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"Dutch Boy"

THIX

*New Thickening and Gelling Agent
for Water Systems*



*A Product Development of
NATIONAL LEAD COMPANY*

"Dutch Boy" is the registered trademark
of the National Lead Company

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"Dutch Boy" THIX

"DUTCH BOY" THIX is a highly purified magnesium montmorillonite which swells and gels in water with great efficiency. It is supplied as a soft milky-white powder of very fine particle size. Individual particles of THIX, which have been fully hydrated and separated in aqueous dispersion, attain an ultimate particle size of less than one micron.

Table of Properties

Composition	Highly refined magnesium montmorillonite
Color	Magnesium silicate
Form	Milky-white
Specific Gravity	Soft finely divided powder
Apparent Density (lb./gal.)	2.8
Fineness	2.5
Maximum (100)	Less than 5% retained on 200 mesh sieve
	0 ± 2

Average Chemical Analysis, dry basis:

SiO ₂	26.5
Al ₂ O ₃	4.2
Fe ₂ O ₃	0.2
MgO	21.8
CaO	2.8
Na ₂ O	2.5
K ₂ O	0.2
Li ₂ O	1.2
H ₂ O	2.5
Ignition Loss	2.1

Thickening, Gelling, and Emulsifying Agent for Water Systems

"DUTCH BOY" THIX is recommended for thickening or gelling all water dispersions. In addition, it is useful as a suspending agent and for emulsifying oil in water systems. It also organizes gelling agents, such as gelatin, gum, etc. THIX is completely nonpoisonous, and is not subject to microbial growth or degradation.

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Thixotropic Thickening and Gelling Efficiency — When properly dispersed, good colloidal suspensions can be obtained with 1% of "DI THIX" THIX. At concentrations of 2 to 2.5%, a thick thixotropic gel is obtained. Incorporating 5% or more of THIX will yield firm, solid gels. The gels made with THIX do not thin out upon heating.

Particle Suspension — Hard settling of finely divided insoluble solids in aqueous systems is eliminated by the use of about 1% of THIX. The emulsions gel structure of the THIX-water system reduces the settling particles and makes reincorporation easy.

Emulsion Systems — Stable emulsions of oils (mineral, vegetable, etc.) in water can be formed by using "DI THIX" THIX in concentrations of 2% or less. Mixtures of water and immiscible organic liquids can also be emulsified. In smaller concentrations, THIX acts as an emulsion stabilizer when other emulsifiers are present. Aqueous systems containing THIX are compatible with a wide range of organic polar liquids.

Methods of Incorporation

For maximum efficiency, dry THIX should be sprinkled on the surface of the required water system and allowed to hydrate until the THIX settles. The gel or thickening is then obtained by high speed stirring. An alternate method would be to introduce the THIX slowly with constant agitation. Normally, if proper incorporation procedures have been followed, no heat is required to fully gel a system with THIX.

It must be remembered that in concentrations above 3% of THIX, the gels formed will be too stiff for thorough incorporation by stirring. For stiff gels, the use of a roller mill or colloid mill is recommended.

Fields of Application

"DI THIX" THIX as a gellant, suspension agent, and emulsifier in aqueous media finds usefulness in a wide variety of products, including the following:

Creams	Insecticides and Fungicides
Lotions	Charmers and Polishes
Powders	Adhesives
Disinfectants	Toxicant Formulations
Shampoos	Creams and Gels
Emulsion Paints	Cosmetics

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