SAFETY DATA SHEET

Prepared: February 21, 2012

MG-60

1. Identification of the Substance and the Company

Identification of the substance

Product Name	: MG-60
Synonym(s)	: Maltooligosyl Glucoside & Hydrogenated Starch Hydrolysate Tornare Glycosyl Trehalose & Hydrogenated Starch Hydrolysate
General Use	: Cosmetic ingredient

Company identification

Manufacturer

Company Name	: Hayashibara Company, Limited
Address	: 1-1-3 Shimoishii, Kita-ku, Okayama 700-0907, JAPAN

Contact in Emergency

Company Name	: Hayashibara Company, Limited
Address	: Nihon-Seimei Okayama Bldg. II Shinkan 1-1-3 Shimoishii, Kita-ku, Okayama 700-0907, JAPAN
Responsible Department	: International Planning & Marketing Dept.
Person in Charge	: Akihiro Hashino
Telephone	: +81-86-224-4327 (9:00 a.m. – 5:30 p.m. Japan time)
Fax	: +81-86-233-2265

2. Hazards Identification

GHS Classification : NOT HAZARDOUS

Symbols : No symbol

Signal Words : No signal word

GHS Precautionary Statements

Prevention	: No precautionary phrases.
Response	: No precautionary phrases.
Storage	: No precautionary phrases.
Disposal	: No precautionary phrases.

Other Hazards which do not result in classification : Not classified as flammable but will burn.

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Emergency Overview : The product is a highly safe material, which is enzymatically produced from starch and then hydrogenerated.

3. Composition / Information on Ingredients

Substance/ Preparation : A multi-constitutional substance

Chemical Identity : A mixture of glycosylated trehalose and hydrogenated starch hydrolysates

Purity :

Maltooligosyl Glucoside:	about 47%
Hydrogenated Starch Hydrolysate	about 27%
Water	about 26%

CAS No. : 25545-20-4 for the main component, Maltotriosyl Glucoside
738602-93-2 for Tornare, which is the same substance as MG-60

INCI NAME : Maltooligosyl Glucoside
Hydrogenated Starch Hydrolysate

REACH Registration No. : 01-0000019851-66-0000

ELINCS No. : 473-690-8

4. First Aid Measures

General Information : Not expected to be a health hazard when used under normal conditions.

Inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing.

Skin Contact : Immediately take off all contaminated clothing. Wash areas thoroughly with water.

Eye Contact : Immediately flush eyes with a sufficient amount of water. Remove contact lenses if easy to do so. Continue rinsing.

Ingestion : If material is swallowed in large amounts, get medical attention.

Consult a doctor, if symptoms develop or persist after taking the measures above.

5. Fire Fighting Measures

Clear fire area of all non-emergency personnel.

Extinguish Media : Dry chemical, foam, carbon dioxide, water fog

Unsuitable Extinguishing Media : No information

Special Fire Fighting : Position upwind. Keep unnecessary personnel away. Move containers out of hazard area if safe to do so. Keep the containers cool by spraying water if exposed to heat or fire. Cool containers with flooding quantities of water until well after until well after the fire is out.

Protection for Fire Fighter : Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6. Accidental Release Measures

Avoid contact with spilled or released material. See Chapter 13 for information on disposal. Observe the relevant local and international regulations.

Personal Precautions : Use personal protection recommended in Chapter 8. Avoid contacting with skin and eyes.

Environment Procedures : Prevent entry into ditches, sewers and waterways.

Containment and Cleanup : Sweep up the spill and dispose of in general trash. Wash residual with water. Spill area can be washed with water for approved disposal. Follow all regulatory requirements for non-hazardous waste disposal.

7. Handling and Storage

Handling : No special handing requirements. If necessary, use personal protection recommended in Chapter 8. Wash thoroughly after handling. When handling, do not eat, drink or smoke.

Storage : Keep container tightly closed. Keep in a dry place at ambient temperature. Keep securely closed when not in use. Keep away from food, drink and animal feeding stuffs.

8. Exposure Controls / Personal Protection

Exposure Limit Value : Not set because of the high safety of MG-60.

Exposure Controls : No specific controls are needed. If necessary, the following personal protective equipments and materials are applied.

Personal Protective Equipments and Materials (if necessary)

Respiratory Protection : Not applicable

Hand Protection : Wear impervious gloves for prolonged contact.

Eye/Face Protection : Wear appropriate eye protection.

Skin Protection : Wear impervious apron and/or boots for skin protection in case scattering.

9. Physical & Chemical Properties

Appearance	: Colorless transparent viscous liquid
Odor	: Odorless
pH	: 4.5 – 6.5 (10%w/v water solution)
Melting range	: 66 – 124°C*
Boiling range	: Not detectable (decomposed)*
Flash point	: No flash point*
Flammability	: Not highly flammable*
Relative self-ignition	: Not auto-flammable*
Oxidizing properties	: Not capable of causing fire or enhancing the risk of fire
Explosive properties	: Not considered an explosive*
Vapor pressure	: 1.35×10^{-22} Pa at 25°C*
Relative density (D_4^{20})	: 1.516 g/cm^3 at 20°C*
Solubility	: 636 g/L water at room temperature*
Log P_{ow} (*n*-octanol/water)	: < -5.2*
Adsorption coefficient (K_{OC})	: 0.3*

* : A powdered product was used for the tests following the ELINCS requirements.

10. Stability and Reactivity

Chemical Stability	: Stable under ordinary storage conditions.
Possibility of Hazardous Reactions	: Not likely to occur.
Conditions to Avoid	: None, if handled according to instructions.
Materials to Avoid	: None known
Hazardous Decomposition Products	: No hazardous decomposition products known.

11. Toxicological Information

Acute Oral Toxicity	: LD_{50}: > 2,759 mg/kg bw (female rats, OECD 423)
Acute Dermal Toxicity	: LD_{50}: > 2,000 mg/kg-bw (rats, OECD 402)*

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Subacute Oral Toxicity	: NOAEL 1,000 mg (d.s.b.)/kg-bw/day (rat, 28 days, OECD 407)*
Skin Corrosion/Irritation	: No irritating (Commission Directive 2001/59/EC) / mild irritant (Draize classification) (rabbits, primary skin irritation, OECD 404) Extremely low potential (rabbits, repeated skin irritation, Guidelines for the Safety Evaluation of Cosmeteics edited by Japan Cosmetic Industry Association) No irritation (closed patch test with humans in Japan)
Serious Eye Damage/Irritation	: No irritating (rabbit eye, OECD 405)
Respiratory or skin sensitization	: Not a skin sensitizer (guinea pigs, OECD 406) No dermal irritation or sensitization was observed. The 50% water solution was occlusively applied to the skin of 53 human subjects under the conditions of a modified Draize assay.
Germ Cell Mutagenicity	: No data available [No mutagenicity (standardized AMES assay*, chromosome aberration assay)]
Carcinogenicity	: No data available
Reproductive Toxicity	: No data available
Specific Target Organ Toxicity / Single Exposure	: No data available
Specific Target Organ Toxicity / Repeated Exposure	: No data available
Aspiration Hazard	: No data available

* : A powdered product was used for the tests following the ELINCS requirements.

12. Ecological Information

Hazardous to the Aquatic Environment

Acute Aquatic Toxicity

Fish toxicity	: 96-h LOEC, 96-h LC_{50} and 96-h LC_{100} > 100 mg/L*
Daphnia toxicity	: 48-h EC_{50} and 48-hr EC_{100} > 100 mg/L*
Algal toxicity	: 72-h LOEC, 72-h EC_{10} and 72-h EC_{50} > 100 mg/L*
Bioaccumulation Potential	: The *n*-octanol/water partition coefficient is in Chapter 9.
Mobility in Soil	: Very mobile (The adsorption coefficient is in Chapter 9.)*

Rapid Degradability

Biodegradability	: Readily biodegradable*
Activated sludge respiratory Inhibition	: 3-h EC_{20}, 3-h EC_{50} and 3-h EC_{80} > 1,000 mg/L*

Abiotic degradation (Hydrolysis)	: The results of pH 9.0 showed no significant degradation at 50°C. The estimated half-life time is higher than one year under representative environmental conditions (25°C). The product was considered to be hydrolytically stable at pH 9.0 and no further testing was necessary.*
Hazardous to the Ozone Layer	: Not data available

* : A powdered product was used for the tests following the ELINCS requirements.

13. Disposal Considerations

Comply with each local regulation.

Follow all regulatory requirements for non-hazardous waste disposal when dump this material into sewers, on the ground or into any body of water.

14. Transport Information

International transportation regulations

Sea:	: Not applicable
Air:	: Not applicable
United Nations Number	: None

The product to be kept in sealed container. Keep away from moisture, high temperatures, and direct sunlight. Container should be protected from breakage. Additional care should be taken to comply with the conditions listed under Chapter 7.

15. Regulatory Information

The product is not subject to classification according to the sources of literature known to us.

Please refer to national measures that may be relevant.

16. Other Information

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