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"Dutch Boy"
DS 207

A dibasic lead stearate
that acts both as a lubricant
and a stabilizer.



DUTCH BOY CHEMICALS

A Product Development of
NATIONAL LEAD COMPANY

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"Dutch Boy" DS 207

DS 207, dibasic lead stearate, is a soft, pure white, anhydrous powder with all the apparent lubricity of normal lead stearate.

The basic lead content of DS 207 and its low refractive index make it an excellent stabilizer for all types of vinyl plastics, including highly translucent products. It serves a two-fold purpose. It is both a stabilizer and lubricant.

Table of Properties

Composition	Dibasic Lead Stearate
Formula	$2PbO \cdot Pb(C_{17}H_{35}O_2)_2$
Color and Form	Soft White Anhydrous Powder
Molecular Weight	1228
Specific Gravity	2.88
Refractive Index	1.48
Weight per 100g Cotton in Formula	16.88
Lead Oxide Content, % PbO, average	53.3
Melting Point	Decomposes above 300°C without melting
Solubility	Insoluble in all common solvents
Flammability (Based on No. 223 Sheet)	0.275 min.
Smoke (Loss at 300°C, %)	0.275 min.

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Uses

Stabilizer-Lubricant for Vinyl Plastics — DS 207 has two-way utility when used in vinyl plastics. It is an excellent heat and light stabilizer. Since DS 207 has a refractive index of 1.60, which is very close to the refractive index of vinyl resins and plasticizers, it can be used in highly translucent vinyl compounds.

DS 207 is also an effective lubricant and will improve flow characteristics for molding, extruding, calendaring and related vinyl processes. Unlike most other vinyl lubricants, DS 207 does not melt at processing temperatures. Being essentially insoluble in most plasticizers, it resists migration to the surface at elevated temperatures. Unlike normal lead stearate, DS 207 has two additional PbO groupings which must be reacted before any stearic acid is released into the vinyl compound.

For many applications, DS 207 is useful as a co-stabilizer together with "DUTCH BOY" TRIBASE, DYTIAL, DYPHOS, PLUMBAGNE, the ELECTRO series of stabilizers, or NORMASOL. In each of these cases, it provides required lubricating properties as well as substantially increasing the heat and light stability of the compound.

For most applications, the recommended quantity of DS 207 is 0.25% to 1.0%, based on the vinyl resin weight. The exact level depends on the amount of lubricating action desired for the particular process. For vinyl photographic records, 1.5% DS 207, based on the weight of the total system, is suggested to insure high fidelity and good release characteristics.

For rigid calendared and extruded vinyl products, 2.0% of DS 207 (resin basis) is recommended as a co-stabilizer with "DUTCH BOY" DYPHOS, DYTIAL, or TRIBASE.

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