

ALOXICOLL® L

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 L 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® L 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.

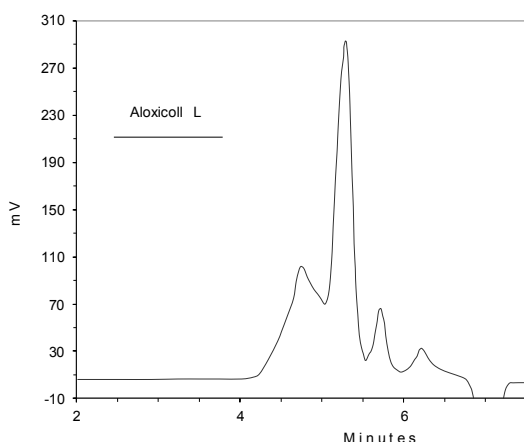
Physiological Properties

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

Application

ALOXICOLL® L is primarily used in aqueous or aqueous/alcoholic formulations, e.g. in roll-ons and pump-sprays. It can also be used in emulsions, pre-shaves and skin tonics.

ALOXICOLL® L forms clear solutions in formulations with alcohol concentrations up to 50% volume. Above this concentration, small quantities of $\text{Al}(\text{OH})_3$ may precipitate out.



General Data

Form	~ 50% solution
Aluminium	12,2 - 12,7 %
Chloride	7,9 - 8,4 %
Al : Cl	1,91 - 2,10
Iron	max. 50 ppm
Heavy metals [as Pb]	max. 10 ppm
pH [15 % solution]	4,0 - 4,4



Raw Materials/ Trade name	INCI name	w/w [%]
A. Ethanol	SD Alcohol 39-C	40,00
Polychol 20 (4)	Laneth-20	4,00
Arlamol E (5)	PPG-15 Stearyl Ether	2,00
Aloxicoll® L (1)	Aluminum Chloro- hydrate	30,00
B. Klucel M (6)	Hydroxypropyl- cellulose	0,70
Water		23,30

Antiperspirant Clear Roll On A 56

Procedure

Mix Ethanol, Polychol and Arlamol well while stirring and subsequently add phase B under agitation. Finally, add **Aloxicoll®**.

Suppliers

- 1)BK Giulini
- 4)Croda
- 5)Uniquema
- 6)Aqualon/Hercules

Safety

ALOXICOLL® L is a Aluminium Chlorohydrates according to USP 36. 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® L is available in 150 kg and 275 kg PE-drums or in 1000 kg and 1300 kg containers.

Storage

ALOXICOLL® types can be stored for more than 3 years in original, unopened containers. ALOXICOLL® L solution should be protected from freezing, and storage at high temperatures should be avoided.

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