



MATERIAL SAFETY DATA SHEET

CARPOVIRUSINE

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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: CARPOVIRUSINE
EPA REGISTRATION NUMBER(S): NA
SYNONYM(S): TM-45301

COMPANY

Arvesta Corporation
100 First Street, Suite 1700
San Francisco, CA 94105

EMERGENCY TELEPHONE NUMBERS

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

Active Ingredient(s)/ Hazardous Inert Ingredient(s)	CAS #	Exposure Limits	% Weight	% Volume
<i>Cydia pomonella</i> Granulosis Virus	NA	TWA^a OSHA PEL ^b : None ACGIH TLV ^c : None NIOSH REL ^d : None	<1	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.

EMERGENCY TELEPHONE #: 1-800-228-5635 Ext. 174 or 1-651-632-8946

MSDS Number: E-067

Issue Date: 12/30/04

NDA = No Data Available

NA = Not Applicable

SECTION 3: HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

WARNING:

- **MAY CAUSE SLIGHT EYE AND SKIN IRRITATION**
- **MAY BE HARMFUL IF SWALLOWED OR ABSORBED THROUGH SKIN**
- **KEEP OUT OF REACH OF CHILDREN**

The toxicological, chemical and physical properties of this product have not been fully investigated and its handling or use may be hazardous. This product is intended for experimental use by qualified personnel only.

Acute Health Hazards

Eye: May cause slight eye irritation.

Skin: Repeated skin contact may cause allergic reactions in some individuals.

Ingestion: Small amounts are not likely to cause damage.

Inhalation: A single, prolonged exposure is not likely to cause harm.

Chronic Health Hazards (Including Cancer): NA

Teratology (Birth Defects) Information: NA

Reproduction Information: NA

Mutagenicity: NA

* The active ingredient in Carpovirusine is naturally occurring and the results of the acute toxicity studies indicate an overall low level of toxicity.

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 continue rinsing eye. Call a poison control center or doctor for treatment advice.

Ingestion: Call a poison control center or doctor immediately 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.

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

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

SECTION 5: FIRE FIGHTING MEASURES

Flammable Limits in Air (% by volume):		
	Upper:	NA
	Lower:	NA
Flash Point:		NA
	Method Used:	NA
Autoignition Temperature:		NA
LEL/UEL:		NA
NFPA Hazard Classification:		
	Health:	NDA
	Flammability:	NDA
	Reactivity:	NDA
	Other:	NDA
Extinguishing Media:		Water spray, foam, carbon dioxide, dry chemical powder
Special Fire Fighting Procedures:		In case of fire and/or explosion do not breathe fumes. Use self-contained respiratory equipment.
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

This material is slightly corrosive, so wear personal protection equipment. Do not flush into public waterways nor empty into drains. Collect spilled material and place into drums. Keep safe for disposal. Wash thoroughly after handling spilled product.

SECTION 7: HANDLING AND STORAGE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read entire label. Use strictly in accordance with label precautionary statements and directions. Keep container tightly closed and dry. Store in original container in a cool dry place. Store at 15-20° C (59-68° F) for use during the current year and 4° C (39° F) for storage periods greater than one year.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: Wear eye protection to prevent spills.

Respiratory/Ventilation Requirements: No recommendations.

Skin Protection: Wear chemical-resistant gloves and face protection.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Red
Odor:	None
Physical State:	Liquid
pH:	4.5
Boiling Point:	NDA
Melting Point:	NA
Freezing Point:	NDA
Vapor Pressure	Negligible
Relative Vapor Density:	Not relevant
Density:	1.020 ± 0.01
Specific Gravity:	NDA
Evaporation Rate:	NDA
Solubility in Water:	Readily miscible in water
Solubility in Other Solvents:	Slightly soluble in other solvents
Percent Solids by Weight:	NA
Partition Coefficient:	NDA
Percent Volatile:	NDA
Volatile Organic Compounds (VOC):	NDA
Molecular Weight:	NDA
Viscosity:	800-1,100 cP at 20°C

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	Stable under recommended storage/handling conditions.
Hazardous Polymerization:	NA
Flash Point:	NDA
Flammable Point:	Not flammable
Auto Ignition:	NDA
Incompatibility With Other Materials:	NDA
Hazardous Decomposition Products:	Can emit irritant fumes under fire conditions.

SECTION 11: TOXICOLOGICAL INFORMATION**Acute:**

Eye Irritation: Slightly irritating to eyes.

Skin Irritation: Slightly irritating to the skin.

Skin Sensitization: May cause contact sensitization.

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

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

Inhalation Toxicity: EPA Category IV.

Chronic/Carcinogenicity: NA

Teratology/Developmental Toxicity: NA

Mutagenicity: NA

Reproductive Toxicity: NA

* The active ingredient in Carpovirusine is naturally occurring. Laboratory tests on animals indicate low mammalian toxicity.

SECTION 12: ECOLOGICAL INFORMATION

From structurally related products, the material is expected to be readily biodegradable with negligible bioaccumulation.

Avian Toxicity:

Northern bobwhite (*C. virginianus*) Oral LD₅₀ > 10,000 mg/kg

Aquatic Organism Toxicity:

Zebrafish (*B. rerio*) 96 hr LC₅₀ > 250 mg/L
Waterflea (*D. magna*) 48 hr EC₅₀ > 250 mg/L

SECTION 13: DISPOSAL CONSIDERATIONS

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:	NDA
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): NA

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; **NDA**
3. Fire Hazard; **NDA**
4. Sudden Release of Pressure Hazard; **NDA**
5. Reactivity Hazard; **NDA**

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: Xi: Irritant

Risk Phrases: R43: May cause sensitization by skin contact

Safety Phrases:

S2: Keep out of reach of children
S13: Keep away from food, drink and animal feedingstuffs
S20/21: When using do not eat, drink or smoke
S24: Avoid contact with skin
S37: Wear suitable gloves
S46: If swallowed, seek medical advice immediately and show container or label

SECTION 16: OTHER INFORMATION

Reason for issue:	Revised Sections 1, 2, 3, 11, 12, 14, and 15
Prepared by:	James J. Reilly, Jr.
Approval date:	12/30/04
Supersedes date:	07/18/02
MSDS number:	E-067

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 Arvesta Corporation's Compliance Officer - Safety, Health & Environmental Affairs at (415) 536-3491, Fax (415) 546-7699 to determine if additional data and information have become available since the revision date.

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