

# ALOXICOLL® PF40

## Standard Antiperspirant Active

INCI Name: Aluminum Chlorohydrate

Empirical Formula:  $\text{Al}_2(\text{OH})_5\text{Cl} \times n\text{H}_2\text{O}$

### Description

ALOXICOLL® type PF40 is a standard antiperspirant active. Its efficacy is due to the precipitation of basic Aluminium Chlorohydrate polymer complexes in the upper part of the sweat glands. These polymers can be measured by HPLC. A typical HPLC trace for ALOXICOLL® PF40 can be seen below, indicating the characteristic polymer distribution from band 1 to band 4.

### Chemical Properties

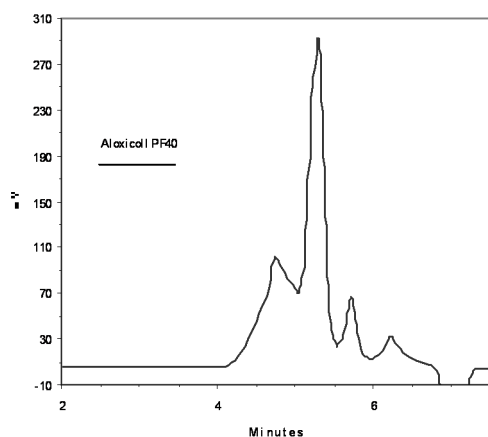
ALOXICOLL® powders are stable under non aqueous conditions. Aqueous / alcoholic solutions of ALOXICOLL® are slightly acidic. At pH values > 5, insoluble  $\text{Al}(\text{OH})_3$  precipitates out. On drying, the residue decomposes to HCl and  $\text{Al}(\text{OH})_3$ . On further heating, to temperatures >100°C,  $\text{Al}(\text{OH})_3$  releases water.

### Physiological Properties

According to the application area and concentration applied, ALOXICOLL® exhibits sweat reducing, deodorant, astringent, antibacterial and antiphlogistic properties.

### Application

ALOXICOLL® PF40 is primarily used in anhydrous formulations e.g. aerosols, sticks, soft solids, suspension roll-ons, powders and creams.



### General Data

Form	fine powder
Aluminium Chloride	24,4 - 25,4 %
Al : Cl	15,8 - 16,8 %
Iron	1,91 - 2,10
Heavy metals [as Pb]	max. 100 ppm
pH [15 % solution]	max. 20 ppm
Particle Size	4,0 - 4,4
	97 % < 45 µm
	99 % < 106 µm



Raw Materials / Trade name	INCI name	w/w [%]
<b>Gilugel® SIL 5</b> (1)	Cyclopentasiloxane (and) Cyclohexasiloxane (and) Aluminium/ Magnesium Hydroxide Stearate	29,00
Isopropyl Myristate	Isopropyl Myristate	20,00
DC 345 Fluid(2)	Cyclopentasiloxane (and) Cyclohexasiloxane	18,00
<b>Aloxicoll® PF40</b> (1)	Aluminum Chlorohydrate	33,00
Filling instruction:		
Antiperspirant bulk		25,00
Propane		5,25
Butane		29,75
n-Pentane		40,00

Raw Materials/ Trade name	INCI name	w/w [%]
DC 345 Fluid(2)	Cyclopentasiloxane (and) Cyclohexasiloxane	35,50
Arlacel 165 (4)	Glyceryl Stearate (and) PEG-100 Stearate	1,00
Lanette 18 (5)	Stearyl alcohol	19,00
Polyethylenglycol 4000 (6)	PEG-75	5,00
<b>Aloxicoll® PF40</b> (1)	Aluminum Chlorohydrate	20,00
Cutina HR (5)	Hydrogenated Castor Oil	0,50
<b>Gilugel SIL5</b> (1)	Cyclopentasiloxane (and) Cyclohexasiloxane (and) Aluminium/ Magnesium Hydroxide Stearate	20,00

## Safety

ALOXICOLL® PF40 is an Aluminium Chlorohydrate according to USP 32. The FDA Final Antiperspirant Monograph classifies ALOXICOLL® types under category 1, as safe and effective for use in all types of antiperspirant formulations.

## Packaging

ALOXICOLL® PF40 powder is available in 140 kg fibre drums.

## Storage

ALOXICOLL® types can be stored for more than 3 years in original, unopened containers. Once opened, the powders should be used quickly and contact with moisture should be avoided.

## Antiperspirant Aerosol A 55

### Procedure

Mix **Gilugel®**, IPM and volatile Silicone under rapid agitation. Disperse the **Aloxicoll®** powder and mix under shear until the solids are uniformly dispersed. Add perfume, fill into cans, degas and pressurise.

### Suppliers

- 1)BK Giulini
- 2)Dow Corning

## Antiperspirant Stick A 08

### Procedure

Combine the Arlacel, Lanette, PEG and Cutina, heat to 80 °C and mix well. Add the **Gilugel®** under agitation. When receiving a homogeneous gel add the **Aloxicoll®** under shear and cool to 65 ° C. When dispersion is uniform, add the volatile Silicone, cool to 55 ° C and fill into proper containers. Stirring continuously during the package filling operation.

### Suppliers

- 1)BK Giulini
- 2)Dow Corning
- 4)Uniqema
- 5)Cognis
- 6)BASF

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