TELEPHONE +81-568-51-2516 FUJI SILYSIA CHEMICAL LTD.

FAX NO. +81-568-51-8557

MATERIAL SAFETY DATA SHEET

No. CA-001-300-E

Revised date : June 10, 2010 First edition : July 15, 2002

1. The Chemical Substance and Company Information

Names of chemical substance	CARiACT
Product name	G Series (G-3 / G-6 / G-10)
Company's name	Fuji Silysia Chemical Ltd.
Address	2-1846 Kozoji-cho, Kasugai, Aichi,487-0013 Japan
Telephone No.	+81-568-51-2516
Contact Department	Quality Assurance Department
Contact	Masahiro Nakamura
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Recommended use and restriction of use Recommended use

Catalyst carrier

Lmitation of usage

2. Hazards identification

GHS classification

Physicochemical hazards

	Flammable solids	not classified
	Pyrophoric solids	not classified
	Self-heating substances and mixtues	not classified
	Substances and mixtures which, in	
	contact with water ,emitflammable	not classified
	gases	
	Oxidizing solids	not classified
Health hazards	Acute toxicity -oral	not classified
	Acute toxicity -dermal	not classified
	Acute toxicity -inhalation :dust	classification not possible
	Acute toxicity -inhalation : mist	classification not possible
	Skin corrosive / irritation	not classified
	Eye damage / irritation	category 2B
	Sensitization-respiratory	classification not possible

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	Sensitization-skin	classification not possible
	Germ cell mutagenicity	not classified
	Carcinogenicity	not classified
	Toxic to reproduction	classification not possible
	Specific target organ systemic toxicity	classification not possible
	(single exposure)	
	Specific target organ systemic toxicity	classification not possible
	(repeated exposure)	
	Aspiration toxicity	classification not possible
Environmental hazard	s	
	Hazardous to the aquatic environment ⁻ acute hazard	classification not possible
	Hazardous to the aquatic environment- chronic hazard2	classification not possible
Label elements		
Pictogram or symbol	Non	
Signal Word	Warning	
Hazard statement	Cause eye irritation	
Precautionary stateme	nt	
[Precaution]		
[Correspondence]		
If in eyes :		
Rinse cautiously with water for several minutes.		
Remove contact lenses, if present and easy to do.		
Continue rinsing.		
	If eye irritation persists, get medical advice/attention.	
_	Wash hands thoroughly after handlin	lg.
	Storage]	
[]	Disposal	

Country / area information

+81-568-51-2516	LYSIA CHEMICAL LTD. FAX NO. +81-568-51-8557	
3. Composition / Information on Ingr	redients	
Chemical characterization	Single substance	
Chemical name or generic name	me Amorphous silico dioxide	
Alias	Silica Gel	
Chemical formula	SiO_2	
CAS registered No.	7631-86-9	
Official gazette No.	(1)-548	
A purity or a range	100% (dry base)	
4. First Aid Measure		
IF INHALED	Remove to fresh air and keep at rest in a position comfortable	
	for breathing.	
	Get medical advice/attention if you feel unwell.	
IF ON SKIN	Wash exposed area with water.	
	Wash contaminated clothing before reuse.	
	If skin irritation or redness occurs, get medical advice/attention.	
IF IN EYES	Do not rub eyes.	
	Rinse cautiously with water for several minutes.	
	Remove contact lenses, if present and easy to do.	
	Continue rinsing.	
	If eye irritation persists, get medical advice/attention.	
IF SWALLOWED	Vomit up linse mouth with clean water well.	
	Get medical advice/attention if you feel unwell.	
5.Fire Fighting Measure		
Extinguish	This material is not combustible.	
	Use extinguish agents appropriate for surrounding fire.	
Special hazards		
Special fire extinguishing method		
Protection of a person to extinguish		
a fire	Wear respiratory protection or chemical protective clothing	
	for surrounding fire.	
6. Accidental Release Measure		
Instructions for the human body,		
Protective equipment and emerger	cy step	
Large spill :		
_	te hazard area and deny entry to unnecessary personel.	
	r appropriate protection to avoid contact/inhalation to eyes and	
skin		
	ef. "8. Exposure Control/ Personal Protection ")	
	-	

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Instructions for the environ	ment	
	Do not discharge it to environment.	
Collection, neutralization		
	Vacuum spillage and into an empty containe as an industrial waste.	r and dispose them later
Preventive measures agains	st second disaster	
	Residue on the floor may cause slip,clean up	diligently.
7. Handling and Storage Handling		
Technical measures	Do the equipment measures in the "8.Exposur	e Control/
	Personal Protection ", and wear the protectio	on.
Local / general ventila		
	Do the local and general ventilation in the	
	"8.Exposure Control/Personal Protection ".	
Safe handling instruct		
	Take precautionary measures against static dis	scharge.
	Do not contact, inhale or swallow.	1.
	Perform ventilation for exhaust to keep the atr	nospheric
	concentration lower than exposure limit.	
	Wash thoroughlyafter handling.	
Contact evasion	Refer to the "10. Stability and reactivity ".	
Storage		J h J] .
Technical Measures	Instal lighting and ventilation to store an	
-	stance Refer to the "10. Stability and reactivity "	
Storage condition	Store in a cool/well-ventilated place to pro rainwater.	neet from sumght and
Container and packagi		
container and package	Store it in tightly closed container which	h is
	not breakable.	
8. Exposure Control/ Personal	Protection	
Standard control conce	entration No setting	
Permissible concentrat	ion:	
(an exposure limit val	lue/ a biological exposure index)	
ACGIH	(2009) TLV-TWA	No setting
Equipment measure	Install washing eyes device in a workpla material or handle it. Install a ventilating device to keep an a than permissible concentration when du	ir pollutant less

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Protective equipment

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Protection for respiratory	Wear appropriate respiratory protection.
Protection for hands	Wear appropriate protective gloves.
Protection for eyes	Use personal eye protection .
Protection for skin and body	Use the apropriate protection suit and mask
Hygiene measure	Wash hands thoroughly after handling.

9. Physical and Chemical Properties

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Physical State/Shape/Color	Soid / Powder \sim Particle / White
Odor	Odorless
pH	$3.0\sim 8.5$ (5% slurry)
Melting Point	1610°C
Boiling Point	2230°C
Flash point	Non-flammable
Pyrophoric temperature	Non-flammable
Explosion range	Non-flammable
Vapor Pressure	10mmHg(at 1732°C)
[Conversion value 1333Pa(1732 °	C)]
Vapor Density (Air =1)	No data
Specific Gravity	True Specific Gravity 2.2
Solubility	Insoluble in water
Octanol / water distributed coeffic	cient No data
Decomposition temperature	No data
10. Stability and Reactivity	
Stability	Stable under ordinary conditions of use(ambient temperature)
Hazard reaction possibility	On reacting with hydrogen fluoride, forms silicon fluoride(gas).
Condition to avoid	Contact with composite hazard substance
Composite hazard substance	Hydrogen fluoride
Hazard resolution substance	Non
11. Toxicological Information	

11. Toxicological Information

Acute Toxicity	
Oral	Silicon dioxide : Rat LD50=7800mg/kg(average) IUCLID(2000)
Dermal	Silicon dioxide : Rabbit LD50>5000mg/kg IUCLID(2000)
Skin corrosion / irritation	Silicon dioxide : Rabbit not irritating IUCLID(2000)
Serious eye damage /	Silicon dioxide : Human slightly irritating IUCLID(2000)
irritation	
Respiratory / skin sensitizer	Not Available
Germ cell mutagenicity	Silicon dioxide : Negative in vivo micronucleus test using bone
	marrow of mice (JJFC2003)

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Carcinogenivity	Silicon dioxide : Group 3 IARC(2006)
Toxic to reproduction toxic	ty Not Available
Specific target organ system	nic toxicity
(single exposure)	Not available.
Specific target organ system	
(repeated exposure)	Not available
12. Environmental influence	information
Hazardous to the aquatic e	
	Not available
Hazardous to the aquatic e	nvironment- chronic hazard2
	Not available
13. Disposal Considerations	
Leftover waste	The disposal of the leftover waste has to be carried out in accordance with the legal requirements.
A pollution container and p	acking
	Clean a container and recycle it, or
	appropriate disposal must be made according to official regulations.
	When an empty container is disposed, completely remove contents.
14. Transportation Information	on
Marine regulation infe	
Air regulation informa	ation Non-hazardous material

15. Regulatory Information

16. Other Information

Fuji Silysia Chemical Ltd. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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References

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> IUCLID (2000) IARC (2006) ACGIH-TLV (2009) NITE CHRIP data base GHS Classification Guidance of Enterprises(March, 2009) Ministry of Economy, Trade and Industry JJFC Vol.10(3) 2003

A disaster example No information

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