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Chemistry in Finishing—Another Monsanto Service to Industry

The manufacture and use of industrial finishes and surface coatings is so widespread that it offers a broad field for the application of many Monsanto Chemicals. Their use frequently leads to improvements in products or production which, in turn, often result in lower operating costs and increased sales.

Brief, general descriptions of present Monsanto Chemicals for industrial finishes are included here. However, this product list should not be considered as complete, since Monsanto research chemists are continually developing new products or uncovering new uses and applications for existing products. Therefore, if you have any manufacturing or application problems which are not covered here, it is suggested that you contact any Monsanto office for specific information.



AMYL ACETATE . . . Used in the artificial leather industry and in formulating lacquer finishes for woods, metals, textiles, poper. Yields thinners and solvent mixtures of excellent cutting power, moisture resistance, good flow and leveling, when blended with appropriate diluents such as alcohols.

ANTIOXIDANTS . . . Santovar 0* is recommended as an antioxidant in oils, paints.



AROCLORS* (Plasticizers and Resins) . . . Used in lacquer, paint and varnish, Aroclors impart resistance to grease, gas, acids, alkalies and ultra-violet light. Improve electrical insulating properties and durability. The Aroclor oils and resins are easily soluble in most of the common organic solvents and drying oils.

BENTHAL* (Benzoic Acid, Technical) . . . Used as a color stabilizer in baking varnishes and as a dispersing agent in the grinding of pigments. Available Literature: 20-page booklet, "The Aroclors — Physical Properties and Suggested Applications."



BUTYL ACETATE . . . Employed in formulating lacquer finishes for wood, metals, textiles, leather, paper. When blended with proper diluents (such as alcohol), yields thinners of excellent cutting power and "blush" resistance, good flow and leveling. Compatible with various resins and oils.



CELLULOSE NITRATE SOLUTIONS . . . Used in the manufacture of lacquers, leather dopes, fabric coatings, artificial leather finishes. Specific requirements can be met by regulating viscosity, solid content and solvent composition.

DIACETONE ALCOHOL . . . One of the most active high-boiling solvents for nitrocellulose. Also used as a solvent for cellulose esters and ethers, and some resins and dyes. Miscible with, and has a high tolerance for, all lacquer diluents. Higher percentages of water are tolerated than with most solvents.

DIBUTYL PHTHALATE . . . Employed in colorless, white or delicately-tinted products because of its excellent light stability. One of the most acceptable plasticizers for general use. Widely used as plasticizer for nitrocellulose. Available Literature: 40-page booklet, "Plasticizers and Resins."

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ETHYL ACETATE . . . Used in the artificial leather industry and in formulating lacquers and finishes for wood, metals, textiles, paper. Blended with appropriate diluents, yields thinners and solvent mixtures of excellent cutting power, good flow and leveling. Compatible with various resins and oils.

FUNGICIDES . . . Santobrite* (Sodium Pentachlorophenate, Technical) and Santophen 20* (Pentachlorophenol, Technical) are used as fungicides and preservatives in paints, oils, and water finishes. Available Literature: Technical Bulletin O-2, "Santobrite and Santophen 20 for Paint Preservation."

INSECTICIDES . . . Santobane* (Monsanto's DDT), Santochlor* (para-Dichlorobenzene) and ortho-Dichlorobenzene are prominent among Monsanto insecticides used in the formulation of paints.

LACQUERS (Special Purpose and Graining) . . . Monsanto lacquers serve a wide range of industries such as aircraft, textile, paper, leather, rubber, electrical, metal working, furniture and woodworking. Practically all finishes have rapid-drying or curing characteristics. Special properties are innumerable — adhesion to special surfaces, cold flexibility, heat resistance, dielectric strength, weathering, chemical corrosion resistance, infra-red reflectivity, heat sealing, waterproofness, color retention, flame resistance. Monsanto lacquers are designed for all industrial methods of application — automatic spray, dip, machine coating by spreader, gasket, die, roll, etc.

LAMPBLACK . . . Used as pigment in paints, varnishes, enamels, leather finishes, stencils. Furnished in 9 grades which vary in free carbon, oil absorption, etc. Available Literature: Booklet, "Monsanto Lampblack."

MALEIC ANHYDRIDE . . . For use alone or in combination with other acids in the manufacture of alkyd-type resins; a versatile intermediate for chemical synthesis.

MERSOL* (Solvent Alcohol) . . . Used as a solvent for shellac and soft manila gums; in lacquer thinners, cleaners, removers, polishes, and as a dye and stain solvent. Available Literature: 68-page bulletin, "Nealco Industrial Alcohol."

PAINT ANTI-SKINNING AGENTS . . . Available to meet varied trade requirements.

PHENOL . . . Used in the preparation of varnishes, enamels, lacquers, paints. Available Literature: 12-page booklet, "Safe Handling of Phenol."

PHTHALIC ANHYDRIDE . . . An intermediate used in the production of plasticizers such as dibutyl phthalate, dimethyl phthalate, diethyl phthalate, phthalyl, glycollates, alkyd resins.

PLASTICIZERS . . . Write for Monsanto's 40-page booklet, "Plasticizers and Resins," which lists and describes physical properties and suggested uses of Monsanto's extensive line of plasticizers.

POLYVINYL BUTYRAL . . . Largely used in fabric coatings; also paper, leather and other flexible applications where waterproof film is a requirement. Available Literature: Booklet, "Applications of Monsanto Vinyl Butyral."

RESIMENE 875* . . . A new organo-soluble melamine resin, combines improved alkali resistance with faster curing time; increases abrasion resistance as well as resistance to solvents, all without discoloration. (For additional information write Monsanto Chemical Company, Plastics Division, Springfield 2, Mass.)

RESINS . . . See Plasticizers and Santicizers.*

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SANTICIZERS* (Phthalyl Glycollates and Other Plasticizers)...The trade-name of a series of Monsanto plasticizers, highly versatile in their application to different types of finishes and coatings. Various Santicizers impart such properties as flexibility, softening, effect, toughness, resistance to moisture penetration, gasoline resistance, etc. Available Literature: 40-page booklet, "Plasticizers and Resins."

SANTOCEL* (Flatting Agent) . . . Used as a flatting agent for coating compositions — produces handcraftsman flat finishes on a production-line basis. Available Literature: Technical Bulletin M-73, "Santocel — A Flatting Agent for Lacquers," Technical Bulletin M-74, "Santocel — A Flatting Agent for Synthetic Resins and Oleoresinous Varnishes."

SANTOLITES* (Synthetic Coating Resins) . . . The trade-name of a series of Monsanto resin compounds used to impart light stability, increased resistance to moisture penetration of cellulose ester compositions; in specialty lacquers, fabric coatings. Extreme compatability of some Santolites with plasticizers and cellulose esters reduces much of the danger of blushing, sweating and separation. Used in spraying, dipping or brushing lacquers for clear, colorless, odorless coatings of good gloss adhesion. Available Literature: 40-page booklet, "Plasticizers and Resins."

SANTOMASK* (Deodorant) . . . An odor-masking ingredient for interior paints, which also reduces or eliminates irritation to eyes, nose and throat caused by volatile components of some interior paints. Does not affect drying time, color durability and other characteristics of paint. Available Literature: Technical Bulletin O-16, "Santomask for After-odor Control of Interior Paint."

THINNERS . . . Monsanto thinners are supplied for reducing all lacquer products to the required viscosity for spraying, dipping, and machine coating. They can be adjusted to meet special requirements for flow-out, drying time, "blush" resistance and solvent power. Retarding thinners, cleaning thinners, stripping thinners, removers and resin solvents are also available.

TRICRESYL PHOSPHATE . . . The standard fire-retarding plasticizer for nitrocellulose. Has a high retentivity and can be used in large proportions without danger of sweating or separation. Compatible with most lacquer resins; gives firm, tough, flexible films of excellent weathering qualities. Available Literature: 40-page booklet, "Plasticizers and Resins."

TRIPHENYL PHOSPHATE . . . Used chiefly as a plasticizer and fire retarder. Imparts good flexibility and gives clear, tough compositions without tendency toward tackiness. Available Literature: 40-page booklet, "Plasticizers and Resins."

TRIPHENYL PHOSPHITE . . . Used as a color stabilizer in pale-bodied alkyds.

VANILLIN MONSANTO (Vanillin U.S.P.) . . . Used as an odorant. Available Literature: Leaflet, "Vanillin Monsanto."

WOOD LACQUERS AND UNDERCOATS . . . Cellulose nitrate and synthetic resin finishes are available for all wood, plywood and fiber-board surfaces. Undercoats include water-repellent and sanding sealers and sanding surfacers. Clear lacquers are offered for machine and hand dipping of wood turnings and spray application on furniture. The matte clear lacquers are characterized by exceptional depth and smoothness. Lacquer enamels are offered in colors and properties to meet all conditions. Topcoat lacquers are tough and alcohol resistant.

*Reg. U. S. Pat. Off.

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Cleveland, Ohio
1536 Keith Building

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Carew Tower Building

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Detroit 2, Michigan
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605 West Olympic Blvd.

New York 20, N. Y.
30 Rockefeller Plaza

San Francisco 4, California
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Seattle 4, Washington
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