

in the UK. Included in the Canadian Natural Health Products Ingredients Database.

### 17 Related Substances

Cholesterol; lanolin; lanolin, hydrous; petrolatum and lanolin alcohols; mineral oil.

### 18 Comments

Water-in-oil emulsions prepared with lanolin alcohols, unlike those made with lanolin, do not show surface darkening, nor do they develop an objectionable odor in hot weather.

Therapeutically, lanolin alcohols may help in the wound-healing process.

The EINECS number for lanolin alcohols is 232-430-1.

### 19 Specific References

- 1 Nguyen JC, *et al.* Allergic contact dermatitis caused by lanolin (wool) alcohol contained in an emollient in three postsurgical patients. *J Am Acad Dermatol* 2010; 62: 1064–1065.
- 2 Miest RY, *et al.* Diagnosis and prevalence of lanolin allergy. *Dermatitis* 2013; 24(3): 119–123.
- 3 The Expert Panel of the Cosmetic Ingredient Review, (1979), Final report of the safety assessment for acetylated lanolin alcohol and related

compounds, CIR, 1101 17th St. N.W. Suite 310, Washington DC 20036-4702, USA. [http://www.cir-safety.org/sites/default/files/115\\_buff3g\\_suppl.pdf](http://www.cir-safety.org/sites/default/files/115_buff3g_suppl.pdf) (accessed 24 October 2014).

### 20 General References

- Barnett G. Lanolin and derivatives. *Cosmet Toilet* 1986; 101(3): 23–44. Imperial-Oel-Import. <http://imperial-oel-import.de/products.html> (accessed 24 October 2014).
- Khan AR, *et al.* *In vitro* release of salicylic acid from lanolin alcohols–ethylcellulose films. *J Pharm Sci* 1984; 73: 302–305.
- Osborne DW. Phase behavior characterization of ointments containing lanolin or a lanolin substitute. *Drug Dev Ind Pharm* 1993; 19: 1283–1302.
- Smolinske SC. *Handbook of Food, Drug, and Cosmetic Excipients*. Boca Raton, FL: CRC Press, 1992; 225–229.

### 21 Authors

HC Shah, KK Singh.

### 22 Date of Revision

4 May 2017.

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## Lanolin, Hydrous

### 1 Nonproprietary Names

BP: Hydrous Wool Fat

JP: Hydrous Lanolin

PhEur: Wool Fat, Hydrous

### 2 Synonyms

Adeps lanae cum aqua; adeps lanae hydrosus.

### 3 Chemical Name and CAS Registry Number

Hydrous lanolin [8020-84-6]

### 4 Empirical Formula and Molecular Weight

The JP XVII describes hydrous lanolin as a mixture of purified lanolin and 25–30% w/w purified water. The PhEur 9.2 describes hydrous lanolin as a mixture of 75% w/w lanolin and 25% w/w purified water; *see also* Section 18. The PhEur 9.2 additionally permits the inclusion of up to 150 ppm of butylated hydroxytoluene as an antioxidant.

*See also* Lanolin.

### 5 Structural Formula

*See* Section 4.

### 6 Functional Category

Emollient; emulsifying agent; ointment base.

### 7 Applications in Pharmaceutical Formulation or Technology

Hydrous lanolin is widely used in topical pharmaceutical formulations and cosmetics in applications similar to those for lanolin.

*See also* Section 18 and Lanolin.

### 8 Description

Hydrous lanolin is a pale yellow-colored, unctuous substance with a faint characteristic odor. When melted by heating on a water bath, hydrous lanolin separates into a clear oily layer and a clear water layer.

### 9 Pharmacopeial Specifications

*See* Table I.

**Table I:** Pharmacopeial specifications for hydrous lanolin.

Test	JP XVII	PhEur 9.2
Identification	+	+
Characters	+	+
Melting point	39°C	38–44°C
Acidity/alkalinity	+	–
Water absorption capacity	–	+
Water-soluble acids and alkalis	–	+
Water-soluble oxidizable substances	+	+
Chloride	≤0.036%	≤115 ppm
Ammonia	+	–
Paraffins	–	≤1.0%
Petrolatum	+	–
Acid value	≤1.0	≤0.8
Peroxide value	–	≤15
Iodine value	18–36	–
Saponification value	–	67–79
Residue on evaporation (wool fat content)	70–75%	72.5–77.5%
Sulfated ash	–	≤0.1%