



# Material Safety Data Sheet

## DOW CHEMICAL KOREA LIMITED

Product name: DOWSIL™ LDC 7091 Sealant-White

Issue Date: 2018.12.27

Print Date: 2018.12.28

DOW CHEMICAL KOREA LIMITED encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: DOWSIL™ LDC 7091 Sealant-White

### Recommended use of the chemical and restrictions on use

Identified uses: Adhesive, binding agents **Prohibit to sell and use as general consumer uses.**

Uses advised against: We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

### COMPANY IDENTIFICATION

DOW CHEMICAL KOREA LIMITED  
520, YEONGDONG-DAERO, GANGNAM-GU  
5TH FLOOR, I-PARK TOWER  
SEOUL TEUGBYEOLSI 06170  
SOUTH KOREA

Customer Information Number:

82-(0)2-3490-0700  
SDSQuestion@dow.com

### EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 080-369-2436

Local Emergency Contact: 080-369-2436

## 2. HAZARDS IDENTIFICATION

### GHS Classification

Serious eye damage/eye irritation : Category 2

### GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**  
P264 Wash the contact area thoroughly after handling.

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

P280 Wear eye protection/ face protection.

**Response:**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

**Other hazards**

No data available

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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This product is a mixture.

Component	Common Name	CASRN	Concentration	KECI Number
Calcium Carbonate	No data available	471-34-1	>= 40.0 - < 50.0 %	KE-04487
Polydimethylsiloxane hydroxy-terminated	No data available	70131-67-8	>= 40.0 - < 50.0 %	KE-31115
Diisopropoxydi(ethoxyacetoacetyl)titanate	No data available	27858-32-8	>= 1.0 - < 10.0 %	KE-03148
Siloxanes and silicones, dimethyl	No data available	63148-62-9	>= 10.0 - < 20.0 %	KE-31068
Fatty acids, C8-18 and C18-unsatd	No data available	67701-05-7	>= 1.0 - < 3.0 %	KE-14250

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### 4. FIRST AID MEASURES

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**Description of first aid measures**

**General advice:**

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air; if effects occur, consult a physician.

**Skin contact:** Wash off with plenty of water.

**Eye contact:** Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

**Ingestion:** If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

**Most important symptoms and effects, both acute and delayed:**

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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## 5. FIREFIGHTING MEASURES

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**Suitable extinguishing media:** Water spray Alcohol-resistant foam Carbon dioxide (CO<sub>2</sub>) Dry chemical

**Unsuitable extinguishing media:** None known.

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** Carbon oxides Silicon oxides Metal oxides

**Unusual Fire and Explosion Hazards:** Exposure to combustion products may be a hazard to health.

**Advice for firefighters**

**Fire Fighting Procedures:** Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. 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.

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## 6. ACCIDENTAL RELEASE MEASURES

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**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. 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:** Wipe up or scrape up and contain for salvage or disposal. 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. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. See sections: 7, 8, 11, 12 and 13.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Do not get on skin or clothing. Do not swallow. Do not get in eyes. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**Conditions for safe storage:** Keep in properly labelled containers. Store locked up. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.  
Unsuitable materials for containers: None known.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Calcium Carbonate	Dow IHG	TWA	1 mg/m <sup>3</sup>
	KR OEL	TWA	10 mg/m <sup>3</sup>
Isopropanol	ACGIH	TWA	200 ppm
	ACGIH	STEL	400 ppm
	KR OEL	TWA	200 ppm
	KR OEL	STEL	400 ppm

Although some of the components of this product may have exposure guidelines, no exposure would be expected under normal handling conditions due to the physical state of the material.

The following substance(s), which have Occupational Exposure Limit(s) (OEL), may be formed during handling or processing:

Isopropanol

### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Isopropanol	67-63-0	Acetone	Urine	End of shift at end of workweek	40 mg/l	ACGIH BEI

### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

#### Individual protection measures

**Eye/face protection:** Use chemical goggles.

#### Skin protection

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). **NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In misty atmospheres, use an approved particulate respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

Physical state	paste
Color	off-white
Odor	none
Odor Threshold	No data available
pH	Not applicable
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	Not applicable
Flash point	<b>Seta closed cup</b> 70 °C
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	Not classified as a flammability hazard
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	No data available

<b>Relative Density (water = 1)</b>	1.39
<b>Water solubility</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>Dynamic Viscosity</b>	Not applicable
<b>Kinematic Viscosity</b>	Not applicable
<b>Explosive properties</b>	Not explosive
<b>Oxidizing properties</b>	The substance or mixture is not classified as oxidizing.
<b>Molecular weight</b>	No data available
<b>Particle size</b>	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** Not classified as a reactivity hazard.

**Chemical stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** Can react with strong oxidizing agents.

**Conditions to avoid:** None known.

**Incompatible materials:** Oxidizing agents

**Hazardous decomposition products:** Formaldehyde. Isopropanol.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information appears in this section when such data is available.*

### Information on the likely route of exposure

Please refer to the information below.

#### Acute toxicity

##### Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):  
LD50, Rat, > 2,000 mg/kg Estimated.

##### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):  
LD50, Rabbit, > 2,000 mg/kg Estimated.

**Acute inhalation toxicity**

At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation of upper respiratory tract (nose and throat).

As product: The LC50 has not been determined.

**Skin corrosion/irritation**

Brief contact may cause slight skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause moderate eye irritation.

May cause moderate corneal injury.

**Skin and Respiratory Sensitization**

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**Carcinogenicity**

Contains a component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency

**Teratogenicity**

Contains component(s) which did not cause birth defects or any other fetal effects in lab animals.

**Reproductive toxicity**

No relevant data found.

**Mutagenicity**

Contains a component(s) which were negative in in vitro genetic toxicity studies. Contains component(s) which were negative in animal genetic toxicity studies.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**COMPONENTS INFLUENCING TOXICOLOGY:**

**Calcium Carbonate**

**Acute inhalation toxicity**

LC50, Rat, male and female, 4 Hour, dust/mist, > 3 mg/l The LC50 value is greater than the Maximum Attainable Concentration. No deaths occurred at this concentration.

**Polydimethylsiloxane hydroxy-terminated**

**Acute inhalation toxicity**

The LC50 has not been determined.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

**Acute inhalation toxicity**

For similar material(s): LC50, Rat, male and female, 4 Hour, vapour, > 198.65 mg/l No deaths occurred at this concentration.

**Siloxanes and silicones, dimethyl**

**Acute inhalation toxicity**

The LC50 has not been determined.

**Fatty acids, C8-18 and C18-unsatd**

**Acute inhalation toxicity**

The LC50 has not been determined.

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## **12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information appears in this section when such data is available.*

### **Ecotoxicity**

**Calcium Carbonate**

**Acute toxicity to fish**

Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L).

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

ErC50, Desmodesmus subspicatus (green algae), 72 Hour, > 14 mg/l, OECD Test Guideline 201

**Polydimethylsiloxane hydroxy-terminated**

**Acute toxicity to aquatic invertebrates**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
EC50, Daphnia magna (Water flea), 48 Hour, 493 mg/l, OECD Test Guideline 202

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 21 d, 2,320 mg/l

**Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

**Acute toxicity to fish**



Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
LC50, Rasbora heteromorpha (Harlequin fish), static test, 96 Hour, 4,200 mg/l

**Acute toxicity to aquatic invertebrates**

LC50, Daphnia magna (Water flea), static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, > 100 mg/l, OECD Test Guideline 201 or Equivalent

NOEC, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, 100 mg/l, OECD Test Guideline 201 or Equivalent

**Siloxanes and silicones, dimethyl**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
LC50, Fish, 96 Hour, > 100 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, algae, 14 d, > 2,000 mg/l

**Chronic toxicity to fish**

NOEC, Cyprinodon variegatus (sheepshead minnow), 33 d, 91 mg/l

**Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).  
oral LD50, Colinus virginianus (Bobwhite quail), > 5,000 mg/kg

**Fatty acids, C8-18 and C18-unsatd**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).  
No toxicity at the limit of solubility

Based on data from similar materials

LC50, Oryzias latipes (Japanese medaka), 96 Hour, > 3.2 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

No toxicity at the limit of solubility

Based on data from similar materials

EC50, Daphnia magna (Water flea), 48 Hour, > 4.8 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

No toxicity at the limit of solubility

Based on data from similar materials

ErC50, Selenastrum capricornutum (green algae), 72 Hour, > 7.6 mg/l, OECD Test Guideline 201

No toxicity at the limit of solubility

Based on data from similar materials

NOEC, Selenastrum capricornutum (green algae), 72 Hour, > 7.6 mg/l, OECD Test Guideline 201

**Chronic toxicity to fish**

Based on data from similar materials  
No toxicity at the limit of solubility  
NOEC, Danio rerio (zebra fish), 28 d, 6.4 mg/l

**Chronic toxicity to aquatic invertebrates**

Based on data from similar materials  
No toxicity at the limit of solubility  
NOEC, Daphnia magna (Water flea), 21 d, > 0.22 mg/l

**Persistence and degradability**

**Calcium Carbonate**

**Biodegradability:** Biodegradability is not applicable to inorganic substances.

**Polydimethylsiloxane hydroxy-terminated**

**Biodegradability:** Chemical degradation (hydrolysis) is expected in the environment.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

**Biodegradability:** For similar material(s): Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

**Biodegradation:** 66 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301D

**Siloxanes and silicones, dimethyl**

**Biodegradability:** The product is not biodegradable.

**Fatty acids, C8-18 and C18-unsatd**

**Biodegradability:** Based on data from similar materials

**Biodegradation:** 71 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B

**Bioaccumulative potential**

**Calcium Carbonate**

**Bioaccumulation:** Partitioning from water to n-octanol is not applicable.

**Polydimethylsiloxane hydroxy-terminated**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 0.63 Measured

**Bioconcentration factor (BCF):** < 5.8 Cyprinus carpio (Carp) Measured

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

**Bioaccumulation:** For similar material(s): Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 0.05

**Bioconcentration factor (BCF):** 3 Fish Estimated.

**Siloxanes and silicones, dimethyl**

**Bioaccumulation:** No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

**Fatty acids, C8-18 and C18-unsatd**

**Bioaccumulation:** Based on data from similar materials

**Partition coefficient: n-octanol/water(log Pow):** 3.3

**Bioconcentration factor (BCF):** 255 Zebrafish

**Mobility in Soil**

**Calcium Carbonate**

No relevant data found.

**Polydimethylsiloxane hydroxy-terminated**

Potential for mobility in soil is high (Koc between 50 and 150).

**Partition coefficient (Koc):** 130 Estimated.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

For similar material(s):

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient (Koc):** 1.53 Estimated.

**Siloxanes and silicones, dimethyl**

Expected to be relatively immobile in soil (Koc > 5000).

**Results of PBT and vPvB assessment**

**Calcium Carbonate**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Polydimethylsiloxane hydroxy-terminated**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**Siloxanes and silicones, dimethyl**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Other adverse effects**

**Calcium Carbonate**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Polydimethylsiloxane hydroxy-terminated**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Diisopropoxydi(ethoxyacetoacetyl)titanate**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Siloxanes and silicones, dimethyl**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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### 13. DISPOSAL CONSIDERATIONS

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**Disposal methods:** DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section 10 Regulatory Information, MSDS Section 15

**Disposal precautions:** Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

**Contaminated packaging:** All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations.

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### 14. TRANSPORT INFORMATION

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**Classification for ROAD and Rail transport:**

<b>UN number</b>	Not applicable
<b>Proper shipping name</b>	Not regulated for transport
<b>Class</b>	Not applicable
<b>Packing group</b>	Not applicable
<b>Environmental hazards</b>	Not applicable
<b>Special precautions for user</b>	No data available.

**Classification for SEA transport (IMO-IMDG):**

<b>UN number</b>	Not applicable
<b>Proper shipping name</b>	Not regulated for transport
<b>Class</b>	Not applicable
<b>Packing group</b>	Not applicable
<b>Marine pollutant</b>	Not applicable
<b>Special precautions for user</b>	No data available.
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

<b>UN number</b>	Not applicable
<b>Proper shipping name</b>	Not regulated for transport
<b>Class</b>	Not applicable
<b>Packing group</b>	Not applicable
<b>Special precautions for user</b>	No data available.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## 15. REGULATORY INFORMATION

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### Regulation under the Occupational Safety and Health Act

The product is classified as hazardous by ISHL in Korea.

### Harmful Substances Prohibited from Manufacturing

Not applicable

### Harmful Substances Required Permission for Manufacture

Not applicable

### Harmful Agents to be kept below Occupational Exposure Limits

<b>Components</b>	<b>CASRN</b>
Calcium Carbonate	471-34-1

### Harmful Agents Required to be kept below Permission Levels

Not applicable

### Hazardous substances requiring management

Not applicable

### Controlled Substances Subject to Environment Monitoring

Not applicable

### Controlled Substances Subject to Health Examination

Not applicable

### Regulation under the Chemical Control Act

#### Toxic Chemicals

Not applicable

#### Restricted Chemicals

Not applicable

**Prohibited Chemicals**

Not applicable

**Accident Precaution Chemicals**

Not applicable

**Dangerous Substances Safety Management Act**

Not Applicable to Dangerous Materials

**Waste Management Law**

Industrial waste

Follow article 13 of the act to dispose the product waste

**Other requirements in domestic and other countries****Korea. Korean Existing Chemicals Inventory (KECI):**

All intentional components are listed on the inventory, are exempt, or are supplier certified.

The company that sold this product to the consumer could be subject to legal liability, including criminal sanctions for violation of K-BPR.

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**16. OTHER INFORMATION**


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**Other information**

none

**Hazard Rating System****NFPA**

Health	Flammability	Instability
2	1	0

**Revision**

Identification Number: 2436621 / A153 / Issue Date: 2018.12.27 / Version: 4.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Date of first issue:** 2015.06.25**Legend**

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
Dow IHG	Dow Industrial Hygiene Guideline
KR OEL	Harmful Agents to be kept below Occupational Exposure Limits
STEL	Short-term exposure limit
TWA	Time weighted average

**Full text of other abbreviations**

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency

Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

#### **Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

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