MARINE SCIENCE CO., LTD.

Daiichi Sakamoto Building 7F, 2-1-11, Higashi-Kanda, Chiyoda-Ku, Tokyo 101-0031 Japan
Tel :81-3-3865-3485
Fax:81-3-3865-3450
URL http://www.marine-science.co.jp

FOOD ADDITIVE

2009/5/14

QUALITY SPECIFICATION

Product	CARRAGEENAN **GS**
Manufacture	MSC CO.,LTD.(KOREA)
Importer	MARINE SCIENCE CO.,LTD.

Summary

Carrageenan GS is Kappa-2 carrageenan which composition has taste-less non smell natural polymeric hydrocolloid extracted from red algae (Gigartina)
Carrageenan GS is classify to Kappa-Ⅱ carrageenan which has soft gel strength and lower water syneresis.

Characteristics

① Carrageenan GS is prevent precipitation of cocoa particles.
② Carrageenan GS is prevent whey off in milk.
③ Carrageenan GS is improved to mouth feel and body.

Expiration Date	unopened	24 months from date of manufacture (Storage at dry and cool room)
	opened	30 days(Storage at dry and cool room)
Package	Outer	Woven cloth laminated paper bag
	Inner	Low-density Polyethelene bag for food (20kg × 1bag)
Labeling for usage of food		

Information of Material

GMO material	No use the GMO materials and their processed.
Allergen material	No use the materials of rice, crustacean and the product origin including the 25 items is assigned by Japan
Bovine original	No use the materials origin livestock meets including brain, eye, spinal cord, and around bowel
Agricultual chemical residual	Never used agrichemicals. or We would ensure standard value based of the Food hygiene law
Unapproved Ingredient	No use the unapproved Ingregient in Japan.

Product standard

Standardize Items	Specifications	Analysis method
Type of Carrageenan	Kappa-Ⅱ	Japanese standard of Food additive 'Refined carrageenan'
Appearance	White and yellowish powder	Japanese standard of Food additive 'Refined carrageenan'
Particle size	Pass 80 mesh more than 98 %	JIS Standard riddle pass
Loss on dry	Less than 12.0 %	Japanese standard of Food additive 'Refined carrageenan'
pH	8.0 ～ 10.0	1.5% sol. at 60℃,pH meter
Viscosity	30 ～ 80 mPa･s	Japanese standard of Food additive 'Refined carrageenan'
Water gel strength	Not more than 100 g/cm^2	1.5% sol. at 20℃, Rheo meter
Salt gel strength	100～300 g/cm^2	1.5% + 0.2% KCL sol. at 20℃, Rheo meter
Plate coliform count	Less than 3,000 cfu/g	Japanese standard of Food additive 'Refined carrageenan'
Coliform	Negative	Japanese standard of Food additive 'Refined carrageenan'
E.coli	Negative	Japanese standard of Food additive 'Refined carrageenan'
Yeast & Mold	Less than 100 cfu/g	Japanese standard of Food additive 'Refined carrageenan'
Sulfate	18.0 ～ 24.0 %	Japanese standard of Food additive 'Refined carrageenan'
Acid insoluble	Less thatn 2.0 %	Japanese standard of Food additive 'Refined carrageenan'
Ash	15.0 ～ 40.0 %	Japanese standard of Food additive 'Refined carrageenan'
Ash acid-insoluble	Less than 1.0 %	Japanese standard of Food additive 'Refined carrageenan'
Lead(as AS_2O_3)	Less than 5.0 μ g/g	Japanese standard of Food additive 'Refined carrageenan'
Arsenic(as AS_2O_3)	Less than 2.0 μ g/g	Japanese standard of Food additive 'Refined carrageenan'
Heavy metal(as Pb)	Less than 20.0 μ g/g	Japanese standard of Food additive 'Refined carrageenan'