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TECHNICAL SHEET

**Product: RETINOL 33.000 IU-g
CYCLOSYSTEM COMPLEX®**

Product code: 25001

Rev. 08: 17/09/2019

Shelf life: 730 days

<i>Product composition</i>				
<i>UE INCI</i>	<i>USA INCI</i>	<i>Percentage composition</i>	<i>CAS</i>	<i>EINECS</i>
POLYSORBATE 20	Polysorbate 20	>50	9005-64-5	-
AQUA	Water	10 – 24.9	7732-18-5	231-791-2
CAPRYLIC/CAPRIC TRIGLYCERIDE	Caprylic/Capric Triglyceride	10 – 24.9	73398-61-5	277-452-2
HYDROXYPROPYL CYCLODEXTRIN	Hydroxypropyl Cyclodextrin	5 – 9.9	128446-33-3	-
RETINOL	Retinol	1 – 4.9	68-26-8	200-683-7 / 234-328-2
SODIUM METABISULFITE	Sodium Metabisulfite	0.1 – 0.9	7681-57-4	231-673-0
TOCOPHEROL	Tocopherol	0.1 – 0.9	10191-41-0	233-466-0
BHT	BHT	< 0.1	128-37-0	204-881-4

<i>Product specifics</i>			
<i>Parameter</i>	<i>Method</i>	<i>Unit of Mesurament</i>	<i>Acceptance</i>
Physical aspect	Visual		Viscous liquid*
Colour	Visual		Yellow
Smell	CH102		Slight
pH	CH001		6.00 – 8.00
Viscosity (02/10rpm)	CH002	cps	1000 – 1600
Total Viable Count	MB001	C.F.U./g-ml	0 - 100
Yeasts and Mould	MB010	C.F.U./g-ml	0 - 50
Pseudomonas aeruginosa	MB003	C.F.U./g-ml	Absent
Staphylococcus aureus	MB004	C.F.U./g-ml	Absent
Candida albicans	MB005	C.F.U./g-ml	Absent

* **Note:** A slight turbidity and a superficial partial separation into two phase may be caused by temperature variations but it does not mean that the product is altered. It is enough to mix to re-obtain an homogeneous solution.

Storage and Use

RETINOL 33.000 IU-g CYCLOSYSTEM COMPLEX® is stable in the absence of preservatives. It is advisable to store in a cool, dry and dark place, at a temperature between 2° and 5°C. In this condition, the product is stable for 2 years. Following temperature decreases, the product can show the presence of crystals made of precipitating molecules of the complex. We recommend to include the product in the final cosmetic formula, dispersing it in the water phase at the temperature not above 35-40°C.

Product Application Information

Cyclodextrins are cyclic oligosaccharides resulting from degradation of starch by the enzyme CGT (Cyclodextrin-glucose-transferase), so they can be considered biotechnological products obtained from plant raw materials. As sugar molecules they have considerable moisturizing properties. However, what is peculiar of cyclodextrins is that they protect the active principle, improving the stability to oxidation, warm temperature, etc. of either hydrosoluble

or liposoluble molecules and, thanks to the well assessed process of controlled release, they greatly enhance the activity of the functional substance included. Retinol (or Vitamin A) has an important action against free radicals and it is essential in many biochemical reactions carried out in the cell. Therefore, it is a helpful ingredient for antiaging and protective cosmetic products, the minimum recommended dose level is 3-6 %. It is also recommended for all sun and after-sun products thanks to its moisturizing and nourishing properties.

Legend

INCI	International Nomenclature Cosmetic Ingredient
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Commercial Chemical Substances