Section 1	**Identification**	
(a)	Product identifier	
	Product name	Helicovex
	Synonyms	Bolldex
(b)	Other means of identification	
	EPA Registration No.	69553-2
	Active ingredient	*Helicoverpa armigera* nucleopolyhedrovirus strain BV-0003
	CAS No.	Not applicable
(c)	Recommended use and restrictions on use	
	Recommended use	Biological insecticide
	Restrictions on use	Any use not listed on the label. Read and understand the entire label before using. Use only according to label directions. It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.
(d)	Details of the supplier of the Safety Data Sheet	
	Name	Andermatt USA Corporation
	Address	107 Gilbreth Parkway Mullica Hill, NJ 08062
	Phone (technical)	+1 302 724-6888
	E-mail	contact@andermattusa.com
(e)	Emergency telephone number	
	Phone (medical)	1-800-222-1222 (National Poison Control Hotline)

Section 2	**Hazard identification**	
(a)	Classification of the substance or mixture	
	Hazard classification	Not classified as hazardous by OSHA.
(b)	Label elements	
	Signal word	None. See section 15.
	Hazard statements	None. See section 15.
	Symbols	None.
	Precautionary statements	Store locked up. Keep out of the reach of children. To avoid risks to human health and the environment, comply with the instructions for use. See section 15.
(c)	Other hazards	
		None known.

Section 3	**Composition/information on ingredients**
(a)	Substances
	Not applicable. This product is a mixture.
(b)	Mixtures

Active ingredient	**CAS number**	**% w/w**
Helicoverpa armigera nucleopolyhedrovirus strain BV-0003	Not applicable	0.6

Hazardous ingredients: None

Section 4	**First aid measures**	
(a)	Description of first aid measures	
	General notes	Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may

		also contact the National Poison Control Hotline at 1-800-222-1222 for emergency medical treatment information. Change any contaminated or wetted clothing at once. If poisoning occurs, contact a doctor or the National Poison Control Hotline.
	Following inhalation	Only possible by exposure to hot product. Move to fresh air, rest, half upright position, loosen clothing. Oxygen or artificial respiration if there is difficulty in breathing. Seek medical advice after significant exposure. Symptomatic treatment is advised.
	Following skin contact	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. Launder clothes before reuse.
	Following eye contact	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. Call a poison control center or doctor for treatment advice.
	Following ingestion	No typical symptoms and effects known.
	Advice to physician	Symptomatic treatment
(b)	Most important symptoms and effects, both acute and delayed	
		No typical symptoms and effects known.
(c)	Indication of any immediate medical attention and special treatment needed	
		None

Section 5	**Firefighting measures**	
(a)	Extinguishing media	
	Suitable extinguishing media	Water mist, alcohol resistant foam, carbon dioxide, dry powder
	Unsuitable extinguishing media	Water-jet, foam
(b)	Specific hazards arising from the mixture	
		Vapours cause coughing At elevated temperatures (> 200°C), there is a risk of exothermic polymerization. At temperatures > 280°C, acrolein may be formed.
(c)	Advice for firefighters	
		Avoid contact with oxidizing agents. Cool closed containers with water.

Section 6	**Accidental release measures**	
(a)	Personal precautions, protective equipment, and emergency procedures	
		Use protective clothing. Do not inhale. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
(b)	Environmental precautions	
		For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters or rinsate.
(c)	Methods and material for containment and cleaning up	
		Use adsorbent material to collect spillage (e.g. sawdust, peat, chemical binder). Place contaminated adsorbent in closable containers. Use a damp cloth to clean floors and other objects

after removal of contaminated adsorbent. Also place used cleaning materials into closable receptacles.

(d) Reference to other sections

See personal protective equipment under Section 8 of SDS.
Refer to Section 13 for disposal considerations.

Section 7 Handling and storage

(a) Precautions for safe handling

Applicators and other handlers at least must wear:

- Long sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- A NIOSH-approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

(b) Conditions for safe storage, including any incompatibilities

Store this product in original sealed container in a cool, dry place inaccessible to children and pets. Storing the product below 41°F (5°C), Helicovex can be used for 2 years without loss of efficacy. Storing the product under freezing temperatures will extend its shelf life. Bioactivity may be impaired by storage above 86°F (30°C).

Section 8 Exposure controls/personal protection

(a) Control parameters

Active ingredient	Occupational Exposure Limits
Helicoverpa armigera nucleopolyhedrovirus strain BV-0003	OSHA PELs: not established ACGIH TLVs: not established No occupational limit assigned.

(b) Appropriate engineering control

No specific recommendations

(c) Individual protection measures, such as personal protective equipment

Eye/face protection	No specific recommendations
Skin protection	Wear at least long-sleeved shirt and long pants, waterproof gloves and shoes plus socks
Respiratory protection	Wear a NIOSH-approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.
Thermal hazards	No specific recommendations

Section 9 Physical and chemical properties

(a) Information on basic physical and chemical properties

Physical state	Liquid (20°C)
Color	Grey-brown

	Odor	Characteristic
	Melting point/freezing point	Not determined (is not freezing at -18°C)
	Initial boiling point and boiling range	105 - 290°C
	Flammability	Not flammable
	Lower and upper explosion limit or flammability	Not flammable
	Flash point	Not determinable up to 101°C
	Auto-ignition temperature	Not determined
	Decomposition temperature	>200°C
	pH	6-7
	Kinematic viscosity	690 mPa × s (at 50 RPM, 20°C)
	Solubility	Suspendable in water
	Partition coefficient: n-octanol/water	Not determined
	Vapour pressure	Not determined
	Relative density	1.16 (g/ml)
	Relative vapour density	Not relevant
	Particle characteristics	Not applicable
(b)	Other information	
		None

Section 10	**Stability and Reactivity**	
(a)	Reactivity	
		Not reactive
(b)	Chemical stability	
		No decomposition if stored and handled properly
(c)	Possibility of hazardous reactions	
		Not relevant
(d)	Conditions to avoid	
		Temperature >200°C (polymerization, decomposition)
(e)	Incompatible materials	
		Avoid contact with oxidizing agents
(f)	Hazardous decomposition products	
		Acrolein (>280°C)
Section 11	**Toxicological information**	
(a)	Information on toxicological effects	
	Acute toxicity	Rat, oral, 3.75 x 10^8 OB per animal, no adverse effects Rat, dermal, 4000 mg/kg bw, no adverse effects
	Skin corrosion/irritation	Rabbit, 0.5 mL undiluted (7.5 x 10^{12} OB/L), not irritant
	Serious eye damage/irritation	Rabbit, 0.1 mL undiluted (7.5 x 10^{12} OB/L), not irritant
	Respiratory or skin sensitization	Guinea Pig, 100% induction and challenge, not sensitizing
	Germ cell mutagenicity	Not determined
	Carcinogenicity	Not classified
	Reproductive toxicity	Not classified
	STOT-single exposure	Not existing
	STOT-repeated exposure	Not existing
	Aspiration hazard	Not relevant
(b)	Reference to other sections	

See Section 4 for symptoms and acute and delayed effects.

Section 12	**Ecological information**	
(a)	Ecotoxicity	
	Acute (short-term) toxicity	
	Fish	*Danio rerio,* LC_{50} (30 days) > 1.21 x 10^6 OB/mL, no adverse effects
	Crustacea	*Daphnia magna*, LC_{50} (21 days) > 10^8 OB/mL, no significant effect
	Algae/aquatic plants	*Scenedesmus subspicatus*, 72 hour EC_{50} > 100 mg/L = 2.0 × 10^9 CpGV/L
	Other organisms	*Apis mellifera*, LD_{50} contact > 20 x MFAR (3652.8 mL/ha), no significant effects *Apis mellifera,* LD_{50} oral (96 hours) > 2.96 x 10^8 OB/mL, no significant effect *Coturnix japonica*, LD_{50} > 2000 mg/kg bw, no adverse effects Lemna gibba, 7 day EC_{50} > 100 mg/L = 3.1 x 10^9 CpGV/L
	Chronic (long-term) toxicity	
	Fish	Not determined
	Crustacea	Not determined
	Algae/aquatic plants	Not determined
	Other organisms	Not determined
(b)	Persistence and degradability	
	Abiotic Degradation	pH
	Physical- and photo-chemical elimination	UV light
	Biodegradation	Soil microflora
(c)	Bioaccumulative potential	
	Octanol/water partition coefficient (Kow)	Not determined
	Bioconcentration factor (BCF)	Not determined
(d)	Mobility in soil	
	Known or predicted distribution to environmental compartments	Baculoviruses persist in the soil for a fairly long period in the immobilised state and do not accumulate.
	Surface tension	Not determined
	Adsorption/Desorption	Not determined
(e)	Other adverse effects	
		None

Section 13	**Disposal considerations**	
(a)	Waste treatment methods	
	Pesticide disposal	To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).
	Container handling	Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and

recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by State and local ordinances. If burned, stay out of smoke.

Section 14	**Transport Information**	
(a)	UN number	Not applicable
(b)	UN shipping name	Not applicable
(c)	Transport hazard class(es)	Not applicable
(d)	Packaging group	Not applicable
(e)	Environmental hazards	None
(f)	Transport in bulk according to IMO instruments	Not applicable
(g)	Special precautions for users	None

Section 15	**Regulatory information**	
(a)	Safety, health and environmental regulations/legislation specific for the mixture	
	EPA/FIFRA	This product is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticidal chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals
CAUTION. Causes moderate eye and skin irritation. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Engineering Controls
When handlers use closed systems, enclosed cabs, or aircraft in a manner that meet the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607(d-f)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must provide all PPE specified above for “applicators and other handlers” and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

Section 16	**Other information**	
		This information only concerns the above-mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.
i	Indication of changes	
		Adapted to Occupational Safety and Health Administration (OSHA). Hazard Communication Standard, 29 CFR §1910.1200 (2024 version).
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