

MSDS(Material Safety Data Sheet)

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

This material safety data sheet should apply to water-soluble inorganic insulation coating system produced by Hanmir Company Ltd.

- Product Name : HE-850B
- General characteristics : water-soluble
- Product use : radiant heat, heat absorption
- Manufacturer Information :
 - Technical Institute of Hanmir Company Ltd.
 - Address: Wontongro-8, Tongjineup, Gimpo-si, Gyeonggi-do, Korea
 - TEL: +82-2-2648-0203 FAX: +82-31-982-2854

2. COMPONENTS AND INFORMATION

HE-850B

Name	Cas No.	Particle size	Content(wt %)	Remark
Ceramic binder			55~65-	
H ₂ O			10~15-	
ALN			5~7-	
B/N			5~7	
GC		30~50 μ m	5~7	
Graphite			1~3	
Business secrets			1~3-	

3. HAZARDS AND DANGEROUS

- a. Overview for emergency situations : Colored liquid silicate
- b. HE-850B grade (0-4 steps): Health 2, Fire -1, Reactivity -0
- c. May cause irritation in contact with skin
- d. Ingestion can cause failure to keep health. Keep well to avoid ingestion

4. FIRST AID TIPS

- a. When in contact with the eye, flush eyes with plenty of water or saline solution. Get medical attention if necessary
- b. When in contact with the skin, until it is determined that this matter does not exist, wash with soap or mild detergent with plenty of water around the inner contact should harmless. Get medical attention if necessary
- c. Induce vomiting when ingested and the patient will be transported to the hospital. For an unconscious patient, do not induce vomiting or drink beverages

5. EXPLOSION OR FIRE-FIGHTING MEASURES

- a. Explosion upper/lower limit: Not applicable
- b. Flash Point: Not applicable
- c. Flammability: Not applicable
- d. Resistance to flame: Not applicable
- e. Legal and regulatory information by the Fire Services: Not applicable
- f. Hazardous substances that appear on the combustion: No data

6. ACCIDENTAL RELEASE MEASURES

- a. Environment: If the leakage flow in order to prevent from entering sewers, dispose of it collected in the ditch or puddle in the area.
- b. For large spills: Using the sand or similar, will be prevented from being enlarged and will be recovered.

7. Handling and Storage

- a. Do not use this product will be diluted in water or mixed with other products.
- b. The long-term storage, it may be altered. Be sure to use a valid period. If this product will have expired, and then check for our counseling.
- c. Wear rubber gloves when handling.
- d. Store in an airtight container for storage.
- e. Use in a well-ventilated place.

8. Exposure controls and personal protection

- a. Case of frequent use or heavy exposure, respiratory protection should be worn.
- b. Wear safety glasses to protect the eyes.
- c. Wear chemical resistant gloves to protect the hands.

9. PHYSICAL AND CHEMICAL PROPERTIES

- | | |
|--------------------------------------|---|
| a. Appearance: Gray liquid | b. molecular weight : No data |
| c. ph: 9~10 | d. Solubility: No data |
| e. Boiling point: 100°C when liquid | f. Freezing Point: Below 0°C |
| g. Burning point: 250°C when dried | h. Vapor pressure: No data |
| i. Specific gravity(25 °C) : 0.7~0.8 | j. Partition coefficient: Not available |
| k. Vapor density: No data | l. Viscosity: No data |

10. STABILITY AND REACTIVITY

- a. Stable at room temperature after all reaction.
- b. Occurring when decomposing hazardous substances: None
- c. Potential hazardous polymerization: Not Applicable

11. TOXICOLOGICAL INFORMATION

Harmless to humans

12. IMPACT ON THE ENVIRONMENT

Harmless to humans and the environment

13. DISPOSAL CONSIDERATIONS

Not applicable

14. TRANSPORT INFORMATION

Not classified as hazardous DOT (United States Transportation Administration) and TDG (Transportation of Dangerous Goods).

Not Restricted IATA

15. LEGAL REGULATORY INFORMATION

- a. Korea Occupational Safety and Health Act Article 41: Creating and keeping a Material Safety Data Sheet.
- b. Korea Occupational Safety and Health Act of exposure limits: Application of the product and the composition on exposure limits.
- c. Korea Waste Management Act: Not applicable
- d. Fire Law: Not applicable

16. OTHER INFORMATION

- a. Refer to Material Safety Data Sheet(MSDS) provided by the Korea Occupational Safety and Health.
- b. Check whether there is a revision of this MSDS is provided at the point. It is the user's responsibility according to the information and safe use conditions comply.

Thank you.