

3. Composition / Ingredient Information

Single substance or compound	: Single substance
Common chemical name	: Zinc stearate
(Synonyms)	: Zinc distearate ; Stearic acid zinc salt ; Octadecanoic acid zinc salt
Chemical formula	: $(C_{17}H_{35}COO)_2Zn$
Ingredient	: Zinc stearate 10.0 ~ 11.0 wt% (as Zn)
CAS No.	: 557-05-1
EINECS No.	: 2091519
Hazardous ingredient	: Zinc stearate Industrial Safety and Health Law (JPN)

4. First Aid Measures

Inhalation	<ul style="list-style-type: none">▪ Blow the nose and gargle, remove to fresh air.▪ Get medical attention for any breathing difficulty.
Skin contact	<ul style="list-style-type: none">▪ Wash exposed area with soap and water.
Eye contact	<ul style="list-style-type: none">▪ Do not scratch or tightly close the eye.▪ If in eyes, rinse cautiously with water for several minutes.▪ Remove contact lenses, if present and easy to do. Continue rinsing.▪ If eye irritation persists, get medical advice / attention.
Ingestion	<ul style="list-style-type: none">▪ Wash the mouth with water. If possible, make the sufferer vomit.
Potential health effects	<ul style="list-style-type: none">▪ Respiratory irritation, fever, coughing, breathing difficulty, cyanosis, chemical pneumonia, skin irritation, eye irritation, abdominal spasms and diarrhea.

5. Fire Fighting Measures

Extinguishing media	: Chemical form, water spray, dry chemical, carbon dioxide.
Specific hazards	: If burning, may produce irritating gases, toxic fumes of zinc oxide and carbon monoxide.
Specific methods of fire fighting	: Move container from fire area if it can be done without risk. Use water to keep fire-exposed containers cool and disperse vapours.
Protective equipment and precautions for fire fighters	: Extinguishing the fire from the windward. Wear appropriate protective equipment.

6. Accidental Release Measures

Personal precaution, protective equipment and emergency procedures	<ul style="list-style-type: none">▪ The wearing of suitable protective equipment (see 【Section 8 of the MSDS】) to prevent any contamination of skin, eyes and personal clothing.▪ Avoid generating dusty conditions. Ventilate area of leak or spill.
Environmental precautions	<ul style="list-style-type: none">▪ Clean up spills in a manner that does not disperse dust into the environment.
Methods and materials for containment and cleaning up	<ul style="list-style-type: none">▪ Remove all sources of ignition.▪ Use non-sparking tools and equipment.▪ Sweep up or absorb material. Wash spill area with soap and water after material pickup is complete.

7. Handling and Storage

Handling

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| Personal protective equipment | • See [Section 8 of the MSDS]. |
| Ventilation system | • See [Section 8 of the MSDS]. |
| Precautions for safe handling | • Flammable. Be away from heat, spark and fire.
• Avoid contact with skin and eyes, avoid ingestion and inhalation.
• Wash hands thoroughly after handling.
• Avoid generating dusty conditions, handle in well ventilated area |
| Incompatible substances | • See [Section 10 of the MSDS]. |

Storage

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| Incompatible substances | • See Section 10 of the MSDS. |
| Conditions for safe storage | • Flammable. Be away from heat, spark and fire.
• Store on pallet in a cool, dry, ventilated indoor area. |

8. Exposure Controls / Personal Protection

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| Airborne exposure limits | • ACGIH TLV-TWA : 10 mg/m ³
Total dust for stearates (does not include stearates of toxic metals). |
| Ventilation system | • Good general ventilation should be sufficient to keep employee exposures below the airborne exposure limits.
A local exhauster is recommended if powder dust generates. |
| Personal protective equipment | • Respiratory protection : Dust masks, etc.
• Eye protection : Protective eyeglasses, safety goggles, etc.
• Skin protection : Rubber gloves, face shield, lab coat, coverall, apron, boots, etc. |

9. Physical and Chemical Properties

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| Appearance | : White, fine powder |
| Odour | : Slight odour of fatty acid |
| Melting point / freezing point | : 117 ~ 122 °C (transparent) |
| Initial boiling point and boiling range | : No data |
| Flash point | : 277 °C (open cup) |
| Upper / lower flammability or explosive limits | : Lower : 20 g/ml ~ upper : no data |
| Vapour pressure | : 3.61 × 10 ⁻¹⁰ mPa (presumed) |
| Vapour density | : No data |
| Relative density | : 1.095 g/ml (specific gravity), 0.20 ~ 0.25 g/ml (apparent gravity) |
| Solubility | : Insoluble in water. |
| Partition coefficient : n-octanol / water | : log Pow = 1.2 |
| Auto ignition temperature | : 420 °C |
| Decomposition temperature | : 250 °C and above |

10. Stability and Reactivity

Chemical stability	: Stable under ordinary conditions of use and storage.
Possibility of hazardous reactions	: If burning, may produce irritating gases, toxic fumes of zinc oxide and carbon monoxide.
Conditions to avoid	: Heat, flames and ignition sources.
Incompatible materials	: Strong oxidizing agents.
Hazardous decomposition products	: Fumes of zinc oxide, carbon monoxide.

11. Toxicological Information

Acute toxicity (oral)	: Not classified	LD50 > 5000 mg/kg (rat / mouse)
Acute toxicity (dermal)	: Classification not possible	No data
Acute toxicity (inhalation : vapour)	: Classification not possible	No data
Acute toxicity (inhalation : dust)	: Not classified	LC50 > 50 mg/L (rat)
Skin corrosion / irritation	: Category 3	May cause skin irritation.
Serious eye damage / eye irritation	: Category 2B	May cause eye irritation.
Respiratory sensitization	: Classification not possible	No data
Skin sensitization	: Not classified	Not found in human patch testing.
Germ cell mutagenicity	: Classification not possible	No sample of in vivo mutagenicity test.
Carcinogenicity	: Classification not possible	No data
Reproductive toxicity	: Classification not possible	No data
Specific target organ toxicity		
Single exposure	: Category 3	May cause respiratory irritation.
Repeated exposure	: Classification not possible	No data
Aspiration hazard	: Classification not possible	No data

12. Ecological Information

Toxicity	: No data
Persistence and degradability	: No data
Bioaccumulative potential	: No data
Mobility in soil	: No data

13. Disposal Considerations

Unused contents	<ul style="list-style-type: none">• Dispose of in accordance with the national / local regulations.• Consign a qualified industrial waste treatment firm.
Containers	<ul style="list-style-type: none">• After cleaning completely, recycle or dispose of in accordance with the national / local regulations.

14. Transport Information

UN classification	: Not applicable
UN No.	: Not applicable
Land transport (ADR/RID)	: Not applicable
Maritime transport (IMDG)	: Not applicable
Air transport (IATA)	: Not applicable
Special precautions	▪ See 【Section 7 of the MSDS】, and comply with the national / local regulations. ▪ Prior to transport, check the containers and loading to prevent leakage or turnover, fall and damage.

15. Regulatory Information

Comply with the national / local regulations.

TSCA name	: Octadecanic acid, zinc salt
EINECS name	: Zinc distearate
The Stockholm Convention POPs	: Not applicable
The Rotterdam Convention PIC	: Not applicable
Industrial Safety and Health Law (JPN)	: Zinc stearate
Water Pollution Control Law (JPN)	: Zn

16. Other Information

The information above is believed to be accurate and represents the best information currently available to us.

However Tannan Kagaku Kogyo Co., Ltd. does not give guarantee regarding the contents, physical or chemical properties, hazards or harm.

All remarks and precautions are premised on ordinary handling and it is the user's responsibility to take enough considerations in case of particular use.

Reference

- INTERNATIONAL CHEMICAL SAFETY CARDS (ICSC) Japanese Version (2000)
- INFORMATION ABOUT THE STATUS OF THE IMPLEMENTATION OF GHS IN JAPAN
National Institute of Technology and Evaluation
- MSDS INFORMATION Japan Advanced Information Center of safety and Health
- AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH) (2001)
- EU-Risk Assessment Report (2004)