Material Safty Data Sheet

Product	MSR1000

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name	MSR1000
1.2 Recommended use of the chemical and restrictions on use	
Recommended use of the product	Silicone sealant
Restrictions on use of the product	No data
1.3 Company information	
Company Name	DAEHEUNG CHEMICAL CO., LTD.
Address	52, Sandan-ro15beon-gil,Pyeongtaeksi,Gyeonggi-do
Emergency telephone number	+82-31-663-5251
1.4 Manufacturer's information	
Company Name	Wonik Cube Co., Ltd.
Address	640, Pa Jae-ro, Muncheon-myeon, Chungcheongbuk-do
Emergency telephone number	044-555-4943

2. HAZARD IDENTIFICATION

2.1 Hazard, Risk classification	Skin corrosion / irritation: Category 2
	Severe eye damage / eye irritation: Category 2
	Specific target organ toxicity (single exposure): Category 3 (respiratory tract irritation)
	Specific target organ toxicity (repeated exposure): Category 2
2.2 GHS label elements	
Symbol	
Signal word	Waring
Harmful Risk phrases	H315 Causes skin irritation.
	H319 Causes serious eye irritation.
	H335 May cause respiratory irritation
	H373 Prolonged or repeated exposure may cause damage to (...) in the body.
Precautions	
Prevention	P260 Do not breathe dust / fume / gas / mist / vapors / spray.
	P261 Avoid breathing dust / fume / gas / mist / vapors / spray.
	P264 Wash thoroughly after handling.
	P271 Only handle outdoors or in a well-ventilated area.
	Wear protective gloves / protective clothing / eye protection / face protection.
Corresponding	P302+P352 If on skin, wash with plenty of soap and water.
	P304+P340 If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing.
	P305+P351+P338 If it gets on your eyes, wash it carefully with water for a few minutes. If possible, remove contact lenses. Continue to wash.
	P312 If you feel uncomfortable, seek medical advice.

Corresponding	P314 If you feel uncomfortable, seek medical advice.
	P332+P313 If skin irritation develops, seek medical advice.
	P337+P313 If eye irritation persists seek medical advice.
	P362 Remove contaminated clothing and wash before reuse.
Storage	P403+P233 Keep container tightly closed in a well-ventilated place.
	P405 Store in lockable storage area.
Disposal	P501 Dispose of contents container according to applicable regulations.

2.3 Other Hazards and Hazards Not Included in Hazard Classification (NFPA)

Health	2
Fire	0
Reactivity	0

3. COMPOSITION / INFORMATION ON INTEGREDIENTS

Name	Comon Name	CAS No	Contents(%)
Silylated polyurethane resin	Modified Polyurethan sealant	secret	20 ~ 30
Calcium carbonate	CaCO3	471-34-1	40 ~ 70
Diisononyl phtalate	-	68515-48-0	10 ~ 15
N-β(Amino ethyl)raminopropyl trimethoxy silane	-	1760-24-1	0.1 ~ 1
Titanium dioxide	-	13463-67-7	1 ~ 5

Ingredients not shown in the table are either non-hazardous ingredients or trade secret ingredients

4. FIRST AID MEASURES

4.1 Eye contact	Rinse skin and eyes immediately with plenty of water for at least 20 minutes when in contact with the material.
	Get emergency medical attention.
4.2 In case of skin contact	In the case of hot materials, immerse or wash affected areas in a large amount of cold water to remove heat
	Remove contaminated clothing and shoes and isolate contaminated areas.
	In case of contact with substance, immediately wash skin and eyes with running water for more than 20 minutes.
	Prevent spread of contamination on mild skin contact
	If skin irritation develops, seek medical advice.
	Remove contaminated clothing and wash before reuse.
4.3 Inhalation	Move to a place with fresh air.
	If not breathing, give artificial respiration.
	If breathing is difficult, give oxygen.
	Get emergency medical attention.
4.4 Ingestion	Get emergency medical attention.
4.5 Other precautions	Have the health care worker know about the material and take protective measures

5. FIRE FIGHTING MEASURES

5.1 Suitable (improper) extinguishing media	Use alcohol foam, carbon dioxide or water spray for digestion related to this material. Use dry sand or earth for digestion.

5.2 Specific hazards arising from chemicals	During burning, pyrolysis or combustion may produce irritating and highly toxic gases. Container may explode on heating Some can be burned but not easily ignited Non-flammable, the substance itself is not burned but decomposes on heating and may cause corrosive / toxic fumes
5.3 Protective equipment and precautions for fire-fighting measures	Rescuers should wear appropriate protective equipment. Extinguish the area and maintain safety distance. Be aware that it may be melted and transported. Drill ditches for the disposal of digestive waters and keep them from dispersing. Move container from fire area if it is not hazardous. In case of tank fire, extinguish at maximum distance or use unmanned fire fighting equipment Cool containers with large amounts of water even after the fire has evolved. If there is a high sound level in the pressure relief device or a discoloration of the tank in the event of a tank fire, immediately withdraw it Get out of the flame tank when the tank fires. In the event of a large fire in a tank fire, use unmanned fire fighting equipment and allow it to retreat if it is not possible

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, protective equipment and emergency procedures	Wipe off any spills immediately and follow all protective precautions. Remove all ignition sources. Stop the leak if it is not dangerous. Do not touch a damaged container or spill without adequate protection. Cover with plastic sheet to prevent diffusion Note the substances and conditions to avoid (Dust, fume, gas, mist, steam, spray).
6.2. Environmental precautions	Prevent entry into waterways, sewers, basements and confined spaces.
6.3. Methods and material for containment and cleaning up	Absorb spillage with inert materials (eg dry sand or earth) and place in a chemical waste container. Absorb liquid and rinse contaminated area with detergent and water.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling	Follow all MSDS / label precautions as product residues may remain after emptying containers. Handle / store carefully. Carefully open the stopper before opening. Avoid prolonged or repeated skin contact. Note the substances and conditions to avoid Refer to engineering controls and personal protective equipment. (Dust, fume, gas, mist, steam, spray). Wash thoroughly after handling. Handle it outdoors or in a well-ventilated area.
7.2 Safe storage	The empty drum should be completely drained and properly blocked and immediately returned to the drum regulator or properly positioned. Keep container tightly closed in a well-ventilated place.

8. EXPOSURECONTROLS & PERSONAL PROTECTION

8.1. Exposure standards for chemicals, biological exposure standards, etc.

Domestic regulation	
ACGIH regulation	No data
Biological exposure standard	No data
8.2 Appropriate engineering controls	Use process isolation, local exhaust ventilation or other engineering controls to keep air levels below exposure limits.
8.2 Appropriate engineering controls	If dust, fumes or mist is generated during operation, ventilate to keep air contamination below the exposure limit Equipment for storing and using this material must be worn and fitted with a safety shower.
8.3 Personal protective equipment	No data

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance	
Physical Form	Paste
Color	White, Gray, Black etc(Other oder colors)
9.2 Odor	A weak smell
9.3 Odor threshold	No data
9.4 pH	No data
9.5 Melting point / freezing point	No data
9.6 Boiling point	No data
9.7 Flash point	> 100℃
9.8 Evaporation Rate	No data
9.9 Flammability (solid, gas)	No data
9.10 Upper/lower flammability or explosive limits	No data
9.11 Vapor Pressure	No data
9.12 Solubility	No data
9.13 Vapor Density	No data
9.14 Specific gravity	1.50 ~ 1.60
9.15 N-octanol/water partition coefficient	No data
9.16 Autoignition temperature	No data
9.17 Decomposition Temperature	No data
9.18 Viscosity	200,000 ~ 400,000cps(#7 spindle, 20rpm)
9.19 Molecular weight	This product is a mixture of no data

10. STABILITY AND REACTIVITY

10.1 Possibility of chemical stability and adverse reaction	Can decompose at high temperatures to produce toxic gas Container may explode on heating Some are burned but not easily ignited Non-flammable, the substance itself is not burned but decomposes on heating and may cause corrosive / toxic fumes
10.2 Conditions to avoid	Heat source, spark, flame, etc.
10.3 Substances to avoid	Combustible materials, reducing materials
10.4 Hazardous materials generated during decomposition	During burning, pyrolysis or combustion can produce irritating and highly toxic gases. Corrosive / toxic fume

11. TOXICOLOGICAL INFORMATION

11.1. Information about possible routes of exposure

Respiratory	No exposures expected
Oral	Expected to be exposed
Eye, skin	Expected to be exposed

11.2 Health hazard information

Acute toxicity	
Oral	LD50 6450 ㎎/㎏ Rat
Percutaneous	No data
Inhalation	No data
Skin corrosive or irritant	Normal irritation of Rabbit-Dragise test, irritation to person
Severe eye damage or irritation	Extreme irritation of Rabbit-Draize test, slight irritation to person
Respiratory sensitization	No data

Skin sensitization	No data
Carcinogenicity	
Industrial Safety and Health Act	No data
Notice of Ministry of Employment and Labor	No data
IARC	No data
OSHA	No data
ACGIH	No data
NTP	No data
EU CLP	No data
Germ cell mutagenicity	In vitro Salmonella typhimurium Ames test showed negative
Reproductive toxicity	No data
Specific target organ toxicity (single exposure)	Causes irritation inhalation.
Specific target organ toxicity (repeated exposure)	Exposure causes blood system abnormalities, gastrointestinal disorders, and hormonal abnormalities.
Inhalation hazard	No data

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity	
Fish	
Shellfish	No data
Algae	EC50 22000 ㎎/ℓ 96 hr
12.2. Persistence and degradability	
Persistence	No data
degradability	No data
12.3. Bioaccumulation	
Enrichment	BCF 3.162
Biodegradability	No data
12.4. Soil mobility	No data
12.5. Other harmful effects	No data

13. DISPOSAL CONSIDERATIONS

13.1 Disposal method	Dispose of contents and container in accordance with local regulations.
13.2 Disposal considerations	Dispose of contents and container in accordance with local regulations.

14. TRANSPORT INFORMATION

14.1 UN Number (UN No.)	UN transport hazard classification not available
14.2. UN proper shipping name	Not applicable
14.3. Transport hazard class(es)	Not applicable
14.4. Packing group	Not applicable
14.5. Environmental hazards	No data

14.6 Special safety measures that the user needs or needs to know about transportation or transportation

Emergency measures in case of fire	Not applicable
Emergency Action	Not applicable

15. REGULATORY INFORMATION

15.1 Regulation by the Industrial Safety and Health Act	Exposure standard setting substance

15.2 Regulation by Chemical Substance Control Act	Not applicable
15.3 Regulation under dangerous goods safety management law	Not applicable(Non-hazardous material)
15.4 Regulation by waste management law	Not applicable
15.5 Other domestic and foreign regulations	
Domestic regulation	
Residual Organic Pollutant Control Act	Not applicable
Foreign regulation	
OSHA regulations	Not applicable
CERCLA regulations	Not applicable
US Administration Information(EPCRA 302 regulations)	Not applicable
US Administration Information(EPCRA 304 regulations)	Not applicable
US Administration Information(EPCRA 313 regulations)	Not applicable
US Administration Information(Rotterdam Convention material)	Not applicable
US Administration Information(Stockholm Convention substance)	Not applicable
US Administration Information(Montreal Protocol substance)	Not applicable
EU Classification information(Confirmed classification result)	Not applicable
EU Classification information(Danger phrases)	Not applicable
EU Classification information(Safety phrases)	Not applicable

16. OTHER INFORMATION

16.1 Source of material

It is based on KOSHA, NTE, ESIS, NLM, SIDS, IPCS, NCIS, etc. based on Article 41 of the Industrial Safety and Health Act and the Ministry of Employment and Labor Notice No. 2013-37 And

16.2 Date First	2012-04-13
16.3 Revision number and date	
Revision number	2 time
Revision Date	2017-09-01

16.4 Etc.

○ The MSDS (Material Safty Data Sheet) is edited or partially corrected by referring to the MSDS provided by KOSHA (Korea Occupational Safty and Health Agency)