

TELEPHONE
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FUJI SILYSIA CHEMICAL LTD.

2-1846 KOZOJI-CHO, KASUGAI, AICHI, 487-0013 JAPAN

FAX NO.
+81-568-51-8557

SAFETY DATA SHEET

No.CRX-001-900-E

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First edition : July 15, 2002

1.The Chemical Substance and Company Information

Names of chemical substance

Product name	CHROMATOREX
Grade	12,923AR,MB,SMB,FL,SPS,PSQ,BW,GS,B series
Company's name	Fuji Silysia Chemical Ltd.
Address	2-1846 Kozoji-cho, Kasugai, Aichi, 487-0013 Japan
Telephone No.	+81-568-51-2511
Contact Department	Quality Assurance Department
Urgent Telephone No.	+81-568-51-2511(08:30 ~ 17:45 Business day)
Fax No.	+81-568-51-8557
Mail address	QAG@fuji-silysia.co.jp

Recommended use and restriction of use

Recommended use Packing media for liquid chromatography

Limitation of usage

2. Hazards identification

GHS classification

Physicochemical hazards

Flammable solids	out of classification
Pyrophoric solids	out of classification
Self-heating substances and mixtures	out of classification
Substances and mixtures which, in contact with water, emit flammable gases.	out of classification

Health hazards

Acute toxicity -oral	out of classification
Acute toxicity -dermal	out of classification
Skin corrosive / irritation	out of classification
Serious Eye Damage/Eye Irritation	category 2B
Specific target organ systemic toxicity - single exposure	category 3 (Respiratory tract irritation)
Hazardous to the aquatic environment - acute hazard	out of classification

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Environmental hazards The items without description are out of classification or cannot be classified.

Label elements

Pictogram or symbol



Signal Word

Warning

Hazard statement

Eye irritation

May cause respiratory irritation

Precautionary statement

【Precaution】

Wash hands thoroughly after handling.

Avoid breathing dust/fumes/gas/mist/vapours/spray.

Use only outdoors or in a well-ventilated area.

【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.

If inhaled :

Remove person to fresh air and keep comfortable for breathing.

Gall a doctor if you feel unwell

【Storage】

Store in a well ventilated place. Keep container tightly closed.

Store locked up.

【Disposal】

Dispose of contents / container has to be carried out in accordance with local / regional / national / international regulation.

3. Composition / Information on Ingredients

Chemical substance or mixture	Chemical substance
Chemical name or generic name	Amorphous silicon dioxide
Alias	Silica gel, Non-crystalline silica
Chemical formula	SiO ₂ .nH ₂ O
CAS registered No.	112926-00-8 Non-crystalline silica(Silica gel) 7631-86-9 Silica (Silicon dioxide including crystalline and amorphous)
Official gazette No. Chemical Labour	(1)-548 Existing
A purity or a range	100%

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4. First Aid Measure

IF INHALED

Not specific first-aid is necessary.
Get medical advice/attention if you feel unwell.

IF ON SKIN

Not specific first-aid is necessary.
If skin irritation or rash 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 and rinse 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 emergency step

Large spill :

Isolate hazard area and deny entry to unnecessary personnel.

Wear appropriate protection to avoid contact/inhalation to eyes
and skin.

(ref. “ 8. Exposure Control/ Personal Protection “)

Instructions for the environment

Do not discharge it to environment.

Collection, neutralization

Vacuum spillage and into an empty container and dispose them
later as an industrial waste.

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Preventive measures against 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.Exposure Control/ Personal Protection “, and wear the protection.

Local / general ventilation

Do the local and general ventilation in the “ 8.Exposure Control/Personal Protection “.

Safe handling instructions

Take precautionary measures against static discharge.

Do not contact, inhale or swallow.

Perform ventilation for exhaust to keep the atmospheric concentration lower than exposure limit.

Wash thoroughly after handling.

Contact evasion

Refer to the “ 10. Stability and reactivity “.

Storage

Technical Measures Install lighting and ventilation to store and handle.

Composite hazard substance Refer to the “10. Stability and reactivity “.

Storage condition Store in a cool/well-ventilated place to protect from sunlight and rainwater.

Container and packaging materials

Store it in tightly closed container which is not breakable.

8. Exposure Control/ Personal Protection

Standard control concentration

No setting

Permissible concentration

(an exposure limit value/ a biological exposure index)

Japan Society of Occupational Health (2015) The 3rd dust(Lime or other inorganic or organic)

Total dust 8 mg/m³

Inhalation-related dust 2 mg/m³

ACGIH(2013) Particles(insoluble or poorly soluble)

TLV-TWA Respirable particles : 3mg/m³

Inhalable particles : 10mg/m³

(Silica,amorphous withdrawn in2006)

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Equipment measure	Install washing eyes device in a workplace to store this material or handle it. Install a ventilating device to keep an air pollutant less than permissible concentration when dust occurs by a process.
Protective equipment	
Protection for respiratory	Wear appropriate and authorized respiratory protection.
Protection for hands	Wear appropriate protective gloves such as rubber, which do not transmit powder.
Protection for eyes	Use personal eye protection .
Protection for skin and body	Use the appropriate protection suit and mask..
Hygiene measure	Wash hands thoroughly after handling.

9. Physical and Chemical Properties

Physical state/Shape/Color...	Solid, Granular or spherical, White
Odor	Odorless
pH	4 ~ 9 (5% slurry)
Melting point	>1600 °C
Boiling point	2230 °C
Flash point	Non-flammable
Pyrophoric temperature	Non-flammable
Explosion range	None
Vapor pressure	10mmHg (1732 °C)
	[Conversion value 1333Pa(1732 °C)]
Vapor density (Air =1)	Not available
Specific gravity	True specific gravity 2.2
Solubility	Insoluble in water
Octanol / water distributed coefficient	Not available
Decomposition temperature	Not available

10. Stability and Reactivity

Stability	Stable under ordinary conditions of use(ambient temperature)
Hazard reaction possibility	On reacting with hydrogen fluoride, forms toxic silicon fluoride(gas). Dissolved in strong base.
Condition to avoid	Contact with composite hazard substance Split powder. Handling near flammable substance without anti-spark precaution.

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Composite hazard substance	Hydrogen fluoride, strong base
Hazard resolution substance	No information

11. Toxicological Information

Below information has been summarized from NITE CHRIP Data Base GHS classification by related Govt Orgs.for "Amorphous Silica(Silica gels, Precipitated silica)" issued by Ministry of Health, Labour and Welfare/Ministry of Environment of Japan(2015).

Acute Toxicity	Out of classification
Oral	Rat LD50 > 5000mg/kg(Precipitated silica) and > 5110mg/kg (precipitated silica) SIDS(2006), ECETOC JACC(2006) Mice LD50>5g/kg FAO/WHO Toxicological Evaluation of Food Additives
Dermal	Out of classification Rabbit LD50 > 2000mg/kg (Silica gels) and > 5000mg/kg(Silica gels) SIDS(2006),ECETOC JACC(2006)
Inhalation	Cannot be classified due to insufficient data Rat LC50(4hrs) 0.691mg/l(Precipitated silica) ECETOC JACC(2006) and 2.08mg/L(Amorphous silica) SIDS(2006) The standard for dust, mist applied as the material is solid.
Skin corrosion / irritation	Out of classification OECD TG 404 :Rabbit not irritating(Precipitated silica)SIDS(2006), ECETOC JACC(2006) Rabbit not irritating(Precipitated silica, 24hrs) SIDS(2006), ECETOC JACC(2006) Rabbit not irritating(Silica gels, 24hrs) SIDS(2006).
Serious eye damage / irritation	Classified : Category 2B OECD TG 404 Rabbit : Slight red conjunctiva observed, but indicated recovery(Precipitated silica)SIDS(2006), Rabbit :Plural reports of not irritating, or slight conjunctiva and recovery SIDS(2006)
Respiratory / skin sensitizer	Cannot be classified due to insufficient data.

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Germ cell mutagenicity

Cannot be classified due to the change of standard of guidance
In vivo, by oral, inhalation dose on Rat, negative in lethal test,
gene mutation test and heterosome test(SIDS 2006).

In vitro, negative by recovery genemutation test on bacteria, gene
mutaion and heterosome test on cultivating cells of Mammalia.
Vague result by ames test on cultivating cells of Mammalia
(SIDS2006).

Silicon dioxide: Negative in rat lung germinal cells after
long-term inhalation exposure(OECD SIDS).

: Negative in vivo micronucleus test using bone
marrow of mice (JJFC2003)

Carcinogenicity

Cannot be classified

The material classified as synthetic amorphous silica(IARC 68
1997). No information ,caused carcinogenicity on human by
exposure, however, IARC described as insufficient evidence on
human against entire amorphous silica(Additionally include silica
fiber derived from diatomatious earth, originated creatures. On
animal test, also described as insufficient evidence against
synthetic amorphous silica. In the results, entire amorphous silica
classified as category 3. Regarding information on carcinogenicity
of amorphous silica and human exposure, there was no relationship
on occurrence of silicosis and exposure of amorphous silica fiber of
creature origin, on the 3 regionals investigation of exposure(IARC
68 1997). Carcinogenicity of oral dosage of Silica gels(synthetic
amorphous silica) against Rat and mouse for 2 years by feeding at
up to 50,000 ppm mixture, no tumor or non-tumor change observed
on major organs(ECETOC JACC 2006,IARC 68 1997).

Not classified in the list of of 1st or 2nd substances by Japan Society
of Occupational Health.

Toxic to reproduction toxicity

Cannot be classified

No information on human. For animal test ,female rat, mouse,
hamster and rabbit at the dosage of 1,340~1,600mg/kg/day forced
oral exposure, no toxic on the female, embryos, neither
deformation(ECETOC JACC 2006).

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Specific target organ systemic toxicity(single exposure)	<p>Classified :Category 3(Respiratory tract irritation)</p> <p>Tract irritation reported(Silica gels) SIDS(2006), ECETOC JACC (2006)</p>
Specific target organ systemic toxicity (repeated exposure)	<p>Cannot be classified</p> <p>On human, workers exposed for 8 and half years (average) by the material, no toxic influence observed lung function and inspection on chest by X-ray(ACGIH 7th.2001,ECETOC JACC 2006, SIDS 2006 DFGOT vol.2 1991).</p> <p>Exposure test by animals at concentration of 126mg/m³,rat for 1 year and guinea pig, rabbit for 2 years, no pulmonary fibrosis observed, limited to accumulation of macrophage and slight increase of reticulum(ACGIH 7th 2001).</p> <p>No toxicity observed by oral fed of mixture ,mouse for 24 months and rat for 21 months(ECETOC JACC 2006).</p> <p>Lung monocyte and reticular fiber increased at inhalation exposure of 15mg/m³ for 12~18 months by monkey, rat and guinea pig (DFGOT vol.2 1991) No influence against human. The slight influence at inhalation routeand no influence by oral dosage for animals. Thus, categorized as cannot be classified.</p> <p>Silicon dioxide: No influence to lung tissue after recoverable inflammation observed in toxic test of repeated exposure for inhalation particles. In long term oral dosage ,no pathological and histological observations reported(OECD SIDIS).</p>
Toxicity of respiratory by inhalation	<p>Cannot be classified due to insufficient data</p>

12. Environmental influence information

Hazardous to the aquatic environment- acute hazard	<p>Out of classification</p> <p>Daphnia magna: 24 hrs. EC > 10,000mg/l, zebrafish 96hrs LC50=10000mg/l</p>
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Hazardous to the aquatic environment- chronic hazard	No data
Persistence/Decomposition	Silicon dioxide exists universally in the soil as inorganic ingredient. The silicon dioxide discharged into environment to be merged into the earth, soil and cannot be distinguished its behavior.
Bioaccumulation	Silicon dioxide universally exists in water as silicic acid, and accumulated as useful ingredient for certain creatures such as Diatomaceae, Radiolana and Porifera for their skeletons, Poaceae for improving its durability.
Migration in the soil	The silicon dioxide discharged into environment to be merged into the earth, soil and cannot be distinguished its behavior.
Hazardous to the Ozone Layer	Not contains any substances listed by Montreal Protocol

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 packing	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

International regulation	
UN number :	Not applicable
UN name for transportation :	Not applicable
UN Classification :	Not applicable
Marine regulatory information	Non-hazardous chemical
Air regulatory information	Non-hazardous chemical
Land regulatory information	Non-hazardous chemical

Special safety measures On the occasion of the transportation, load it to avoid direct rays of the sun, the damage of a container, corrosion and leaking, and be surely prevention of collapse of cargo.
Do not pile the heavy goods up on the top.

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15. Regulatory Information

Labour Law for Safety & Health of Japan	Not applicable
Pollutant Release and Transfer Register Law	Not applicable
Poisonous and Deleterious Substances Control Law	Not applicable

16. Other Information

Export Control Act of Japan	Appendix 1 Item 16 Part 6 Group 28 Inorganic Chemical Products Applicable for "Catch-All" restriction
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References

Chemical Handbook Basic
 IUCLID Dataset (2000)
 FAO/WHO Toxicological Evaluation of Certain Food Additives With a Review of General Principles and Specifications
 OECD SIDS Profile for Initial Assessment Report
 JJFC Vol.10(3) 2003
 IARC "Agents Classified by the IARC Monographs" (October 2013)
 Recommendation by Japan Society of Occupational Health(2015)
 JIS Z 7252 :2014 JIS Z 7253 :2012
 2013 TLVs and BELs(ACGIH)
 NITE CHRIP Data Base
 GHS Classification Guidance of Enterprises
 by Ministry of Economy, Trade and Industry of Japan (Rev.ver.1.1,2013)

A disaster example

No information available

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.