



# Flexipel™ 50

Water repellent for food contact paper

## Overview

- High performance water repellent and release agent for paper and paperboard
- Can be applied in the size press, gravure or coating roll, calendar stack water box, using spray or immersion techniques. Also useable as an internal sizing agent.
- Imparts a sizing effect with water resistance
- Provides water resistance with standard drying conditions
- Compatible with starch and sizing components
- No odor or fumes around coating roll
- Less VOC emitted, due to higher solids
- Kosher Approved Certificate
- **FDA Compliant** for:
  - 21 CFR 175.105 (Adhesives)
  - 21 CFR 176.170 (Aqueous & Fatty Foods)
  - 21 CFR 176.180 (Dry Food)
  - 21 CFR 178.3290 (Packaging Closure Area: use rate limitation applies)
  - 21 CFR 181.22 (Food Packaging)
  - 21 CFR 181.30 (Food Packaging)

**Carefully review FDA compliance for your use.**

## Uses

- Paper and paperboard, including recycled and bleached
- Frozen food containers, ice bags
- Meat wrapping papers, potato bags
- Anti-blocking sheets & release papers for high pressure laminates
- Food separators and pan liners
- Release coating for water-based adhesives
- Water repellent disposables, such as paper/scrim laminated, for high hydrostatic resistance

## Technical Information

Flexipel 50 is a water repellent and release agent for paper and paperboard, including food contact uses. It is a high solids solution in isopropanol of a water-soluble chromium (III) complex. Flexipel 50 was developed to provide a good rate of cure at room temperature. Drying at elevated temperatures does not negatively impact sizing or release properties. Flexipel 50 can be used to impart improved wet tear, wet/dry tensile retention, and wet abrasion resistance. The product can be used to produce water repellent disposables with hydrostatic resistance, such as paper/scrim laminated, and can be sterilized with steam or ethylene oxide.

## Application Methods

Flexipel 50 can be applied in the size press, gravure or coating roll, calendar stack water box, and using spray or immersion techniques. It also can be used as an internal sizing agent. Flexipel 50 provides good dilution bath stability when held at 70-80°F. The preferred temperature for application is 80-100°F. Conduct a pre-test prior to using an elevated bath temperature, because bath life is shorter at elevated temperatures. Treatments with Flexipel 50 will exhibit good sizing properties after 5 minutes of drying time at room temperature. Drying at elevated temperatures does not have a negative effect on sizing or release properties. **For Formulary information**, refer to the second page of this Technical Data Sheet.

## Typical Properties

PROPERTY	VALUE
Appearance	Dark green liquid
Odor	Alcohol
Ionic character	Cationic
Water solubility	Soluble
pH, 10% solution	1.8 - 2.2
Density@25°C	1.04 ±0.02g/ml
% Solids	48.5 - 50.5
Flash point (closed cup)	13°C (55°F): isopropyl alcohol
Storage	Freeze/Thaw stable Store at 50-70°F
Shelf life	12 months

## Packaging and Handling

Flexipel 50 is available in:  
55 gallon coated steel drums (Net Wt. 450 lbs)

Refer to the Safety Data Sheet (SDS) for information on the safe use, handling, and disposal of this product

DOT Classification: Regulated as flammable and corrosive

Keep container tightly closed. Store in a cool, shaded area with recommended temperature between 50-70°F. Store away from heat, sparks, or open flames.

Do not store or use near oxidizing agents. Positive ventilation is required for storage and use.

Whether you're looking for a replacement product or an ingredient for a specific attribute, give us a call. We can provide assistance based upon your particular formulation requirements and composition; please feel free to contact us.

**Please refer to back page for important information**

## Flexipel 50

### Water repellent for food contact paper

Flexipel 50 is a water repellent and release agent for paper and paperboard. General formulation information is provided below:

Flexipel 50 Application Bath Preparation Instructions	
Ingredient	Wt. %
Warm Water (80-100°F)	to 100
Flexipel 50 (as received)	preferred quantity depending on use & performance
Flexisorb SFS-54 (urea-formate solution) for pH adjustment to pH 2.8-3.5	as needed

**Add Flexipel 50 to warm water (80-100°F) which is already under agitation, and mix well until uniform.**  
*(aqueous solutions of Flexipel 50 are sensitive to polyvalent anions such as sulfate and particularly phosphate, although quantities normally present in hard water can be tolerated)*

**The pH of the diluted Flexipel 50 should be about 2.5.**  
**For optimum results, raise the pH of the diluted Flexipel 50 to pH 2.8 - 3.5 using Flexisorb SFS-54 stabilizer.** For the pH adjustment, use either direct addition of the Flexisorb SFS-54 or a water dilution of the Flexisorb SFS-54.

**While mixing the diluted Flexipel 50, slowly add the Flexisorb SFS-54 and continue mixing well. Do not add more water.**

Aqueous stabilized solutions of Flexipel 50 at pH 2.8 to 3.5 are generally stable for 24 hrs. Bath stability deteriorates as bath temperature increases above 80°F. External cooling should be provided if bath temperature reaches 110 °F. This solution has very poor bath stability at 120°F.

**Preferred application temperature is 80-100°F.**

**Drying for 5 minutes at room temperature will impart good sizing properties. Drying at elevated temperatures does not show a negative effect on sizing or release properties.**

For dry food contact uses under CFR 21 176.180, hexamethylenetetramine can be an alternate pH adjust, using 2.5-4.5% on weight of the Flexipel 50 (as-is) in place of the Flexisorb SFS-54. Hexamethylenetetramine cannot be used in application baths for the other CFR 21 food contact uses.

This information relates only to the specific material referred to herein and not to its use in combination with any other material or in any process, unless explicitly stated herein. Such information is, to the best of our knowledge and belief, accurate and reliable as of the date compiled; however, no warranty, guarantee or other representation is made as to its accuracy, reliability, or completeness, or regarding any liabilities arising from others' intellectual property rights. ID# 20230330. revision 1.