



## ORYZA OIL & FAT CHEMICAL CO.,LTD.

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## PRODUCT STANDARD

PRODUCT NAME : **ALPHA LIPOIC ACID-WSP7** (FOOD)

This product guarantees a minimum of 7.0 %  $\alpha$ -lipoic acid (thioctic acid, 1,2-dithiolane-6-pentanoic acid). This product is water-soluble.

<b><u>Appearance</u></b>	Slight yellowish or yellowish powder. It has no smell or slightly unique smell.	
<b><u>Certification Test</u></b>	The maximum absorbance wave length : 331 ~ 335 nm. The minimum absorbance wave length : 278 ~ 283 nm.	
<b><u><math>\alpha</math>-Lipoic Acid</u></b>	Min. 7.0 %	(HPLC)
<b><u>Loss on Drying</u></b>	Max. 9.0 %	(Analysis for Hygienic Chemists, 1g, 40°C, reduced pressure, P <sub>2</sub> O <sub>5</sub> , 4 h)
<b><u>Ignition Residue</u></b>	Max. 0.10 %	(The Japanese Standards for Food Additives)
<b><u>Purity Test</u></b>		
<b>(1)Heavy Metals (as Pb)</b>	Max. 10 ppm	(Sodium Sulfide Colorimetric Method)
<b>(2)Arsenic (as As<sub>2</sub>O<sub>3</sub>)</b>	Max. 1 ppm	(Standard Methods of Analysis in Food Safety Regulation, The Third Method, Apparatus B)
<b><u>Standard Plate Counts</u></b>	Max. 1×10 <sup>3</sup> cfu/g	(Analysis for Hygienic Chemists)
<b><u>Moulds and Yeasts</u></b>	Max. 1×10 <sup>2</sup> cfu/g	(Analysis for Hygienic Chemists)
<b><u>Coliforms</u></b>	Negative	(Analysis for Hygienic Chemists)
<b><u>Residual Solvents</u></b>		
<b>(1)Ethanol</b>	Max. 0.1 %	(GC)
<b>(2)Other Solvents</b>		
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)

### Composition

Ingredient	Content
Cyclodextrin	93 %
Thioctic Acid	7 %
Total	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	February 21, 2019
Revised Date	—
Specification No.	M-921EN