

# Material Safety Data Sheet

## 1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name	AD4000
1.2 Recommended use of the chemical and restrictions on use	
Recommended use of the product	Construction acryl sealant
Restrictions on use of the product	Not available
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	MAGACHEM
Address	842, Hyundai-kia-ro, bibongmyeon, Hwaseongsi, Gyeonggi-do
Emergency telephone number	+82-31-355-2239

## 2. HAZARD IDENTIFICATION

2.1 Hazard, Risk classification	Skin corrosion / irritation: Category 2 Serious eye damage / eye irritation: Category 2 Specific target organ toxicity (repeated exposure): Category 2
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### 2.2 GHS label elements

Symbol



Signal word	Warning
Harmful Risk phrases	H315 Causes skin irritation H319 Causes serious eye irritation. H373 May cause damage to organs through prolonged or repeated exposure exposure cause the hazard>.

### Precautions

Prevention	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P281 Use personal protective equipment as required.
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Corresponding P308 + P313 If exposed or concerned: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

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

Disposal P501 – Dispose of contents/container to ...

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	Comon Name	CAS No	Contents(%)
Titanium dioxide	ANATASE	13463-67-7	1 ~ 5
Limestone	Calcium carbonate, natural	1317-65-3	40 ~ 60
Acrylic emulsion of water		25987-30-8	20 ~ 40
Water	Dihydrogen oxide	7732-18-5	10 ~ 20

### 4. FIRST AID MEASURES

- 4.1 Eye contact  
Get emergency medical attention.  
In contact with the substance, rinse immediately with plenty of water for at least 20 minutes.
- 4.2 In case of skin contact  
If you feel uncomfortable, seek medical advice and advice.  
In contact with the substance, rinse immediately with plenty of water for at least 20 minutes.  
Prevent spread of contamination on mild skin contact
- 4.3 Inhalation  
When exposed to large amounts of steam and mist, move to fresh air.  
Take specific treatment if needed.
- 4.4 Ingestion  
About whether I should induce vomiting Take the advice of a doctor.  
Rinse your mouth with water immediately.

### 5. FIRE FIGHTING MEASURES

- 5.1. Suitable (improper) extinguishing media  
Suitable (improper) extinguishing media Use alcohol foam, carbon dioxide or water spray for digestion related to this  
Use dry sand or soil for digestion.
- 5.2. Specific hazards arising from chemicals  
Can decompose at high temperature to produce toxic gas  
Container may explode on heating  
Non-flammable, the substance itself is not burned but decomposes on heating and may cause corrosive / toxic fumes
- 5.3. Advice for firefighters  
Cool containers with water until well after fire is out.  
Keep unauthorized personnel out.  
Do not access if the tank on fire.  
Wear appropriate protective equipment.  
Keep containers cool with water spray.  
Use fire fighting procedures suitable for surrounding area.

### 6. ACCIDENTAL RELEASE MEASURES

- 6.1. Personal Precautions, protective equipment and emergency procedures  
Do not breathe dust / fume / gas / mist / vapors / spray.  
Remove all ignition sources.  
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
- 6.2. Environmental precautions  
Prevent entry into waterways, sewers, basements and confined areas.
- 6.3. How to clean or remove  
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 direct physical contact.  
Get the manual before use.  
Refer to Engineering controls and personal protective equipment.  
Do not handle until all safety precautions have been read and understood.

### 7.2. Safe storage

Store in lockable storage area.  
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

Titanium dioxide	TWA – 10mg/m3
Limestone	TWA – 10mg/m3
Acrylic emulsion of water	No available
Water	No available

#### ACGIH regulation

Titanium dioxide	TWA – 10mg/m3
Limestone	No available
Acrylic emulsion of water	No available
Water	No available

#### Biological exposure standard

Titanium dioxide	No available
Limestone	No available
Acrylic emulsion of water	No available
Water	No available

### 8.2. Appropriate engineering controls

Use process isolation, local exhaust ventilation, or other engineering controls to keep air levels below exposure limits.

### 8.3. Personal protective equipment

#### Respiratory protection

Titanium dioxide	<p>Wear respiratory protection approved by the Korean Occupational Safety and Health Administration in accordance with physicochemical properties of the particulate matter to be exposed</p> <p>If the exposure level is lower than 100 mg / m3, wear a respirator of the appropriate type, while wearing a respirator</p> <p>If the exposure level is lower than 250 mg / m3, wear a loose-fitting hood / helmet type electric breathing mask or a continuous flow dust mask with an</p> <p>If the exposure level is lower than 500 mg / m3, wear a face-shielded, electro-sprayed or air-fed continuous-flow / pressure-demanded type respirator</p> <p>If the exposure concentration is lower than 10000 mg / m3, wear a face type or helmet / hood type with appropriate filter, pressure-demanded ventilation mask</p> <p>If exposure is below 100000 mg / m3, wear self-contained (SCBA) or self-contained breathing apparatus with pressure-demand self-contained breathing apparatus (SCBA) with appropriate filter</p>
Limestone	<p>Wear respiratory protection approved by the Korean Occupational Safety and Health Administration in accordance with physicochemical properties of the particulate matter to be exposed</p> <p>If the exposure level is lower than 100 mg / m3, wear a respirator of the appropriate type, while wearing a respirator</p>

	If the exposure level is lower than 250 mg / m <sup>3</sup> , wear a loose-fitting hood / helmet type electric breathing mask or a continuous flow dust mask with an appropriate type of filter
	If the exposure level is lower than 500 mg / m <sup>3</sup> , wear a face-shielded, electro-sprayed or air-fed continuous-flow / pressure-demanded type respirator with a suitable filter
	If the exposure concentration is lower than 10000 mg / m <sup>3</sup> , wear a face type or helmet / hood type with appropriate filter, pressure-demanded ventilation mask
Acrylic emulsion of water	Wear respiratory protective equipment that has been qualified by the Korean Occupational Safety and Health Administration in accordance with physicochemical properties of the material being exposed.
Water	Wear respiratory protective equipment that has been qualified by the Korean Occupational Safety and Health Administration in accordance with

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Appearance

Physical Form	Cream
Color	White, gray, other color etc

### 9.2 Odor

No available

### 9.3 Odor threshold

No available

### 9.4 pH

7 ~ 9

### 9.5 Melting point / freezing point

No available

### 9.6 Boiling point

No available

### 9.7 Flash point

No available

### 9.8 Evaporation Rate

No available

### 9.9 Flammability (solid, gas)

No available

### 9.10 Upper/lower flammability or explosive

No available

### 9.11 Vapor Pressure

No available

### 9.12 Solubility

No available

### 9.13 Vapor Density

No available

### 9.14 Specific gravity

No available

### 9.15 N-octanol/water partition coefficient

No available

### 9.16 Autoignition temperature

No available

### 9.17 Decomposition Temperature

No available

### 9.18 Viscosity

510,000 mPa.s/25°C

### 9.19 Molecular weight

No available

## 10. STABILITY AND REACTIVITY

### 10.1. Possibility of chemical stability and adverse reaction

Stable at normal temperature and pressure  
Some can ride but not easily ignite

### 10.2. Conditions to avoid

Titanium dioxide	Heat source, spark, flame, etc.
Limestone	Heat source, spark, flame, etc.
Acrylic emulsion of water	Heat source, spark, flame, etc.
Water	Heat, pollution

### 10.3. Substances to avoid

Titanium dioxide	Flammable material, reducing material
Limestone	Flammable material, irritant, toxic gas
Acrylic emulsion of water	Flammable material, irritant, toxic gas
Water	Water reactive material

### 10.4. Conditions to avoid

Titanium dioxide	irritant, toxic gas
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Limestone	No available
Acrylic emulsion of water	No available
Water	No available

## 11. TOXICOLOGICAL INFORMATION

### 11.1. Acute toxicity

#### Oral

Titanium dioxide	LD50 > 10000 mg/kg Rat
Limestone	No data
Acrylic emulsion of water	No data
Water	LD50 90000 mg/kg Rat (LD50 > 90 ml/kg (Rat))

#### Dermal

Titanium dioxide	LD50 > 10000 mg/kg Rat
Limestone	No data
Acrylic emulsion of water	No data
Water	No available

#### Inhalation

Titanium dioxide	LC50 > 6.82 mg/l 4 hr Rat
Limestone	No data
Acrylic emulsion of water	No data
Water	No available

### 11.2. Skin corrosion/irritation

Titanium dioxide	Skin irritation tests in rabbits showed weak irritation or irritability
Limestone	No data
Acrylic emulsion of water	No data
Water	No available

### 11.3. Serious eye damage/irritation

Titanium dioxide	in rabbits, eye irritation tests result in mild irritation
Limestone	No data
Acrylic emulsion of water	No data
Water	No available

### 11.4. Respiratory sensitization

No available

### 11.5. Skin sensitization

No available

### 11.6. Germ cell mutagenicity

No available

### 11.7. Carcinogenicity

Industrial Safety and Health Act No available

Notice of Ministry of Employment and No available

Titanium dioxide	2
Limestone	No data
Acrylic emulsion of water	No data
Water	No data

IARC No available

Titanium dioxide	Group 2B
Limestone	No data
Acrylic emulsion of water	No data
Water	No data

OSHA No available

ACGIH No available

Titanium dioxide	A4
Limestone	No data
Acrylic emulsion of water	No data
Water	No data
NTP	No available
EU CLP	No available
11.8. Reproductive toxicity	No available
11.9. Specific target organ toxicity(single exposure):	No available
11.10. Specific target organ toxicity(repeated exposure):	No available
11.11. Aspiration hazard	No available

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### Fish

Titanium dioxide	No data
Limestone	No data
Acrylic emulsion of water	No data
Water	No data

#### Shellfish

Titanium dioxide	EC50 > 1000 mg/l 48 hr
Limestone	No data
Acrylic emulsion of water	No data
Water	No data

#### Birds

Titanium dioxide	EC50 > 1000 mg/l 48 hr
Limestone	No data
Acrylic emulsion of water	No data
Water	No data

### 12.2. Persistence and degradability

#### Persistence

Titanium dioxide	No data
Limestone	No data
Acrylic emulsion of water	No data
Water	log Kow -1.38

#### degradability

Titanium dioxide	No data
Limestone	No data
Acrylic emulsion of water	No data
Water	No data

### 12.3. Bioaccumulation

#### Enrichment

Titanium dioxide	No data
Limestone	No data
Acrylic emulsion of water	No data
Water	No data

#### Biodegradable

Titanium dioxide	No data
Limestone	No data
Acrylic emulsion of water	No data
Water	No data

#### 12.4. Soil mobility

Titanium dioxide	No data
Limestone	No data
Acrylic emulsion of water	No data
Water	No data

#### 12.5. Other harmful effects

Titanium dioxide	No data
Limestone	No data
Acrylic emulsion of water	No data
Water	No data

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### 13. DISPOSAL CONSIDERATIONS

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#### 13.1. Disposal method

Titanium dioxide	Dispose of contents and container in accordance with local regulations.
Limestone	Dispose of contents and container in accordance with local regulations.
Acrylic emulsion of water	Incinerate.
Water	Dispose of contents and container in accordance with local regulations.

#### 13.2 Disposal considerations

Titanium dioxide	Dispose of contents container according to applicable regulations.
Limestone	Dispose of contents container according to applicable regulations.
Acrylic emulsion of water	Dispose of contents container according to applicable regulations.
Water	Dispose of contents container according to applicable regulations.

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### 14. TRANSPORT INFORMATION

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#### 14.1 UN Number (UN No.)

UN No. (ADR/RID/ADN)	No available
UN No. (IMDG)	No available
UN No. (ICAO)	No available

#### 14.2. UN proper shipping name

Not available

#### 14.3. Transport hazard class(es)

ADR/RID/ADN Class	No available
ADR Label No.	No available
IMDG Class	No available
ICAO Class/Division	No available
Transport Labels	No available
UN No. (ICAO)	No available

#### 14.4. Packing group

ADR/RID/ADN Packing group	No available
IMDG Packing group	No available
ICAO Packing group	No available

ICAO Class/Division	No available
Transport Labels	No available
UN No. (ICAO)	No available
14.5. Environmental hazards	No available
14.6. Special precautions for user	Local transport follows in accordance with Dangerous goods Safety Management Law. Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements. EmS FIRE SCHEDULE : Not available EmS SPILLAGE SCHEDULE : Not available
14.7 Other International Transportation Regulations	
Air Transport (IATA-DGR)	Not subject to IATA regulations.

## 15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulation / legislation specific for the substance or mixture	
Europe regulatory	
REACH Restricted substance under REACH	Not applicable
REACH Substances subject to authorization under REACH	Not applicable
REACH SVHC	Not applicable
Europe PBT	Not applicable
European Union (EU) Transport of Dangerous Goods by Road – Dangerous Goods List	Not applicable
15.2. Chemical Safety Assessment	Not conducted

## 16. OTHER INFORMATION

### 16.1. Indication of changes

The Safety Data Sheet has been reviewed and the data therein were revised and laid out according the requirements of the Commission Regulation (EU) No. 453/2010

16.2 Date First 2017.02.07

### 16.3 Revision number and date

Revision number 0 times

Revision Date 0

### 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)





