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"Dutch Boy"
PLASTICIZER
NL F-31

*A New Vinyl Plasticizer With An Excellent
Balance of Properties*



DUTCH BOY CHEMICALS

A Product Development of
NATIONAL LEAD COMPANY

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"Dutch Boy" PLASTICIZER NL F-31

"DUTCH BOY" NL F-31 is a new primary plasticizer developed especially for use in polyvinyl chloride formulations. It is a clear, light-colored liquid which is completely soluble in most of the common organic solvents and oils. It is designed for vinyl products requiring a sound balance of properties, including very good low temperature flexibility, at moderate cost.

Table of Properties

Form	Liquid
Color (APHA)	20
Odor	Weak
Specific Gravity (25°C, 25°C)	0.960
Free Point (°C)	-30.0
Acidity (% in Acetic Acid)	0.02
Refractive Index (25°C)	1.490
Flash Point (°F)	630
Fire Point (°F)	665
Viscosity, centipoise (25°C)	12.2
Weight per gallon	7.9 lbs.

Application Properties

NL F-31 combines low volatility and good efficiency with very good low temperature flexibility, a balance of properties not found in any commercial plasticizers in the moderate price range. Usually, unless very costly plasticizers can be

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employed, it is necessary to sacrifice low volatility to obtain good low temperature characteristics in a vinyl stock. M. F-31 provides this combination with no compromise in efficiency, processing characteristics, or physical properties. Its volatility from a typical plastic stock is identical with diethyl phthalate, while its Clark & Berg low temperature flexibility is about 13°C. lower.

Uses in Polyvinyl Chloride

Film and Sheeting -- M. F-31 has properties which approach the ideal for formulating quality general-purpose film and sheeting. It is highly efficient, with very good compatibility. For film applications, such as in shower curtains and raincoats, M. F-31 has excellent water extraction resistance, its good heat and light stability and low volatility are highly important in the retention of flexibility on aging. Sheeting for upholstery stocks, automobile seat covers and similar purposes are improved by the low temperature flexibility and the very good drapage characteristics of M. F-31. Outdoor applications of vinyl will benefit from its excellent weathering properties.

Extruded Products -- M. F-31 is especially recommended for garden hose because it imparts permanence, weather resistance, low water extraction, and low temperature flexibility. The same properties are also well suited for vinyl rubber-lime and for secondary insulation in wire and cable jacketing. M. F-31 is an excellent all-purpose plasticizer for high quality tubing and tubing stocks.

Other Vinyl End Uses -- M. F-31 has somewhat better wetting properties than diethyl phthalate, a characteristic which is especially useful for highly filled vinyl stocks such as flooring and roof mulling. It is recommended for plasticized and organosol used in cloth mulling and fabric coatings, where its low initial viscosity and good package stability are valuable.

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