid Aroclor plasticizers, as well as a slow month for biphenyl users.

Our key problem area continues to be the time and effort it takes to successfully introduce new products to the marketplace. This is reflected in the EVCl performance, as well as the temporary problems we have encountered on Santo-Res neutral cure wet strength resins.

Problem areas developed with Santo-Res 23 and 21 during trials at International Paper and Potlatch Forest, respectively, which have temporarily slowed acceptance of these products by these companies. In the case of EVCl paper pigment binder, trials have been delayed due to machinery problems and other technical problems which require solutions before further sales progress can be made. Marketing and Research are working diligently to solve these problems as rapidly as possible.

Another problem area is price competition in Industrial Fluids as we change over our Pydraul accounts. Both Stauffer and Houghton have become more aggressive price wise. Bayer in Germany has made significant inroads in the German Mine Pydraul business through price cutting and then offering of 12-month or longer contracts. Dow is further upgrading the quality of their biphenyl and appears to be expanding their efforts in the textile dyeing area.

Successes are evident in our drive for growth and development programs with the following indications:

--- Champion Papers will run an 8-10 hour evaluation of Santo-Res 21 in June.
--- Both Continental Can and Alton Box have indicated they are converting to Santo-Res 23.
--- In sanitary paper resin development area, Georgia Pacific will trial two of our resins for 24 hours each on napkin grade, and American Can will trial our product (versus AmCy's product).

WORLDWIDE FINANCIAL RESULTS Continued

--- The toxicological information on EVCl fed to rats has been completed and the results are favorable. The petition to the FDA will be presented by June 15.
--- Further EVCl carpet trials are scheduled with Vinatex at Wellco, and at Ozite, Mohasco, and Deering-Milliken.
--- The Skylube 450 test program with Pan Am received a large boost forward this month following the inspection of two flight test engines. An advanced Mobil Type II lubricant was also tested and was regarded as a failure by Pratt & Whitney and Pan Am.
--- Reed/Copycat (U.K.)/Nashua (U.S.A.) is currently the subject of a two-year contract negotiation for supplies of Santosol 300 paper encapsulant. The negotiation will be helped by Nashua's agreement to terms of contract on Santosol 300 through 1973 in the domestic marketplace.

The business outlook for June continues favorable with good strength in all market areas and numerous opportunities for product and market expansion in the paper and carpeting areas.

H. S. BERGEN

MONS 041218

PAPER & WOOD

WORLDWIDE SALES ($M)

	MAY			YEAR-TO-DATE		
	(Est.) Actual	Budget	%	Actual (Est.)	Budget	%
DOMESTIC	1457	1485	98	7392	7257	102
U.S. EXPORT	79	65	122	396	325	122
EX-U.S.A.	320	278	115	1343	1390	97
TOTAL	1856	1828	102	9131	8972	102

Sales were on budget, in spite of below budget performance on Santo-Res and loss of Scriptite wet strength business.

Brown Co. has scheduled two tanktrucks for Mersize TFL trial. If successful this could mean 650M pounds of new business.

Georgia Pacific, Kalamazoo, scheduled another Scripset 520 trial and ten drums of liquid material have been ordered (50M pound potential). Final trial results at Continental Can, Hodge, La., show Mersize TFL to have a 7% cost performance advantage over dark unfortified size. Brunswick Pulp and Paper was in for an additional three trucks of Mersize TFL as they run approximately three times over budget. Fibreboard, Sumner, Washington, ran a successful Mersize LCS trial versus Hercules' dry Pexol and we should pick up 60M pounds of new business.

Santobrite and Penta had a good month with price increases posted in the U.S.A. and other World areas.

Gross profit was favorably affected by good M-E and Mersize operations. At month end Penta was operating full rate in anticipation of the price increase. However, total Penta production for the month was 1305M pounds, which generated a high volume variance. Conversion costs were in control. Santobrite had second successive month of profit with domestic sales slightly above budget.

Santo-Res 21 and 23 encountered setbacks in several trials and a customer order delay. At Potlatch Forests Santo-Res 21 trial versus Kymene 557 in Aquapel milk carton stock was only a limited success. Problem areas were loss of tensile strength and ring crush strength values. We must solve these problems before further trialling will be accepted. Eight hours of trialling of Santo-Res 23 at International Paper, Panama City, Florida, showed mixed results. The final cure-up in the reel did not match the accelerated ageing tests conducted during the trial. There is a question as to performance of our product at low levels of resin addition. Owens-Illinois (Valdosta, Ga.) purchased only one tanktruck in two months after averaging three tanktrucks a month through March. Some business has shifted to their Orange mill but total purchases are down due to reduced wet strength board production.

MONS 041219

PAPER & WOOD Continued

For growth and development, Champion Papers, Canton, N.C. will run an 8-10 hour evaluation of Santo-Res 21 in June. Both CCC (Port Wentworth) and Alton Box (Jacksonville) have indicated they are converting to Santo-Res 23 but they have yet to order their first full tanktruck. In the sanitary paper resin development area G. P. (Crossett) will trial two of our resins for 24 hours each on napkin grade, and American Can (Butler) will trial our product versus AmCy's Perez 631-NC. Pulps are coming to us from CIP (Toronto), Fort Howard (Greensboro) and C-2 (Wauna) for lab evaluation of our resin system.

Business at existing accounts continues to grow, reflecting the improved economy in the paper industry. Orders for June are good in both rosin size and surface additives areas. Every effort is being made to gain increased Santo-Res 23 business.

MONS 041220

LATEX BINDERS

WORLDWIDE SALES ($M)

	MAY			YEAR-TO-DATE		
	(Est) Actual	Budget	%	Actual (est.)	Budget	%
DOMESTIC	30	153	20	176	624	28
U.S. EXPORT	-	-		-	-	-
EX-U.S.A.	-	-		-	-	-
TOTAL	30	153	20	176	624	28

Sales continue considerably under budget due to slow market and product acceptance and we were $30M, or 20% of budget.

Major highlight was the extensive Coronet carpeting trial with 100M dry pounds sold. Vinatex (Textile Rubber) has run a successful trial at Wellco. The next step is to run a two-week trial. Vinatex also has strong leads at Artizan and Sequoyah. Norton Co., Troy, N.Y., came in with their second truckload order of Monflex 4514.

The immediate success of our carpet program hinges on the Dalton area, and Textile Rubber's portion is still going more slowly than desired.

Latex production at Texas City was approximately 200M pounds, or 13% of rated capacity. Fixed costs are being held to bare minimum levels while operations continue at this level.

Our main problem area is the continuing slow market and product acceptance of this product line. Typical of some of the problems are:

- --- the Eastex printing trial has been put off again.
- --- a mottling problem encountered at Olin-Mathieson.
- --- Walter Carpets has postponed their 20M gallon order until 7/15 due to a temporary reduction of EVCl content.
- --- the first Textile Rubber trial at Trend Mills failed fire-retardancy tests which tended to slow their program (though this has partly been offset by the successful trial at Vinatex, Wellco).

For growth and development the toxicological information on EVCl fed to rats has been completed and was favorable. The petition to FDA will be presented by June 15.

Continental Can now feels they may be able to use the standard version of EVCl for the beer can lining although it will have to be a higher T_g version.

Strong interest has been developed at the following carpeting companies: Ozite, Mohasco, and Deering-Milliken. Trials need to be run to prove performance.

LATEX BINDERS Continued

Business outlook for latex binders is still good, but short term we do not expect much sales improvement. Short-term sales of significant quantities must come from the carpet program in Dalton.

HYDRAULICS & LUBRICANTS

WORLDWIDE SALES ($M)

	MAY			YEAR-TO-DATE		
	Actual (Est.)	Budget	%	Actual (Est.)	Budget	%
DOMESTIC	411	336	122	1194	1079	111
U.S. EXPORT	169	112	151	657	565	116
EX-U.S.A.	-	-	-	-	-	-
TOTAL	580	448	129	1851	1644	113

May was another excellent over budget month, with strong performance in both the Aviation and Metalworking areas, although competition and price pressure are intense.

Aeronaves de Mexico placed an order with us for 1000 gallons of Skydrol 500C. They are shifting to this product based on the product's success at Pan Am. A two-year Skydrol contract has been extended at Airlift International.

Hughes, El Segundo, accepted our proposal to supply Coolanol 25 ($25M over the next 12 months). This is the first time in several years we've won a competitive bid over Chevron.

The following major accounts are now in the fold with first orders for our new Pydraul products:

--- GM-Pontiac - Pydraul 312C ($60M potential)
--- Gale Products - Pydraul 50E ($50M potential)
--- Armco Steel - Pydraul 50E ($70M potential)

GM-Buick has committed to conversion to Pydraul 50E from Pydraul 312A.

An outstanding job is being done in reducing the Pydraul "A" series product inventories to essentially zero, in anticipation of the June 30 cutoff date.

The NCP ester production run was concluded by mid-month, and the department was shut down to complete construction. Yield experience was the best to date and very close to AR levels. The variance picture was marred by rework of 1971 production which had been inventoried at a high value ($46M loss variance). "EE" Building idle capacity variances of approximately $60M were assigned against this product line, part of which had been budgeted for the NCR Santosol 100 product.

The new system for VI improver concentrate (Acryloids) was successfully started up. This project will significantly decrease cost and give us more direct control over quality.

Skydrol gross profit is essentially at budget and Coolanol above budget due to small volume orders at near schedule pricing.

HYDRAULICS & LUBRICANTS Continued

Our major problem area at the moment is price competition from Stauffer and Houghton who, because of our changeovers, have become more aggressive than ever in the pricing arena now that we are all competing on straight phosphate esters. In a recent bid at Alcoa we lost approximately $100M of our business to Houghton but we did retain a portion of our former business at this account. Stauffer did not gain any of this business.

Our Manufacturing costs for NC Phosphate still are high due to the amount of processing necessary to pass emulsion tests and in getting free phenolic levels down to competitive levels. A concentrated program by Research, Manufacturing, and Engineering has been underway and progress is being made.

New Pydraul 312 failed Bureau of Mines Schedule 30 fire tests due to an unexplained reason and we are now doing test work to prepare for discussions with the Bureau. Based on our test work and fluids now approved under Schedule 30, we will probably demand retesting at no charge.

Pydraul sales to German Mines showed some improvement but were only 50% of budget. Bayer is making significant inroads in this market based on (1) price, (2) offer of 12 months or longer on contracts, and (3) statements that their product is more biodegradable than ours because it is based on Aroclor 1242.

Texas Eastern Transmission has decided to use a Stauffer product to replace Turbinol 153 (PCB-containing) in the first two turbines of their changeover program. All indications are that Turbinol 1122 or 1223 will be used in later changeovers. Close contact with this customer and G. E., the turbine builders, will be needed to insure this occurs.

Small orders of Santotrac were shipped to the U.S. Army, Tek Products, Donnelly, Berlin Press, and Spartan Printing. Tek Products made initial purchase of Santotrac 50 for conversion to textile knitting machines from belt drives to traction drives at Camp Industries, Div. of Genesco.

In bearings, Timken preliminary results indicate Santotrac gives bearing life 2.2 times that of petroleum. Key market is bearings for small electrical motors.

For growth and development, military qualification procedures on Turbinol 1223 to MIL-H-19457B are progressing as fast as government red tape allows. Formulations for our all phosphate ester Turbinols are nearly firm and calls will be made over the next three months to major OEM's to obtain evaluations, field tests, and approvals.

HYDRAULICS & LUBRICANTS Continued

The Skylube 450 test program with Pan Am received a large boost forward this month following the inspection of two flight test engines. Both were in excellent condition as rated by Pratt & Whitney and Pan Am, and this should complete our test obligations to P&W to qualify for approval of Skylube 450 in JT3D and JT4 engines. An advanced Mobil Type II lubricant was also inspected and was regarded as a test failure by P&W and Pan Am.

Business outlook for June is good as the Metalworking and Aviation industries continue in high gear.

MONS 041225

PROCESS FLUIDS

WORLDWIDE SALES ($M)

	MAY			YEAR-TO-DATE		
	Actual(Est.)	Budget	%	Actual(Est.)	Budget	%
DOMESTIC	414	387	107	1978	1894	104
U.S. EXPORT	343	142	242	981	711	138
EX-U.S.A.	54	25	216	190	125	152
TOTAL	811	554	146	3149	2730	115

Worldwide sales were considerably over budget due to heat transfer fluids and carbonless paper solvents. Biphenyl was under budget.

First 5000 gallon shipment of Santosol 100 to NCR was completed. Encapsulation has been carried out without problems. NCR and Wiggins-Teape relationship appears to have been finalized and we will be shortly discussing the future solvent situation with that group. Outstanding U.S. Export performance reflects carryover of substantial volume of April deliveries billed in May.

Heat transfer sales continue very strong with domestic conversions to Therminol 55 and 66 totalling $55M. New business worth $21M received including Dravo (3000 gallons Therminol 55), Pottstown Newcrete (2200 gallons Therminol 55) and duPont (2300 gallons Therminol 66).

Biphenyl had an excellent month at Charlotte Labs (249M lbs.). Piedmont came in for three tanktrucks in spite of rumored lower price from competitor. Tanatex took 35M lbs. and Dow has placed two tankcar orders for June. Dow is 600M lbs. behind budget year to date.

Santosol 100 interim production started up at Queeny Plant. Quality was excellent and we appear to be on target on cost and rate. Polyphenols production at Anniston was low at 5,339M lbs., or 56% of capacity. This reflects the first full month without solid Aroclors, as well as a slow month for biphenyl users.

HB-40/30/WCM production was very good at 2184M pounds. Cost was $35M red due to use of purchased hydrogen to maximize production to meet an ocean tanker deadline.

Santosol gross profits are down $20M due to tooling up costs for interim production run. Heat transfer gross profit performance continues to be excellent, at nearly 65% of sales. Biphenyl gross profit was also above budgeted rate, at 53%.

PROCESS FLUIDS Continued

Competition to Therminol 66 in offshore platforms continues strong with Coastal Chemical's Chemtherm 65 entering the fray alongside Dowtherm G.

Information indicates Dow has started upgrading their own biphenyl byproduct streams and are pursuing the dye carrier market with a 99.7% biphenyl.

Mechanical specifications (Santosol 100 project) have been issued for 90% of all equipment. Instrumentation design is moving well with 80% of all items on order. Structural steel and foundation design is virtually complete. In spite of the recent redi-mix concrete truck drivers' strike, foundation installation started this week.

Tentative specifications for Santosol 100 were reviewed with NCR. We gave NCR information on manufacture, composition of this and related derivatives and toxicity.

Wiggins-Teape seems quite interested in Santosol 300 as a short-term replacement for Santosol 340 (HB40). The other significant user Reed/Copycate-Nashua is currently the subject of a two-year contract negotiation for supplies of Santosol 300. The negotiation will be helped by Nashua's agreement to terms of contract on Santosol 300 through 1973 in the domestic marketplace.

Business outlook continues good as more Therminol FR heat transfer conversions occur and the carbonless carbon paper business expands.

DIELECTRIC FLUIDS

WORLDWIDE SALES ($M)

	MAY			YEAR-TO-DATE		
	Actual(Est.)	Budget	%	Actual(Est.)	Budget	%
DOMESTIC	611	550	111	2870	2730	105
U.S. EXPORT	84	130	65	399	650	61
EX-U.S.A.	192	190	101	882	947	93
TOTAL	887	870	102	4151	4327	96

Worldwide sales were over budget aided by a $86M shipment to Russia. Domestic business exceeded budget for both transformer and capacitor fluids as business settles down after completion of the price increase. Poor U.S. Export performance primarily reflects Canadian sales, where we are still securing hold-harmless agreements.

European performance reflects a significant downward trend in the U.K. and Scandinavia where major customers report the major factor being continuing progress with plastic film encouraged by the PCB problems. Pyroclor was boosted by a 72-ton shipment to Spain, but still didn't achieve Pyroclor budget.

The PCB Government Task Force issued a report confirming essential nature of PCB's in dielectrics. Report vindicates actions taken by MICC. A Monsanto presentation given to this Government group on May 15 on biodegradation of PCB homologs and steps taken by MICC to change dielectric product line to more degradable PCB's was well received. The Committee recommended continued use for electrical applications with restriction on plant effluents of 0.01 ppb.

The PCB meeting in London wherein we presented data on biodegradation was successful. Construction work on the five ponds for ecological studies is now in progress with completion anticipated mid-June. A contract has been initiated with Inveresk Research International for several Aroclor products for ecological studies.

Now that hold-harmless agreements are signed, MOCAN expects to be on budget by year-end as transformer manufacturers all have long-term askarel transformer contract orders.

The PCB situation has been explained to Mexican customers, Mexican IEEE and government officials. We were first PCB producer to do so and the results are extremely favorable. Signed warning letters have been received and we are proceeding to implement price increases. At long last bulk shipments to Mexico seem to be getting off dead center.

DIELECTRIC FLUIDS Continued

ANSI C-107 is in the final draft stages of guidelines for handling PCB's in capacitors and transformers to minimize environmental contamination.

Aroclor production at Krummrich was up somewhat at 3230 M pounds, or 50% of capacity. The current mode of operation, shutting down whenever CS acid cannot take HCl offgas, remains troublesome. Storage tanks utilization is being re-assigned to permit immediate availability of most products and a maximum 2-day delay on all products. This was necessary because of the 5-day weekly production schedule. A 400M gallon surplus storage tank is being placed in operation as a feed tank for PCB incineration. This permits them to empty drums on receipt and reduce handling problems.

Dielectric sales are expected to continue strong for the next several months. With hold-harmless letters now signed by most Canadian producers, sales are expected to pick up in June. Aroclor price increase planned for the U.K. market during the third quarter. All except three European major customers have now signed the warning letter.

PCB/PCT

WORLDWIDE SALES ($M)

	MAY			YEAR-TO-DATE		
	Actual (Est.)	Budget	%	Actual (Est.)	Budget	%
DOMESTIC	279	-	-	2594	1111	233
U.S. EXPORT	78	53	147	703	271	259
EX-U.S.A.	32	95	34	395	472	84
TOTAL	389	148	263	3692	1854	199

Worldwide sales exceeded budget because domestic performance was unbudgeted.

Through May, 172 Therminol FR customers have committed to convert to Therminol 55 or Therminol 66, with lost customers totalling 32.

Announcement of termination of free incineration July 1 has gelled conversion dates at many accounts. Good conversion business now expected through August.

By the end of June or before, all Pydraul sales containing PCT's will be terminated, as will Aroclor Plasticizer sales to approved customers.

MONS 041230