

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**Product identifier**

Product Name ZINC STEARATE (BULKY, D, EDHS, EDHS VEG, NB-60, NB-60SW)

Other means of identification

Biogenix Product Code 10027, 10040, 10453, 10454, 22386, 26760, 27492, 27769, 28362, 28364, 28366, 40018, 40234, 40252

SDS Code

ZNSTSDS

Chemical Name

Octadecanoic acid, zinc salt; Zinc distearate

Recommended use of the chemical and restrictions on use

Recommended Use Chemical intermediate. Lubricant.

Uses advised against Consumer use

Details of the supplier of the safety data sheet**Supplier Address**

PMC Biogenix, Inc.
1231 Pope Street
Memphis, TN 38108
USA

Manufacturer Address

PMC Biogenix, Inc.
1231 Pope Street
Memphis, TN 38108
USA

Emergency telephone number**Company Phone Number**

PMC Biogenix Customer Service: 1-800-641-2152

24 Hour Emergency Phone Number

Chemtrec 1-800-424-9300 Chemtrec [INT]: +1-703-527-3887

Emergency Telephone

Biogenix Environmental Health and Safety Department +1-901-320-5820

2. HAZARDS IDENTIFICATION**Classification****OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Combustible dust

Label elements**Emergency Overview****Warning**

May form combustible dust concentrations in air

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance powder, pellets

Physical state Solid

Odor Slight

Hazards not otherwise classified (HNOC)

Dust can form an explosive mixture with air

Other Information

May be harmful in contact with skin.

Unknown Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature Substance of unknown or variable composition, complex reaction products or biological material (UVCB).

Chemical Name	CAS No	Weight-%	Trade Secret
Zinc stearate	557-05-1	97-100	*
Octadecanoic acid	57-11-4	0-3	*

*. *The percentage listed represents batch to batch variability in the production of this product; it does not represent any specification.

4. FIRST AID MEASURES

First aid measures

General advice If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Molten product can cause thermal burns. If symptoms persist, call a physician.

Skin Contact Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Molten product can cause thermal burns. In case of burns, immediately cool affected skin for as long as possible with cold water.

Inhalation Remove to fresh air. Call a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Ingestion Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Molten product can cause thermal burns. (Get medical attention immediately if symptoms occur).

Self-protection of the first aider Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Avoid creating dust. Dust can form an explosive mixture with air. Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO₂). Hazardous metal fumes and oxides. Hydrocarbons.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas. Avoid creating dust. Dust can form an explosive mixture with air.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. See section 12 for additional ecological information. The product is insoluble and floats on water. Prevent further leakage or spillage if safe to do so. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for cleaning up Use personal protective equipment as required. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Avoid creating dust. Pick up and transfer to properly labeled containers. Where possible allow molten material to solidify naturally.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

Incompatible materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines Exposure limits are listed below, if they exist.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	PMC OEL
Zinc stearate 557-05-1	TWA: 10 mg/m ³ inhalable particulate matter TWA: 3 mg/m ³ respirable particulate matter TWA: 10 mg/m ³ inhalable particulate matter except stearates of toxic metals TWA: 3 mg/m ³ respirable particulate matter except stearates of toxic metals	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust	-
Octadecanoic acid	TWA: 10 mg/m ³ Inhalable	-	-	TWA: 10 mg/m ³

57-11-4	particulate matter TWA: 3 mg/m ³ respirable particulate matter			
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NIOSH IDLH

Other Information

Immediately Dangerous to Life or Health

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls

Showers, Eyewash stations, Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing safety goggles.

Skin and body protection

Heat resistant gloves are recommended when handling molten materials.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Avoid contact with skin, eyes or clothing. Avoid breathing (dust, vapor, mist, gas). Wash face, hands and any exposed skin thoroughly after handling. Use personal protective equipment as required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state

Solid

Appearance

powder, pellets

Color

white

Odor

Slight

Odor threshold

No information available

Property

Values

Remarks • Method

pH

Not applicable

Melting point / freezing point

120 °C / 248 °F

Boiling point / boiling range

> 120 °C / 248 °F

Flash point

233 °C / 451 °F

Evaporation rate

No information available

Flammability (solid, gas)

No information available

Flammability Limit in Air

Upper flammability limit:

No information available

Lower flammability limit:

No information available

Vapor pressure

No information available

Vapor density

No information available

Specific Gravity

No information available

Water solubility

Insoluble in water

Solubility in other solvents

No information available

Partition coefficient

1.2

Autoignition temperature

420 °C / 788 °F

(based on components)

Decomposition temperature

No information available

Kinematic viscosity

No information available

Not applicable

Dynamic viscosity

No information available

Not applicable

Explosive properties

Dust can form an explosive mixture with air

Oxidizing properties

Not applicable

Other Information

Softening point

No information available

Molecular weight

632.335 g/mol

VOC Content (%)

< 1 %(m)

Density 1.1 g/cm³ @ 25 °C
Bulk density No information available
Minimum Ignition energy (MIE) 13 mJ

10. STABILITY AND REACTIVITY

Reactivity

No known effects under normal use conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Avoid creating dust. Dust can form an explosive mixture with air. Extremes of temperature and direct sunlight.

Incompatible materials

Strong oxidizing agents.

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide (CO₂), Hazardous metal fumes and oxides, Hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Product does not present an acute toxicity hazard based on known or supplied information.
Inhalation	Inhalation of dust in high concentration may cause irritation of respiratory system. Vapors may be irritating to eyes, nose, throat, and lungs.
Eye contact	Dust contact with the eyes can lead to mechanical irritation. Molten product can cause thermal burns.
Skin Contact	No known hazard in contact with skin. Substance may cause slight skin irritation. Molten product can cause thermal burns.
Ingestion	No known effect.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc stearate	>5000 mg/kg (Rabbit) >10000mg/kg (Mouse) >5000 mg/kg (Rat)	>2000 mg/kg (Rabbit)	>200 mg/L (1 hr)(Rat)
Octadecanoic acid	> 4800 mg/kg (Rat)	>5000 mg/kg (Rabbit)	

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization Not expected.
Germ cell mutagenicity No known effect.
Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

STOT - single exposure None known
STOT - repeated exposure None known
Target Organ Effects Eyes, Respiratory system, Skin.
Aspiration hazard Not applicable.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 9774 mg/kg
ATEmix (dermal) 2024 mg/kg
ATEmix (inhalation-dust/mist) 51 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Octadecanoic acid 57-11-4		12000 ug/L >4 d Oncorhynchus kisutch		

Persistence and degradability
READILY BIODEGRADABLE.

Bioaccumulation
Not Likely.

Chemical Name	Partition coefficient
Zinc stearate 557-05-1	1.2
Octadecanoic acid 57-11-4	8.23

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging Do not reuse container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Zinc stearate 557-05-1	Toxic

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated.

IMDG Not regulated.

15. REGULATORY INFORMATION

All of the components in the product are on the following inventory lists
Canada DSL.

International Inventories

EINECS/ELINCS	Complies or Exempt
TSCA	Complies
AICS	Complies
DSL/NDSL	Complies
ENCS	Complies
KECL	Complies
PICCS	Complies
IECSC	Complies
NZIoC	Complies
TCSI	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances
 NZIoC - New Zealand Inventory of Chemicals
 TCSI - Taiwan Chemical Substance Inventory

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Zinc stearate - 657-05-1	657-05-1	98	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc stearate 657-05-1		X		

CERCLA

Any Substance regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) is listed below, if it exists.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Zinc stearate 557-05-1	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	Health hazards 1	Flammability 1	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 1	Flammability 1	Physical hazards 0	Personal protection X

Prepared By PMC Group

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Revision Date 13-Feb-2019

Revision Note

(M)SDS sections updated General Information

This material safety data sheet complies with the requirements of 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Disclaimer

The Information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet