

Safety of Ceramide with oral administration

The plant ceramides are ceramide glucosides at all.

(These consist of sphingosine, lipids and sugar.)

These are not synthesized ceramides which have no glucosides.

(It consists of only sphingosine and lipide.)

Shaklee Japan Co. did not disclose any information.

Therefore I give you the following matters from other companies' brochures and references.

1) Mutagenosity (Mutagen test ; Ames test)

No.77(Sep.1st 1998 in accordance with the notification of Ministry of Health and Welfare and Labour affairs) in Japanese government

Test bacteria : Escherichia coli EP2 uvrA strain
and Salmonella typhimurium TA strain

Result ; Minus (at 1.56 ~ 5,000 μ g)

Rec-assay

in accordance with T. Kada's method (T. Kada : Mutate Res. (38), 340 (1976))

Result ; Minus (at 781 ~ 25,000 μ g)

No affective to DNA

2) Acute toxicity

In accordance with OECD guidelines for the testing of Chemicals 401(1981)

Animal : ICR mice (4weeks age)

Dose : 5 g / kg (with stomach probe)

Result : No death

No abnormal organs

LD50 : more than 5g/kg

LD50 :

- | | | |
|---------------|-------------------|----------------------|
| A) Rice Blanc | : more than 5g/kg | Olyza Co. (Japan) |
| B) Wheat | : more than 5g/kg | Enagram Co. (France) |
| C) Konjac | : more than 5g/kg | Unitika Co. (Japan) |

3) Ceramide contents

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|---------------|------------|
| A) Rice Blanc | : 0.3mg/kg |
| B) Wheat | : 0.3mg/kg |
| C) Konjac | : 2.7mg/kg |

4) Ingestion dose

- | | |
|---------------|---------------|
| A) Rice Blanc | : 0.6mg / day |
| B) Wheat | : 0.6mg/day |
| C) Konjac | : 0.6mg/day |

Formulation :

0.3mg/capsule 2 caps /day (The capsule size is 200mg)
(There is also 0.6mg/capsule.)

5) Date of Launch (marketing)

- 1) Rice Blanc : Olyza Co. 1998 October
- 2) Wheat : Nippon Oil and Fat(NOF) before 1998
- 3) Konjac : Unitika Co. 2003 September

6) Consumer complaints

None

(suitable for dry skin so on.)

7) Benefits of Ceramide

Find the attached references.

7. Acute toxicity and Safety

7-1. Residual agricultural chemicals

Assayed Items	Results	Detection Limits	Assaying Me
BHC	Not Detected	0.02 ppm	Gas Chromato
DDT	Not Detected	0.02 ppm	Gas Chromato
Aldrin	Not Detected	0.01 ppm	Gas Chromato
Dieldrin	Not Detected	0.01 ppm	Gas Chromato
Endrin	Not Detected	0.01 ppm	Gas Chromato
Parathion	Not Detected	0.05 ppm	Gas Chromato
Phenitorothion	Not Detected	0.05 ppm	Gas Chromato
Malathon	Not Detected	0.05 ppm	Gas Chromato

Tested by: Japan Food Research Center Foundation
 Research results issue number: 399080329-001

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7-2. Acute toxicity

After administering 5000 mg for 18-24 months, no toxic effects were observed, thus the LD₅₀ (mouse) is more than 5000 mg/kg.

8. Practical applications of Oryza Ceramide

The Oryza Ceramide was packed into 2 forms:

- ◆ ORYZA CERAMIDE-P (powder type)
- ◆ ORYZA CERAMIDE-L (milky liquid type)

Applications	Examples
Health foods	Soft-capsule, Tablet, Hard-capsule, and so on
Foods	Candy, Gum, Cake, Cooky, Wafer, Drink, Nutritional oil, and so on