SAFETY DATA SHEET

※ The MSDS is for processors who perform work such as dust generating operations. The final article for consumers use is not hazardous or dangerous to consumers.

1. Identification of the substance or mixture and of the supplier

A. GHS product identifier : HANSTONE ® QUARTZ (Le Blanc, Matterhorn, Tahitian Cream)

(HANSTONE is a registered trademark of HYUNDAI L&C Corp.)

B. Recommended use of the chemical and restrictions on use

Recommended use : Used for processing work for interior finishing
(polishing, cutting, etc.)

Restrictions on use : Use for recommended use only

C. Supplier

Company name : HYUNDAI L&C CORP.

Address : 13F, East Central Tower, 1077, Cheonho-daero, Gangdong-gu, Seoul, 05340
, Republic of Korea

Emergency phone number : 82-2-6364-7835

Respondent : 82-44-279-8387

Fax : 82-2-6364-7809

2. Hazards identification

A. GHS classification of the substance/mixture

○Physical hazards :

Not classified

○Health hazards :

Carcinogenicity : Category 1A

Specific target organ toxicity(Single exposure) : Category 3 (respiratory irritation)

Specific target organ toxicity(Repeated exposure) : Category 1(respiratory system, immune system, kidney)

○Environmental hazards :

Not classified

B. GHS label elements, including precautionary statements

Pictogram and symbol :

Signal word :

Danger

Hazard statements :

H335 May cause respiratory irritation

H350 May cause cancer

H372 Causes damage to organs(respiratory system, immune system, kidney) through prolonged or repeated exposure

Precautionary statements

Precaution :

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/vapours/spray.

P261 Avoid breathing dust/fume/vapours/spray.

P264 Wash face, hands and any exposed skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Treatment :

P312 Call a POISON CENTER/doctor/etc(other health care workers) if you feel unwell.

P314 Get medical advice/attention if you feel unwell.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P313 IF exposed or concerned: Get medical advice/attention.

Storage :

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal :

P501 Dispose of contents/container to an approved waste disposal plant.

C. GHS label elements, including precautionary statements :

- Operations such as sawing, routing, drilling and sanding can generate dust.
- Dust generated during handling of quartz surfacing products can contain particles of quartz
- Overexposure to airborne quartz can cause silicosis.

3. Composition/information on ingredients

Chemical Name	Common Name(Synonyms)	CAS number	EC number	Content (%)
Quartz (SiO_2)	-	14808-60-7	238-878-4	47 - 57
Silica(Amorphous silica, fused	-	60676-86-0	-	25 - 35
Resin	-	-	-	7 – 17
Colorant	-	-	-	0 – 1
additives	-	-	-	0 - 1

4. First aid measures

A. Eye contact

- Call a POISON CENTER/doctor/etc if you feel unwell.

- IF exposed or concerned: Get medical advice/attention.
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.

B. Skin contact

- Call a POISON CENTER/doctor/etc if you feel unwell.
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes.
- Wash contaminated clothing and shoes before reuse.

C. Inhalation

- If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.
- Call a POISON CENTER/doctor/etc if you feel unwell.
- Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- IF exposed or concerned: Get medical advice/attention.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.

D. Ingestion

- Call a POISON CENTER/doctor/etc if you feel unwell.
- Get medical advice/attention.
- IF exposed or concerned: Get medical advice/attention.
- Get immediate medical advice/attention.
- Do not let him/her eat anything, if unconscious.

E. Indication of immediate medical attention and notes for physician

- Exposures require specialized first aid with contact and medical follow-up .
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. Firefighting measures

A. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media: Dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO_2
- Unsuitable extinguishing media: High pressure water streams

B. Specific hazards arising from the chemical

- May be ignited by heat, sparks or flames.
- Fire may produce irritating and/or toxic gases.
- Some liquids produce vapors that may cause dizziness or suffocation.
- Inhalation of material may be harmful.
- Some of these materials may burn, but none ignite readily.

C. Special protective equipment and precautions for fire-fighters

- In case or fire: Use personal protective equipment as required.
- Dike fire-control water for later disposal; do not scatter the material.
- Contact may cause burns to skin and eyes.
- Move products from fire area if you can do it without risk.
- Keep personnel removed and upwind of fire.

6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures

- Do not breathe dust/fume/vapours/spray.
- Prevent dust cloud.
- Do not touch or walk through spilled material.

- Ventilate the area.
- Please note that materials and conditions to avoid.
- Eliminate all ignition sources.
- Use personal protective equipment as required.(particularly during purification and removal operations)
- Review 5. Fire fighting measures and 7. Handling and storage sections before proceeding with clean-up.

B. Environmental precautions and protective procedures

- Prevent dust entry into waterways, sewers, basements or confined areas.

C. The methods of purification and removal

- Small Spill; Flush area with flooding quantities of water.
- Powder Spill; Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

7. Handling and storage

A. Precautions for safe handling

- Obtain special instructions before use.
- Do not breathe dust/fume/vapours/spray.
- Use only outdoors or in a well-ventilated area.
- Please note that materials and conditions to avoid.
- Please work with reference to engineering controls and personal protective equipment.
- Be careful to high temperature.
- Do not handle until all safety precautions have been read and understood.
- Wash the handling area thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Follow all MSDS/label precautions even after container is emptied because they may retain product residues.
- Use carefully in handling/storage.
- Avoid inhalation of dust and smoke generated from the fabrication process.
- Wear protective equipment when working (P3 mask, eye/ear protection, etc).
- Prevent dust and fire from occurring through wet fabrication at all times.

B. Conditions for safe storage

- Store in a closed container.
- Keep away from food and drinking water.
- Store in a well-ventilated place.
- Store in a cool place.
- Avoid exposure under direct sunlight because it may be discolored and deformed.
- Do not lay slabs onto slabs.
- Do lay the slab onto flat lack.

8. Exposure controls/personal protection

A. Occupational Exposure limits

KOREA regulation :

- Quartz (SiO_2) : TWA = 0.05 mg/m³(Crystalline quartz, Respirable fraction)

ACGIH regulation :

- Quartz (SiO_2) : TWA = 0.025 mg/m³(respirable particulate matter)

Biological exposure index : Not available

Other regulation :

OSHA regulation :

- Quartz (SiO_2) : TWA = 0.3mg/m³ (total dust)

- Quartz (SiO_2) : TWA = 0.1mg/m^3 (respirable particulate matter)

B. Appropriate engineering controls

- Provide local exhaust ventilation system or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

C. Personal protective equipment

Respiratory protection :

- Wear NIOSH or European Standard EN 149 approved full or half face piece (with goggles) respiratory protective equipment when necessary.
- In case exposed to liquid material, the respiratory protective equipments as follow are recommended. ; escape full facepiece gas mask (of use for acid gas, in case of acid gas for organic compounds) or escape half facepiece gas mask (of use for acid gas, in case of acid gas for organic compounds) or direct full facepiece gas mask (of use for acid gas, in case of acid gas for organic compounds) half facepiece gas mask (of use for acid gas, in case of acid gas for organic compounds) or powered air-purifying gas mask.
- Respiratory protection for P3 type particulates according to EN 143:2001 and its revisions EN 143/AC 2002, EN 143/AC 2005, including working with water as a dust-reducing agent during the preparation of Hanstone.
- In lack of oxygen(< 19.6%), wear the supplied-air respirator or self-contained breathing apparatus.

Eye protection :

- In case of vapour state organic material: safety goggles or breathable safety goggles - An eye wash unit and safety shower station should be available nearby work place.

Hand protection :

- Wear appropriate protective gloves by considering physical and chemical properties of chemicals.

Body protection :

- Wear appropriate protective clothing by considering physical and chemical properties of chemicals.
- Wear safety protector during operations such as sawing, sanding, drilling or routing.

9. Physical and chemical properties

A. Appearance

Description : Solid , sheets and shaped articles

Color : Various

B. Odor : Odorless

C. Odor threshold : Not available

D. pH : Not available

E. Melting point/freezing point : Not available

F. Initial boiling point and boiling range : Not available

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. Vapor pressure : Not available

L. Solubility (ies) : Not available(Insoluble)

M. Vapor density : Not available

N. Specific gravity : 2.34

O. Partition coefficient: n-octanol/water : Not available

P. Auto ignition temperature : Not available

Q. Decomposition temperature : Not available

R. Viscosity : Not applicable

S. Molecular weight : Not available

10. Stability and reactivity

A. Chemical stability and Possibility of hazardous reactions

- Some liquids produce vapors that may cause dizziness or suffocation.
- Inhalation of material may be harmful.
- Fire will produce irritating and/or toxic gases.
- Stable at room temperature, normal pressure and normal use.

B. Conditions to avoid

- Ignition sources (heat, sparks or flames)

C. Incompatible materials

- Flammable material

D. Hazardous decomposition products

- Irritating and/or toxic gases

11. Toxicological information

A. Information of Health Hazardous

- Operations such as sawing, routing, drilling and sanding can generate dust.
- Dust generated during handling of quartz surfacing products can contain particles of quartz
- Overexposure to airborne quartz can cause silicosis.

Acute toxicity

Oral : Not available

Dermal : Not available

Inhalation : Not available

Skin corrosion/ irritation : Not available

Serious eye damage/ irritation : Not available

Respiratory sensitization : Not available

Skin sensitization : Not available

Carcinogenicity : Category 1A

- Quartz (SiO_2) :

IARC : Group1 (Silica dust, crystalline, in the form of quartz or cristobalite)

OSHA : Present

ACGIH : A2

NTP : K (Silica, Crystalline (Respirable Size))

※ NTP : Not listed

Mutagenicity : Not available

- Quartz (SiO_2) : As for in vivo, a dominant lethal test in oral administration in rats and a chromosomal aberration test in rat bone marrow cells after oral administration were negative (ECETOC JACC (2006), SIDS (2006)).

As for in vitro, a bacterial reverse mutation test, a gene mutation test and a chromosomal aberration test in cultured mammalian cells were negative, and a micronucleus test in cultured mammalian cells was weakly positive (ECETOC JACC (2006), SIDS (2006)).

Reproductive toxicity : Not available

Specific target organ toxicity (single exposure) : Category 3 (respiratory irritation)

- Quartz (SiO_2) : From the information that silica gel (CAS number: 112926-00-8) is irritating to the respiratory tract (SIDS (2006), ECETOC JACC (2006)), it was classified in Category 3 (respiratory tract irritation).

Specific target organ toxicity (repeat exposure) : Category 1(respiratory system, immune system, kidney)

- Quartz (SiO_2) : As for humans, silicosis was reported in quartz and cristobalite. Moreover, also in experimental animals, it is reported that quartz and cristobalite have fibro genic property. Other than that, autoimmune disease, chronic kidney disease, and asymptomatic kidney degeneration in quartz and recurrent fever like metal fume fever in molten silica are reported (ACGIH (7th, 2006)). Therefore, this substance was classified in Category 1 (respiratory organs, immune system, kidney).

Aspiration Hazard : Not available

12. Ecological information

A. Ecological toxicity

- Acute toxicity : Not available
  - Fish : Not available
  - Crustacean : Not available
  - Algae : Not available
- Chronic toxicity : Not available
  - Fish : Not available
  - Crustacean : Not available
  - Algae : Not available

B. Persistence and degradability

Persistence : Not available

Degradability : Not available

C. Bioaccumulative potential

Bioaccumulation : Not available

Biodegradation : Not available

D. Mobility in soil : Not available

E. Other hazardous effect : Not available

F. Hazardous to the ozone layer : Not applicable

13. Disposal considerations

A. Disposal method :

- Waste must be disposed of in accordance with federal, state and local environmental control regulations.

B. Disposal precaution :

- Dispose of contents/container in accordance with relevant regulation.

14. Transport information

A. UN Number : Not applicable

B. UN Proper shipping name : Not applicable

C. Transport Hazard class : Not applicable

D. Packing group : Not applicable

E. Environmental hazards : No

F. Special precautions

in case of fire : Not applicable

in case of leakage : Not applicable

15. Regulatory information

Korea Regulatory information

Occupational Safety and Health Act:

- Quartz (SiO_2) : Threshold Limit Values (TLVs) chemicals(Crystalline quartz), Harmful Agents Subject to Work Environment Monitoring(mineral dust), Harmful Agents Subject to Workers Requiring Health Examination(mineral dust)

※ Subjects marked as other mineral dust or mineral dust are regulated in the case of work that falls under "[Attached Table 16] Types of dust work([별표 16] 분진작업의 종류)" of Rule on Occupational Safety and Health Standards.(산업안전보건에 관한 규칙).

Chemicals Control Act : Not regulated

Safety Control of Dangerous Substances Act : Not regulated

Wastes Control Act : Not regulated

Other regulations:

Persistant Organic Pollutants Acts : Not regulated

Foreign Regulatory Information

Substance of Rotterdam Convention : Not regulated

Substance of Stockholm Convention : Not regulated

Substance of Montreal Protocol : Not regulated

16. Other information

A. Information source and references :

UN Recommendations on the transport of dangerous goods 17th;
https://www.unece.org/trans/danger/publi/unrec/rev20/20files_e.html
EU CLP; https://echa.europa.eu/information-on-chemicals/cl-inventory-database
REACH information on registered substances; https://echa.europa.eu/information-on-chemicals/registered-substances
U.S. National library of Medicine (NLM) Hazardous Substances Data Bank(HSDB);
http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans;
http://monographs.iarc.fr
National Toxicology Program;
https://ntp.niehs.nih.gov/whatwestudy/assessments/cancer/roc/index.html
TOMES-LOLI®; http://www.rightanswerknowledge.com/loginRA.asp
Korea Occupational Health & Safety Agency; http://www.kosha.or.kr
National Chemicals Information System; http://ncis.nier.go.kr/main.do
Ministry of Public Safety and Security-Korea dangerous material inventory management system; http://hazmat.mpss.kfi.or.kr/index.do
Waste Control Act enforcement regulation attached [1]

B. Issuing date : February 28, 2020

C. Revision number and date

revision number : 02

date of the latest revision : May 29, 2024

D. Others :

- The content is based on the latest information and knowledge that we currently possess.
- The MSDS is only applicable to processors who perform work such as dust generating operations, and does not apply to purchasers and general handlers.
- This SDS was authored to processor who handles the chemical of subject in the SDS; additionally, it does not warrant suitability of the chemical for special purposes or the commercial use of statements that approves the use of it in combination with other chemicals as well as technical or legal liabilities.
- The content of the SDS may vary depending on the country or the region and may not coincide with the actual regulations. Therefore, the processor of the chemical is responsible for observing responsible government's or the region's regulations.