



Material Safety Data Sheet

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renew date	2009. 04. 07
Number	1

1. Identification of the substance and Company

1.1 Product Name : HI-FLOW <WP>

1.2 Recommended use of the chemical and restrictions on use :

1.3 Recommended use :

- Improve grindability of fast grinding wood paint, Abrasive and mattering agent,
- Anti-precipitation agent, Flushing preventer, Thickening and thixotropy agent

1.4 Restrictions on use : No data

1.5 Information on manufacture/supplier/distributor :

- Company name : SINWON CHEMICAL CO., LTD.
- Address : 1Ra-106, Sihwa Industrial Complex, No. 1236-5, Jeongwang-Dong, Siheung-City, Gyeonggi-Do, Korea
- Tel. : +82-31-432-6688 / Fax : +82-31-432-9204
- Responsible department : Q.C & Research Department

2. Composition / Information on ingredients

Substance	SYNONYMS	CAS Number	Percent(%)
Zinc stearate Fatty acids, C16-18, zinc salts	Octadecanoic acid, zinc salt	557-05-1 91051-01-3	> 75
Talc		14807-96-6	< 23
Fatty acids, C16-18 (Impurity)	-	67701-03-5	< 2

3. Hazards identification

3.1. NFPA ratings(scale 0~4)

0-Insignificant	1-Slight	2-Moderate	3-High	4-Extreme
Health				: 1
Fire				: 1
Reactivity				: 0

Appearance: white solid. Warning! May be harmful if swallowed. May cause eye and skin irritation. May cause respiratory and digestive tract irritation. Inhalation of fumes may cause metal-fume fever.

Target Organs: None.

Potential Health Effects

Eye : Dust may cause mechanical irritation.

Skin : Dust may cause mechanical irritation.

Ingestion : Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation : Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased

white blood cell count. May cause respiratory tract irritation.
Chronic: No information found.

4. First aid measure

- 4.1. Eyes : Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
- 4.2. Skin : Get medical aid if irritation develops or persists. Flush skin with plenty of soap and water.
- 4.3. Ingestion: If victim is conscious and alert, give 2–4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid if irritation or symptoms occur.
- 4.4. Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.
- 4.5. Notes to Physician : Treat symptomatically and supportively.

5. Fire-fighting measure

- 5.1. General Information : As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Dusts at sufficient concentrations can form explosive mixtures with air. Material will burn in a fire.
- 5.2. Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.
- 5.3. Flash Point: 531 deg F (280 deg °C)
- 5.4. Auto ignition Temperature: 788 deg F (420 deg °C)
- 5.5. Explosion Limits, Lower: 0.025 %
- 5.6. Upper: Not available.

6. Accidental release measures

- 6.1. General Information: Use proper personal protective equipment as indicated in Section 8.
- 6.2. Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation.

7. Handling and storage

- 7.1. Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.
- 7.2. Storage: Keep away from heat and flame. Store in a cool, dry place. Keep containers tightly closed.

8. Exposure controls / Personal protection

- 8.1. Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Chemical Name	ACGIH	NIOSH	OSHA – Final PELs
Zinc stearate	none listed	total: 10 mg/m ³ TWA respirable dust: 5 mg/m ³ TWA	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)

- 8.2. Exposure Limits

OSHA Vacated PELs: Zinc stearate: total dust: 10 mg/m³ TWA; respirable fraction: 5 mg/m³ TWA

- 8.3. Personal Protective Equipment

- Eyes : Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
- Skin : Wear appropriate protective gloves to prevent skin exposure.
- Clothing : Wear appropriate protective clothing to prevent skin exposure.
- Respirators : A respiratory protection program that meets OSHA's 29 CFR §1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

9. Physical and chemical properties

- ① Appearance : White solid or powder
- ② odor & odor threshold : unique odor
- ③ PH : 6.5~7.5, 33% sludge
- ④ Melting point/Freezing point : 123°C (253°F)/
- ⑤ initial boiling point & boiling range : not determined
- ⑥ Flash point : 277°C (531°F)
- ⑦ Evaporation rate : not determined
- ⑧ Flammability(Solid, gas) : not available information
- ⑨ Upper/lower flammable or explosive limits : 0.002 ~ vol %(0.02~ g/m3)
- ⑩ Vapour pressure : Not determined
- ⑪ Solubility in water : insoluble
- ⑫ Vapour density : Not determined
- ⑬ specific gravity(water=1) : 1.095 (20°C)
- ⑭ Partition coefficient : n-octanol/water : 1.2
- ⑮ Auto ignition temperature : 420°C (788°F)
- ⑯ Decomposition temperature : > 200°C
- ⑰ Viscosity : about 90 cps (160°C)
- ⑱ Molecular rate : 632.33
- ⑲ mean particle size : 10~13 μ m
- ⑳ OSHA class of ignition : not determined

10. Stability and reactivity

- 10.1. Chemical Stability: Stable under normal temperatures and pressures.
- 10.2. Conditions to Avoid: Incompatible materials.
- 10.3. Incompatibilities with Other Materials: Dilute acids, oxidizing materials.
- 10.4. Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, toxic fumes of zinc oxide.
- 10.5. Hazardous Polymerization: Will not occur.

11. Toxicological information

LD50/LC50:

CAS# 557-05-1:

Inhalation, MOUSE: LC50 = > 200mg/L/1hr

Oral, mouse: LD50 = >5 g/kg

Carcinogenicity:

CAS# 557-05-1:

ACGIH: A4 - Not Classifiable as a Human Carcinogen (listed as Stearates).

Epidemiology: No data available.
Teratogenicity: No data available.
Reproductive Effects: No data available.
Neurotoxicity: No data available.
Mutagenicity: No data available.
Other Studies: No data available.

12. Ecological information

12.1. No information available.

13. Disposal considerations

13.1. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed

14. Transport information

14.1. No information available

15. Other information

15.1 The source of data.

ECB-ESIS(European chemical Substances Information System)(<http://ecb.jrc.it/esis>)

IUCLID Chemical Data Sheet, EC-ECB

15.2 The first date of drawing up : 1 January 1987

15.3 Number of revision times and the latest revision date : 7 April 2009 (2nd)

15.4 Others

- This product should be used in accordance of the above regulation and standards.
- These contents on the MSDS are based on our current knowledge and described in terms of
- The above information is accurate to the best of our knowledge, and it is not meant for guaranteeing the specific properties of the product.