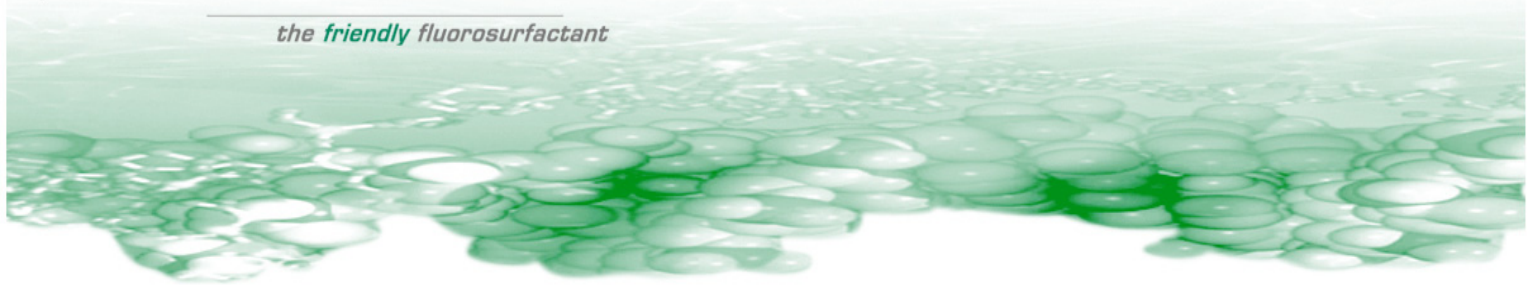




# POLYFOX™

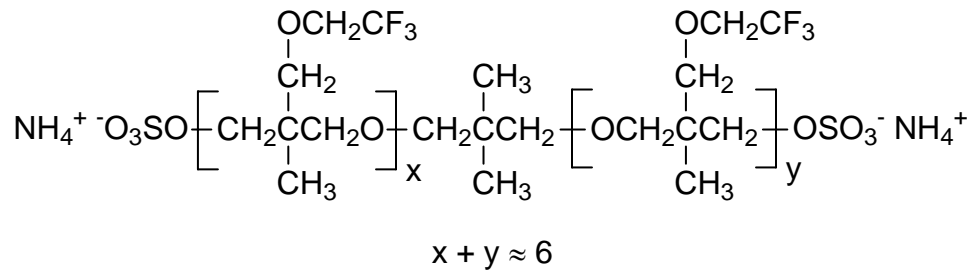
the friendly fluorosurfactant



## PolyFox™ PF-2003

Fluorosurfactants for Improved Flow, Leveling and Surface Appearance in Floor Polish

### Generic Structure



### GENERAL INFORMATION:

PolyFox PF-2003 is an **environmentally preferred**, water dispersible fluorosurfactant based on OMNOVA Solutions' platform of poly(oxetane) polymers. PolyFox fluorosurfactants are used in water-based coatings to improve flow, leveling, and surface appearance. This PolyFox fluorosurfactant is particularly effective at reducing air entrapment and entrainment while improving surface appearance in aqueous coatings. When properly formulated, PolyFox fluorosurfactants may be used to replace telomer- based and other conventional fluorosurfactants such as FC-129 from 3M Company.

PF-2003 is similar to PolyFox TM-1 except that Dowanol® DPM glycol ether is used as a United States Environmental Protection Agency's *Design for the Environment* program-compliant solvent.

### KEY FEATURES AND BENEFITS:

- **Environmentally Preferred** – Test data has established that PolyFox fluorosurfactants do not bioaccumulate, resulting in very low environmental impact compared to certain telomer-based and conventional fluorosurfactants.
- **Low Foaming Characteristics** – Use of PolyFox fluorosurfactant results in significantly less foam development than other available fluorosurfactant technologies. The small amount of foam produced is short-lived.
- **Improved Surface Appearance** – Incorporation of PolyFox fluorosurfactants into coating formulations can result in **improved coating appearance** due to reduced surface defects. In spray applied coatings, PolyFox fluorosurfactants can result in reduced pock marks and cratering, while in roll coat applications their use may result in reduced surface waviness.
- **Outstanding Air Release and De-Aeration** – Incorporation of PolyFox fluorosurfactants in coating formulations results in dramatically reduced air entrainment, thereby **reducing surface defects** such as pin holes, air trapping and cratering. Elimination of surface defects such as pin holes and air trapping can also result in improved coating durability.
- **Near Water-White Color** – Compared to traditional telomer-based and other conventional fluorosurfactant technology, PolyFox fluorosurfactants are **clear and uniform in appearance**. Use of PolyFox fluorosurfactants will not result in increased color in clear formulations.
- **Formulation Versatility** – PolyFox fluorosurfactants offer an environmentally preferred alternative to telomer-based and other conventional fluorosurfactant technologies without the typical air entrainment problems associated with those technologies, while resulting in improved surface appearance. PolyFox fluorosurfactants' unique surface activities result in their ability to **perform both as a de-aerator and as a flow and leveling agent**. Proper coating formulation with PolyFox fluorosurfactants can result in decreased numbers of additives in formulations.

**Table 1. Typical Aqueous PolyFox PF-2003 Fluorosurfactant Physical Properties\***

Property	PolyFox PF-2003
Appearance	Clear low viscosity liquid
Viscosity #4 spindle @ 100 rpm @77°F (cps)	50-100
Color	Colorless to light straw
% Non volatile (Wt)	30
Type	Anionic Fluorinated polyether di(ammonium sulfate) salt
Solvent and percent	Water/Dowanol® DPM (71/29)
Ionic character	Anionic
pH	8.5 – 9.8
Specific Gravity	9.15 lbs./gal
Flash Point (Pensky Martens Closed Cup)	>200°F
Surface Tension (mN/m) (in distilled water)	31 (pure material @1600 ppm)
Ross-Miles Foam Test (Foam height in mm) ASTM D1173-53 (49°C @ 1000 ppm in distilled water)	Initial: 110 After 5 minutes: 55
Solubility in water	Dispersible in all proportions
*Not actual product specifications	

Dowanol® is a registered trademark of the Dow Chemical Company.

**Learn More:**

Find out how PolyFox fluorosurfactants can improve appearance and performance in your coatings. Call 888-253-5454 or email [SpecialtyChem@omnova.com](mailto:SpecialtyChem@omnova.com) for samples, literature, or technical assistance or visit our website at [www.omnova.com](http://www.omnova.com)

**NOTE:**

Although the data supplied above is believed to be accurate, each user is advised to make an independent determination as to whether the described product(s) is/are appropriate for a particular use or application, whether such a use will comply with all applicable laws or regulations, or whether such use will infringe the intellectual property rights of third parties.



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