

SPECIFICATION SHEET

PRODUCT	CODE	CLASIFICATION	PAGE
PIGMENTIN YL-11TM liquid	PYL-11	FINISHED PRODUCT	1 de 2
SPECIFICATION CLASS	EDITION	REVISION	TRADE MARK REGISTRY OFFICE
SALE	M/D/Y 02/24/11	1	SAGARPA A-0282-001

DESCRIPTION

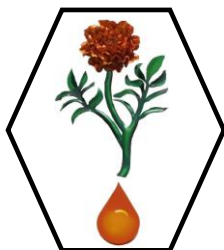
Pigmentin YL-11TM liquid is a natural emulsion which contains yellow saponified carotenoids concentrate from Aztec Marigold flowers (*Tagetes erecta*). **Pigmentin YL-11TM** liquid is a pigmenting feed and it contains 11 g carotenoids/kg of product as minimum. **Pigmentin YL-11TM** liquid contains natural emulsifying agents; as a consequence the absorption and bioavailability improve substantially in the digestive system. **Pigmentin YL-11TM** liquid is recommended for using in skin and yolk pigmentation for poultry and laying hen.

INGREDIENTS: 8.00 % of saponified extract from Aztec Marigold flowers (*Tagetes erecta* L.), 1.1 of total carotenoids 0.10 % potassium hydroxide and/or sodium hydroxide, 2.6 of USP grade propylene glycol, 0.9 of sunflower oil as a natural emulsifying agents and enough water for 100 g.

SENSORIAL AND ANALYTICAL SPECIFICATIONS

<i>CHARACTERISTICS</i>	<i>SPECIFICATION</i>
Color	Brownish yellow
Odor	Characteristic herbal
pH	11-13
Solubility	Soluble in organic solvents (hexane, toluene, acetone, ethanol, etc.)
Viscosity	<100 centipoises @ 25 °C
Specific gravity	1.00-1.01 g/ml
Total Carotenoids	11.00 g/kg minimum*
Free xanthophylls	99 % minimum by HPLC
<i>trans</i> -lutein	84 % minimum by HPLC
<i>trans</i> -zeaxanthin	5 % minimum by HPLC

*AOAC Method 970.64, Vol. II, 17th Edition 2000 (except D).



ACCREDITATION: *PIGMENTIN YL-11™* liquid contains natural carotenoids from Aztec Marigold flower which satisfy FDA Code of Federal Regulations (21.73) for color additives exempt from certification.

<i>ADDITIVE</i>	<i>SECTION</i>
Extract from Aztec Marigold flower (<i>Tagetes erecta</i> L.)	73.295
Potassium hydroxide	582.1631
Sodium hydroxide	582.1763
Propylene glycol	582.1666
Sunflower oil	582.4505

STORAGE:

Store in well closed original container in a cool place protected from sunlight for a long time. The storage tanks must be fitted up with cylindrical tube in the upper part of tank, allowing the free entrance and exit of air, but not for other materials.

PACKING:

High density polyethylene drum containing 200 kg of *Pigmentin YL-11™* liquid
Stainless steel tanker truck containing from 10,000 to 20,000 kg of *Pigmentin YL-11™* liquid.
Pigmentin YL-11™ liquid could be packaged in containers according to the customers' requirements.

USAGE:

Pigmentin YL-11™ liquid has been developed to satisfy the necessity of the poultry industry. In order to improve the pigmentation in egg yolk and chicken's skin is recommended to add other natural ingredient such as yellow maize, gluten of maize, alfalfa meal, together with red carotenoides such as capsanthin and canthaxantin for giving a golden yellow color on the chicken's skin and egg's yolk. It is fundamental having an efficient spraying system.

DOSAGE:

The nutritionist will suggest amount of *Pigmentin YL-11™* liquid according to the standard color required for the customer in every specific region. Because of *Pigmentin YL-11™* liquid is an innocuous product and there is not any restriction, the dosages could be the following:

For broiler skin pigmentation from 3 to 11 kilograms of *Pigmentin YL-11™* liquid by metric ton feed give 33 ppm to 121 ppm in the feed respectively.

For egg yolk pigmentation from 0.5 to 4 kilograms of *Pigmentin YL-11™* liquid by metric ton feed give 5.5 ppm to 44 ppm in the feed respectively.

EXPIRATION DATE: At least two years after manufacturing date under normal storage conditions.