

LE-410

Description

LE-410 silicone emulsion is an emulsion of an organomodified silicone oil. The organic functionalization of the silicone backbone makes it an excellent candidate to consider for use in industrial applications that need high thermal stability, excellent compatibility with other organic components, superior release characteristics especially for rubber, foam control and excellent spreading and wetting characteristics. Once applied, LE-410 silicone emulsion imparts water resistance and is re-paintable and re-coatable. Additionally, LE-410 silicone emulsion is compliant with certain US Food and Drug Administration food contact regulations, as listed under Regulatory Status below.

Key Features and Typical Benefits

- Superior release and lubricating properties
- Excellent compatibility with organic resin systems
- Excellent emulsion stability
- High gloss, spreading and wetting
- Foam control
- Re-paintable and re-coatable
- FDA food contact-compliant

Typical Physical Properties

PROPERTIES	TYPICAL VALUE
Appearance	White liquid
Emulsifier type	Non-ionic
Silicone content, %	35
Diluent	Water
Specific gravity	0.99
Viscosity, cSt, 25°C	10
Odor	Mild

Typical properties are average data and are not to be used as or to develop specifications.

Typical Applications

LE-410 silicone emulsion is an excellent candidate to consider as an additive for/as:

- General release applications
- A release agent for rubber parts
- Inks, paints and coatings to impart gloss, increased thermal stability and moderate foam control
- Applications requiring high thermal stability
- A lubricant in water based formulations
- A calender roll lubricant and threading aid in paper machines to help prevent the paper from sticking to the calender rolls without interfering with subsequent printing, gluing or coating of the paper

Potential Application: Clupak Paper Production

LE-410 silicone emulsion is an excellent candidate to consider for use in the manufacture of Extensible Paper. It can impart excellent release and lubricity between the paper and the heated drum at economical use levels typically without imparting detrimental effects to the end paper that may limit its end use. As a result, the paper may be printed, coated or glued. Further, it can enable full dough rise of packaged baking flour.

Clupak Paper Applicaton - General Considerations for Use

For this application, LE-410 silicone emulsion should be typically diluted to application strengths of about 2 to 3% in water. Diluted LE-410 silicone emulsion is generally stable for extended periods of time in a tank with mild stirring at temperatures below 65°C. A typical application strength dilution containing 3% LE-410 silicone emulsion (1.05% silicone actives) can be prepared by stirring as-received LE-410 silicone emulsion into water as follows:

3.0	Litres of LE-410 silicone emulsion as received
97.0	Litres water
100.0	Litres total

LE-410 silicone emulsion may be handled in steel tanks and piping as with any aqueous system. Improved rust inhibition may be obtained by adding 50grs of sodium nitrite (NaNO₂) to each 100 litres of diluted LE-410 silicone emulsion.

Regulatory Status

LE-410 silicone emulsion meets the requirements of the following US FDA regulations:

- 21 CFR §176.170: (Components of paper and paperboard in contact with aqueous and fatty foods)
- 21 CFR §176.180: (Components of paper and paperboard in contact with dry food)
- 21 CFR §177.2800: (Textiles and textile fibers)

Patent Status

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