REAGENTS DUKSAN

SAFETY DATA SHEET

Silicagel 60 230~400 mesh

Date of issue: 2020-06-05 **Revision date: 2023-03-15** **Version: R0003.0001**

1. IDENTIFICATION

A. Product name

- Silicagel 60 230~400 mesh

B. Recommended use and restriction on use

- General use : for experimental, research and industrial use
- Restriction on use : Never drink, Not used except for experimental, research and industrial applications.

C. Manufacturer / Supplier / Distributor information

○ **Manufacturer information**

- Company name : DUKSAN PURE CHEMICALS
- Address : 53,SINWONRO 133BEONGIL, DANWONGU, ANSANSHI, GYUNGGIDO, KOREA
- Emergency telephone number : 82-31-495-4055

○ **Supplier/Distributer information**

- Company name : DUKSAN PURE CHEMICALS
- Address : 53,SINWONRO 133BEONGIL, DANWONGU, ANSANSHI, GYUNGGIDO, KOREA
- Telephone number : 82-31-495-4055
- Emergency telephone number : 82-31-495-4055
- Fax number : 82-31-495-4058

2. HAZARD IDENTIFICATION

A. GHS Classification

- Specific target organ toxicity(Repeated exposure) : Category1

B. GHS label elements

○ **Hazard symbols**



○ **Signal words**

- Danger

○ **Hazard statements**

- H372 Causes damage to organs through prolonged or repeated exposure (Refer Section SDS 11)

○ **Precautionary statements**

1) Prevention

- P260 Do not breathe dust/fume.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.

2) Response

- P314 Get medical advice/attention if you feel unwell.

3) Storage

- Not applicable

4) Disposal

- P501 Dispose of contents/container in accordance with local/regional/national/international regulation

C. Other hazards which do not result in classification

- Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Silicon dioxide	Silic anhydride ; Dioxosilane ; Cristobalite ; Quartz ; Silica gel	7631-86-9	100

4. FIRST AID MEASURES

A. Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.
- Get medical attention immediately.

B. Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Get medical attention immediately.

C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- Get medical attention immediately.

D. Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.
- Get medical attention immediately.

E. Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

B. Specific hazards arising from the chemical

- Not available

C. Special protective actions for firefighters

- In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.
- Do not approach the tank surrounded by fire until it is extinguished.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Wear appropriate protective equipment.
- Keep containers cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Ventilate closed spaces before entering.
- Do not touch spilled material. Stop leak if you can do it without risk.
- Move container to safe area from the leak area.
- Remove all sources of ignition.
- Keep unauthorized people away,isolate hazard area and deny entry.

B. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

C. Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notify the central and local government if the emission reach the standard threshold.
- Disposal of waste shall be in compliance with the Wastes Control?Act
- Appropriate container for disposal of spilled material collected.
- Small liquid state spills: Appropriate container for disposal of spilled material collected.
- Put the spilled material in an appropriate containers and clean the contaminated area

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Avoid direct physical contact.
- Avoid contact with incompatible materials.
- Refer to Engineering controls and personal protective equipment.
- Dealing only with a well-ventilated place.

B. Conditions for safe storage, including any incompatibilities

- Do not apply direct heat.
- Store according to current laws and regulations
- Do not apply any physical shock to container.
- Keep in the original container.
- Prevent static electricity and keep away from combustible materials or heat sources.
- Collected them in sealed containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

○ **ACGIH TLV**

- Not available

○ **OSHA PEL**

- Not available

B. Engineering controls

- Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

C. Individual protection measures, such as personal protective equipment

○ **Respiratory protection**

- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Dust, mist, fume-purifying respiratory protection
- Air-purifying respirator with high-efficiency particulate filtering
- Any respiratory protection with a electromotion fan(for dust, mist, fume-purifying)
- Self-contained breathing apparatus with a corpuscle filter of high efficiency
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

○ **Eye protection**

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

○ **Hand protection**

- Wear appropriate glove.

○ **Skin protection**

- Wear appropriate clothing.

○ **Others**

- Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	Solid(Other)
- Color	colorless or white
B. Odor	odorless
C. Odor threshold	Not available
D. pH	3.5-4.4 (4% disperison)
E. Melting point/Freezing point	> 1600 ℃
F. Initial Boiling Point/Boiling Ranges	2231 ℃
G. Flash point	Not available
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	Not available
N. Specific gravity(Relative density)	2.19~2.66
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	60.09

10. STABILITY AND REACTIVITY

A. Chemical Stability

- This material is stable under recommended storage and handling conditions.

B. Possibility of hazardous reactions

- Hazardous Polymerization will not occur.

C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces

D. Incompatible materials

- Not available

E. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

11. TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure

○ **(Respiratory tracts)**

- Not available

○ **(Oral)**

- Not available

○ **(Eye·Skin)**

- Not available

B. Delayed and immediate effects and also chronic effects from short and long term exposure

○ **Acute toxicity**

*** Oral**

- [Silicon dioxide] : LD50 = 3160 ㎎/㎏ Rat (TOMES; HAZARDTEXT)

*** Dermal**

- [Silicon dioxide] : LD50 >2000 ㎎/㎏ Rabbit (IUCLID)

*** Inhalation**

- [Silicon dioxide] : Dust LC50 >2.2 ㎎/ℓ 1 hr Rat (IUCLID)

○ **Skin corrosion/irritation**

- Not available

○ **Serious eye damage/irritation**

- Not available

○ **Respiratory sensitization**

- Not available

○ **Skin sensitization**

- Not available

○ **Carcinogenicity**

*** IARC**

- [Silicon dioxide] : Group 3

*** OSHA**

- Not available

*** ACGIH**

- Not available

*** NTP**

- Not available

*** EU CLP**

- Not available

○ **Germ cell mutagenicity**

- Not available

○ **Reproductive toxicity**

- Not available

○ **STOT-single exposure**

- Not available

○ **STOT-repeated exposure**

- Causes damage to organs through prolonged or repeated exposure

○ **Aspiration hazard**

- Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

○ **Fish**

- [Silicon dioxide] : LC50 5000 ㎎/ℓ 96 hr (IUCLID)

○ **Crustaceans**

- [Silicon dioxide] : LC50 7600 ㎎/ℓ 48 hr (IUCLID)

○ **Algae**

- [Silicon dioxide] : EC50 440 ㎎/ℓ 72 hr (IUCLID)

B. Persistence and degradability

○ **Persistence**

- [Silicon dioxide] : log Kow = 0.53

○ **Degradability**

- Not available

C. Bioaccumulative potential

○ **Bioaccumulative potential**

- [Silicon dioxide] : BCF = 3.162

○ **Biodegradation**

- Not available

D. Mobility in soil

- Not available

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

- Stabilization and minimization treatment by incineration or similar method can be applied, if more than two kinds of designated wastes are in mixture state and it is impractical to separate them
- Oil water separation technology shall be applied as pre-waste treatment if it is applicable
- It shall be treated by incineration

B. Special precautions for disposal

- Anyone with business license number who generates industrial wastes shall treat the waste by him/herself or by entrusting to the legal entities who treat the wastes, recycle the wastes of others or install and operate the waste treatment facilities according to the Wastes Control Act
- Dispose of waste in accordance with all applicable laws and regulations.

14. TRANSPORT INFORMATION

A. UN No. (IMDG CODE/IATA DGR)

- Not applicable

B. Proper shipping name

- Not applicable

C. Hazard Class

- Not applicable

D. IMDG CODE/IATA DGR Packing group

- Not applicable

E. Marine pollutant

- Not applicable

F. Special precautions for user related to transport or transportation measures

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : Not available
- EmS SPILLAGE SCHEDULE : Not available
- Air transport(IATA): Not subject to IATA regulations.

15. REGULATORY INFORMATION

A. National and/or international regulatory information

○ **POPs Management Law**

- [Silicon dioxide] : Not applicable

○ **Information of EU Classification**

*** Classification**

- Not applicable

○ **U.S. Federal regulations**

*** OSHA PROCESS SAFETY (29CFR1910.119)**

- Not applicable

*** CERCLA Section 103 (40CFR302.4)**

- Not applicable

*** EPCRA Section 302 (40CFR355.30)**

- Not applicable

*** EPCRA Section 304 (40CFR355.40)**

- Not applicable

*** EPCRA Section 313 (40CFR372.65)**

- Not applicable

○ **Rotterdam Convention listed ingredients**

- Not applicable

○ **Stockholm Convention listed ingredients**

- Not applicable

○ **Montreal Protocol listed ingredients**

- Not applicable

16. OTHER INFORMATION

A. Reference

- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.
- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

B. Issue date

- 2020-06-05

C. Revision number and Last date revised

- 2 times, 2023-03-15

D. Other

- This SDS is prepared according to the Globally Harmonized System (GHS).