

# ALOXICOLL® 31P

## Standard Antiperspirant Active

INCI Name: Aluminumsesquichlorohydrate

Empirical Formula:  $\text{Al}_2(\text{OH})_y\text{Cl}_z \times n\text{H}_2\text{O}$  ( $z=1,1-1,3, y=6-x$ )

### Description

ALOXICOLL® 31P 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 Aluminium Chlorohydrate polymers can be measured by HPLC. A typical HPLC trace for ALOXICOLL® 31P can be seen below, indicating the characteristic polymer distribution from band 1 to band 4.

### Chemical Properties

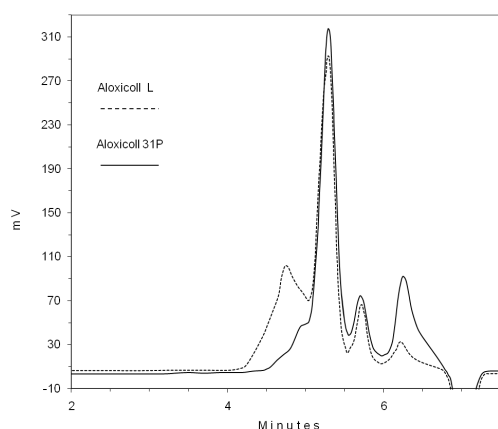
ALOXICOLL® powders are stable under non aqueous conditions. Aqueous / alcoholic solutions of ALOXICOLL® are slightly acidic. At pH values > 5, insoluble  $\text{Al}(\text{OH})_3$  precipitates out. On drying, the residue decomposes to HCl and  $\text{Al}(\text{OH})_3$ . On further heating, to temperatures >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® 31P is an antiperspirant active with a slightly higher efficacy over standard Aluminium Chlorohydrate, ALOXICOLL® L. It is primarily used in anhydrous formulations e.g. aerosols, sticks, soft solids, suspension roll-ons, powders and creams.



### General Data

Form	fine powder
Aluminium	23,5 - 25,0%
Chloride	17,5 - 19,0 %
Al : Cl	1,7 - 1,8
Iron	max. 100 ppm
Heavy metals [as Pb]	max. 20 ppm
pH [15 % solution]	3,9 - 4,3
Particle Size	97 % < 45 µm 99,8 % < 106 µm



Raw Materials / Trade name	INCI name	w/w [%]
<b>Gilugel® SIL 5</b> (1)	Cyclopentasiloxane (and) Cyclohexasiloxane (and) Aluminum/Magnesium Hydroxide Stearate	29,00
Isopropyl Myristate	Isopropyl Myristate	20,00
DC 345 Fluid(2)	Cyclopentasiloxane (and) Cyclohexasiloxane	18,00
<b>Aloxicol® 31P</b> (1)	Aluminum Sesqui- 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 [%]
<b>A. Gilugel® SIL 5</b> (1)	Cyclopentasiloxane (and) Cyclohexasilox- ane (and) Aluminum/Magnesium Hydroxide Stearate	25,00
DC 345 Fluid(2)	Cyclopentasiloxane (and) Cyclohexasilox- ane	45,00
Promyristyl PM-3 (3)	PPG-3 Myristyl Ether	5,00
Ethanol	SD Alcohol 39-C	1,00
<b>B. Aloxicol® 31P</b> (1)	Aluminum Sesqui- chlorohydrate	24,00
Perfume	Perfume	q.s.

### Safety

ALOXICOLL® 31P is an Aluminium Sesquichlorohydrate 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® 31P powder is available in 80 kg PE 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. Storage of ALOXICOLL® 31P powder at high temperatures should be avoided.

## Antiperspirant Aerosol A 68

### Procedure

Mix **Gilugel®**, IPM and volatile Silicone under rapid agitation.

Disperse the **Aloxicol®** powder and mix under shear until the solids are uniformly dispersed. Add perfume, fill into cans, degas and pressurise.

### Suppliers

- 1)BK Giuliani
- 2)Dow Corning

## Antiperspirant Roll on A 69

### Procedure

Combine **A** in a suitable vessel. Mix and homogenise until smooth and uniform. Add **Aloxicol® 31P** slowly while stirring.

After completion of addition, homogenise again briefly.

### Suppliers

- 1)BK Giuliani
- 2)Dow Corning
- 3)Croda

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