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"Dutch Boy"
FLOMAX 25

*A New Liquid
Heat and Light Stabilizer
for Clear Vinyl Plastics*



DUTCH BOY CHEMICALS

A Product Development of
NATIONAL LEAD COMPANY

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"Dutch Boy" FLOMAX 25

"DUTCH BOY" FLOMAX 25 is a new liquid barium-cadmium organic stabilizer for vinyl chloride resins. It is ideal for compounds that need both high clarity and excellent heat and light stability. In addition to these performance advantages, FLOMAX 25 assures easy incorporation into vinyl systems, due to its liquid free-flowing character. The combination of clarity, efficient stabilizing action and easy incorporation make FLOMAX 25 a remarkable new development in the field.

Table of Properties

Composition.....	Barium-cadmium organic complex
Color and Form.....	Clear yellow liquid
Specific Gravity (25°C./25°C.).....	1.00
Refractive Index (25°C.).....	1.48
Stability.....	Stable in solutions of hydrocarbons and solvents with ketones, esters, "cellulosics" etc.

General Characteristics

1. **Clarity**—FLOMAX 25 stabilized stocks are exceptionally clear and free from color. These characteristics are maintained under severe heat and light exposure. The resistance to yellowing and clouding of FLOMAX 25 is superior to previously available barium-cadmium type stabilizers.

2. **Heat Stability**—FLOMAX 25 very effectively fulfills the heat stability requirements of calendaring, extrusion, and molding. Even high heat processing techniques are easily handled. Plate-out on roll surfaces is minimized, and clarity and freedom from yellowing are maintained under severe heat exposure conditions.

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2. *Light Stability*—FLOWAX 25 contributes light stability of the highest order. Its anti-oxidant action helps to prevent embrittlement and color formation resulting from light exposure. Clear film and sheeting for automotive or other outdoor use, clear garden hose and clear plastic coatings are typical examples of the outdoor applications where FLOWAX 25 will do an outstanding job.

3. *Compatibility*—FLOWAX 25 is compatible with all of the commonly used plasticizers for vinyl chloride resins. In addition to excellent stabilizing action with the organic ester types, such as phthalates, adipates, sebacates and sebacates, FLOWAX 25 is unusually effective with the more "sensitive" plasticizers, such as the phosphates, organic epoxides, ether esters, polyesters and hydrocarbons. Combinations of plasticizers for special properties do not present any serious problem with this new stabilizer. The use of a small amount of an organic epoxide plasticizer with FLOWAX 25 usually brings the best stability to a measurable extent.

4. *Low Viscosity Buildup in Plastids*—FLOWAX 25 does not cause excessive viscosity buildup in vinyl plastids or organoids. The excellent combination of properties makes FLOWAX 25 an ideal stabilizer for "paste resin" compounds. Its liquid form makes it simple to incorporate, and it is outstanding for clarity, non-yellowing, and heat stability.

General Recommendations

The general level of usage of FLOWAX 25 for all types of vinyl chloride plastic is 2% based on the weight of the resin. This level may be varied to meet special processing or use conditions.

By itself, FLOWAX 25 has excellent oxidative resistance for many applications. For cases where oxidative-staining problems are particularly severe, a clear stabilizer, "DUTCH BOT" NALZIN, should be added. It is suggested that 1/2% NALZIN, based on the weight of the resin, be substituted for 1/2% FLOWAX 25 (resin basis). The use of 1/2 part of NALZIN to 2 parts of FLOWAX 25 is optimum for high oxidative resistance, without sacrificing other stabilizing properties.

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