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SAFETY DATA SHEET

Revision Date 3 Dce. 16, 2019 Revision Date 2 Mar. 1, 2019 Date Prepared Sep. 1, 2016

1. Chemical Product & Company Information

Product Name : SARCON SPG-50A

Manufacture's Name : Fuji Polymer Industries Co., Ltd.

Address : 175 Kajiyashiki-cho Toyota-shi Aichi, Japan

Telephone Number : +81-565-65-2121

(Aichi Plant / Quality Assurance Dept.)

2. Hazards Identification

GHS Classification :

Physical hazards : Classification not possible

Health hazards

Specific target organ toxicity - single exposure : Category 3(Respiratory tract irritation)

Specific target organ toxicity - repeated exposure : Category 1(Lung:inhalation)

Environmental hazards

Hazards to the aquatic environment Acute : Category 1
Hazards to the aquatic environment Chronic : Category 1

GHS Label Elements

Pictogram :







Signal Word : danger

Hazard Risk Statement : H335 May cause respiratory irritation

H372 Causes damage to organs through prolonged or repeated exposure.(Lung)

H410 Very toxic to aquatic life with long lasting effects

Precautionary Statement

It must be considered that there is no inhalation of dust. So please handle it with the following points in mind.

Prevention : Do not breathe dust.

Avoid breathing dust.

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Avoid release to the environment.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/.../if you feel unwell. Get medical advice/attention if you feel unwell.

Storage : In order to prevent any characteristics alteration, keep it away from direct sunlight, water

leakage, moisture, and heat.

Disposal : Dispose of contents/container by outsourcing to an authorized waste disposer approved by

the local prefectural governor.

Other Hazard : No information

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3. Composition/Information on Ingredients

Chemical characterization: Mixture

Generic Name : Silicone Rubber

Ingredients and Contents

Part	Component Name	Content	CAS No.	METI Number
	Silicone polymer	5-10%	_	_
	Aluminum oxide	75-90%	1344-28-1	(1)-23
	Filler	5-10%	_	
	Boron compound	<0.5%	_	
	Yttrium oxide	<0.5%	1314-36-9	(1)-560
	Other ingredients	<0.5%	_	

4. First Aid Measures

In Case of Inhalation : Remove person to fresh air and keep comfortable for breathing.

Get medical advice/attention.

In Case of Skin Contact : Wash with plenty of soap and water.

If skin irritation occurs, it get medical advice/attention.

In Case of Eye Contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

If eye irritation persists, it get medical advice/attention.

In Case of Ingestion : Rinse mouth. Immediately spit it out .

Get medical advice/attention.

Important Symptoms and Hazard effects : No information

Personal Protection for First Aid or Rescue Personnel :

The rescuer wears a tool for protection such as rubber gloves, sealing up goggles.

Note to physicians : No information

5. Fire Fighting Measures

Suitable Extinguishing Media : We recommend any Dry chemical, Carbon dioxide(CO2), Foam, Water spray, Dry sand.

Unsuitable Extinguishing Media: Straight water injection

Specific Hazards : Fire may produce irritating and/or toxic gases.

Specific Fire Fighting : Prohibit the entrance except the person concerned to the outskirts of the fire scene.

The fire fighting should be done from the windward side. Use an appropriate fire

extinguishing method depending on a surrounding.

Protection for Fire-fighter : Wear appropriate protective equipment(e.g., gloves, goggles, mask) when fighting fires.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective equipment(e.g., gloves, goggles, protective clothing) when cleaning up spills.

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Wipe off with waste cloth and duster.

Environmental Precautions

Be careful not to be exhausted in a river, the sewer, the soil.

Methods and Materials for Containment and Cleaning up : Gather the material.

Prevention of secondary hazards

Remove a thing becoming the nearby firing source immediately.

Set up a fire extinguisher, when fire it.

7. Handling and Storage

Handling

: Implement the measures mentioned in "8.Exposure Controls/Personal Protection". **Technical Measures**

Wear appropriate protective equipment.

Local and General Ventilation

: In case of powder dust happens, install the local or general ventilation. Safe Handling Advice

: Keep away from heat/hot surfaces/sparks/open flames. In case of powder dust happens, do not inhale it.

Avoid contact with eyes and the skin.

Wash hands thoroughly after handling.

Storage

Technical Measures : Equip with adequate sunlight/lights and ventilation in a storing place .

: In order to prevent any characteristics alteration, keep it away from direct sunlight, Storage Conditions

> water leakage, moisture, and heat. Store in a dry, well-ventilated place.

Substances to Avoid Mixing

Packaging Material

: Refer to precautions indicated in "10. Stability and Reactivity". : In order to prevent from deterioration, use packing without any damage.

Exposure Controls/Personal Protection

Standard Control Notification : Not established.

Industrial Hygiene Standards

Japan Association on Industrial Health Guideline

Filler (Inhalable dust): 2 mg/m³, (Total dust): 8 mg/m³ Aluminum oxide (Inhalable dust): 0.5 mg/m³, (Total dust): 2 mg/m³ (Inhalable dust): 2 mg/m³, (Total dust): 8 mg/m³ Yttrium oxide (Inhalable dust): 1 mg/m³, (Total dust): 4 mg/m³ Magnetite

Ammonia gas(As resolvent of Filler) 25ppm

ACGIH

(Total dust): 10 mg/m³ Filler

ALUMINUM METAL AND INSOLUBLE COMPOUNDS, RESPIRABLE FRACTION Aluminum oxide

TLV-TWA = 1 mg/m^3

Yttrium oxide (Total dust): 1 mg/m³

Ammonia gas(As resolvent of Filler) 25ppm(eight hours mean)

Engineering Measures : Risk of exposure is low.

Provide hand-washing, washing eyes and physical washing facilities in the place where the

product is handled near, if necessary.

In case of powder dust happens, perform local or general ventilation.

Personal Protective Equipment

Respiratory protection : Wear protection mask and a tool for protection for breathing, if necessary.

Hand protection : Impermeable protection gloves, if necessary.

Eye protection : Protection glasses, goggles type protection glasses, if necessary. Skin protection : Wear protective clothing or protection apron, if necessary.

Hygiene Measures : Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Check the tool for protection by a tool for protection check list regularly.

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9. Physical and Chemical Properties

Physical State : Form : Putty

Color : Light skyblue

: Not determined.

Odor : none

Melting Point/Freezing Point : Not determined.
Boiling point, Initial Boiling Point, and Boiling Range : Not determined.
Flash Point : Not determined.
Autoignition Temperature : Not determined.
Combustion or explosion limit(Lower/Upper) : Not determined.
Vapor Pressure (mmHg) : Not determined.

Vapor Density (AIR=1) : Not determined.
Specific Gravity : 3.2
Solubility (Water) : Insoluble
Octanol/water partition : Not determined.
Decomposition Temperature : Not determined.
Other information : Not determined.

10. Stability and Reactivity

Reactive and Chemical Stability : On the normal handling condition, it is stable.

Possibility of Hazardous Reactions : None.

Conditions to Avoid : Avoid substance to avoid mixing/contact

Substance to Avoid Mixing/Contact With : Strong oxidising agents

Hazardous Decompositions Products : Silicone polymer: If it is heated to >150 degrees C, trace quantities of

formaldehyde may be released, and adequate ventilation is required.

11. Toxicological Information

We believe that harmful health effects do not occur with the recommended usage method, but below we describe the raw materials used.

Acute Toxicity(oral) : Filler rat LD50 > 2000mg/kg

 $\begin{array}{lll} \mbox{Aluminum oxide} & \mbox{rat} & \mbox{LD50} > 5000 \mbox{mg/kg} \\ \mbox{Boron compound} & \mbox{rat} & \mbox{LD50} > 5000 \mbox{mg/kg} \\ \mbox{Yttrium oxide} & \mbox{rat} & \mbox{LD50} > 1000 \mbox{mg/kg} \\ \end{array}$

Acute Toxicity (dermal) : No information
Acute Toxicity (inhalation: gas) : Not applicable
Acute Toxicity (inhalation: vapor) : No information
Acute Toxicity (inhalation: dust/mist) : No information
Skin Corrosion/Irritation : No information

Filler

Repeated or prolonged contact with skin may cause dermatitis.

Serious Eye Damage/Irritation : No information

Filler

May cause slight inflammation.

Respiratory Organs Sensitization : No information

Skin Sensitization :

Filler

May produce stimulation to a nose, a throat and the lungs. Furthermore, may have an influence on the respiratory organs repeatedly when inhale it excessively.

Germ Cell Mutagenicity

Aluminum oxide

It was negative with or without metabolic activation in Ames test using salmonella. When it did not become metabolic activation in genetic exchange test using bacillus subtilis, it was negative.

Carcinogenicity :

Aluminum oxide

Because it is classified in A4 in ACGIH, assumed it "Not classified". In addition, in the exposure test that inhaled aluminum oxide fiber for 86 weeks to a rat, fibrosis and oncogenesis were not seen. In the intrapleural administered test aluminum oxide fiber(whisker)of 4-types, The increase in pleura sarcoma incidence was seen. The oncogenesis was not seen in two other fiber and non-fibrillar test substance.

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Reproductive Toxicity

Aluminum oxide

In the examination that gave bait including the aluminum to a pregnancy rat, the influence was not seen in an embryo, the death rate of fetuses, the number of the litters, the weight and size of young rat.

Specific Target Organ. Systemic Toxicity (Single Exposure)

Aluminum oxide

Classified it in Category 3 (Respiratory tract irritation) from a mention of upper respiratory tract irritation (ICSC (2000)). When inhale it at high density, it was confirmed cough, pant, respiratory tract irritation by the physical action, unpleasant deposit of nasal meatus and the aggravation of the symptom in the Homo sapiens having ventilatory impairment.

Specific Target Organ. Systemic Toxicity (Repeated Exposure) :

Aluminum oxide

By occupational exposure, classified it in (EHC (1997)) mentioned in Category 1 where fibrosis of lung was accepted. In addition, in workers exposured by aluminum oxide dust of aluminum production and the pottery can not confirm the pneumoconiosis. According to the examination of inhalation exposure to a rat and a rabbit for 28 weeks, it was confirmed structural or functional change of the trachea or the bronchi, chronic pulmonary edema and dead.

Aspiration Hazard : No information Other : No information

12. Ecological Information

We do not believe that the recommended usage method will affect the environment, but below we describe the raw materials used.

Ecotoxicity

Fish : Aluminum oxide Salmo trutta: 96hr-NOEC > 100mg/L
Crustacea : Aluminum oxide Daphnia magna: 48hr-NOEC > 100mg/L

Algae : Aluminum oxide

Other : No information

Persistence and Degradability: Filler May decompose forming hazardous ammonia on contact with water

or moisture.

Bioaccumulative Potential : Silicone polymer No bioaccumulation potential.

Mobility in Soil : Silicone polymer In soil, siloxanes are degraded.

Hazardous to the ozone layer : Do not include an ingredient listed by an annex of Montreal Protocol.

Other hazardousness : Silicone polymer Fate and Effects in Waste Water Treatment Plants

No adverse effects on bacteria. Removed >90% by binding onto sewage sludge. The

Algae: 72hr-NOEC > 100mg/L

siloxanes in this product do not contribute to the BOD.

13. Disposal Considerations

Residual Waste

Dispose of in accordance with relevant laws and local regulation.

Outsource to the industrial waste disposer who has the permission of governor of each prefecture or local public body for adequate disposal.

14. Transport Information

International Regulations Land Transport : Follow a rule of ADR/RID.

Sea Transport : Follow a rule of IMO.
Air Transport : Follow a rule of ICAO/IATA.

UN-Number : Not applicable
UN-Hazard classr : Not applicable
Proper Shipping Name : Not applicable
Packing group : Not applicable
Marine Pollutant : Not applicable

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Local Regulations Land regulation information : Follow the Fire Services Act.

Marine regulation information : Follow the Law for Safety of Vessels.

Aviation regulation information : Follow the Aviation Act.

Specific safety measures at the time of the transportation and condition

Under loading, containers must be carefully handled to prevent damage of containers and must be fixed them tightly to prevent falling of containers.

Avoid the transportation under direct rays of the sun and the higher temperature

Avoid contact with the water

Transport it according to the standard of other laws concerned

Emergency Response Guidebook number : Not applicable

15. Regulatory Information

Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances. : Not applicable

Industrial Safety and Health Law : Article 57–2 Regulated Substance(s)

189 Aluminum oxide

Poisonous and Deleterious Substance Control Law : Not applicable Pollutant Release and Transfer Register(PRTR law) : Not applicable

Fire Service Law : Non-hazardous materials

Sea Pollution Prevention Act : Not applicable
Aviation Act : Not applicable
Law for Safety of Vessels : Not applicable

16. Other Information

Although the description content is based so far on our latest knowledge, absolute accuracy of the content and comprehensiveness of collecting information are not complete. Since all raw materials have unknown dangers, it is necessary to pay sufficient attention to handling.

Also, this information relates to raw materials and products being used, and we do not assume that this product is combined with other materials or processed.

This product is used for industrial; therefore, any other use of the product which involves medical purpose and other process is responsibility of the user. Do not use the purpose of implant for human body or if there is any possibilities to remain in body.

The contents of this SDS are subject to change without notice due to new findings.

The content of this SDS does not determine delivery specifications or rules.