		Total Technical Effort				Net Research			
		72A	73B	73P	74B	72A	73B	73P	74B
LATEX BINDERS									
I.	Application Research - Customer Technical Service - Manufacturing Support a) VCl monomer removal b) Bacteria control c) Carpet backing d) Wallcovering	151	365	400	250	0	305	305	135
II.	New Product Models and Application for Expansion of Markets a) Pigment binder b) Adhesives c) Coatings in packaging d) Inks	474	200	124	250	464	155	112	223
III.	E/VAc Rubbers	0	0	1	2	0	0	1	2
	Fire Retardant Organic Fillers								

DSW 283596

STLCOPCB4065014

		Total Technical Effort				Net Research			
		72A	73B	73P	74B	72A	73B	73P	74B
SURFACE ADDITIVES									
I.	Improve styrene/maleic anhydride product quality performance and processes. Provide more efficient alternatives for S/MA sizing agents	61	95	86	120	13	50	34	90
II.	Broaden product line based on styrene/maleic anhydride resins; high molecular weight product and define product acceptance; low molecular weight product in markets other than sizing	73	100	73	46	73	100	62	46
III.	Define the opportunities in paper chemicals for amphoteric polymers made from S/MA or acrylamide	0	0	0	20	0	0	0	20

DSW 283597

STLCOPCB4065015

	Total Technical Effort				Net Research			
	72A	73B	73P	74B	72A	73B	73P	74B
INTERNAL SIZE (ROSIN SIZE)								
I. Process improvement for lower cost and better quality; new product models.	64	60	30	120	20	10	10	125
II. Reactive sizes - alkenyl succinic anhydride, alkyl diketene	44	100	160	100	44	100	160	100
III. Reactive size "Ready-to-Use"	0	0	1	2	0	0	1	2
Rosin acid utilization								

DSW 283598

STLCOPCB4065016

		Total Technical Effort				Net Research			
		72A	73B	73P	74B	72A	73B	73P	74B
WET STRENGTH									
I.	Santo-Res 23 trials; raw materials	60	70	49	180	34	43	25	185
	RPC 1110 Series - Bleached tissue and milk carton; trials - process - activation								
II.	Next generation - acrylamide type; semi-permanent wet strength	92	120	147	50	92	95	121	50
III.	Dry strength agent	0	0	0	5	0	0	0	5

DSW 283599

STLCOPCB4065017

		Total Technical Effort				Net Research			
		72A	73B	73P	74B	72A	73B	73P	74B
HYDRAULICS & LUBRICANTS									
I.	Protect Pydraul - Santosafe - Skydrol - Coolanol - Skylube with processes, formulations, technical service	500	228	340	363	249	88	128	248
II.	New uses for newly developed fluids	31	167	130	72	9	127	119	42
	Santotrac								
	Water soluble metalworking lubricants								
III.	Tall oil derivatives	0	0	0	5	0	0	0	5
	Define uses in metalworking fluids.								
	Hydrotropic - emulsions Define potential in metalworking fluids Define potential for sulfonates of diphenyl ether, biphenyl								
	Fatty acids in lubricants Define potential of Rx carbonylation of α-olefins followed by oxidation to acid								

DSW 283600

STLCOPCB4065018

		Total Technical Effort				Net Research			
		72A	73B	73P	74B	72A	73B	73P	74B
PROCESS FLUIDS									
I.	Encapsulation solvents, dye carriers, heat transfer fluids to replace PCB/PCT containing products	69	113	63	100	63	68	46	54
II.	Encapsulant solvents to replace Santosol 100, Santosol 340;	162	221	270	243	151	215	260	233
	Liquid dye carriers								
	New heat transfer fluids - DPO								
III.	Replacement for chlorinated terphenyls in adhesives: a) α-methylstyrene trimers b) benzylated bi and terphenyls c) rosin derivatives	0	0	0	112	0	0	0	87
	Oxidative coupling of alkyl aromatics a) toluene to dimethylbiphenyl								
	Aromatic ethers a) p,p' Ditolyl ether								
	Polyphenyls - ϕ-ϕ-Cl and ϕ-ϕ-OH								

DSW 283601

STLCOPCB4065019

		Total Technical Effort				Net Research			
		72A	73B	73P	74B	72A	73B	73P	74B
DIELECTRICS									
I.	Support Aroclor dielectrics	239	123	71	60	182	93	47	71
II.	Develop products and processes for environmentally acceptable alternates to PCB based products.	132	184	194	220	132	184	194	220
III.	Explore means of increasing the dielectric strength of capacitor paper insulation preferably by adding one or more components to the dielectric fluid. One or more new components could also be added to the paper if compatible with its manufacturing process.	0	0	0	5	0	0	0	5

DSW 283602

STLCOPCB4065020