# Product-Building for Profits with Monsanto Plasticizers

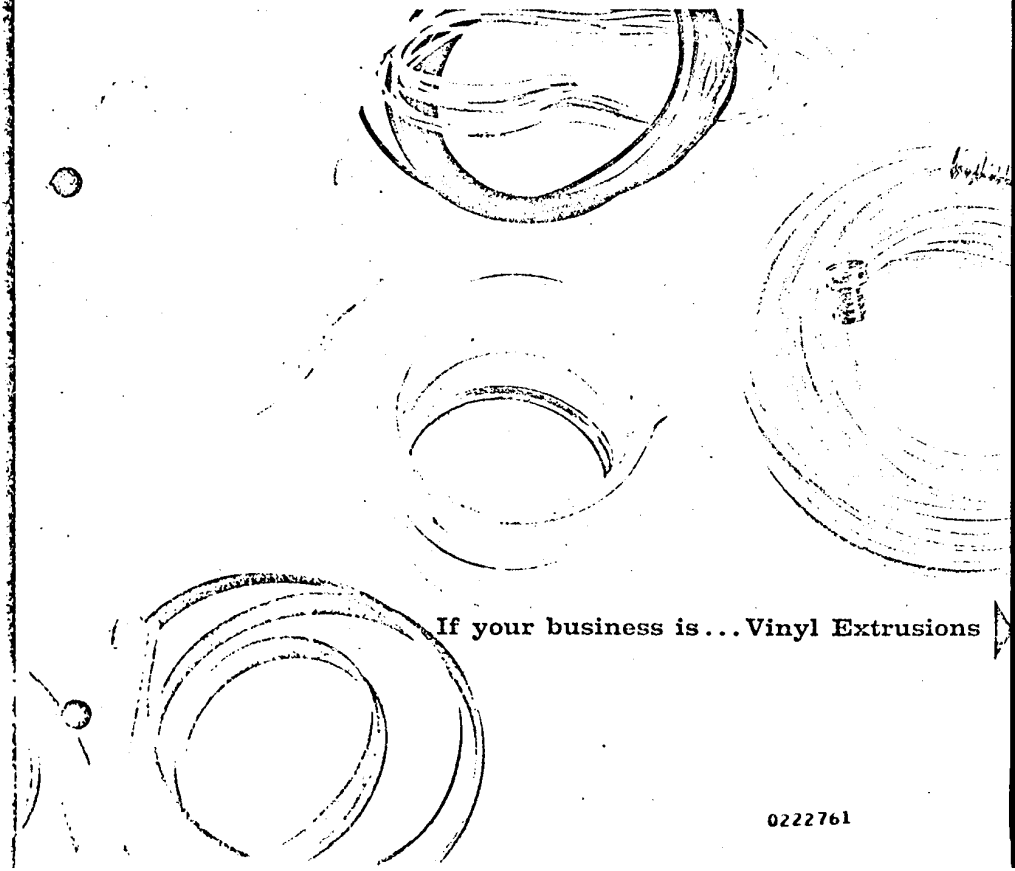
**One-Stop Raw-Material Service . . . Expert Technical Guidance**

Product-building with Monsanto plasticizers can reduce your formulation and processing costs, can improve your finished products.

Monsanto is America's most diversified manufacturer of primary and secondary plasticizers for all types of plastics processing, and an outstanding source for expert technical information, formulating know-how for vinyls, cellulosics, styrenes, phenolics, melamines, ureas, epoxies.

**"Plasticizers Council" Service . . .**

For complete information on product-building new or established raw-material formulations, on modifying end-product properties, consult Monsanto "Plasticizers Council."



**If your business is . . . Vinyl Extrusions**

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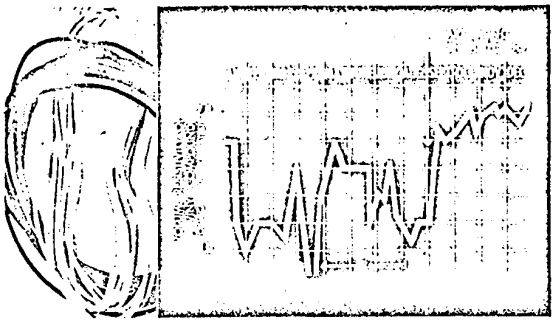
# ...u can build product quality, reduce costs with Monsanto

## ...Wire and Cable



**Uniform Electrical Properties** ... Monsanto DOP and other electrical-grade plasticizers help wire manufacturers produce high-quality wire and cable products that consistently meet rigid standards for safe load-carrying capacity. The graph shows how one manufacturer's volume-resistivity varied widely with non-uniform DOP, how reliable electrical-grade Monsanto DOP helped him meet specifications and solve a tough quality-control problem.

**Lower Manufacturing Costs** ... The right choice of plasticizers reduces formulating costs and increases profits. Here's an example of how electrical-grade Monsanto DIDP-E cut costs almost 10% on a pound-volume basis. With the reduced compound costs, Monsanto DIDP-E also substantially improved the electrical properties.

| 60° Wire | TCP-Polymeric Plasticized | Monsanto DIDP-E Plasticized |
|---|---|---|
| Compound cost/pound | 27.4¢/lb. | 26.1¢/lb. |
| Specific gravity | 1.37 | 1.30 |
| Compound cost/pound-volume | 37.5¢/lb. | 33.9¢/lb. |

**Improved Electrical Properties** ... A recent Monsanto-controlled test of DOP/HB-40 blends for SPT and 60° wire improved electricals about 300%, reduced formulation costs 5%. Many wire manufacturers use blends of Monsanto specialty plasticizers with general-purpose plasticizers to improve electricals, increase production rates, or both.

## ...Garden Hose

**Quality Plus Cost Control** ... The unusually wide range of Monsanto plasticizers helps garden hose manufacturers select the exact combination of processing and quality features needed for balancing costs with market prices. Monsanto chemists have gathered formulation and cost data for hundreds of vinyl compounds in a wide cost range for clear and opaque stock. Formulation data is available to all garden hose customers.

## ...Medical and Beverage Tubings

**Non-Toxic Plasticizers** ... Monsanto early recognized the value of non-toxic plasticizers in the growing market for plastic food and medical tubings, and pioneered in the development of plasticizers to meet BAI and FDA specifications. Santicizer B-16 and Santicizer 141 are in wide use for food and beverage tubings, and have passed rigid feeding tests. Monsanto DOP is used for blood tubing in medical applications.

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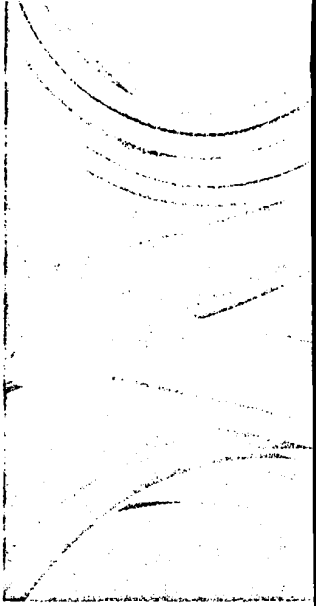
# *Plasticizers for . . . Vinyl Extrusions*



## . . . Welting, Belting, Gasketing

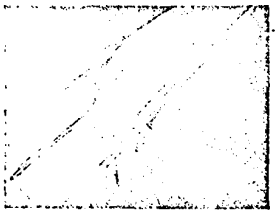
There's a "right" Monsanto primary or secondary plasticizer, or a combination, for virtually every welting, belting, or gasketing product. Here are a few of the processing and end-product qualities Monsanto plasticizers help improve:

**Faster Blending, Extrusion** . . . Monsanto Santicizer 160 is specially designed to increase mixing rates, boost extrusion speed, and lower product costs.

**Better Light Stability, Flame Resistance** . . . Monsanto Santicizer 141 improves weathering properties and imparts flame retardance . . . also increases production rates.

**Less Migration** . . . A small percentage of Monsanto HB-40 in vinyls helps prevent "marring" and "lifting" of wood or other surfaces coated with nitrocellulose lacquers. Low-cost, readily available Monsanto HB-40 also reduces raw-material costs.

**High Soapy-Water Resistance** . . . Soapy water extracts certain plasticizers from vinyl seals and gaskets in washing machines, dishwashers, and other machines exposed to washing or cleaning solutions. Monsanto DIDP offers unusually high resistance to this extracting action, helps build products with longer service life, more sales potential.



## . . . Extruded Vinyl Films

**Faster Fusion, Faster Processing** . . . Monsanto Santicizers 140, 141, 160, and Monsanto TCP help eliminate "fish eyes" in extruded films. Their faster, more thorough solvating action speeds up processing cycles, improves clarity and gloss. Santicizer 141 also meets BAI and FDA specifications for food-packaging films.

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# *How buying from a one stop source saves money*

**Case 1**

| Supplier | | Three Suppliers—Three Shipments | |
|---|---|---|---|
| A | DOP | 5,000 pounds | |
| B | TCP | 5,000 " | |
| Monsanto | Santicizer 160 | 10,000 " | Total Cost $6,500 (LTL) |
| | | **One Mixed Truckload From Monsanto** | |
| Monsanto | DOP | 5,000 pounds | |
| " | TCP | 5,000 " | |
| " | Santicizer 160 | 10,000 " | Total Cost $6,300 (TL) |
| | | | You Save $200 on 20,000 pounds |

**Case 2**

| Supplier | | Two Suppliers—Two Shipments | |
|---|---|---|---|
| A | DOP | 10,000 pounds | |
| A | TCP | 10,000 " | |
| Monsanto | Santicizer 160 | 10,000 " | Total Cost $9,850 (TL & LTL) |
| | | **One Mixed Tank Truck from Monsanto** | |
| Monsanto | DOP | 10,000 pounds | |
| " | TCP | 10,000 " | |
| " | Santicizer 160 | 10,000 " | Total Cost $9,150 (TT) |
| | | | You Save $700 on 30,000 pounds |

*Costs based on price schedules of February 15, 1956.*

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# ..onsanto Plasticizers

**Phthalates**
Dibutyl phthalate
Diethyl phthalate
Dimethyl phthalate
Diphenyl phthalate
Dioctyl phthalate
Diisooctyl phthalate
Di-n-octyl-n-decyl phthalate
Diisodecyl phthalate
Santicizer* 160
Santicizer 602
Santicizer 603
Santicizer 606
Santicizer 611
Santicizer 613

**Adipates**
Diisodecyl adipate
Dioctyl adipate

**Phosphates**
Tricresyl phosphate
Triphenyl phosphate
Santicizer 140
Santicizer 141

**Phthalyl Glycolates**
Santicizer E-15
Santicizer B-16
Santicizer M-17

**Sulfonamides**
Santicizer 1-H
Santicizer 3
Santicizer 8
Santicizer 9

**Sulfonamide Resins**
Santolite* MHP
Santolite MS-80%

**Specialties**
HB-40*
HB-20*
Santowax* R
Aroclor* 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260
Aroclor 1262
Aroclor 1268
Aroclor 4465
Aroclor 5442
Aroclor 5460
Aroclor 2565

*Reg. U. S. Pat. Off.

*Fill out the card below, and mail it to...*

## For helpful action...

"Plasticizers Council"
Monsanto Chemical Company
Dept. PL-1, 800 N. 12th Blvd.
St. Louis 1, Mo.

MONSANTO

**Please fill in all information that applies to your operation**

**Base resin now using (including brand name)**_____

**Fabrication method:**
Extrusion_____ Calendering_____
Injection Molding_____ Fabric Coating_____
Plastisol_____ Surface Coating_____
Adhesive_____ Other (please indicate)_____

**Brief description of end-product and production method**

_____

_____

_____

**Important end-product properties**

Specific gravity_____
Tensile strength_____
Elongation_____
Volatility, % weight_____
% plas._____

Low temp. flex and method_____
Light stability___hrs. Weatherometer
___hrs. Fadeometer
Special properties_____
Raw material cost_____¢ lb.

Shore hardness_____
100% modulus_____
Heat stability_____minutes
at_____°C.

**General notes**_____

_____

_____

I would like to have more information on reducing costs through purchasing plasticizers in bulk or combined shipments. I currently purchase the following plasticizers:_____

_____

NAME_____ TITLE_____

FIRM_____

ADDRESS_____

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