Consumer Solutions

DOWSIL™ FZ-Series Surfactants

New choices. More opportunities.

Traditional polydimethylsiloxane does not always provide the performance required to meet your specific formulation needs. However, by incorporating organic groups, it is possible to create a wide range of siloxane structures with new performance-enhancing capabilities.

DOWSIL™ FZ-Series Surfactants expand our current line of silicone polyethers, giving you even more structure and performance options from a single, trusted source.

DOWSIL FZ-Series Surfactants are concentrated and non-ionic. They can be formulated into both aqueous and non-aqueous systems. Plus, they are effective at low use levels.

Beneficial Features

- Low surface tension
- High wetting
- Gloss enhancement
- Moderate pro-foaming
- Broad range of solubility
- Aqueous cloud points
- Low volatility
- Low toxicity, environmentally safe
- Concentrated

Wide Range of End-Use Applications

- Adhesives and sealants
- Agrochemicals[2]
- Auto appearance[1]
- Chemical processing
- Fibers and textiles
- Institutional specialties[1]
- Paints, inks and coatings
- Plastics and rubber

[1]Contact Dow for regulatory compliance on your specific application.

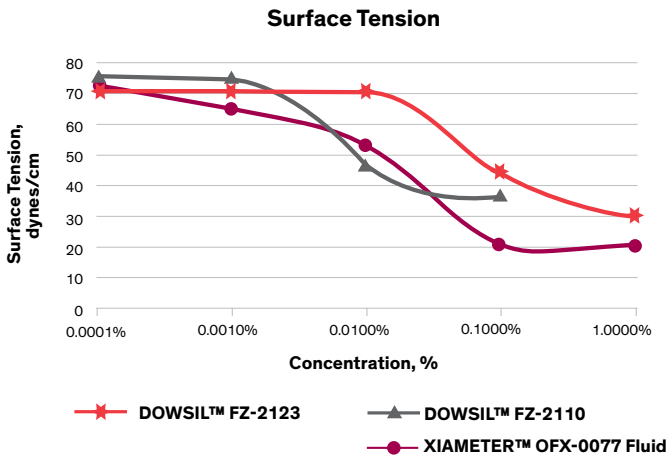
Product Details

DOWSIL FZ-Series Surfactants offer a choice of benefits, structures and physical properties to meet your specific formulation needs.

Table 1. Selection Guide

Surfactant	Antifoam	Profoaming	Dispersing, Emulsifying	Finish, Gloss Sheen,	Flow, Leveling Aid	Lubricant	Slip, Mar Resistance	Wetting
DOWSIL™ FZ-2110	X	-	-	X	X	X	X	X
DOWSIL™ FZ-2123	-	X	X	X	X	-	-	X
XIAMETER™ OFX-0077 Fluid[2]	-	-	-	-	X	-	-	X

[2] Meets the requirements of U.S. EPA regulation 40 CFR 180.910 regarding "tolerances and exemption from tolerances for pesticide chemicals in or on raw agricultural commodities."



The low surface tension of DOWSIL FZ-Series Surfactants will enhance leveling and wetting on virtually any surface. At very low concentrations, DOWSIL FZ-Series Surfactants can reduce the surface tension of water from 72 dynes/cm to as low as 20 dynes/cm. This superior wetting will enhance leveling performance in coatings applications and improve adhesion to substrates.

Table 2. Structural Information

Surfactant	CAS Number	Type Ratio	EO/PO	Cap Weight	Molecular Solids	Percent
DOWSIL™ FZ-2110	68440-66-4	Pendant	0/100	Me	2015	100
DOWSIL™ FZ-2123	68938-54-5	Pendant	100/0	Me	2775	100
XIAMETER™ OFX-0077 Fluid	27306-78-1	Trisiloxane	100/0	Me	600	100

Table 3. Typical Physical Properties

Surfactant	Appearance	Specific Gravity[1]	Viscosity	Aqueous Surface Tension at 1%, dynes/cm	Cloud Point, °C	Flash Point Value, °C	Estimated HLB2
DOWSIL™ FZ-2110	Clear	0.99	128	—[4]	—[3]	>100	Low
DOWSIL™ FZ-2123	Clear, light tan	1.04	84.4	30.1	35.4	>100	High
XIAMETER™ OFX-0077 Fluid	Clear, amber	1.01	22.1	20.5	—[3]	>100	Low

[1]Apparent specific gravity at 25/25°C. [2]Low (5-8), medium (9-12), high (13-17). [3]Solution cloudy at 1% at room temperature. [4]Not soluble at 1%; no surface energy data reported.

DOWSIL™ FZ-Series Surfactants are soluble or dispersible in a wide range of solvents, allowing for greater formulation flexibility.

Table 4. Solubility at 0.1, 1, 5 and 10% Dow Surfactant Concentration[1]

Surfactant	DI Water	IPA	Propylene Glycol	Acetone	Methyl n-Amyl Ketone	Toluene	Hexane	VM&P Naphtha	t-Butyl Acetate	Methyl Acetate	PCBTF (OXSOL)	Xylene	3% Xylene in Kerosene
DOWSIL™ FZ-2110	DIII	SSSS	DIII	SSSS	SSSS	SSSS	SSSS	SSSS	SSSS	SSSS	SSSS	SSSS	SSSS
DOWSIL™ FZ-2123	SDDD	SSSS	SSSS	SSSS	SSSS	SSSS	SDII	SSII	SSSS	SSSS	SSSS	SSSS	SSII
XIAMETER™ OFX-0077 Fluid	DDDI	SSSS	SSSS	SSSS	SSSD	SSSS	SDII	SSSD	SSSS	SSSS	SSSS	SSSS	SSII

[1]S = Soluble, D = Dispersible, I = Insoluble

Learn More

Whether you need industry-leading innovation or greater cost efficiency, Dow can help. Solutions by Dow are dedicated to meeting your needs for specialty materials, collaborative problem-solving and innovation support. Learn how we can help you at **consumer.dow.com.**

For More Information and Product Samples

Contact your Dow distributor. Product samples, technical data sheets, and information about Dow's extensive line of silicone surfactants are also available at **consumer.dow.com**. For application assistance and formulation advice, contact your nearest Dow global Technical Information Center.

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