Zinc Stearate

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Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name:	Zinc Stearate
CAS Number:	557-05-1
EC Number:	293-049-4

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use:	Industrial applications and laboratory use

1.3 Details of the supplier of the safety data sheet

Company name:	East Harbour Group Ltd 20 Clough Road, Severalls Industrial Park Colchester, Essex, CO4 9QS United Kingdom
Telephone:	+44 (0) 333 242 0100
Email:	info@eastharbourgroup.com

1.4 Emergency telephone number

Emergency telephone:	0800 246 1274

Section 2: Hazardous identification

2.1 Classification of the substance or mixture

Product definition: Substance

Classification in accordance with 29 CFR 1910 (OSHA HCS) and Regulation EC No. 1272/2008

Not a dangerous substance according to OSHA or to European Union Legislation

2.2 Label elements

Not classified as dangerous according to GHS

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

May form combustible dust concentrations in air.

Section 3: Composition/information on ingredients

3.2 Mixtures

% by Weight	Ingredient	CAS Number	EC Number	Index Number	GHS Classification

>99	Fatty Acids, C16-C18, zinc salts	557-05-1	293-049-4	-	-
<0.5	Fatty acids, C16-C18	67701-03-5	266-928-5	-	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence, require reporting in this section.

3.2 Mixtures
Not applicable

Section 4: First aid measures

4.1 Description of first aid measures
Inhalation: If exposure to product mist causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Loosen tight fitting clothing such as a collar, tie, belt or If symptoms persist, seek medical attention.
Eyes: Immediately flush eyes with large amounts of water for 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after the first 2 minutes and continue rinsing. If irritation persists seek medical attention, preferably from an ophthalmologist.
Skin: Flush skin with water while removing contaminated clothing. Wash affected area with soap and water followed by thorough rinsing. Wash contaminated clothing and shoes thoroughly before reuse. If irritation persists, seek medical attention.
Ingestion: Rinse mouth thoroughly with water if the victim is conscious. Remove dentures if present. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious or convulsing person. Do not leave the victim unattended. Obtain

4.2 Most important symptoms and effects, both acute and delayed Potential Health symptoms and effects
Eyes: May cause mild, transient eye irritation. Particulates may cause mechanical irritation of the cornea and surrounding tissue.
Skin: May cause skin irritation.
Inhalation: Inhalation of dust may cause irritation of the nose, throat and respiratory tract. Inhalation of fumes from heated material may cause metal fume fever, characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count.
Ingestion: May cause digestive upset with nausea, vomiting and diarrhoea.
Chronic: No data available

4.3 Indication of any immediate medical attention and special treatment needed.
Advice to Doctor and Hospital Personnel: Treat symptomatically and supportively.

Section 5: Fire-fighting measures

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5.1 Extinguishable media
Suitable methods of extinction: Use extinguishing media suitable for surrounding material,
Unsuitable methods of extinction: None known

5.2 Special hazards arising from the substance or mixture
Closed containers may explode due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may delayed. Obtain medical attention. Explosion hazards: Not considered to be explosion hazard.

5.3 Advice for firefighters
Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. If possible, water contaminated by this material should be contained from being discharged to any waterway, sewer or drain to prevent environmental contamination.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid dust generation and accumulation. Remove all sources of ignition. No smoking. Do not inhale dust. Keep upwind of spill. Ventilate the area. Evacuate non-essential personnel. Wear appropriate protective clothing designated in Section 8.

6.2 Environmental precautions
Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways.

6.3 Methods and materials for containment and cleaning up
Cover drains and contain spill. Avoid dust generation during cleanup. Collect material and place into an approved container for proper disposal. Observe possible material restrictions (Sections 7.2 and 10.5). Dispose of in accordance with federal, state and local regulations.

6.4 Reference to other sections
See Section 13 for additional waste treatment information.

Section 7: Handling and storage

7.1 Precautions for safe handling
Wear all appropriate personal protective equipment specified in Section 8. Do not get in eyes or on skin or clothing. DO not breathe dust. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear an appropriate respirator. Wash contaminated clothing and shoes before reuse.

Advice on protection against fire and explosion
Not considered to be a fire or explosion hazard

7.2 Conditions for safe storage, including any incompatibilities
Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10.5), food and drink. Transfer only to approved containers having correct labelling. Keep container tightly closed. Protect containers against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent spillage. Containers may be hazardous when empty as they contain product residues Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep out of reach of children.

7.3 Specific end uses
Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

Section 8: Exposure controls/personal protection

8.1 Personal protective equipment
Occupational exposure limits

CAS Number	Ingredient	OSHA PEL	ACGIH TLV	NIOSH
557-05-1	Fatty acids, C16-C18, zinc salts	15 mg/m^3, total dust; 5 mg/m^3, respirable fraction	10 mg/m^3 (stearates)	15 mg/m3, total dust; 5 mg/m3, respirable fraction

8.2 Exposure controls
Engineering measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Uses adequate ventilation. Local exhaust is preferable.
Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.
Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, finking, smoking or using the lavatory.
Eye/face protection: Wear safety glasses with unperforated side shields or protective splash goggles during use.
Hand Protection: Wear gloves recommended by glove supplier for protection against materials in Section 3, Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.
Skin protection: Wear protective clothing. Wear protective boots if the situation requires.
Respiratory Protection: None required With normal use. Always use an approved respirator when vapor/aerosols are generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Environmental exposure controls: Do not empty into drains.
PPE must not be considered a long-term solution to exposure control. PPE usage must be accompanied by employer programs to properly select, maintain, clean fit and use. Consult a competent industrial hygiene

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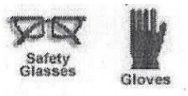
resource to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.



Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Fine, soft white powder or granular solid
Odor	Mild, fatty
Odor Threshold	No data available
Average Molecular Weight	Abt 618 g/mol
Chemical Formula	$Zn(C_{18}H_{35}O_2)_2$, $Zn(C_{68}H_{31}O_2)_2$
pH	7 typical
Melting Point/Range	120 - 130 °C (248 - 266 °F)
Initial Boiling Point	Decomposes
Evaporation Rate	Not applicable
Flammability (solid, gas)	Non-flammable, combustible dust
Flash Point	277 °C (531 °F) open cup
Autoignition Temperature	420 °C (790 °F)
Decomposition Temperature	No data available
Lower Explosive Limit (LEL)	30% (v)
Upper Explosive Limit (UEL)	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	1.095
Viscosity	No data available
Solubility in Water	Insoluble
Partition Coefficient: n-octanol/water	log Pow = 12
Oxidizing Properties	Not applicable
Explosive Properties	No data available
Volatiles by Volume @ 21 °C	0

9.2 Other data

No data available

Section 10: Stability and Reactivity

10.1 Reactivity

No special reactivity has been reported.

10.2 Chemical stability

This product is stable under recommended storage conditions, handling and use.

10.3 Possibility of hazardous reactions
Hazardous polymerization does not occur.

10.4 Conditions to avoid
High temperatures and contact with incompatible materials.

10.5 Incompatible materials
Strong oxidizing agents, strong alkalis, peroxides, acids

10.6 Hazardous decomposition products
Thermal decomposition products include oxides of carbon, zinc oxide and zinc oxide fumes.

Section 11: Toxicological Information

11.1 Information on toxicological effects
Acute Oral Toxicity
LD_{50}, rat: >10,000 mg/kg
Acute inhalation toxicity
No data available
Acute dermal toxicity
No data available
Skin irritation/corrosion
May cause skin irritation.
Sensitization
No data available
Genotoxicity in vitro
No data available
Mutagenicity
No data available
Specific organ toxicity - single exposure
No data available
Specific organ toxicityrepeated exposure
No data available
Aspiration hazard
No data available

11.2 Further information
No component of this product present at levels greater than or equal to the 0.1% threshold (de minimis) is identified as a probable, possible, potential or confirmed carcinogen by ACGIH, IARC, NTP or OSHA. No data is available regarding the mutagenicity or teratogenicity Of this product, nor is there any available data that indicates that it causes adverse developmental or fertility effects.
Handle in accordance with good industrial hygiene and safety practice.

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Section 12: Ecological Information

12.1 Toxicity
Expected to be very toxic to aquatic organisms, and may cause with long term adverse effects in the environment.

12.2 Persistence and degradability
Not readily biodegradable. Zinc ions are inorganic; therefore, biodegradation is not applicable to them.

12.3 Bioaccumulation potential
In some fish it has been observed that the level of zinc found in their bodies did not directly relate to the exposure concentrations. The bioaccumulation of zinc in fish is inversely related to their aqueous exposure, this evidence suggests that fish placed in environments with lower zinc concentrations can sequester zinc in their bodies,

12.4 Mobility in soil
Zinc is adsorbed by the soil; higher concentrations may travel into deeper soil layers.

12.5 Results of PBT and vPvB assessment
No data available

12.6 Other adverse effects
Additional ecological information
Do not allow material to run into surface waters, wastewater or soil. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13: Disposal considerations

13.1 Waste treatment methods
Methods of disposal: The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and nan-recyclable products via a licensed waste disposal contractor, Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact With soil, waterways, drains and sewers.
RCRA P-Series: No listing
RCRA U-Series: No listing

Section 14: Transport Information

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, ECV United Nations T DG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

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NOT REGULATED FOR TRANSPORT

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for substance or mixture
U. S. Federal Regulations
OSHA Hazard Communication Standard: This material is not classified as highly hazardous in accordance with OSHA 29 CRF 1910.1200.
OSHA Process Safety Management Standard: Chemicals in this product are not regulated under OSHA PSM Standard 29 CFR 1910.119.
EPA Risk Management Planning Standard: Chemicals in this product are not regulated under EPA RMP Standard (RMP) 40 CFR part 68.
EPA Federal Insecticide, Fungicide and Rodenticide Act: This product is not a registered Pesticide under the FIERA, 40 CFR Part 150.
Toxic Substance Control Act (TSCA) Inventory: This substance is listed on the TSCA Inventory. It is not subject to TSCA 12(b) Export Notification.
Drug Enforcement Administration (DEA) List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.4(f)(2) and Chemical Code Number Not listed
Drug Enforcement Administration (DEA) Lists 1 & 2, Exempt Chemical Mixtures (21 CFR 1310.12(c)) and Code Number Not listed
Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) Chemicals Not listed
Superfund Amendments and Reauthorization Act (SARA)
SARA 313 Information: Zinc Stearate (CAS #557-05-1), listed as Zinc Compounds (N982), is subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.
SARA Section 311/312 Hazard Categories: Acute
SARA 302/304 Extremely Hazardous Substance: None of the chemicals in this product are subject to reporting requirements of these section or
SARA 302/304 Emergency Planning & Notification: None of the chemicals in this product are subject to reporting requirements of these sections of Title of SARA.
Comprehensive Response Compensation and Liability Act (CERCLA): This product contains the following: CERCLA reportable substance(s)
Zinc Stearate (CAS #557-05-1), listed as Zinc Compounds (N982) - There is no RQ assigned to this broad class, although the class is a CERCLA no RQ assigned to this broad class, although the class is a CERCLA hazardous substance. Refer to 50 Federal Register 13456 (April 4, 1985).

Clean Air Act (CAA)
This product does not contain any substances that listed as Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).
This product does not contain any Class 1 Ozone depletors,
This product does not contain any Class 2 Ozone depletors.

Clean Water Act (CWA)
Zinc compounds (EDF ID #ZFSOOO) are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA

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Zinc and its compounds are listed as Toxic Pollutants under the CWA.

U.S. State Regulations
California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986
This product contains no chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm. **Other U.S.**

State Inventories
Zinc Stearate (CAS #557-05-1) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists:
MA, MN, NJ, PA, WA,

Canada
WI-IMIS Hazard Symbol and Classification: Uncontrolled product according to WHMIS classification criteria.
Canadian National Pollutant Release Inventory (NPRI): Zinc and its compounds (e.g. Zinc Stearate) are listed on the NPRI, **European**

Economic Community
WGK, Germany (Water danger/protection): I (Low hazard to waters)
Global Chemical Inventory Lists

Country	Inventory Name	Inventory Listing*
Canada:	Domestic Substance List (DSL)	Yes
Canada:	Non-Domestic Substance List (NDSL)	No
Europe:	Inventory of New and Existing Chemicals (EINECS)	Yes
United States:	Toxic Substance Control Act (TSCA)	Yes
Australia:	Australian Inventory of Chemical Substances (AICS)	Yes

'Yes - All components of this product are in compliance with the inventory requirements administered by the governing country.
No - One or more components of this product are not on the inventory or are exempt from listing.

Global Chemical Inventory Lists (continued)

Country	Inventory Name	Inventory Listing*
New Zealand:	New Zealand Inventory of Chemicals (NZIoC)	Yes
China:	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan:	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea:	Existing Chemicals List (ECL)	Yes
Philippines:	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Yes

'Yes - All components of this product are in compliance with the inventory requirements administered by the governing country.
No - One or more components of this product are not on the inventory or are exempt from listing.

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Section 16: Other Information

Hazardous Material Information System (HMIS)

Health	0
Flammability	0
Physical Hazard	0
Personal Protection	B

National Fire Protection Association (NFPA)

HMIS Hazard Rating Legend
0 = Minimal, 1 = Slight, 2 = Moderate, 3 = Serious

Flammability

NFPA Hazard Rating Legend
0 = Insignificant, 1= Slight, 2 = Moderate

Health **Instability**