

Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

- 1) Product Name : **200mm Wafer (S1)**
- 2) Manufacturer : **SK hynix system ic Co., Ltd**
- 3) Address : SK hynix system ic, 702 Zhide Rd, Xinwu District, Wuxi, Jiangsu
- 4) Emergency Phone Number : +86-510-8192-5329

2. HAZARD IDENTIFICATION

- 1) Hazards Classification : None
- 2) Hazards : None (There may be injury risk of cut or eye contact when silicon wafers were broken.)
- 3) Harmfulness : None

3. COMPOSITION, INFORMATION ON INGREDIENTS

Component-Chemical Name & Common Names	CAS NO.	Percentage (%)
Silicon	7440-21-3	99.46
Aluminium	7429-90-5	0.24
Titanium	7440-32-6	0.2
Tungsten	7440-33-7	0.1

4. EMERGENCY FIRST AID PROCEDURES

If fragments of silicon wafers enter into the eyes, wash eyes immediately with large amount of water until no fragments remain.
Make medical examination immediately.

5. FIRE AND EXPLOSION HAZARDS

- 1) Extinguishing Method : (Not ignitable in the bulk form such as silicon wafers)
- 2) Extinguishing Media : Not necessary.

6. ACCIDENTAL RELEASE MEASURES

None, because silicon wafers are solid.

7. Handling and Storage

Handling : Silicon wafer is so fragile that handling tools and personal protecting gears are required to avoid injuries. Particularly in disposal, pay attention to broken wafers in pieces. (Broken silicon wafers may cause wound, or its fragments may enter into the eyes.)

Storage : Stock in dedicated sealed wafer boxes.

(Silicon wafers should be stored separately from alkali or acid because silicon generates flammable hydrogen gas by reacting with alkali, and toxic gas such as nitrogen dioxide by reacting with mixed acid (nitric acid + hydrofluoric acid.)

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

None, because silicon wafers are solid.

9. CHEMICAL AND PHYSICAL PROPERTIES

- 1) Description : Grayish metal
- 2) Boiling Point : 2,360°C
- 3) Melting Point : 1,410°C
- 4) Specific Gravity : 2.33 g/cm³ (25°C)

10. STABILITY AND REACTIVITY

- 1) Flash Point : None
- 2) Ignition Point : None
- 3) Explosion Limit : None
- 4) Flammability : None
- 5) Ignitability : None
- 6) Oxidizability : None
- 7) Self Reactivity : None
- 8) Reaction with Air : SiO₂ layer is formed in the atmospheric air.
- 9) Reaction with Water : None in the form of wafer
(Fine powder of silicon wafers is active and it may react with water to generate hydrogen gas. Thus it may be flammable or explosive in this sense.)
- 10) Reaction with Acid : Generate toxic gas such as nitrogen dioxide by reacting with Mixed Acid (nitric acid + hydrofluoric acid).
- 11) Reaction with Alkali : Generate flammable hydrogen gas by reacting with Alkali
- 12) Reaction with Organic Solvent : No reactions with organic solvent.
- 13) Explosibility of Dust : None : Possibility in the form of fine powder.
(Ref.2)

11. TOXICOLOGICAL INFORMATION

- 1) Effect of Short Term Exposure : None
- 2) Effect of Long Term or Repeatable Exposure : None
- 3) Skin Corrosion : None
- 4) Irritability : None
- 5) Subacute Toxicity : None
- 6) Chronic Toxicity : None
- 7) Carcinogen Status : None
- 8) Mutagenicity : None
- 9) Reproduction Toxicity : None
- 10) Teratogenicity : None

12. ECOLOGICAL INFORMATION

- 1) Biodegradation : None
- 2) Bioaccumulation : None
- 3) Aquatic Toxicity : None

13. DISPOSAL CONSIDERATIONS

Handle with care because silicon wafers are fragile.

Take care of silicon sludge by-produced in wafer grinding processing, because it is active and it may react with water to generate flammable or explosive hydrogen gas.

Be careful on wafer disposal because silicon generates flammable hydrogen gas with reacting alkali, and toxic gas such as nitrogen dioxide reacting with Mixed Acid (nitric acid + hydrofluoric acid).

As for As-doped wafers or its sludge, refer to the disposal law of waste material in your country, and for discharging wastewater containing As, refer to water pollution prevention law in your country.

14. TRANSPORT INFORMATION

Handle with care because wafers are fragile.

15. REGULATORY INFORMATION

None

16. OTHER INFORMATION

None

17. Issued date

1st Nov, 2023