

Product Bulletin

Product Name

ZELEC[®] NE

Chemical Description

Neutralized alcohol phosphate

Applications

ZELEC release agents are effective in polyester resin molding operations that require external heat, such as matched metal die, compression and pultrusion. They are not generally successful at room temperature curing, such as hand lay-up or gel coat. This may be due to reactions with the metallic soaps used as accelerators in the operations, thus inhibiting the cure. Operations can be modified to use ZELEC products by eliminating these accelerators.

ZELEC NE is a highly effective nondurable antistatic agent for use in textiles, plastics, and films. It is soluble in aqueous systems and other polar solvents.

Functional Properties

- Good wetting agent in aqueous media.
- Compatible with carbonate filled resins (no reaction with alkaline fillers)

Typical Properties

Appearance.....	Viscous Yellow Paste
Density, g/ml (lbs/U.S. gal) at 25°C.....	1.12 (9.3)
Actives, %	100
Flash Point (PMCC), °C (°F)	>94 (>201)
pH, 10% Aqueous at 25°C	7.0 - 7.6
Melting Point, °C (°F)	50 (122)
Solubility at 25°C (77°F):	
Isopropanol	Soluble at 1%
Hydrocarbons	Insoluble
Water	Soluble > 40%
Mineral Oil.....	Insoluble
Stability	
Acid.....	Stable above pH 4
Alkaline solution.....	Stable

Solubility Information

ZELEC NE is highly soluble in water. Solutions are easily prepared by dissolving the product in a small quantity of water at 60 - 80°C (140 - 180°F) then extending it to the proper concentration with warm or cold water. Aqueous solutions up to 40% are clear, higher concentration increase in viscosity and can gel. A 40% solution has a viscosity of 80-110 centipoises on an Ostwald-Fenske viscometer.

Toxicity

ZELEC NE is practically non-toxic orally (LD₅₀, rat> 6000 mg/kg) and is severely irritating to skin and corrosive to eyes.

Storage & Handling

Normal safety precautions (i.e. gloves and safety goggles) should be employed when handling ZELEC NE. ZELEC NE is corrosive, contact with eyes and skin should be avoided. ZELEC NE should be stored in a cool, dry place in closed containers.

Standard Packaging: ZELEC NE is available in bulk and 55 gallon drums (net weight 204 kg/ 450 lbs).

Clearances

All components of ZELEC NE are listed in the following countries: United States (TSCA), Canada (DSL), Australia (AICS) and Korea (ECL). Composition is a trade secret.

ZELEC[®] is a registered trademark of Stepan Company.



Surface Tensions of Aqueous Solutions

Surface Tension, Dynes/cm
Deionized water, at 25°C (77°F)

<u>Weight %</u>	<u>ZELEC NE</u>
1.0	25.4
0.5	26.1
0.1	26.7
0.05	27.6
0.01	34.4
0.005	37.7
0.001	54.3
Control	72

Acid and alkaline stability of ZELEC NE is adequate for most textile applications. A 1% solution containing 0.1% NaOH solution develops a slight haze, but does not precipitate while standing for 24 hours at room temperature. Addition of 0.1% Sulfuric acid to a 0.1% solution of ZELEC NE produces only slight turbidity.

Stable Organic Solutions of ZELEC NE

ZELEC NE is able to be formulated with a variety of organic solvents and oils to make useful water emulsifiable concentrates.

Formulations

<u>Ingredients</u>	<u>Formulation 1</u>	<u>Formulation 2</u>
ZELEC NE	22	20
Oleyl Alcohol	9	20
Mineral Oil	69	--
Lard Oil	--	60

Additional Safety Information

A Material Safety Data Sheet is available upon request.

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Stepan

Corporate Headquarters
Northfield, Illinois 60093, U.S.A.
847-446-7500 847-501-2100 fax
Website: www.stepan.com

For Technical Service Call: Northfield, IL USA 800-745-7837
Longford Mills, Canada 705-326-7329 • Mexico City, Mexico +52-555-533-1697
Voreppe, France +33-476-505-100 • Bogota, Colombia +57-1-6362808
Stalybridge, United Kingdom +44-141-338-9083
Manila, Philippines +632-891-1708

