SAFETY DATA SHEET

DOW CORNING(R) EA-3800 ADHESIVE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	2015/07/08	2396118-00001	Date of first issue: 2015/07/08

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : DOW CORNING(R) EA-3800 ADHESIVE

Product code : 000000000004126212

Recommended use of the chemical and restrictions on use

Recommended use : Adhesive, binding agents

Manufacturer or supplier's details

Company : Dow Corning Korea Ltd.

Address : 24 Gwanghyewon Sandan-Gil, Gwanghyewon-Myeon, Jincheon-Gun, Chungcheongbuk-Do, Korea

Telephone : 043-539-1114

Emergency telephone number : 043-539-1129

2. HAZARDS IDENTIFICATION

GHS Classification

Skin sensitisation : Category 1

Chronic aquatic toxicity : Category 3

GHS Label element

Hazard pictograms :

Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P261 Avoid breathing mist or vapours.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Disposal:
P501 Dispose of contents and container (according to the de-

scription in the related regulation).

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Silicone

Components

Chemical Name	Common Name	CAS-No.	Concentration (%)
Calcium carbonate treated with stearic acid	No data available	Not Assigned	>= 40 - < 50
Aluminum hydroxide	Aluminum oxide trihydrate	21645-51-2	>= 20 - < 30
Hydrozincite	No data available	12122-17-7	>= 1 - < 10
Methyltrimethoxysilane	Silane, trimethoxymethyl-	1185-55-3	>= 1 - < 10
Diisopropoxy di(ethoxyacetoacetyl) titanate	Titanium, bis[ethyl 3-(oxo-.kappa.O)butanoato-.kappa.O']bis(2-propanolato)-	27858-32-8	>= 1 - < 10
Quartz	Crystallized silicon dioxide	14808-60-7	>= 0.1 - < 1
Dimethyl siloxane, trimethoxysilyl-terminated	No data available	Not Assigned	>= 20 - < 30
Dimethyl Siloxane, Dimethylvinylsiloxy-terminated	Polydimethylsiloxane, vinyl end blocked	68083-19-2	>= 1 - < 10

4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty

of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

If inhaled	:	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	:	May cause an allergic skin reaction.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.
Notes to physician	:	Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

Suitable and unsuitable extinguishing media

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	None known.
Specific hazards during fire-fighting	:	Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Metal oxides Formaldehyde Silicon oxides
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.
Environmental precautions	:	Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	:	Use only with adequate ventilation.
Advice on safe handling	:	Do not get on skin or clothing. Avoid inhalation of vapour or mist. Do not swallow. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Keep away from water. Protect from moisture. Take care to prevent spills, waste and minimize release to the environment.
Conditions for safe storage	:	Keep in properly labelled containers. Store in accordance with the particular national regulations.
Materials to avoid	:	Do not store with the following product types: Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Calcium carbonate treated with stearic acid	Not Assigned	TWA	10 mg/m3 (Calcium)	KR OEL
Aluminum hydroxide	21645-51-2	TWA (Respirable fraction)	1 mg/m3 (Aluminium)	ACGIH
Methyltrimethoxysilane	1185-55-3	TWA	50 ppm	DCC OEL
Quartz	14808-60-7	TWA (Respirable fraction)	0.05 mg/m3	KR OEL
	Further information: Sufficient evidence of carcinogenicity in humans			
		TWA (Respirable fraction)	0.025 mg/m3 (Silica)	ACGIH

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Methanol	67-56-1	STEL	250 ppm 310 mg/m3	KR OEL
	Further information: Substances designated by 'Skin' may be absorbed into the bloodstream through the skin, mucous membrane and eye and contribute to the overall effect. (Skin notation does not apply to the skin irritant)			
		TWA	200 ppm 260 mg/m3	KR OEL
	Further information: Substances designated by 'Skin' may be absorbed into the bloodstream through the skin, mucous membrane and eye and contribute to the overall effect. (Skin notation does not apply to the skin irritant)			
		TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
Propan-2-ol	67-63-0	TWA	200 ppm 480 mg/m3	KR OEL
		STEL	400 ppm 980 mg/m3	KR OEL
		TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH

Engineering measures : Processing may form hazardous compounds (see section 10).
Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust

ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Self-contained breathing apparatus

Eye protection : Wear the following personal protective equipment:
Safety goggles

Hand protection
Material : Impervious gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.
These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.
For further information regarding the use of silicones / organic oils in consumer aerosol applications, please refer to the guidance document regarding the use of these type of materials in consumer aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Corning customer service group.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : viscous liquid

Colour : off-white

Odour : not significant

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling range	:	> 35 °C
Flash point	:	> 110 °C Method: Seta closed cup 110 °C Method: Cleveland open cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper/Lower explosion limit		
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Relative vapour density	:	No data available
Relative density	:	1.68
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	25,000 mPa.s
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available

10. STABILITY AND REACTIVITY

Chemical stability and possibility of hazardous reactions	:	Not classified as a reactivity hazard. Stable under normal conditions. Use at elevated temperatures may form highly hazardous compounds. Can react with strong oxidizing agents. Hazardous decomposition products will be formed upon con-

tact with water or humid air.
Hazardous decomposition products will be formed at elevated temperatures.

Conditions to avoid : Exposure to moisture

Incompatible materials : Oxidizing agents
Water

Hazardous decomposition products
Contact with water or humid air : Methanol
Propan-2-ol

Thermal decomposition : Formaldehyde

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Health hazard information

Acute toxicity

Not classified based on available information.

Components:

Aluminum hydroxide:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 2.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Hydrozincite:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 5,410 mg/m3
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Methyltrimethoxysilane:

Acute oral toxicity : LD50 (Rat): 12.3 ml/kg
Assessment: The substance or mixture has no acute oral tox-

icity
Remarks: Information taken from reference works and the literature.

Acute inhalation toxicity : LC50 (Rat): > 42.1 mg/l
Exposure time: 6 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on test data

Acute dermal toxicity : LD50 (Rabbit): > 9,500 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on test data

Diisopropoxy di(ethoxyacetoacetyl) titanate:
Acute oral toxicity : LD50 (Rat): 23,020 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 173 mg/l
Exposure time: 6 h
Test atmosphere: vapour
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): 12,870 mg/kg
Remarks: Based on data from similar materials

Quartz:
Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:

Aluminum hydroxide:
Species: Rabbit
Result: No skin irritation

Hydrozincite:
Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

Methyltrimethoxysilane:
Species: Rabbit
Result: No skin irritation
Remarks: Based on test data

Diisopropoxy di(ethoxyacetoacetyl) titanate:
Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Aluminum hydroxide:
Species: Rabbit
Result: No eye irritation

Hydrozincite:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

Methyltrimethoxysilane:
Species: Rabbit
Result: No eye irritation
Remarks: Based on test data

Diisopropoxy di(ethoxyacetoacetyl) titanate:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

Respiratory or skin sensitisation

Skin sensitisation: May cause an allergic skin reaction.
Respiratory sensitisation: Not classified based on available information.

Components:

Aluminum hydroxide:
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Hydrozincite:
Test Type: Maximisation Test (GPMT)
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative
Remarks: Based on data from similar materials

Methyltrimethoxysilane:
Assessment: Probability or evidence of low to moderate skin sensitisation rate in humans

Test Type: Buehler Test
Species: Guinea pig
Remarks: Based on test data

Diisopropoxy di(ethoxyacetoacetyl) titanate:
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Quartz:
Species: Humans
Application Route: inhalation (dust/mist/fume)
Result: positive
Remarks: IARC (International Agency for Research on Cancer)
The substance is inextricably bound in the product and therefore does not contribute to a dust inhalation hazard.

Carcinogenicity - Assessment : Positive evidence from human epidemiological studies (inhalation)

Germ cell mutagenicity

Not classified based on available information.

Components:

Aluminum hydroxide:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Hydrozincite:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

Methyltrimethoxysilane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on test data

: Test Type: Mutagenicity (in vitro mammalian cytogenetic test)
Result: positive
Remarks: Based on test data

: Test Type: Chromosome aberration test in vitro
Result: positive
Remarks: Based on test data

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on test data

Germ cell mutagenicity- Assessment : Animal testing did not show any mutagenic effects.

Diisopropoxy di(ethoxyacetoacetyl) titanate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Reproductive toxicity

Not classified based on available information.

Components:

Aluminum hydroxide:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

Hydrozincite:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Methyltrimethoxysilane:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: No effects on fertility
Remarks: Based on test data

Effects on foetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: No effects on foetal development
Remarks: Based on test data

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Diisopropoxy di(ethoxyacetoacetyl) titanate:

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Ingestion
Result: negative

Remarks: Based on data from similar materials

STOT - single exposure

Not classified based on available information.

Components:

Diisopropoxy di(ethoxyacetoacetyl) titanate:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Components:

Methyltrimethoxysilane:
Exposure routes: inhalation (vapour)
Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

Exposure routes: Ingestion
Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Quartz:
Exposure routes: inhalation (dust/mist/fume)
Target Organs: Lungs
Assessment: Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less.

Repeated dose toxicity

Components:

Aluminum hydroxide:
Species: Rat
NOAEL: 302 mg/kg
Application Route: Ingestion
Exposure time: 28 d

Hydrozincite:
Species: Mouse
NOAEL: 458 mg/kg
Application Route: Ingestion
Exposure time: 13 w
Method: OECD Test Guideline 408
Remarks: Based on data from similar materials

Methyltrimethoxysilane:
Species: Rat
Application Route: inhalation (vapour)
Remarks: Based on test data

Species: Rat
Application Route: Ingestion
Remarks: Based on test data

Diisopropoxy di(ethoxyacetoacetyl) titanate:
Species: Rat
NOAEL: 86.7 mg/l
Application Route: inhalation (vapour)
Exposure time: 13 w
Remarks: Based on data from similar materials

Quartz:
Species: Humans
LOAEL: 0.053 mg/m3
Application Route: Inhalation
Remarks: OECD SIDS
The substance is inextricably bound in the product and therefore does not contribute to a dust inhalation hazard.

Aspiration toxicity

Not classified based on available information.

Product:

No aspiration toxicity classification

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Aluminum hydroxide:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 218.64 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	:	EC50 (Selenastrum capricornutum (green algae)): > 100 mg/l Exposure time: 72 h

Hydrozincite:

Toxicity to fish	:	LC50 (Oncorhynchus kisutch (coho salmon)): 727 - 1,810 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 6.9 - 16.2 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	EC50 (Selenastrum capricornutum (green algae)): 136 µg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials

NOEC (Selenastrum capricornutum (green algae)): 24 µg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 199 µg/l
Exposure time: 30 d
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 37 µg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity) : 1

Methyltrimethoxysilane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia sp.): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to bacteria : EC50: > 100 mg/l
Method: OECD Test Guideline 209

Diisopropoxy di(ethoxyacetoacetyl) titanate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 11,130 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 500 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

Persistence and degradability

Components:

Methyltrimethoxysilane:

Stability in water : Degradation half life: 2.2 h pH: 7

Diisopropoxy di(ethoxyacetoacetyl) titanate:

Biodegradability : Result: Readily biodegradable

Biodegradation: 66 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
Remarks: Based on data from similar materials

Bioaccumulative potential

Components:

Methyltrimethoxysilane:
Partition coefficient: n-octanol/water : log Pow: -2.36

Diisopropoxy di(ethoxyacetoacetyl) titanate:
Partition coefficient: n-octanol/water : log Pow: 0.05

Mobility in soil

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

Disposal precautions

Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

International Regulation

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable

Marine pollutant : Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

Refer to section 15 for specific national regulation.

Special precautions for user

Not applicable

15. REGULATORY INFORMATION

National regulatory information

Industrial Safety and Health Act

Harmful Substances Prohibited from Manufacturing
Not applicable

Harmful Substances Required Permission for Manufacture
Not applicable

Controlled Hazardous Substances

Chemical Name	CAS-No.	Threshold limits (%)
Aluminum and compounds	21645-51-2	>= 1 Weight percent
Zinc and compounds	12122-17-7	>= 1 Weight percent

Controlled Substances Subject to Environment Monitoring
Not applicable

Controlled Substances Subject to Health Examination

Chemical Name	CAS-No.	Threshold limits (%)
Aluminum and compounds	21645-51-2	>= 1 %

Regulation under the Chemical Control Act

Toxic Chemicals
Not applicable

Observational chemicals
Not applicable

Restricted Chemicals
Not applicable

Prohibited Chemicals
Not applicable

Toxic Release Inventory

Chemical Name	CAS-No.	Group	Threshold limits (%)
Aluminium and its compounds	21645-51-2	Group II	>= 1 %
Zinc and its compounds	12122-17-7	Group II	>= 1 %

Accident Precaution Chemicals
Not applicable

Dangerous Substances Safety Management Act

Not Applicable to Dangerous Materials

Wastes Control Act

Industrial waste
Follow article 13 of the act to dispose the product waste

Other requirements in domestic and other countries

The components of this product are reported in the following inventories:

KECI : All ingredients listed, exempt or notified.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

16. OTHER INFORMATION

Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Issuing date : 2015/07/08

Revision number and date

Number of Revision : 0.1

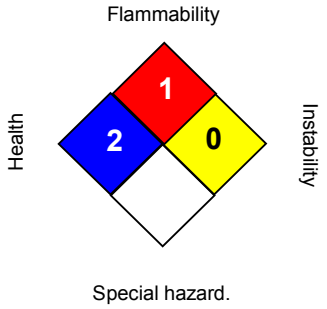
Revision Date : 2015/07/08

Other information : none

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : yyyy/mm/dd

NFPA:



Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
DCC OEL	:	Dow Corning Guide
KR OEL	:	Occupational Exposure Limits Korea
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
DCC OEL / TWA	:	Time weighted average
KR OEL / TWA	:	Time Weighted Average
KR OEL / STEL	:	Short Term Exposure Limit

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

KR / EN