



ORYZA OIL & FAT CHEMICAL CO.,LTD.

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PRODUCT STANDARD

PRODUCT NAME : **ALPHA LIPOIC ACID-PC** (COSMETIC)

This product guarantees a minimum of 98.0 % α -lipoic acid (thioctic acid, 1,2-dithiolane-6-pentanoic acid).

<u>Appearance</u>	Pale yellow to yellow or yellowish crystalline powder. It has odorless or slightly characteristic odor. Soluble in chloroform and ethanol. Slightly soluble in water.		
<u>Identification</u>	The maximum absorbance wave length : 331 ~ 335 nm. The minimum absorbance wave length : 278 ~ 283 nm.		
<u>α-Lipoic Acid</u>	Min. 98.0 %	(HPLC)	
<u>Melting Point</u>	60 ~ 63°C		
<u>Loss on Drying</u>	Max. 0.5 %	(Analysis for Hygienic Chemists, 1g, 40°C, reduced pressure, P ₂ O ₅ , 4 h)	
<u>Ignition Residue</u>	Max. 0.1 %		
<u>Purity Test</u>			
(1)6,8-Epitrithiooctanoic acid	Max. 0.1 %	(HPLC)	
(2)Polymer	Max. 2.0 %	(Precipitation Method)	
(3)Heavy Metals (as Pb)	Max. 10 ppm	(The Second Method of The Japanese Standards of Quasi-Drug Ingredients)	
(4)Arsenic (as As₂O₃)	Max. 1 ppm	(The Third Method of The Japanese Standards of Quasi-Drug Ingredients)	
<u>Standard Plate Counts</u>	Max. 1×10 ² cfu/g	(Analysis for Hygienic Chemists)	
<u>Moulds and Yeasts</u>	Max. 1×10 ² cfu/g	(Analysis for Hygienic Chemists)	
<u>Coliforms</u>	Negative	(Analysis for Hygienic Chemists)	
<u>Residual Solvents</u>			
(1)Ethanol	Max. 0.1 %	(GC)	
(2)Other Solvents			
Acetone	Not detected	(Less than 1 ppm)	(GCMS)
Cyclohexane	Not detected	(Less than 1 ppm)	(GCMS)
Dichloromethane	Not detected	(Less than 1 ppm)	(GCMS)
Ethyl acetate	Not detected	(Less than 1 ppm)	(GCMS)
Hexane	Not detected	(Less than 1 ppm)	(GCMS)
MTBE	Not detected	(Less than 1 ppm)	(GCMS)
Toluene	Not detected	(Less than 1 ppm)	(GCMS)

<u>Composition</u>	<u>Ingredient</u>	<u>Content</u>
	Thioctic Acid	100 %

Expiry date 2 years from date of manufacturing.

Storage Store it in a cool, dry, ventilated area with desiccant.

Keep it away from high temperature and sunlight, and store it in a closed container.

Established Date	July 3, 2004
Revised Date	October 6, 2017
Specification No.	Z-706EN