SELECT BOTANICAL

AMMONIUM GLYCYRRHIZATE
Technical-Scientific report

GENERAL INFORMATION

Select Botanical, SL manufactures highest quality extracts following strictest Quality Management System in compliance with the “Good Manufacturing Practices” requirements, carrying on the last manufacturing steps in classified areas (Clean Rooms). Select Botanical, SL assures the traceability with rigorous analysis form raw material to finished product.

Definition:
Mixture of ammonium 18α-and 18β-glycyrrhizate (ammonium salt of (20β)-3β-[[2-O-β-D-glucopyranosyluronic acid)-α-D-glucopyranosyluronic acid]oxy]-11-oxoolean-12-en-29-oic acid), the 18β-isomer being the main component.

SPECIFICATIONS/ TECHNICAL CHARACTERISTICS
(According to the current monograph “Ammonium Glycyrrhizate” of the European Pharmacopoeia)

<table>
<thead>
<tr>
<th>Description:</th>
<th>White or yellowish-white, hygroscopic powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solubility:</td>
<td>According to monograph</td>
</tr>
<tr>
<td>Identification:</td>
<td>According to monograph</td>
</tr>
<tr>
<td>Specific optical rotation:</td>
<td>+49.0 to +54.0</td>
</tr>
<tr>
<td>Appearance of solution:</td>
<td>According to monograph</td>
</tr>
<tr>
<td>Related substances:</td>
<td>18α-glycyrrhizic acid: ≤ 10.0 %</td>
</tr>
<tr>
<td></td>
<td>Impurity A: ≤ 5.0 %</td>
</tr>
<tr>
<td></td>
<td>Any other impurities: ≤ 2.0 %</td>
</tr>
<tr>
<td></td>
<td>Sum of other impurities: ≤ 7.0 %</td>
</tr>
<tr>
<td>Water:</td>
<td>≤ 6% w/w</td>
</tr>
<tr>
<td>Sulphated ashes:</td>
<td>≤ 0.2 % w/w</td>
</tr>
<tr>
<td>Heavy metals:</td>
<td>≤ 20 ppm</td>
</tr>
<tr>
<td>Residual solvents:</td>
<td>Ethanol: &lt; 1% w/w</td>
</tr>
<tr>
<td>Assay (Potentiometry):</td>
<td>98.0-102.0 % (anhydrous subst.)</td>
</tr>
</tbody>
</table>

INFORMATION ABOUT MANUFACTURING PROCESS

Ammonium Glycyrrhizate is obtained from the licorice root (Glycyrrhiza glabra L.) by extraction and purification methods.

PRODUCT PROPERTIES

- Taste: Sweet taste (33-200 times sweeter than sucrose).

REGULATORY INFORMATION AND DESCRIPTION

CAS: 53956-04-0
EINECS: 258-887-7
INCI/ UE: Ammonium Glycyrrhizate

Structure:

Molecular formula: C_{42}H_{65}NO_{16}
Relative molecular weight: 840
AMMONIUM GLYCIRRHIZATE
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PROPERTIES

- Anti-inflammatory activity: Ammonium Glycyrrhizate exhibits anti-inflammatory activity due to Glycyrrhizic Acid, the active component. Glycyrrhizic Acid inhibits the activity of the phospholipase A2 that plays an important role in various inflammatory processes. Moreover, Glycyrrhizic Acid inhibits cyclooxygenase activity and the formation of prostaglandins. Also, inhibits in vitro the hyaluronidase, which is active during inflammation. (7)

- Smoothing and calming

- Skin conditioning

- Flavouring substance:
  Ammonium glycyrrhizate is listed either Food Chemical Codex or Codex Alimentarius.
  USA: Food and Drug administration (FDA) includes licorice and licorice derivatives (Monoammonium Glycyrrhizinate) on its list of substances considered Generally Recognized as Safe (GRAS) (21 CFR Parts 184 GRAS-Status of licorice and licorice derivatives).

PRODUCT APPLICATIONS

Due to the sweet taste of the product, Ammonium Glycyrrhizate can be formulated in tablets, toothpaste, lip balms and other products to mask unpleasant flavours.

Topical use:

- Anti-inflammatory. (1, 5)
- Anti-seborrhoeic. (6)

Indicated in the treatment of:

- Inflammations of skin as wounds, eczema and burns. (1, 5)
- Greasy hair.
- Gingival inflammations.

Ammonium Glycyrrhizate is an active ingredient for skin care, baby care and body care products. It can be formulated also in dental hygiene products.

Undesirable effects:

There are neither reported toxic effects nor intolerance phenomenon to normal use doses. On prolonged use and higher doses sodium and water retention and potassium loss may occur, accompanied by hypertension, edema and hypokalemia. (4)

Precautions / Contraindications:

People suffering from hypertension should avoid excessive consumption. (9) Ammonium Glycyrrhizate should not be used during pregnancy and lactation without medical advice. (4, 6)

BIBLIOGRAPHY AND OTHER REFERENCES SOURCES