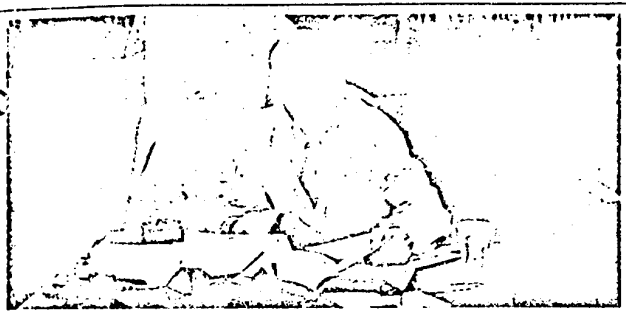


So what else can EMA® resins do besides thicken, bind, stabilize, disperse and emulsify?

Plenty! For example, our broad line of 4 linear and 5 crosslinked ethylene maleic anhydride resins is solving many problems in fields as diverse as detergents, oil well drilling muds and hair sprays.

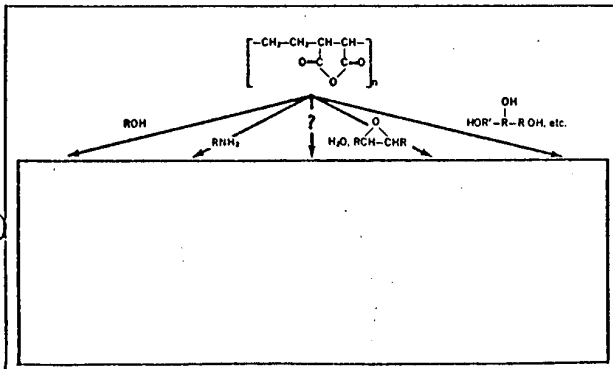
The short chain, lower molecular weight, linear copolymers function as reactive intermediates, dispersants, suspending agents and stabilizers similarly to condensed phosphates and silicates. However, the acids and salts of EMA resins are more hydrolytically stable than these inorganics. The crosslinked resins work as thickening agents, ceramic binders, detergent thickeners and emulsion stabilizers.

EMA resins are used in adhesives, pigment dispersions, encapsular films, textile coatings and print pastes. New uses include the field of biochemistry where they are applied in enzyme stabilization, as a modifier of enzyme activity, as intermediates in antigen-antibody isolation and as modifiers of bioactive macromolecules.

Our resins are also applied as crystal growth modifiers, in thermosetting coatings, alkali soluble temporary coatings, motor oil additives, keratinous dyeing acids and in polishes and flexographic inks.

Where could you use EMA? Return the coupon for EMA samples and detailed product information.

The following EMA copolymers are available:		
Copolymer Type	Viscosity of 2% Sol. (Cps.)	EMA® Grade
Linear Acid Anhydrides	2.0; 5.0; 7.0	11, 21, 31
Linear Acid	5.0	22
Crosslinked Sodium Salt	640	54
Crosslinked Acid Anhydrides	100; 960; 1100; 8500	61, 71, 81, 91

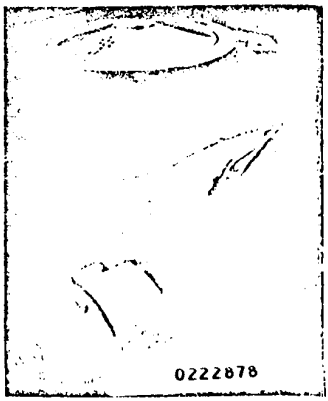


USE THIS "THINK SPACE" TO DRAW YOUR OWN CONCLUSIONS ABOUT EMA.

Looking for lively and reactive sources of phosphorus? Consider phosphorus pentasulfide. Used in insecticides, lubricating oil and ore-flotation products. P_2S_5 reacts with alcohols, thioalcohols, amines, organic acids, Grignard reagents, anisole, cyclohexene, phenols, and thiophenols.

Looking for phosphorus and chlorine? Investigate Monsanto's phosphorus trichloride or oxychloride. PCl_3 is a handy tool to fashion phosphite esters; $POCl_3$ for phosphate and phosphonate esters. They are currently being used in gasoline and oil additives, plasticizers, insecticides, and in the preparation of many organic acids.

Phospholeum®, Monsanto's super-concentrated phosphoric acid, packs more P_2O_5 punch, ounce for ounce. Available in 105% and 115% concentrations, Phospholeum is an excellent desiccant, a sequestrant for trace materials



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Here are more chemical pathways to product improvement...

and even yields shipping and storage economies over standard phosphoric acid concentrations. And, it can be supercooled for days without crystallization. For detailed information, send the coupon.

Wide range plasticizers and resin extenders. The unique Aroclor® chlorinated biphenyls and polyphenols are extremely versatile, low-cost plasticizers and resin extenders for vinyls, cellulosics, natural and synthetic rubber, and many other materials. These permanently thermoplastic materials offer excellent characteristics . . . inertness, chemical resistance, fire retardance, nonoxidation, adhesivity, non-corrosiveness, *plus* complete compatibility with a wide variety of resins. Aroclor plasticizers are especially valuable in adhesives, surface coatings, and chlorinated rubber products, and are also highly resistant to attack by bacteria or fungi. For a comprehensive description of Aroclor properties and applications, return the coupon.

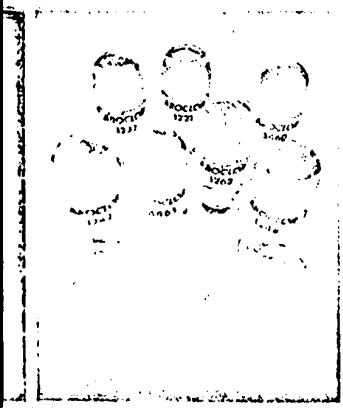
Efficient flame retardant for urethane and other polymers

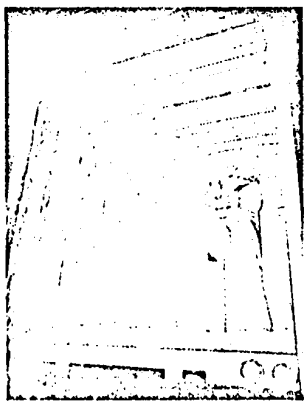
Phosgard® C-22-R is an exceptionally efficient organophosphorus flame retardant. Featuring high molecular weight and high phosphorus and chlorine content, it is essentially non-volatile, shows excellent color stability to UV and heat exposure as well as possessing storage and hydrolytic stability. Phosgard C-22-R gives excellent flame retardance to rigid insulating urethane foams such as those used in trucks, tankcars and boxcars; to cast acrylics for electrical signs and building panels; to phenolics; to melamines, polyesters, and to epoxies used for electrical insulations, potting compounds and laminates. The coupon will bring you detailed Phosgard data and samples for your own evaluation.

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- . . . for Syton® colloidal silica for investment casting, reinforcing foam rubber, stool coating and bag and carton antislip.
- . . . for Dequest® compounds for deflocculating and sequestering.
- . . . for Santocel® silica aerogels as flatting and anticaking agents.
- . . . for Phos-Chek® P/30 phosphorus-based fire retardant for use in intumescent paints and paper specialties.
- . . . for tricalcium phosphate food-grade flow conditioner for many dry materials.
- . . . for Santicizer® 148, 192, 194—new cresol-free phosphate plasticizers.





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Please send me information on the products I have checked.

Aroclor® ☐ Technical Bulletin O/PL-261 ☐ Sample

Aroclor® ☐ Technical Bulletin O/PL-308 ☐ Sample

Phosgard® ☐ Technical Bulletin O/PL-22 ☐ Sample

[illegible] ☐ Technical Bulletin [illegible] ☐ Sample

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