

MATERIAL SAFETY DOCUMENT STANDARD

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Section 1. Chemical Information

1) Brand Name : Gypsum

2) Chemical Name : Calcium Sulfate Dihydrate

3) General chemical features

As an inorganic white-gray crystal of monoclinic system, it is soluble in chloride acid and weakly soluble in water.

4) Application of the product

Used as Gypsum Board, Construction Materials, Solidification Control, or etc.

Section 2. Composition / Information on Ingredients

1) Ingredient : Calcium Sulfate Dihydrate

2) Molecular Formula : $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$

3) CAS NO.: 7778-18-9

4) RTECS NO.: WS 6920000

5) Content : 95% min

Section 3. Hazards Identification

1) Emergency Overview :

Odorless. Pale blue, brick color crystal or powder of monoclinic system or orthorhomic system.

N/A

Careful handling needed.

2) Potential Health Effects

- Inhalation :

Short Term Exposure : N/A

Long Term Exposure : Voice Loss

- Skin Contact :

Short Term Exposure : N/A

Long Term Exposure : N/A

- Eye Contact :

Short Term Exposure : N/A

Long Term Exposure : May cause stroke or eye swelling

- Ingestion :

Short Term Exposure : N/A

Long Term Exposure : N/A

3) Carcinogen Status :

OSHA : None

NTP : None

IARC : None

Section 4. First Aid Measures

1) Inhalation :

Seek Fresh air immediately. If necessary, perform CPR.

Keep the patient warm and comfortable. Seek medical advice.

2) Skin Contact :

Remove contaminating clothing and shoes immediately. Wash out with soap or mild detergent and large amount of water until no evidence of chemical remains (at least 15-20minutes). Seek medical advice.

3) Eye Contact :

Wash eyes immediately with large amount of water or normal water or normal saline solution occasionally lifting upper and lower lids until no evidence of chemical remains. Seek medical advice.

4) Ingestion :

Can delay solidification process by glycerin solution, gelatin solution, or large amount of water. Seek medical advice.

5) Antidote

No particular antidote. Seek medical advice.

Section 5. Fire Fight Measures

1) Fire and Explosion Hazards : Neglectful to fire hazards.

2) Suitable Fire Extinguishing Media :

Use proper extinguishing agents for surrounding fire.

3) Extinguishment :

No serious hazards found. First remove the containers from fire if possible.

Do not inhale the vapor or dust. Stand against the wind when extinguishing.

- Flash Point : No inflammability

- Explosive Upper Properties : N/A

- Explosive Lower Properties : N/A

- Natural Inflammable Point : N/A

4) Harmful Thermal Decomposition Products :

Fire may produce toxic thermal decomposition products as Sulfuric Oxide.

Section 6. Accidental Release Measures

1) Release when operating :

No particular suggestion.

Section 7. Handling and Storage

Store and handle in accordance with all current related environmental regulations and standards of local communities and the government.

Section 8. Exposure Controls / Personal Protection

1) OSHA TWA : N/A

ACGIH TWA : N/A

DFG MAK TWA : N/A

2) Exposure Measurement Method :

Corpuscular Filter or etc.

3) Ventilation :

Install confined ventilation system.

Ensure compliance with applicable exposure limits

4) Eye Protection :

No need for attention.

5) Skin Protection :

Protective Clothing is not required. However, avoid repeated and continuous skin contact.

6) Hand Protection :

Standard industrial type rubber gloves are not required, but recommended.

7) Respiratory Protection :

- If vapor concentration is suspected to be high :

use a pressure-demand or other positive-pressure mode in combination with separate escape supply.

- Escape : any air-purifying respirator with a full face piece and a high efficiency specialized filter

- In case of fire or danger to life or health :

Any supplied air respirator with full face piece and operated in a pressure-demand or other positive-pressure mode

in combination with separate escape supply

Certain respiratory protection with self-efficiency breathing apparatus with a full face piece.

Section 9. Physical and Chemical Properties

1) Appearance : Odorless. Pale blue, brick color crystal or powder of monoclinic system or orthorhomic system.

2) Molecular Weight : 172.14

3) Molecular Formula : $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$

4) Boiling Point : N/A

5) Melting Point : 2642 F (1450 C)

6) Vapor Pressure : N/A

7) Vapor Density : N/A

8) Specific Gravity (water=1) : 2.964

9) Water Solubility : 0.2%

10) pH: N/A

11) Volatility : N/A

12) Solvent Solubility :

Soluble : Acid, Ammonium Sulfate

Section 10. Stability and Reactivity

- 1) Reactivity : stable at room temperature and pressure
- 2) Conditions to avoid : avoid generating dust.
- 3) Materials to avoid :
 - Strong Acid
 - Aluminum
 - Phosphorus (Red)
- 4) Hazardous Decomposition Products :

Fire may produce toxic thermal decomposition products such as Sulfuric Acid gas.
- 5) Polymerization:

Not reported about harmful polymerization under conditions of normal use.

Section 11. Toxicological Information

- 1) Toxicological Data :
 - LD50 : 48mg/kg – rat
 - LDLO: 10mg/kg – dog
 - Mutation Relevant Data: RTECS
 - Effects on reproductive organs: RTECS
- 2) Carcinogen Status :
 - OSHA : carcinogenic chemical
 - NTP : carcinogenic chemical
 - TRAC (group1) : carcinogenic chemical

IARC : Human inadequate evidence, animal limited evidence

Group 3 : ACGIH : A4 – Not classified as human carcinogen
- 3) Acute Toxicity Level : N/A
- 4) Effects on trace organs : N/A
- 5) Effects on health :
 - Inhalation :

Acute Exposure : May cause coughs by inhalation as per silicon.
The dust may cause unpleasant deposition on throat.

Chronic Exposure : May cause coughs by inhalation as per silicon.
The dust may cause unpleasant deposition on throat.
Alveolitis or some pneumonic disease could be occurred.

- Skin contact :

Acute Exposure : May cause coughs by inhalation as per silicon.

Chronic Exposure : May cause skin disease through Paris Gypsum

- Eye Contact :

Acute Exposure : May cause coughs by inhalation as per silicon

Chronic Exposure : May cause conjunctivitis

- Ingestion :

Acute Exposure : May cause pneumonic disease. Perform gastrolavage.

Chronic Exposure : N/A

Section 12. Ecological Information

1) Ecological Effect Index (0-4) : N/A

2) Ecotoxicity : N/A

3) Decomposition : N/A

4) Bioaccumulation Potential Index (BCF) : N/A

Section 13. Disposal Considerations

Dispose in accordance with all current related environmental regulations and standards of local communities and the government..

Section 14. Transportation Information

No classification assigned.

Section 15. Regulatory Information

1) Korean Regulation :

Industrial safety and health law : acceptable

2) U.S. Regulation :

TSCA INVENTION STATUS : Y

CERCLA SECTION 103 (40CFR302.4) : Not listed

SARA SECTION 302 (40CFR355.30) : N

SARA SECTION 304 (40CFR355.40) : N

SARA HAZARD CATEGORIES. SARA SECTION 311/312 (40CFR370.21) :

ACUTE : N

CHRONIC : N

FIRE : N

REACTIVE : N

SUDDEN RELEASE : N

Section 16. Other Information

The above data are made based on the Material Safety and Health Data issued by Korean Industrial Safety Organization.

This data do not provide guarantee for legal responsibility for toxic chemicals and are just for research and confirmation of your esteemed company.
