



# TECHNICAL DATA SHEET

YOUR CHEMICAL SOLUTIONS PROVIDER



## DESCRIPTION

**EnviroSURF-AT80** (Powder/ Flakes): NONIONIC SURFACTANT for use in DETERGENTS and CLEANERS for the CHEMICAL and ALLIED INDUSTRIES.



## FORMULATION/COMPOSITION

Chemical Nature: **EnviroSURF-AT80** (Powder/ Flakes ) is a Nonionic Surfactant. It is an Alkylpolyethylene Glycol Ether made from a Linear, Saturated C16/C18 Fatty Alcohol. It conforms to the following formula.:  $RO(CH_2CH_2O)_xHR$  = Linear, saturated C16/C18 fatty alcohol  $x = 80$ . The number in the alphanumeric code indicates the nominal degree of ethoxylation.

**EnviroSURF-AT80** (Powder/ Flakes) are manufactured by causing the fatty alcohol to react with ethylene oxide in stoichiometric proportions. The ethoxylation temperature is kept as low as possible. This, combined with the high purity of the feedstocks, ensures that a high performance product with low toxicity is obtained.

## PHYSICAL & CHEMICAL PROPERTIES

Appearance	Powder: Colourless or slightly yellow Flakes: Colourless or slightly yellow
Degree of Ethoxylation	80
Concentration %	100
Cloud Point (acc to EN 1890)	Method A: 1g of surfactant + 100g of distilled water: >100°C Method B: 1g of surfactant + 100g of NaCl solution (c=50g/l): 87°C Method C: 1g of surfactant + 100g of NaCl solution (c=100g/l): 73°C Method D: 5g of surfactant + 45g of diethylene glycol monobutyl ether solution (c=250g/l): 100°C Method D: 5g of surfactant + 25g of diethylene glycol monobutyl ether solution (c=250g/l): 100°C
Molar Mass (calculated from hydroxyl number) g/mol	3780g/mol
pH (EN 1262, 5% in water)	7 (The pH of EnviroSURF-AT80 can decrease during storage, but this does not have any effect on its performance)
Density (DIN 51757, 60°C) g/cm <sup>3</sup> (23 °C)	1.04g/cm <sup>3</sup>
Apparent Density (ISO 697) kg/l	0.6kg/l
Dropping Point (DIN 51801)	52°C
Congeaing Point (ISO 2207)	43°C

### Disclaimer / Non-warranty

This product has been subjected to limited tests and has been shown to perform well. The information contained herein is to our best knowledge true and accurate, but since the conditions of use are beyond our control, EnroChem Trading DMCC, disclaims any liability in connection with the use of this product and/or information. Warranty extends only as far as to the replacement of material shipped if not compliant with the specification as set out in the attached "Certificate of Analysis" and within the expiry period of the said product. All recommendations or suggestions are made without guarantee. It is good practice to conduct one's own application tests on a small area prior to using the product.

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**PHYSICAL & CHEMICAL PROPERTIES**

Clear Melting Point	56°C
Viscosity [EN 12092, 60 °C, Brookfield, 60 rpm] mPa.s	300 mPa.s
Hydroxyl Number (DIN 53240) mg KOH/g	14 mg KOH/g
Hydrophilic-Lipophilic Balance	18.5
Wetting Power [EN 1772, in distilled water with 2 g/l soda ash]	a: 0.5 g/l, 23 °C s > 300: 1 g/l, 23 °C s > 300: 2 g/l, 23 °C s > 300 b: 0.5 g/l, 70 °C s > 300: 1 g/l, 70 °C s > 300: 2 g/l 70 °C s > 300
Foam Formation [EN 12728, 40 °C, 2 g/l in water with a hardness of 1.8 mmolCa2+ ions/l, after 30 sec]	200 cm³
Surface Tension [EN 14370, 1 g/l in distilled water at 23 °C]	50 mN/m
Solubility in various solvents (10 % solutions at 23 °C)	<p><b>Distilled Water:</b> Clear Solution</p> <p><b>Potable Water</b>(approx. 2.7 mmol Ca2+ ions/l): Clear Solution</p> <p><b>Caustic Soda (5 % w/w):</b> Insoluble</p> <p><b>Hydrochloric Acid(5 % w/w):</b> Clear Solution</p> <p><b>Sodium Chloride Solution(5 % w/w):</b> Clear Solution</p> <p><b>Mineral Oils:</b> Insoluble</p> <p><b>Ethanol:</b> Clear Solution</p> <p><b>Aromatic Hydrocarbons:</b> Clear Solution</p>
Viscosity	The relationship between Viscosity and Temperature is always an important point to consider when <b>EnviroSURF-AT80</b> are to be Stored or Shipped. The higher the temperature, the lower the resultant viscosity.

**EnviroSURF-AT80** tend to form a gel at certain concentrations when diluted with water. It is advisable to prepare stock solutions for mixing with other solutions or for preparing very dilute solutions. We would recommend preparing stock solutions with a concentration of 10-15% by heating the water and **EnviroSURF-AT80** to 70°C and then stirring the surfactant into the water in small portions until the required concentration is reached. Care should be taken to ensure that the solution does not form a gel. These solutions are then easy to dilute down to their final concentration.



**SAFETY & HANDLING** Always consult the Material Safety Data Sheet before use

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## PROPERTIES/APPLICATIONS/USE

**EnviroSURF-AT80** have excellent Detergency and excellent Soil-dispersing Capacity. It is mainly employed in Household, Industrial and Institutional Detergents and Cleaners. Their Degrees of Ethoxylation are such that they perform particularly well in Heavy-Duty Laundry Detergents in the medium and high temperature ranges. They also improve the Flowability of detergent powders.

**EnviroSURF-AT80** also perform very well in Aqueous Cleaner formulations and in formulations based on Mixtures of Water and Organic Solvents. Very large amounts of Acids, Alkalis, Salts and Organic Solvents may have to be added to some types of formulation in order to fulfil special requirements. High concentrations of Inorganic salts, Bases and Acids can impair the solubility of **EnviroSURF-AT80**, but this does not necessarily affect its performance. Electrolytes of this type do not cause **EnviroSURF-AT80** to decompose.

**EnviroSURF-AT80** is supplied in the form of Fine, Freeflowing Powder or Beads. Unlike cast solids or flakes, they can be mixed into formulations directly. They are also Easier to Dissolve, and there is less dusting when drums are emptied, etc.

**EnviroSURF-AT80** is an Effective Emulsifier for substances such as Paraffin Wax or other Waxes. They perform well alone or in combination with other emulsifier types.

**EnviroSURF-AT80** also perform well as Wetting agent, and has high wetting power in water and polar solvents.

**EnviroSURF-AT80** can be Combined with Anionic, Cationic and Nonionic Surfactants and Auxiliaries. They are fully Compatible with alkylaryl sulphonates, ether sulphates and other sulphated and sulphonated products. This enables synergistic effects and very high levels of performance to be obtained. It is also Compatible with cationic dimethyl-N-alkylbenzylammonium chloride).

**EnviroSURF-AT80** also have excellent Resistance to Hard water, and its Dispersing capacity for lime soaps is very high.

**EnviroSURF-AT80** is used as Powder binders for solid cleaners and detergents supplied in block form.

**EnviroSURF-AT80** very effective Emulsifier for hydrophobic substances such as fatty acids, ester-type waxes, monomers for emulsion polymerization and polar solvents etc. which normally require Surfactants with a High HLB.

**EnviroSURF-AT80** can be used to Stabilize Emulsions and to Disperse Suspended Solids in Water.

**EnviroSURF-AT80** can be added to Commercial Rinse Aids in order to encourage the water to drain off and to promote sheeting.

**EnviroSURF-AT80** can be used in, Powder detergents, Liquid detergents, Cleaners and shampoos, Technical cleaners, Dishwasher detergent.

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## STORAGE/SHELF LIFE

This product should be stored in its original packaging (tightly sealed), in a dry place and in ambient conditions. Storerooms must not be overheated.

**EnviroSURF-AT80** is hygroscopic and soluble in water, with the result that it will absorb moisture very quickly. Drums and bags should be tightly resealed each time material is taken from them.

In powder form, **EnviroSURF-AT80** should be stored in a dry place at a temperature not exceeding 30 °C. It must be protected from sunlight to ensure that it does not form lumps.

This product has a shelf life of at least two years, provided it is stored in the original packaging and kept tightly sealed.

## PACKAGING

**EnviroSURF-AT80 is available in**

25 Kg Bags

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