



## CONSERVATION BY DESIGN LIMITED

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# Technical Data Sheet

## DEHYPON LS45 (SR5c)

Date of Issue: January 4th. 2000

### Background Information

In 1999 a working party consisting of Textile Conservators and Conservation Scientists was set up incorporating staff from the British Museum, Victoria and Albert Museum and numerous other organisations. The purpose of the group was to locate a suitable alternative to the likes of Synperonic N for the cleansing of textile material.

Dehypon LS45 was found to offer the best efficiency in cleansing presoiled garments made from wool with similarly excellent cleansing properties on the cleansing of cotton. As an all-round detergent Dehypon LS45 was found to be the natural choice over its rivals by members of the working group.

### Description

Dehypon LS45 is a low foaming non ionic surfactant with a sufficient stability in alkaline media (eg carbonates, silicates, phosphates) and acidic media (eg phosphoric acid, citric acid). The technical properties of Dehypon LS45 are not affected by water hardness ions. Due to low foaming properties, the product can be used for the formulation of cleaner concentrates either in liquid or powder form.

Main areas of application outside conservation include all-purpose-cleaners, rinse aids for household and industrial use, cleaners for breweries and dairies.. In addition Dehypon LS45 is especially suitable for the formulation of rinse aids for institutional use. The distinct wetting properties of LS45 enable an excellent wetting of hydrophobic surfaces like glass and plastics.

Dehypon LS45 has a low cloud point and the efficiency of this product is dramatically reduced in working concentrations of water above 22° C

### Technical Information

A fatty alcohol C12-C14 with approximately 4 moles EO and approximately 5 moles PO

cmc value* (critical micelle concentration)	0.0598g/l (Sugden Bubble Equipment)
Physical state	liquid
Colour	yellow, clear
Odour	specific
pH	(at 10g/l H <sub>2</sub> O) (20° C) 6.5-7.5 Henkel method Q-P-1274.0

Cloud/clear point 53917/ISO 1065	20-22 (H <sub>2</sub> O)
Flash point	>100° C DIN 1758/ISO 2719 (Pensky-Martens)
Turbidity temperature (° C, H <sub>2</sub> O)	20-22 (Henkel method Q-C-2062.0)
Density (g/cm <sup>3</sup> , 70° C)	0.9260-0.930 (DIN 51757)
Solubility	(20° C) partially miscible

**Additional Product descriptive data**

<b>Active substance (%)</b>	99.9-100	100% minus % water
<b>Water content (%)</b>	<0.5	Henkel Method Q-C-2064.0
<b>Hydroxyl value (mgKOH/g)</b>	87-97	Henkel Method Q-C-2058.0

This product contains surfactants which are at least 90% biodegradable

\*The importance of a 'cmc' value

The cmc or critical micelle concentration is the concentration at which the surface of the water is completely covered in a dense layer of the detergent molecules, thus reducing its surface tension. Above this concentration the surface tension remains at the same level of reduction and excess molecules, unable to squeeze to the water's surface, form micelles: groups of molecules that can gather up and suspend dirt in solution. It is recommended that detergents are used at several times above their cmc to avoid micelle exhaustion. A non ionic can be used at approximately 5 times its cmc and anionics at 2-3 times their cmc.

Dehypon LS45 has been found to have a cmc value of 0.0509 g/ litre, multiplying this by 5 gives a working strength of 0.3g per litre of water. (By comparison Synperonic N had a cmc value of 0.0190 and Synperonic A7 of 0.0822)

**Environmental precautions:**

Do not allow to flow into drainage system: very toxic to aquatic organisms

See Main MSDS leaflet.

**Order Details**

<b>Product Code:</b>	SR5c
<b>Pack size available:</b>	1 & 5 kilo pots

For further information call + 44 ( 0 ) 1234 853 555 or fax + 44 ( 0 ) 1234 852 334