



MATERIAL SAFETY DATA SHEET

KASUMIN Liquid

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Please read the entire document. This Material Safety Data Sheet contains important environmental, health and toxicology information for your employees, and anyone who will use, transport, store, dispose of or handle this product. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information contained herein must be incorporated in your MSDS.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Kasumin Liquid
EPA REGISTRATION NUMBER(S) : N/A
SYNONYM(S): N/A

<u>COMPANY</u>
Arvesta Corporation 100 First Street, Suite 1700 San Francisco, CA 94105

<u>EMERGENCY TELEPHONE NUMBERS</u>	
HEALTH EMERGENCY: 1-800-228-5635 ext. 174, or 1-651-632-8946 (International)	SPILL EMERGENCY: 1-800-424-9300

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

<u>Active Ingredient(s)/ Hazardous Inert Ingredient(s)</u>	<u>CAS #</u>	<u>Exposure Limits</u>	<u>% Weight</u>	<u>% Volume</u>
Kasugamycin hydrochloride hydrate	19408-46-9	TWA^a OSHA PEL ^b : None ACGIH TLV ^c : None NIOSH REL ^d : None	2.3	NA

Only the identities of the active ingredient(s) and any hazardous inert ingredients are listed. Specific information on all of this product's ingredients can be obtained by the treating medical professional or spill emergency responder for the management of exposures, spills, or safety assessments.

*Source: *Guide to Occupational Exposure Values 2000*, published by ACGIH

^a**TWA**: Time-weighted average exposure concentration for a conventional 8-hour (TLV, PEL) or up to a 10-hour (REL) workday and a 40-hour workweek.

^b**OSHA PEL**: Occupational Safety and Health Administration Permissible Exposure Limits.

^c**ACGIH TLV**: American Conference of Governmental Industrial Hygienists, Inc., Threshold Limit Values.

^d**NIOSH REL**: National Institute for Occupational Safety and Health Recommended Exposure Limits.

SECTION 3: HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

CAUTION:

- **MAY CAUSE EYE IRRITATION**
- **KEEP OUT OF REACH OF CHILDREN**

Acute Health Hazards

Eye: May cause slight irritation. The degree of injury will depend on the amount and duration of the contact and the speed and thoroughness of the first aid treatment. Adverse effects resulting from an exposure may include temporary redness or swelling.

Skin: A single, prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

Ingestion: Incidental ingestion of small amounts is not likely to cause harm.

Inhalation: Product is a non-volatile liquid unlikely to cause harm by inhalation.

Chronic Health Hazards (Including Cancer): Kasugamycin Technical is not carcinogenic.

Teratology (Birth Defects) Information: Kasugamycin Technical is not teratogenic.

Reproduction Information: No evidence of reproductive toxicity.

Mutagenicity: Kasugamycin Technical is not mutagenic.

SECTION 4: FIRST AID MEASURES

Eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continuing rinsing the eye. Call a poison control center or doctor for treatment advice.

Skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Ingestion: Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Inhalation: Move person to fresh air. If person is not breathing, call 9-1-1 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

SECTION 5: FIRE FIGHTING MEASURES

Flammable Limits in Air (% by volume):		
	Upper:	NDA
	Lower:	NDA
Flash Point:		
	Method Used:	NDA
Autoignition Temperature:		
LEL/UEL:		
NFPA Hazard Classification:		
	Health:	NDA
	Flammability:	NDA
	Reactivity:	NDA
	Other:	None
Extinguishing Media:		
Water spray, dry sand, carbon dioxide, dry chemical powder, foam, etc.		
Special Fire Fighting Procedures:		
NDA		
Unusual Fire/Explosion Hazards:		
NDA		
Hazardous Combustion Products:		
NDA		

SECTION 6: ACCIDENTAL RELEASE MEASURES

EMERGENCY PHONE NUMBERS

Exposure Calls (PROSAR): 1-800-228-5635 Ext. 174 or 1-651-632-8946 (International)

Spill Calls (CHEMTREC): 1-800-424-9300

Carefully wipe up, place in a proper container for disposal.

SECTION 7: HANDLING AND STORAGE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Use strictly in accordance with label precautionary statements and directions. Wear proper protective clothing. Avoid contact with skin or eyes. Avoid rough handling or dropping. Keep in cool and dark storage in tightly closed containers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: Wear safety glasses

Respiratory/Ventilation Requirements: Handle in a totally enclosed system or use with local exhaust ventilation. Wear respirator in confined areas or where potential for inhalation of material.

Skin Protection: Wear rubber gloves, wear impervious clothing and boots.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark blue-green
Odor:	NDA
Physical State:	Liquid
pH:	2.5~3.0
Boiling Point:	NDA
Melting Point:	NDA
Freezing Point:	NDA
Vapor Pressure:	NDA
Vapor Density:	NDA
Specific Gravity:	1.02~1.04 @ 20°C
Evaporation Rate:	NDA
Solubility:	NDA
Percent Solids by Weight:	NDA
Percent Volatile:	NDA
Volatile Organic Compounds (VOC):	NDA
Molecular Weight:	NDA
Viscosity:	NDA

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	NDA
Hazardous Polymerization:	NDA
Flash Point:	NDA
Flammable Point:	Not flammable
Auto Ignition:	NDA
Incompatibility With Other Materials:	Strong alkaline pesticides
Hazardous Decomposition Products:	NDA

SECTION 11: TOXICOLOGICAL INFORMATION

Acute:

Eye Irritation: (Rabbit) Slightly irritating

Skin Irritation: (Rabbit) Non-irritating

Dermal Toxicity: (Rat) LD₅₀ > 2,000 mg/kg

Oral Toxicity: LD₅₀ > 5,000 mg/kg (rat)
LD₅₀ > 5,000 mg/kg (mouse)

Subchronic Toxicity: For Kasugamycin Technical:

90 day oral NOEL in mouse = 1,000 ppm

90 day oral NOEL in rat = 300 ppm

90 day oral NOEL in dog = 300 ppm

Chronic/Carcinogenicity: For Kasugamycin Technical:

Not a carcinogen

Mouse NOEL = 300 ppm

Rat NOEL = 300 ppm

Mutagenicity: Structured chromosome aberration: Negative (active ingredient)
 Ames Test: Negative (active ingredient)
 Unscheduled DNA synthesis: Negative (active ingredient)
 V/79HGPRT Forward mutation assay: Negative (active ingredient)
 Micronucleus test: Negative (active ingredient)

Teratology/Developmental Toxicity: Not teratogenic in rabbits or rats.

Reproductive Toxicity: No evidence of reproductive toxicity.

SECTION 12: ECOLOGICAL INFORMATION

Fish Toxicity:

Quail LD₅₀ > 4,000 ppm
 Rainbow Trout 96-hr LC₅₀ > 1,000 ppm
 Bluegill 96-hr LC₅₀ > 1,000 ppm
 Guppy 96-hr LC₅₀ > 1,000 ppm

Other Toxicity:

Daphnia magna 3-hr LC₅₀ > 40 ppm
 Alga EC₅₀ = 11 mg/L
 Alga NOEC = 72 mg/L
 Honeybee contact LD₅₀ > 40/mg/bee

SECTION 13: DISPOSAL CONSIDERATIONS

Preferred method of disposal is by incineration. End users must dispose of any unused product as per the label recommendations and in accordance with all applicable laws and regulations. Check governmental regulations and local authorities for approved disposal of this material.

SECTION 14: TRANSPORT INFORMATION

D.O.T. Shipping Name:	(Not regulated)
Technical Shipping Name:	Kasugamycin hydrochloride hydrate (liquid)
Packing Group:	NA
D.O.T. Hazard Class:	NA
U.N/N.A. Number:	NA
Product RQ (lbs):	NA
D.O.T. Label:	NA
D.O.T. Placard:	NA
Marine Pollutant:	NA
IMO:	
IMO Label:	NA
IMO Placard:	NA
European Road/Rail:	
Class:	NA

SECTION 15: REGULATORY INFORMATION

U.S Federal Regulations

FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act): All pesticides are governed under FIFRA. Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

CERCLA (Comprehensive Response Compensation, and Liability Act): NA

EPCRA (Emergency Planning and Community Right-to-Know Act) Section 313: NA

OSHA (Occupational Safety and Health Administration): This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

RCRA (Resource Conservation and Recovery Act): NA

SARA Title III (SUPERFUND Amendments and Reauthorization Act):

Section 302 (EHS) TPQ: NONE

Section 304 (EHS) RQ: NONE

Section 311/312 CATEGORIES

1. Immediate (Acute) Health Effects; **YES**
2. Delayed (Chronic) Health Effect; **YES**
3. Fire Hazard; **NO**
4. Sudden Release of Pressure Hazard; **NO**
5. Reactivity Hazard; **NO**

TSCA (Toxic Substance Control Act): This product is exempt from TSCA Regulation under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.

State Regulations: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities.

International Regulations:

EEC Classification: NA

Risk Phrases: NA

Safety Phrases: NA

SECTION 16: OTHER INFORMATION

Reason for issue:	Company Name Change
Prepared by:	James J. Reilly, Jr.
Approval date:	05/16/02
Supersedes date:	06/23/98
MSDS number:	K-001

The information in this MSDS is based on data available to us as of the revision data given herein, and believed to be correct. Contact Tomen's Toxicologist at (415) 536-3476, Fax: (415) 284-9884 to determine if additional data and information have become available since the revision date.

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