

1. Identification

Product identifier	MAGNESIUM STEARATE
Other means of identification	
SDS number	M0230
Item Code	1277, 1726, 1729, 2254, 2255, 2256, 2257, 2279, 3508, 4024, 5705, 5712, 5716, 5774, 5777, 6504, 7205, 7807
CAS number	557-04-0
Synonyms	STEARIC ACID, MAGNESIUM SALT * Octadecanoic acid, magnesium salt
Recommended use	Laboratory reagent or process chemical.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company name	SpecGx LLC
Address	385 Marshall Ave Webster Groves, MO 63119
E-mail	SpecGx-SDS@mnk.com
Customer Service	1-800-895-9048 (USA, Canada) 1-314-654-2000 (Worldwide)
24 Hour Emergency	CHEMTREC: 1-800-424-9300 (USA, Canada)

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	Combustible dust
*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".	
Label elements	
Hazard symbol	None.
Signal word	Warning
Hazard statement	May form combustible dust concentrations in air.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	May form combustible dust concentrations in air. Dust accumulation from this product may present an explosion hazard in the presence of an ignition source.
Supplemental information	None.

3. Composition/information on ingredients

Substances			
Chemical name	Common name and synonyms	CAS number	%
MAGNESIUM STEARATE	STEARIC ACID, MAGNESIUM SALT Octadecanoic acid, magnesium salt	557-04-0	<= 100
Composition comments	All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.		

4. First-aid measures

Inhalation	If dust from the material is inhaled, remove the affected person immediately to fresh air. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash off with soap and water. Wash clothing separately before reuse. Get medical attention if irritation develops and persists.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. Rinse mouth thoroughly. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Dusts may irritate the respiratory tract, skin and eyes.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen.
General information	Call a POISON CENTER or doctor/physician if you feel unwell. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Alcohol foam. Dry chemical powder. Carbon dioxide (CO ₂). Addition of water or foam to the fire may cause frothing.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Melted fatty acid can give "grease" type fire. Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. During fire, gases hazardous to health may be formed such as: Carbon oxides. May include oxides of Magnesium.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire fighting equipment/instructions	In the event of fire, cool tanks with water spray. Move containers from fire area if you can do so without risk. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Specific methods	In the event of fire and/or explosion do not breathe fumes. Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	Dust may form explosive mixture with air.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust from the spilled material. Ventilate closed spaces before entering them.
Methods and materials for containment and cleaning up	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Collect spillage. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Collect dust using a vacuum cleaner equipped with HEPA filter. Use only non-sparking tools. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
Environmental precautions	No special environmental precautions required.

7. Handling and storage

Precautions for safe handling	DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Minimize dust generation and accumulation. Keep formation of airborne dusts to a minimum. Dust may form explosive mixture with air. Provide appropriate exhaust ventilation at places where dust is formed. Take precautionary measures against static discharges. Static electricity and formation of sparks must be prevented. All equipment used when handling the product must be grounded. Ground and bond containers when transferring material. Use non-sparking tools and explosion-proof equipment. Avoid breathing dust. Avoid contact with skin and eyes. When using, do not eat, drink or smoke. Wash thoroughly after handling. Handle and open container with care.
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Conditions for safe storage, including any incompatibilities

For storage condition, see finished product label. Keep container tightly closed. Store in a well-ventilated place. Guard against dust accumulation of this material. Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Use care in handling/storage.

8. Exposure controls/personal protection**Occupational exposure limits**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

U.S. - OSHA

Material	Type	Value	Form
MAGNESIUM STEARATE (CAS 557-04-0)	PEL	5 mg/m3	Respirable fraction for nuisance dusts
		15 mg/m3	Total dust

ACGIH

Material	Type	Value
MAGNESIUM STEARATE (CAS 557-04-0)	TWA	10 mg/m3

US. ACGIH Threshold Limit Values

Material	Type	Value	Form
MAGNESIUM STEARATE (CAS 557-04-0)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face protection Use tight fitting goggles if dust is generated. Provide eyewash station and safety shower.

Skin protection

Hand protection Wear protective gloves. Gloves of nitrile rubber, PVA or Viton are recommended.

Other

Wear suitable protective clothing.

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Wash hands after handling and before eating. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties**Appearance**

Physical state	Solid.
Form	Powder.
Color	White or Yellow.

Odor Slight.

Odor threshold Not available.

pH Not available.

Melting point/freezing point	248 - 266 °F (120 - 130 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not applicable.
Flammability (solid, gas)	May form combustible dust concentrations in air.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure < 0.0000001 kPa (77 °F (25 °C))

Vapor density Not available.

Relative density 1.028 g/cm3

Solubility(ies)

Solubility (water) Insoluble in water.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Bulk density 0.3 g/ml

Moisture 3.5 %

Molecular formula C18-H36-O2.1/2Mg

Molecular weight 591.27 g/mol

Specific gravity 1.03

Dust Electrostatic Properties

Minimum Ignition Energy (Cloud) 3 - 10 mJ

Dust Explosion Properties

dP/dT 955 bar/s

Kst 259 bar.m/s

Limiting Oxygen Concentration 12 - 13 %

Minimum Explosible Concentration 20 - 30 g/m3

Minimum Ignition Temperature-Cloud 824 - 860 °F (440 - 460 °C)

Minimum Ignition Temperature-Layer 716 - 734 °F (380 - 390 °C)

Moisture 1 %

Particle Size 8 µm

Pmax 8.8 bar

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions Hazardous polymerization does not occur.

Conditions to avoid	Avoid dust formation. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Heat, flames and sparks. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Acids.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Inhalation of dusts may cause respiratory irritation. Coughing. Difficulty in breathing. Prolonged inhalation may be harmful.
Skin contact	May cause skin irritation.
Eye contact	Dust or powder may irritate eye tissue.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms related to the physical, chemical and toxicological characteristics	Dust or powder may irritate eye tissue. Inhalation of dusts may cause respiratory irritation. Coughing. Difficulty in breathing.
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Information on toxicological effects

Acute toxicity	Dusts may irritate the respiratory tract, skin and eyes.
Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Dust or powder may irritate eye tissue.

Respiratory or skin sensitization

Respiratory sensitization	Due to lack of data the classification is not possible.
Skin sensitization	Not a skin sensitizer.

Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
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Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
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ACGIH Carcinogens

MAGNESIUM STEARATE (CAS 557-04-0) A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Due to lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to lack of data the classification is not possible.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Lung edema. Pneumonitis (inflammation of lung tissue). Cyanosis.
Further information	Prolonged or repeated inhalation may cause: Pneumonitis (inflammation of lung tissue). Cyanosis (blue tissue condition, nails, lips, and/or skin). Inhalation of powder/dust may cause lung edema.

12. Ecological information

Ecotoxicity	This product has no known eco-toxicological effects.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	Not established.
Mobility in soil	Not available.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations.
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Hazardous waste code	Waste codes should be assigned by the user based on the application for which the product was used. The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Offer rinsed packaging material to local recycling facilities. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA (Superfund) reportable quantity

None

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US federal regulations

Toxic Substances Control Act (TSCA) This substance is on the TSCA 8(b) inventory and is designated "active".

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Combustible dust

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Total food additive
Direct food additive
GRAS food additive

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	03-19-2015
Revision date	09-14-2020
Version #	07
Further information	Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.
Disclaimer	SpecGx LLC provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. SpecGx LLC MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, SpecGx LLC WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.
Revision information	Product and Company Identification: Product and Company Identification Composition/information on ingredients: Composition comments Accidental release measures: Personal precautions, protective equipment and emergency procedures Exposure controls/personal protection: Occupational exposure limits Exposure controls/personal protection: Respiratory protection Physical and chemical properties: Appearance Physical and chemical properties: Flammability (solid, gas) Stability and reactivity: Hazardous decomposition products Regulatory information: California Proposition 65 Regulatory information: Toxic Substances Control Act (TSCA) Other information, including date of preparation or last revision: List of abbreviations GHS: Classification