



1 Identification Product identifier Product name: Paromomycin sulfate Stock number: J61274 CAS Number: 1263-89-4 EC number: 215-031-7 Relevant identified uses of the substance or mixture and uses advised against. Identified use: SU24 Scientific research and development Details of the supplier of the safety data sheet Manufacturer/Supplier: Alfa Aesar Thermo Fisher Scientific Chemicals, Inc. Inerrito Fisher Scheman C. 30 Bond Street Ward Hill, MA 01835-8099 Tel: 800-343-0660 Fax: 800-322-4757 Email: tech @alfa.com www.alfa.com Information Department: Health, Safety and Environmental Department Emergency telephone number: During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789. 2 Hazard(s) identification Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS) ! GHS07 Skin Irrit. 2 H315 Causes skin irritation. Eye Irrit. 2A H319 Causes serious eye irritation. STOT SE 3 H335 May cause respiratory irritation. Hazards not otherwise classified No information known. Label elements GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms GHS07 Signal word Warning Hazard statements H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. Precautionary statements P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. P405 WHMIS classification D2B - Toxic material causing other toxic effects Ţ Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) Health (acute effects) = 1Flammàbility = 1 TIVITY 1 Physical Hazard = 1 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable 3 Composition/information on ingredients Chemical characterization: Substances CAS# Description: 1263-89-4 Paromomycin sulfate Identification number(s): EC number: 215-031-7 4 First-aid measures Description of first aid measures After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice. After skin contact Immediately wash with water and soap and rinse thoroughly. (Contd. on page 2)

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(Contd. of page 1) Seek immediate medical advice After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor. After swallowing Seek medical treatment. Information for doctor Most important symptoms and effects, both acute and delayed No further relevant information available. Indication of any immediate medical attention and special freatment needed No further relevant information available. 5 Fire-fighting measures Extinguishing media Extinguishing media Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide Nitrogen oxides (NOx) Sulfur oxides (SOx) Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit. 6 Accidental release measures Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away Ensure adequate ventilation Environmental precautions: Do not allow material to be released to the environment without proper governmental permits. **Environmental preclations:** Do not allow material to be released to the environment will **Methods and material for containment and cleaning up:** Ensure adequate ventilation. **Prevention of secondary hazards:** No special measures required. **Reference to other sections** See Section 7 for information on safe handling See Section 8 for information on personal protection equipment. See Section 13 for disposal information. 7 Handling and storage Handling Precautions for safe handling Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: No information known. Conditions for safe storage, including any incompatibilities Storage

Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Store away from oxidizing agents.

Further information about storage conditions:

Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Exposure controls

Personal protective equipment General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Penetration time of glove material (in minutes) Not determined

Eye protection: Safety glasses Body protection: Protective work clothing.

9 Physical and chemical properties

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Information on basic physical and ch General Information Appearance: Form: Color: Odor: Odor: Odor threshold:	nemical properties Powder White to off-white Not determined Not determined.
pH-value:	Not applicable.
Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start:	Not determined Not determined Not determined

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	(Contd. of page 2
Flammability (solid, gaseous)	Not determined.
Ignition temperature: Decomposition temperature:	Not determined Not determined
Auto igniting:	Not determined.
Danger of explosion: Explosion limits:	Not determined.
Explosion limits: Lower:	Not determined
Upper:	Not determined
Vapor pressure: Density:	Not applicable. Not determined
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate Solubility in / Miscibility with	Not applicable.
Water: Partition coefficient (n-octanol/wate	Soluble
Viscosity:	
dynamic: kinematic:	Not applicable. Not applicable.
Other information	No further relevant information available.
0 Stability and reactivity	
Reactivity No information known.	mmanded storage conditions
Chemical stability Stable under reco. Thermal decomposition / condition	s to be avoided: Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions l	No dangerous reactions known
Conditions to avoid No further releva	ant information available. tients
Incompatible materials: Oxidizing ag Hazardous decomposition products Carbon monoxide and carbon dioxide	S:
Carbon monoxide and carbon dioxide Nitrogen oxides	
Sulfur oxides (SOx)	
1 Toxicological information	
Information on toxicological effects	
Acute toxicity: The Registry of Toxic	Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.
LD/LC50 values that are relevant for	r classification: No data
Skin irritation or corrosion: Causes Eye irritation or corrosion: Causes	skin irritation. serious eve irritation
Sensitization: No sensitizing effects I	known.
Germ cell mutagenicity: The Registr	y of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.
Reproductive toxicity: No effects known	ta on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. own.
Specific target organ system toxicit	ty - repeated exposure: No effects known.
Aspiration hazard: No effects known	ty - single exposure: May cause respiratory irritation.
Subacute to chronic toxicity: The R	egistry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance. n: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
2 Ecological information	
Toxicity	to forward to a second to be to
Aquatic toxicity: No further relevant a Persistence and degradability No fu	Information available. Inther relevant information available
Bioaccumulative potential No furthe	er relevant information available.
Mobility in soil No further relevant in Additional ecological information:	formation available.
General notes:	
Do not allow motorial to be released t	
Do not allow undiluted product or large	o the environment without proper governmental permits.
Do not allow undiluted product or large Avoid transfer into the environment.	e quantities to reach ground water, water course or sewage system.
Do not allow undiluted product or large Avoid transfer into the environment. Results of PBT and vPvB assessme	e quantities to reach ground water, water course or sewage system.
Do not allow undiluted product or large Avoid transfer into the environment.	e quantities to reach ground water, water course or sewage system.
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Product name: Paromomycin sulfate (Contd. of page 3) Packing group DOT, IMDG, IATA Not applicable Environmental hazards: Not applicable. Special precautions for user Not applicable. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable. Transport/Additional information: DOT Marine Pollutant (DOT): No UN "Model Regulation": UN-, 15 Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms ! GHS07 Signal word Warning Hazard statements H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P405 Store locked up. . P501 P501 Dispose of contents/container in accordance with local/regional/national/international regulations. National regulations This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes. SARA Section 313 (specific toxic chemical listings) Substance is not listed. California Proposition 65 Prop 65 - Chemicals known to cause cancer Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Development Dispose of contents/container in accordance with local/regional/national/international regulations. Prop 65 - Developmental toxicity, male Substance is not instea. Information about limitation of use: For use only by technically qualified individuals. Other regulations, limitations and prohibitive regulations Although this chemical may sometimes be used as a food or drug or cosmetic, our products are not approved or suitable for such use or for human consumption. Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed. Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed. Chemical safety assessment: A Chemical Safety Assessment has not been carried out. 16 Other information Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. Department issuing SDS: Global Marketing Department Date of preparation / last revision 11/23/2015 / -Date of preparation / last revision 11/23/2015/ -Abbreviations and acronyms: RID: Rejement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) ICAO: International Civil Aviation Organization ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IDG: International Maritime Code for Dangerous Goods DOT: US Department of Transport also ITAT: International Maritime Code for Dangerous Goods EINECS: European Invention of the American Chemical Substances CAS: Chemical Abstractors Service (division of the American Chemical Society) HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada) L50: Lethal concentration, 50 percent L50: Lethal concentration, 50 percent L50: Corpstient and very Bioaccumulative ACGIH: American Cherence of Governmental Industrial Hygienists (USA) OSHA: Occupational Safety and Health Administration (USA) MTP: National Toxicology Program (USA) MTP: National Toxicology Program (USA)

USA