

Material Safty Data Sheet

Product

SR 400

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name	SR 400
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

2. HAZARD IDENTIFICATION

2.1 Hazard, Risk classification	Skin sensitization: Category 1
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2.2 GHS label elements

Symbol



Signal word

Waring

Harmful Risk phrases

H317 May cause an allergic skin reaction.

Precautions

Prevention

P261 In contact with water releases flammable gases.

P272 May intensify fire; oxidiser.

P280 Contains gas under pressure; may explode if heated.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

Corresponding

P321 Specific treatment (see ... on this label).

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

Storage

Not available

Disposal

P501 Dispose of contents and container in accordance with local regulations.

Amorphous, fumed silica

Health

0

Fire

1

Reactivity

0

Lime stone

Health

No data

Fire

No data

Reactivity

No data

Methyl Oximino Silane

Health

1

Fire

2

Reactivity

1

Polydimethylsiloxane

Health

1

Fire

1

Reactivity

0

Siloxanes and Silicones, di-Me, hydroxy-terminated

Health

1

Fire

2

Reactivity

0

3. COMPOSITION / INFORMATION ON INTEGREDIENTS

Name	Comon Name	CAS No	Contents(%)
Amorphous, fumed silica	SILICA, AMORPHOUS, FUMED, CRYSTALLINE FREE	112945-52-5	1 ~ 10
Lime stone		1317-65-3	30 ~ 40
Methyl Oximino Silane	(METHYLTRI(2-BUTANONEOXIMYL)SILANE);	22984-54-9	1 ~ 5
Polydimethylsiloxane	DIMETHYLPOLYSILOXANE/WATER EMULSIONS	63148-62-9	10 ~ 20
Siloxanes and Silicones, di-Me, hydroxy-terminated	DIMETHYL POLYSILOXANE	70131-67-8	30 ~ 40

4. FIRST AID MEASURES

4.1 Eye contact	<p>Get emergency medical attention.</p> <p>Rinse skin and eyes immediately with plenty of water for at least 20 minutes when in contact with the material.</p>
4.2 In case of skin contact	<p>If skin irritation or rash occurs, seek medical advice / advice.</p> <p>Wash contaminated clothing before reuse.</p> <p>Get emergency medical attention.</p> <p>Remove contaminated clothing and shoes and isolate contaminated areas.</p> <p>Rinse skin and eyes immediately with plenty of water for at least 20 minutes when in contact with the material.</p> <p>Prevent spread of contamination on mild skin contact</p>
4.3 Inhalation	<p>Move to a place with fresh air.</p> <p>If not breathing, give artificial respiration.</p> <p>If breathing is difficult, give oxygen.</p> <p>Please warm and stabilize.</p>
4.4 Ingestion	<p>Get emergency medical attention.</p>
4.5 Other precautions	<p>Have the health care worker know about the material and take protective measures</p>

5. FIRE FIGHTING MEASURES

5.1. Extinguishing media	<p>Suitable extinguishing media</p> <p>Use alcohol foam, carbon dioxide or water spray for digestion related to this material.</p> <p>Use dry sand or earth for digestion.</p>
5.2. Special hazards arising from the substance or mixture	<p>Hazardous combustion products</p> <p>Container may explode on heating</p> <p>Some are burned but not easily ignited</p> <p>Non-flammable, the substance itself is not burned but decomposes on heating and may cause corrosive / toxic fumes</p> <p>May cause irritating, corrosive and toxic gases in case of fire</p>
5.3.Protective equipment and precautions for fire-fighting	<p>Protective equipment and precautions for fire-fighting</p> <p>Be aware that it may be melted and transported.</p> <p>In case of tank fire, extinguish at maximum distance or use unmanned fire fighting equipment</p> <p>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</p> <p>Rescuers should wear appropriate protective equipment.</p> <p>Extinguish the area and maintain safety distance.</p> <p>Some can be transported at high temperatures</p> <p>Leaky water may cause contamination.</p> <p>Contact may cause skin and eye burns.</p> <p>Drill ditches for the disposal of digestive waters to prevent them from being scattered.</p> <p>Move container from fire area if it is not hazardous.</p>

Protective equipment and precautions for fire-fighting

Cool containers with large amounts of water even after the fire has extinguished.

In the event of a tank fire, if there is a high tone in the pressure relief device or if the tank is discolored, immediately withdraw it

Tanks Fires in a fire.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, protective equipment and emergency procedures

Remove all ignition sources as very fine particles may cause fire or explosion.

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

Prevent entry into waterways, sewers, basements, and confined spaces.

6.2. Environmental precautions

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

Avoid inhalation.(Dust, fume, gas, mist, steam, spray)

Do not carry contaminated clothing out of the workplace.

Follow all MSDS / label precautions as product residues may remain after emptying containers.

Avoid prolonged or repeated skin contact.

Note the substances and conditions to avoid

Refer to engineering controls and personal protective equipment.

7.2 Safe storage

The empty drum should be completely drained, properly blocked and immediately returned to the drum regulator or properly positioned.

8. EXPOSURECONTROLS & PERSONAL PROTECTION

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

Domestic regulation

Lime stone

TWA – 10mg/m3

ACGIH regulation

No data

Biological exposure standard

No data

8.2 Personal protective equipment

Respiratory protection

Wear a respirator that has been approved by the Korean Occupational Safety and Health Administration in accordance with the physicochemical properties of the substance being exposed.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance

Physical Form

Paste

Color

White, Black. Gray.. ETC

9.2 Odor

Oxime

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

No data

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

1.35 ~ 1.40

9.15 N-octanol/water partition coefficient

No data

9.16 Autoignition temperature

No data

9.17 Decomposition Temperature	No data
9.18 Viscosity	Paste
9.19 Molecular weight	No data
10. STABILITY AND REACTIVITY	
10.1 Possibility of chemical stability and adverse reaction	
Amorphous, fumed silica	Container may explode on heating
Amorphous, fumed silica	Some are burned but not easily ignited
Amorphous, fumed silica	Non-flammable, the substance itself is not burned but decomposes on heating and may cause corrosive / toxic fumes
Amorphous, fumed silica	May cause irritating, corrosive and toxic gases in case of fire
Lime stone	No data
Methyl Oximino Silane	Polymerization: not polymerized Reactivity: Contact with water or moist air may form flammable and / or toxic gases and vapors.
Polydimethylsiloxane	Stable at normal temperature and pressure
Polydimethylsiloxane	Container may explode on heating
Polydimethylsiloxane	Some are burned but not easily ignited
Polydimethylsiloxane	May cause irritation and poisonous gas in case of fire
Polydimethylsiloxane	Inhalation of the substance may be harmful
Polydimethylsiloxane	Some fluids may cause dizziness, suffocation-inducing vapors
terminated Siloxanes and Silicones, di-Me, hydroxy-	Stable at normal temperature and pressure
terminated Siloxanes and Silicones, di-Me, hydroxy-	Container may explode on heating
terminated Siloxanes and Silicones, di-Me, hydroxy-	Some are burned but not easily ignited
terminated Siloxanes and Silicones, di-Me, hydroxy-	May cause irritation and poisonous gas in case of fire
terminated Siloxanes and Silicones, di-Me, hydroxy-	Inhalation of the substance may be harmful
terminated Siloxanes and Silicones, di-Me, hydroxy-	Some fluids may cause dizziness, suffocation-inducing vapors
10.2 Conditions to avoid	
Amorphous, fumed silica	Heat source, spark, flame, etc.
Lime stone	No data
Methyl Oximino Silane	Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat. Keep away from waterworks and sewers.
Polydimethylsiloxane	Heat source, spark, flame, etc.
terminated Siloxanes and Silicones, di-Me, hydroxy-	Heat source, spark, flame, etc.
10.3 Substances to avoid	
Amorphous, fumed silica	Combustible materials, reducing materials
Lime stone	No data
Methyl Oximino Silane	Oxidant
Polydimethylsiloxane	Combustible material
Polydimethylsiloxane	Irritant, toxic gas
terminated Siloxanes and Silicones, di-Me, hydroxy-	Combustible material
terminated Siloxanes and Silicones, di-Me, hydroxy-	Irritant, toxic gas
10.4 Hazardous materials generated during decomposition	
Amorphous, fumed silica	Corrosive / toxic fume
Amorphous, fumed silica	Irritating, corrosive, toxic gas
Lime stone	No data
Methyl Oximino Silane	No data
Polydimethylsiloxane	No data
terminated Siloxanes and Silicones, di-Me, hydroxy-	No data
11. TOXICOLOGICAL INFORMATION	
11.1. Information about possible routes of exposure	
Amorphous, fumed silica	Exposure to respiration can cause pneumoconiosis in large quantities of inhalation May cause nausea, vomiting and diarrhea by stimulating the stomach. Exposed to skin contact Exposed by eye contact
Lime stone	No data

	Methyl Oximino Silane	No data
	Polydimethylsiloxane	Can absorb body by inhalation
	Polydimethylsiloxane	Can be absorbed by inhalation and extinguisher
	Polydimethylsiloxane	Through skin, digestive system, can absorb body by inhalation of aerosol
	Polydimethylsiloxane	Absorption of body by inhalation of steam
	Polydimethylsiloxane	Can be absorbed by inhalation, skin and digestive system
terminated	Siloxanes and Silicones, di-Me, hydroxy-	Can absorb body by inhalation
terminated	Siloxanes and Silicones, di-Me, hydroxy-	Can be absorbed by inhalation and extinguisher
terminated	Siloxanes and Silicones, di-Me, hydroxy-	Through skin, digestive system, can absorb body by inhalation of aerosol
terminated	Siloxanes and Silicones, di-Me, hydroxy-	Absorption of body by inhalation of steam
terminated	Siloxanes and Silicones, di-Me, hydroxy-	Can be absorbed by inhalation, skin and digestive system
11.2 Health hazard information		
Acute toxicity		
Oral		
	Amorphous, fumed silica	LD50 > 3100 mg/kg Rat
	Lime stone	No data
	Methyl Oximino Silane	(No data)
	Polydimethylsiloxane	LD50 > 17000 mg/kg Rat
terminated	Siloxanes and Silicones, di-Me, hydroxy-	LD50 > 64 mg/kg Rat (Labor Department 3)
Percutaneous		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	(No data)
	Polydimethylsiloxane	LD50 > 2000 mg/kg Rabbit
terminated	Siloxanes and Silicones, di-Me, hydroxy-	LD50 > 16 mg/kg Rabbit (Labor Department 1)
Inhalation		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	(No data)
	Polydimethylsiloxane	No data
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data
Skin corrosive or irritant		
	Amorphous, fumed silica	No skin irritation reported
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data
Severe eye damage or irritation		
	Amorphous, fumed silica	No eye irritation reported
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	Eye Standard Draze Test Rabbit Quantity: 100 mg / 1H; Reaction: Mild (light stimulus)
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data
Respiratory sensitization		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data
Skin sensitization		
	Amorphous, fumed silica	No skin sensitization reported in humans
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data
Carcinogenicity		
Industrial Safety and Health Act		

terminated	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data
Notice of Ministry of Employment and Labor		
terminated	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data
IARC		
terminated	Amorphous, fumed silica	Group 3 (Silica, amorphous)
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data
OSHA		
terminated	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data
ACGIH		
terminated	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data
NTP		
terminated	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data
EU CLP		
terminated	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data
Germ cell mutagenicity		
terminated	Amorphous, fumed silica	In vivo / In vitro tests There was no evidence that this substance caused mutations in any of the tests. – Genotoxicity effects do not occur when exposed to this material.
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data
Reproductive toxicity		
terminated	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data
Specific target organ toxicity (single exposure)		
terminated	Amorphous, fumed silica	Short-term exposure may cause respiratory irritation.
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data

Specific target organ toxicity (repeated exposure)		
	Amorphous, fumed silica	After two years of long-term application, evidence for reversible effects in this material could not be explained, and at high doses, there was only a slight increase in tissue weight or growth delay from time to time. – showed normal lung reaction.
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data
Inhalation hazard		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity

Fish		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	LC50 0.00000975 mg/ℓ 96 hr etc
	Polydimethylsiloxane	LC50 37.79 mg/ℓ 96 hr <i>Lepomis macrochirus</i>
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data
Shellfish		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	LC50 0.0000179 mg/ℓ 48 hr etc
	Polydimethylsiloxane	LC50 44.5 mg/ℓ 48 hr <i>Daphnia magna</i>
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data
Algae		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	EC50 0.0000176 mg/ℓ 96 hr etc
	Polydimethylsiloxane	No data
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data

12.2. Persistence and degradability

Persistence		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	(Not applicable)
	Polydimethylsiloxane	No data
terminated	Siloxanes and Silicones, di-Me, hydroxy-	log Kow 2.43
degradability		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	(No data)
	Polydimethylsiloxane	No data
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data

12.3. Bioaccumulation

Enrichment		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	BCF 8.49
	Polydimethylsiloxane	No data
terminated	Siloxanes and Silicones, di-Me, hydroxy-	BCF 14.77
Biodegradability		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
terminated	Siloxanes and Silicones, di-Me, hydroxy-	No data

12.4. Soil mobility		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data
terminated		
12.5. Other harmful effects		
	Amorphous, fumed silica	No data
	Lime stone	No data
	Methyl Oximino Silane	No data
	Polydimethylsiloxane	No data
	Siloxanes and Silicones, di-Me, hydroxy-	No data
terminated		
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
14.7 Other International Transportation Regulations		
	Air Transport (IATA-DGR)	Not subject to IATA regulations.
15. REGULATORY INFORMATION		
15.1 Regulation by the Industrial Safety and Health Act		
	Lime stone	Working environment Measured material (measurement cycle: 6 months)
	Lime stone	Special medical examination subject substance (diagnosis period: 24 months)
	Lime stone	Exposure standard setting substance
15.2 Regulation by Chemical Substance Control Act	No data	
15.3 Regulation under dangerous goods safety management law	No data	
15.4 Regulation by waste management law	Designated waste	
15.5 Other domestic and foreign regulations		
	Domestic regulation	
	Residual Organic Pollutant Control Act	Not available
	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

Amorphous, fumed silica

Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)(Information on possible routes of exposure)

Seton compliance resource center(<http://www.setonresourcecenter.com>)(Information on possible routes of exposure)

OECD Screening Information Data Set(<http://cs3-hq.oecd.org/scripts/hpv/>)(Oral)

OECD Screening Information Data Set(<http://cs3-hq.oecd.org/scripts/hpv/>)(Skin corrosive or irritant)

OECD Screening Information Data Set(<http://cs3-hq.oecd.org/scripts/hpv/>)(Severe eye damage or irritation)

OECD Screening Information Data Set(<http://cs3-hq.oecd.org/scripts/hpv/>)(Skin sensitization)

International Uniform Chemical Information Database(IUCLID)(<http://ecb.jrc.it/esis>)(Germ cell mutagenicity)

OECD SIDS(<http://www.chem.unep.ch/irptc/sids/OECD/SIDS/silicates.pdf>)(Specific target organ toxicity (single exposure))

International Programme on Chemical Safety(IPCS INCHEM)(<http://www.inchem.org/>)(Specific target organ toxicity (repeated exposure))

OECD Screening Information Data Set(<http://cs3-hq.oecd.org/scripts/hpv/>)(Specific target organ toxicity (repeated exposure))

OECD Screening Information Data Set(<http://cs3-hq.oecd.org/scripts/hpv/>)(Recommended use of the product)

Lime stone

Methyl Oximino Silane

ECOSAR(fish)

ECOSAR(shellfish)

ECOSAR(Algae)

EPIWIN(Enrichment)

Polydimethylsiloxane

National Library of Medicine(NLM)(<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CHEM>)(Oral)

National Library of Medicine(NLM)(<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CHEM>)(Percutaneous)

Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)(Severe eye damage or irritation)

The ECOTOXicology database (ECOTOX)(http://cfpub.epa.gov/ECOTOX/quick_query.htm)(fish)

The ECOTOXicology database (ECOTOX)(http://cfpub.epa.gov/ECOTOX/quick_query.htm)(shellfish)

The Chemical Database, The Department of Chemistry at the University of Akron(<http://ull.chemistry.uakron.edu/erd>)

Siloxanes and Silicones, di-Me, hydroxy-terminated

Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)(Oral)

Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)(Percutaneous)

Quantitative Structure Activity Relation(QSAR)(residual)

Quantitative Structure Activity Relation(QSAR)(Enrichment)

16.2 Date First 2016-03-08

16.3 Revision number and date

Revision number 1 time

Revision Date 2017-09-01

16.4 Etc.

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