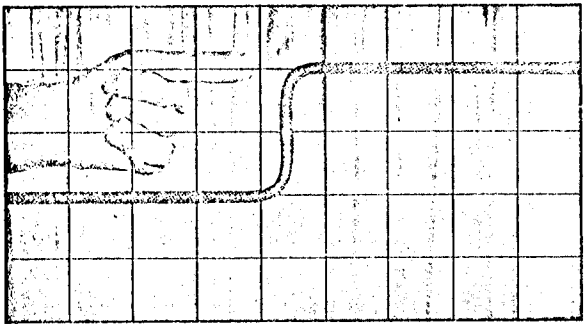
MONSANTO
CHEMICALS — PLASTICS



Step up vinyl production 33% to 100% without adding to your equipment

You can increase your output of extruded and calendered polyvinyl chloride products without adding new machinery. This forward step in efficiency is made possible by Monsanto's fast-fusion type plasticizers, Santicizer * 141, Santicizer 140 and Santicizer 160. Production increases generally are 33%, but, in some cases, they go up more than 100%.

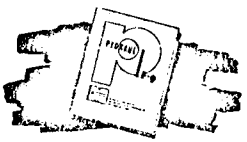
This extra volume is yours without sacrificing quality. Often better quality results from the use of these Monsanto plasticizers. You may add such advantages as flame resistance, low toxicity, improved low-temperature flexibility and other characteristics to improve your sales.

With the proper selection of your plasticizer or plasticizer blend, you will gain one or more of these advantages:

1. The Banbury cycle on the average can be speeded up *33%* (in some cases more than 100%), increasing production as much as ONE-THIRD.
2. The Banbury rotor speeds can be REDUCED, lowering power demand without increasing the time needed to process . . .
3. The processing temperature can be reduced, eliminating danger of discoloring without lengthening the time cycle.
4. The peak power demand can be lowered and the average horsepower over a processing cycle reduced.
5. Increased amounts of fillers, stabilizers and lubricants need not increase the processing time.

For information on these production-boosting, cost-cutting, quality-building plasticizers, contact the nearest Monsanto Sales Office or mail the coupon for a copy of Monsanto's new booklet "*Increased Capacity Through Faster Processing of Polyvinyl Chloride.*"

VALUABLE DATA FOR USERS OF HYDRAULIC FLUIDS



Just off the press is Monsanto's booklet, "*Pydraul F-9 . . . A report to engineering executives on a new nonflammable-type hydraulic fluid.*" The 12-page, file-size booklet gives valuable data for operators of die-casting machines, automatic riveters, automatic equipment, hydraulic presses and other equipment in which a nonflammable-type pressure transfer liquid is desirable.

The booklet gives specific details on the following characteristics of Pydraul * F-9: Fire resistance . . . high lubricity . . . non-corrosiveness . . . chemical stability . . . non-reactive qualities . . . pumpability . . . insolubility in water . . . nonvolatility. Pydraul F-9 contains no water or inorganic salts.

If you are interested in adding the extra safety of a nonflammable-type hydraulic fluid, plus the advantages of economy and efficiency, mail the coupon for a copy of the Pydraul F-9 booklet.



Research Chemists' Corner

You may find something new here

HERE'S A CHEMICAL WORTH INVESTIGATING

Properties of Monsanto Polychlorobenzene, Technical, indicate possibilities in a great variety of applications. Perhaps they suggest uses in your industry. Have a look at properties listed below. Then, if you are a qualified chemist and want to do some research, we'll be glad to supply you with samples. The coupon is for your convenience.

Typical Properties of Polychlorobenzene

Appearance	Dark brown liquid and solid
Crystallizing point	27.8°C.
Acidity (mg. NaOH/gram)	0.032
Specific Gravity at 100°/15.5°C.	1.494

Fractional Distillation (one sample)	
Dichlorobenzene	2.2%
Trichlorobenzene	22.8%
1,2,3,4-Tetrachlorobenzene	51.8%
1,2,4,5-Tetrachlorobenzene	5.8%
Residue (Pentachlorobenzene, Hexachlorobenzene and other high boiling residue)	17.4%
Crystallizing Point of tetra fraction	40.00°C.

Solubility of Polychlorobenzene in Oil

In Monsanto tests the material dissolved readily in regular lubricating oil, SAE No. 10, at 25°C. Five per cent increments of the sample (by weight) were added to the oil until a weight equal to that of the oil itself had been added. No separation occurred, indicating good solubility of the material in this oil.

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Monsanto to build phenol plant on West Coast

Construction of a new Monsanto plant to produce phenol will get underway in mid-year on an 83-acre site at Avon, California.

The new unit, which will be in production in 1954, will supply phenol to contract customers of the growing West Coast industrial area. It also will supply the expanding needs of Monsanto's Pacific Coast manufacturing operations.

Monsanto's West Coast plants make phenolic resin adhesives and various other phenolic resins. Future plans call for the addition of a number of industrial and agricultural chemicals to the western production.



FOAMING CONTROLLED

Monsanto AE-1—a new high-molecular-weight alcohol ester—has definite defoaming applications. Also, other uses that yield economies in various processing operations.

some AE-1 applications

It is used as a defoamer in producing ethyl alcohol from molasses . . . defoamer in producing glycerol from fats . . . for foam control in the manufacture of yeast and other fermentations . . . control of foam in certain bottle-washing operations . . . solving foam problem in polystyrene latex water dispersions . . . lubricant for vinyls that are extruded or calendered . . . coplasticizer for rubber hydrochloride and chlorinated rubber.

This list of uses may suggest some interesting applications to you. If so, write for samples of AE-1 and Technical Bulletin No. P-140.

$\frac{1+1}{2} = 1+$

Higher detergency from synergistic action

There are numerous places where the higher detergency effected through synergistic action affords important economies in industry cleaning and scouring.

Synergism is achieved by blending Santomerse* No. 1 and Monsanto tetrasodium pyrophosphate with the result that their combined detergencies are higher than the average of the two when used separately; higher than the detergency of either. This effect is of particular consequence in many phases of textile processing.

Many uses for TSPP

Monsanto tetrasodium pyrophosphate is also widely used as a soap builder, household and industrial cleaner and detergent, in bleaching, in dye baths as an assistant for putting certain types of dye in solution, in metal cleaning . . . For full information, send for Technical Bulletin No. P-24.

HB-40 — low-cost extender-type PLASTICIZER

At an l. c. l. price of 17¢ per pound (less in carloads), the use of Monsanto's HB-40 as an extender-type plasticizer will enable you to save as much as 30% to 50% in processing vinyls. Not only does HB-40 help reduce your costs very materially — it also helps you maintain your product quality. Available now in drum and carload lots.

HB-40 is finding wide use in producing vinyl extrusions, vinyl pastes, vinyl slush moldings and vinyl calendering. It is also of special interest as a low-cost extender-type plasticizer in polystyrene casting resins, polystyrene adhesives, molding polyvinyl carbazole, strip coatings for metals, floor tile compositions, asphalt base paints.

Send for full information; ask for Bulletin No. P-104.

now available AROCLORS in ample supply

As a result of increased production capacity, the greater availability of Monsanto AROCLORS* is welcome news to processors in many different fields who have long depended on the unique properties of these chlorinated biphenyl—chlorinated phenyls.

The AROCLORS find prominent uses in the electrical insulating field and in such widely differing applications as nonflammable hydraulic media, high-temperature and high-pressure lubricants, heat-transfer and expansion media, sealing compounds, adhesives and protective coatings, including plastics, pigments, lacquers, paints and varnishes.

The AROCLORS are very efficient and very economical, both when used alone to accomplish results not attainable with other materials and when used as extenders to enhance the properties of other products.

GET AROCLOR BULLETINS

There are numerous bulletins on the many applications of Monsanto AROCLORS—General . . . Chlorinated Rubber . . . Pliolite . . . Incombustible Lubricants in High-Pressure Compressors . . . Indirect Heater for Unit Control Operations . . . Co-Plasticizers for Polyvinylchloride . . . Co-Plasticizer with DOP for Vinyl Organosols and Pastes.

Investigate the AROCLORS! Please send for bulletins that interest you.

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MONSANTO CHEMICAL COMPANY, 1700 S. Second Street, St. Louis 4, Missouri. District Sales Offices: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto Canada Limited, Montreal.

*Reg. U. S. Pat. Off.

MONSANTO CHEMICALS PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND

SEND LITERATURE:
☐ Pydraul F-9. ☐ Faster processing of Polyvinyl Chloride. ☐ Tetrasodium Pyrophosphate.
☐ AE-1. ☐ HB-40. ☐ Santomerse No. 1.
☐ The AROCLORS for.....
.....
(please state uses).
SEND SAMPLE:
☐ Polychlorobenzene. ☐ AE-1.

MONSANTO CHEMICAL COMPANY
1700 South Second Street, St. Louis 4, Missouri

Please send, without cost or obligation, literature or samples as indicated at left.

Name.....*Title*.....

Company.....

Street.....

City.....*Zone*.....*State*.....

l & Engineering Chemistry, March; Chemical Week, March 15;
: News, March 24, 1952.

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