

1. Identification

Product identifier	(+)-Pseudoephedrin Sulfat
Other means of identification	
Material Number(s)	704109, 704278, 704306
Recommended use	Pharmaceutical agent.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	Siegfried PharmaChemikalien Minden GmbH
Address	Karlstrasse 15 32423 Minden Germany
Telephone	+49 571 391-0
E-mail	she@siegfried.ch
Supplier	
Company name	Siegfried USA, LLC
Address	33 Industrial Park Road Pennsville, NJ 08070, USA
Emergency telephone number	1.866.519.4752 (US, Canada, Mexico), Access Code: 334531 For the United States, Canada, Argentina, Brazil, Mexico, Puerto Rico, Peru (+)1 760 476 3962

2. Hazard(s) identification

Physical hazards	Combustible dusts	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3

Label elements

Signal word	Warning
Hazard statement	May form combustible dust concentrations in air. Harmful if swallowed. Harmful if inhaled. Harmful to aquatic life.
Precautionary statement	
Prevention	Prevent dust accumulation to minimize explosion hazard. Ground/bond container and receiving equipment. Avoid breathing dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
Response	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. In case of fire: Use appropriate media to extinguish.
Storage	Not available.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards	None known.
Supplemental information	None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Bis[[S-(R*,R*)]-(.beta.-hydroxy-.alpha.-methylphenethyl)methyl ammonium] sulphate		7460-12-0	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	Keep patient calm, remove to fresh air, seek medical attention. If dust from the material is inhaled, remove the affected person immediately to fresh air.
Skin contact	Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.
Eye contact	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Ingestion	Immediately rinse mouth and drink plenty of water. Do not induce vomiting. Seek medical attention.
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	Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.
General information	Remove and isolate contaminated clothing and shoes. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Carbon dioxide (CO ₂). Apply extinguishing media carefully to avoid creating airborne dust. Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture. Water spray. Dry powder. Foam.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	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.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	May form combustible dust concentrations in air.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Avoid dust formation. Avoid contact with eyes, skin, and clothing. Use only non-sparking tools. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. Avoid breathing dust.
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Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. Prevent product from entering drains. Stop the flow of material, if this is without risk.
	Large Spills: Shovel the material into waste container. Following product recovery, flush area with water.
	Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.
Environmental precautions	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Minimize dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Explosion-proof general and local exhaust ventilation. Protect from light. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. Protect from moisture. Avoid dust formation. Avoid inhalation of dust. Avoid contact with skin, eyes and clothing.
Conditions for safe storage, including any incompatibilities	Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Protect from temperatures above: 30 °C. Protect from light. Protect from moisture. Protect from temperatures below: 15 °C.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
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.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Other	Wear suitable protective clothing. Wash hands thoroughly after handling.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. In case of formation of dusts or aerosols, wear a particle filter with medium efficiency for solid and liquid particles.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Keep separated from food stuffs and feed stocks. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Crystalline powder.
Color	White
Odor	Almost odorless.
Odor threshold	not determined

pH	5 - 6.5 (approximate) (50 g/l)
Melting point/freezing point	345.2 - 354.2 °F (174 - 179 °C)
Initial boiling point and boiling range	not applicable
Flash point	not applicable
Evaporation rate	negligible
Flammability (solid, gas)	Combustible dust.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	not determined
Flammability limit - upper (%)	not determined
Explosive limit - lower (%)	not determined
Explosive limit - upper (%)	not determined
Vapor pressure	dropped
Vapor density	not relevant
Relative density	Study does not need to be conducted.
Solubility(ies)	
Solubility (water)	readily soluble
Partition coefficient (n-octanol/water)	< 1
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	Flammability of Aerosol Products: not applicable, the product does not form flammable aerosols. Self ignition: not self-igniting (Method: VDI 2263, sheet 1, 1.4.1) Fire promoting properties: not fire-propagating. Minimum ignition energy: 10 - 30 mJ (1 bar, 20 °C) (VDI 2263, sheet 1, 2.5) Inductivity: 0.1 mH. Adsorption/water - soil: log KOC: 1.85 (calculated)
Bulk density	380 kg/m ³ (approximate)
Dynamic viscosity	not relevant
Explosive properties	Not explosive.
Kinematic viscosity	not relevant
Oxidizing properties	Not oxidizing.

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	Dust may form explosive mixture with air.
Conditions to avoid	Keep away from heat, sparks and open flame. Contact with incompatible materials. Minimize dust generation and accumulation. Electrostatic discharge. Eliminate all sources of ignition. Protect from temperatures above: 30 °C. Exposure to light. Keep away from moisture. Protect from temperatures below: 15 °C.
Incompatible materials	None known.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Dust or powder may irritate the skin.
Eye contact	Dust may irritate the eyes.

Ingestion Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Dusts may irritate the respiratory tract, skin and eyes.

Information on toxicological effects

Acute toxicity Harmful if inhaled. Harmful if swallowed.

Product	Species	Test Results
Bis[[S-(R*,R*)]-(.beta.-hydroxy-.alpha.-methylphenethyl)methylammonium] sulphate (CAS 7460-12-0)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 2.37 mg/l, 4 h, (OECD Guideline 403)
<i>Oral</i>		
LD50	Rat	1170 mg/kg, (Internal testing)
Skin corrosion/irritation	Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)	
Serious eye damage/eye irritation	Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)	
Respiratory or skin sensitization		
Respiratory sensitization	Due to partial or complete lack of data the classification is not possible.	
Skin sensitization	Experimental/calculated data: Mouse Local Lymph Node Assay (LLNA) mouse: skin sensitizing (OECD Guideline 429) The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.	
Germ cell mutagenicity	The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture The substance was not mutagenic in a test with mammals. The product has not been tested. The statement has been derived from products of a similar structure or composition.	
Carcinogenicity	Due to partial or complete lack of data the classification is not possible.	
Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.	
Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.	
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible.	
Aspiration hazard	Due to the physical form of the product it is not expected to be an aspiration hazard.	

12. Ecological information

Ecotoxicity Harmful to aquatic life.

Product	Species	Test Results
Bis[[S-(R*,R*)]-(.beta.-hydroxy-.alpha.-methylphenethyl)methylammonium] sulphate (CAS 7460-12-0)		
Aquatic		
<i>Acute</i>		
Algae	EC50	Desmodesmus subspicatus 99.7 mg/l, 72 h (growth rate) (OECD Guideline 201, static)
Crustacea	EC50	Daphnia magna 58.7 mg/l, 48 h (OECD Guideline 202, part 1, static)
Fish	LC50	Leuciscus idus 460 - 1000 mg/l, 96 h (DIN 38412 Part 15, static)
Other	EC20	Activated sludge > 100 mg/l, 0.5 h (OECD Guideline 209, aerobic) The product has not been tested. The statement has been derived from products of a similar structure or composition.
Other		
<i>Acute</i>		
Bacteria	EC10	Pseudomonas putida 3658.2 mg/l, 16 h (DIN 38412 Part 8, aerobic)

Persistence and degradability	Readily biodegradable (by OECD criteria).The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. Elimination information: 90 - 100 % DOC reduction (18 d) (OECD 301 A (new version)) (aerobic, activated sludge, domestic)
Bioaccumulative potential	Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.
Partition coefficient n-octanol / water (log Kow) < 1	
Mobility in soil	Assessment transport between environmental compartments: Adsorption in soil: Adsorption to solid soil phase is not expected.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel] 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. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG	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

Canadian regulations	This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.
Controlled Drugs and Substances Act	
	Not regulated.
Export Control List (CEPA 1999, Schedule 3)	
	Not listed.
Greenhouse Gases	
	Not listed.
Precursor Control Regulations	
	Not regulated.
International regulations	
Stockholm Convention	
	Not applicable.
Rotterdam Convention	
	Not applicable.
Kyoto protocol	
	Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

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)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	No
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)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies 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

Issue date 14-August-2016

Revision date -

Version # 01

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