MATERIAL SAFETY DATA SHEET

KANAMYCIN MONOSULFATE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chemical product name	:	Kanamycin monosulfate
Common chemical name	:	Kanamycin A sulfate
Synonyms	:	--
Chemical formula	:	$C_{18}H_{36}N_4O_{11}.H_2SO_4.H_2O$ = 600.6
CAS no.	:	25389-94-0
Supplier's name	:	Duchefa Biochemie B.V.
Supplier's address	:	A. Hofmanweg 71 2031 BH Haarlem The Netherlands
Emergency telephone	:	(+31) - (0)23 – 5319093

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation:

Chemical name	**CAS no.**	**% (IU/mg)**	**Symbol**	**R phrases**
Kanamycin monosulfate	25389-94-0	> 750	T	61

3. HAZARDS IDENTIFICATION

Physical/chemical hazards	:	Harmful by inhalation, in contact with skin and if swallowed. Kanamycin may cause reversible and irreversible vestibular, cochlear and renal toxicity. Renal damages and nerve deafness. Target organs kidneys and eyes.
Environmental hazards	:	None
Effect(s) of (over)exposure	:	May cause harm to the unborn child.
Symptom(s) of (over)exposure		Not known
Inhalation	:	See above
Ingestion	:	See above
Skin contact	:	Skin rashes
Eye contact	:	Slight eye irritation

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4. FIRST AID MEASURES

Fresh air. If you feel unwell seek medical advice and show the MSDS if possible

SKIN CONTACT	:	Take off contaminated clothes. Wash skin with soap and copious amounts of water. Can cause severe caustic burns or general disorders. Call a doctor.
EYE CONTACT	:	Rinse eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Always call a doctor.
INGESTION, INHALATION	:	If swallowed, wash out mouth with water, provided person is conscious. Consult a doctor If inhaled, remove from exposure to fresh air. Always call a doctor or take patient to hospital.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media	:	Fight fire with CO_2 , dry chemical or foam.
Hazardous thermal decomposition and combustion products	:	Toxic fumes of NO_x and SO_x.
Special fire fighting procedures	:	None
Protection of fire-fighters	:	Fire-fighters must wear self contained breathing equipments and impervious clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Avoid contact with skin and eyes. Do not swallow. Do not breathe dust.
Environmental precautions	:	Do not allow material to be released to the environment without proper governmental permits.
Methods for cleaning up	:	Remove spilled material dry. Place into appropriate container for disposal. Avoid dust. Ventilate and wash spill area. Wear suitable protective clothing. Use rubber gloves and eye/face protection.

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7. HANDLING AND STORAGE

Handling	:	Use with adequate ventilation. Always wear gloves, mask, goggles or other protective clothing and use in a chemical fume hood. Keep containers closed.
Storage	:	Store at room temperature.
Packaging materials	:	Glass or plastic containers

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures	:	Safety shower and eye bath. Mechanical exhaust required.
Hygienic measures	:	Do not eat, drink and/or smoke during work. Wash after handling
Personal protection		
Respiratory system	:	Do not inhale powder, wear dust mask.
Skin and body	:	Use protective clothing
Hands	:	Use rubber gloves
Eyes	:	Use eye/face protection
Occupational exposure limits		
TLV (USA)	:	--
"MAK" (Germany)	:	--
MAC (Netherlands)	:	--

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Crystalline powder
Colour	:	White or almost white
Odour	:	Characteristic
Melting point	:	Decomposition over 250ºC
Boiling point	:	--
Density	:	--
Solubility	:	Very soluble in water

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Flash point	:	--
Lower explosion limit	:	--
Upper explosion limit	:	--

10. STABILITY AND REACTIVITY

Stability	:	Stable at room temperature.
Conditions to avoid	:	--
Materials to avoid	:	Strong oxidizing agents
Hazardous decomposition products	:	Toxic fumes of CO_x, NO_x and SO_x.
Hazardous polymerisation	:	None

11. TOXICOLOGICAL INFORMATION

Acute toxicity		Material is an inhibitor of protein biosynthesis. Can be harmful to humans, specially to the unborn child.
Oral	:	LD50 (rat) : >4 gram/kg, LD50 (mouse) : 17.5 g/kg
Intravenous	:	LD50 (rat) : 225 mg/kg, LD50 (mouse) : 240 mg/kg, LD50 (rabbit) : 550 mg/kg
Subcutaneous	:	LD50 (rat) : 1700 mg/kg, LD50 (mouse) : 1100 mg/kg, LD50 (rabbit) : > 3000 mg/kg
Inhalation	:	LD50 (rat, oral) : 17500 mg/kg, LD50 (rabbit) : > 3000 mg/kg
Intraperitoneal	:	LD50 (rat) : 3200 mg/kg, LD50 (mouse) : 1353 mg/kg
Intramuscular	:	LD50 (rat) : >4 gram/kg, LD50 (mouse) : 1190 mg/kg LD50 (rabbit) : > 3000 mg/kg
Eye irritation	:	may cause eye irritation
Skin irritation	:	may cause skin irritation, may be harmful if absorbed through the skin.
Sensitisation	:	prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.
Chronic toxicity	:	May cause harm to the unborn child.
Carcinogenicity	:	None
Mutagenicity	:	Material is teratogen: Rat (980 mg/kg, subcutaneous, 8–14 days pregnancy): foetal death and specific development abnormalities in musculoskeletal system. Mouse (980 mg/kg, subcutaneous, 7–13 days pregnancy):

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foetotoxicity and specific development abnormalities in musculoskeletal system
Guinea pig (3200 mg/kg, intramuscular, 55-62 days pregnancy): specific development abnormalities in eye and ear.

12. ECOLOGICAL INFORMATION

Mobility	:	Good water soluble
Persistence and degradability	:	Not known
Bioaccumulative potential	:	Not known
Ecotoxicity	:	Do not allow material to be released to the environment without proper governmental permits.

13. DISPOSAL CONSIDERATIONS

Product:
There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding laws and regulations. We recommend that you contact either the authorities in charge of approved waste disposal companies which will advise you on how to dispose of special waste.

Packaging:
Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

Methods of disposal : --

14. TRANSPORT INFORMATION

UN Number	:	--
Proper shipping name	:	--
Road/Railway/Inland waterways		
ADR/RID/ADNR Class	:	Non-hazardous for road transport
Hazard identification number	:	--
Sea		
IMDG Class	:	Non-hazardous for sea transport

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Packaging group	:	--

Air

IAATA Class	:	Non-hazardous for air transport
Packaging group	:	--
Packing instructions (PA)	:	--
Packing instructions (CAO)	:	--

15. REGULATORY INFORMATION

Responsibility of the receiver to have knowledge of national and local regulations.

EC Classification

Label name	:	TOXIC
Hazard symbol	:	
Risk phrases	:	61: May cause harm to the unborn child.
Safety phrases	:	45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). 53: Avoid exposure –obtain special instructions before use.

National regulations

WGK (Germany)	:	--
Listed on TSCA-inventory	:	--
Listed on DSL-inventory	:	--
Listed on AICS-inventory	:	--
Listed on MITI-inventory	:	--

16. OTHER INFORMATION

All information given by or on behalf of Duchefa as to properties, specifications, use, etc. of the products is based on research, including literature and is believed reliable.
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Furthermore the general terms and conditions of sale are applicable and upon request we will send the complete general terms and conditions of sale.

HISTORY

Printing date	**:**	**July 18, 2006**
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