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SECTION 1 - PRODUCT & COMPANY IDENTIFICATION

ARYSTA LifeScience South Africa (Pty) Ltd

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Substance: Cydia pomonella granulosis virus

Product Name: CARPOVIRUSINE Biological insecticide **Product Use:** January 2011 **Creation Date: Revision Date:** August 2019

24 Hr Emergency Number: In case of Poisoning:

Poisons Helpline 0861 555 777

In case of Spillage:

Spill Tech Oil & Chemical Pollution Control 086 100 0366 / 083 253 6618

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Common Name: Cydia pomonella granulosis virus

Chemical Name: Not applicable Biopesticide Chemical family: Use: Biological insecticide.

Formulation: Suspension Concentrate

Hazardous ingredients of toxicological concern:

concern:

1 ×10¹³ GV / I Cydia pomonella granulosis virus irritant

Symbol: Χi Indication of Danger: Irritant

RISK-PHRASE(S) R43

SECTION 3 - HAZARD IDENTIFICATION

May cause sensitization by skin contact

May cause irritation to the eyes.

SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS

First aid in general

Remove the affected person from the danger zone to a well-ventilated room or to fresh air, and protect from chilling. Do not administer anything by oral route and do not try to make vomit, call a treatment center for poisoning cases or a physician. Take the label where possible.

First aid after inhalation

Immediately remove to fresh air. Call a physician immediately.

First aid after eye contact

Rinse immediately and thoroughly with plenty of water during at least 10 to 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if pain or redness persists.

First aid after skin contact

Remove contaminated clothing and thoroughly wash the affected parts of the body with soap and water.

First aid after ingestion

Call a physician immediately and show the label. Do not induce vomiting.

Medical instructions

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SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing media

Water spray, foam, carbon dioxide, dry chemical powder.

Unsuitable extinguishing media

Water jet.

Special exposure hazards

By thermic decomposition, possibility of formation of toxic gases (sulfur oxide, phosphorus oxide, nitrogen oxide, carbon oxide)

Particular protective measures

Intervention personnel should wear mask and individual respiratory equipment. Retain water or extinguishing media and eliminate safely.

SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal protection

Wear appropriate protective clothes, gloves and glasses.

Environmental protection

Retain spilled liquids and collect them with sand or other absorbent inert material (sepiolite).

Absorbent inert material stocks have to be sufficient to face reasonably predictable spillage.

Keep sewers from potential spillage to minimize pollution hazards. Do not throw washing waters into sewers. Contact competent authorities when a situation cannot be controlled rapidly and efficiently.

In the case of spillage into water, stop dispersion of the product with adequate barrier.

Methods for cleaning up

Collect contaminated products on the surface concerned, transfer to closed drums before sending in a specialized incineration treatment center.

Wash the contaminated surface with water and collect washing waters for treatment. Cover the contaminated zone using absorbent materials such as sand or sepiolite.

SECTION 7 - HANDLING AND STORAGE REQUIREMENTS

Handling

Do not eat, drink or smoke when using.

Wear appropriate protective clothes, adequate gloves, glasses or masks. Avoid prolonged or frequent contact of skin with new or old product. Respect good hygienic body conditions and cleanliness of the working area. Wash hands abundantly after handling.

Do not wash working clothes with household linen.

Storage requirements

To prevent fires and explosions: rags soaked with product, paper, or materials used to absorb spillage may cause fire. Avoid accumulation of these rags. Eliminate them safely immediately after using.

Store the product in its original container in the fridge $(4^{\circ}C)$ for a use within 8 months after formulation date. For a 2 years shelf life, it is necessary to freeze the product.

Store away from heat and sources of fire at temperature <35°C. Keep away from food, drink and animal feedingstuffs.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

General measures

When using refer in priority to information written on the label.

Exposure limits

No exposure limits have been established for this material.

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Personal protection Respiratory

Preferably wear a mask covering all face with filter appropriate to dust and aerosol

Hand

Wear single-use gloves of good quality.

Eye

Preferably wear a screen face or protective glasses.

Skin

Wear appropriate, and if possible disposable, clothes.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

AppearanceRed viscous liquid.OdourNo specific odour.

pH 4,5

Boiling point/rangeNot available.Flash pointNot available.FlammabilityNot Flammable.Density1,020 □ 0,01

Explosive hazards Virtually no hazard under recommended storage conditions

(see point 7).

Real hazard in case of fire or vapor accumulation.

Solubility in water Miscible with water in all proportions. Gives stable emulsion.

Solubility in organic solventsSlightly soluble in organic solvents.

SECTION 10 - STABILITY AND REACTIVITY

Conditions to avoid

Do not store the product at room tempera or higher since This accelerate the degradation of the compound.

Materials to avoid

Avoid contact with strong oxidant and strong acids and basis.

Hazardous decomposition products

See point 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Oral Toxicity

LD 50 rat : > 5000 mg/kg

Acute poisoning hazard by skin contact is highly improbable due to the properties of the virus (enclosed inclusion bodies, easily damaged by sunlight) and of the preparation (no aqueous concentrate basis containing organic solvents and inducing transcutaneous route).

Inhalation Toxicity

Not available.

Skin irritation

Not irritating to skin

Not irritant to eyes

Slightly irritating to eyes

Skin sensitization

Sensitizing

Toxicity to bees

Not available

SECTION 12 - ECOLOGICAL INFORMATION

Environmental behavior

Cydia pomonella granulosis virus is naturally present in the environment. After field use, the virus disappears or reaches an equilibrium near the one it had before the application, due to its instability to climatic

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conditions (temperature and sunlight) in a few weeks.

Toxicity to aquatic organisms.

CL50(96 h), Brachydanio rerio : >250 mg/l CE50 (48 h), Daphnia magna : >250 mg/l

Toxicity to birds

No observed effect level, Colinus virginianus:

10 000 mg/kg/day during 5 days.

SECTION 13 - DISPOSAL CONSIDERATION

Pesticide and container disposal:

Disposal of important amounts must be made by duly authorized specialists. Incineration should be made in authorized and specialized plant. Eliminate the product and its packaging with care and in a responsible way. Do not throw near ponds, rivers, ditches or into sewers. Wash contaminated surfaces with water and collect washing waters for treatment. Discharges can be neutralized in acid media or with soda before sending to a specialized incineration treatment center. Make sure that local regulations are respected.

Washing products

Do not throw into sewer. Do not contaminate natural waters. Clean up application materials on the treated area and eliminate waters by spraying on one area.

SECTION 14 - TRANSPORT INFORMATION

NOT SUBJECTED TO TRANSPORT REGULATIONS

SECTION 15 - REGULATORY INFORMATION

Symbols Xi : Irritant

Risk phrase(s) R 43 : May cause sensitization by skin contact..

Safety phrase(s)

S1/2 Keep locked up and out of reach of children.

S13 Keep away from food, drink and animal foodstuffs.

S20/21 When using do not eat, drink or smoke.

S23 Do not breathe spray.
S24/25 Avoid contact with skin and eyes.
S29 Do not empty into drains.
S51 Use only in well-ventilated areas.

 ${\tt S36/37/39}\ We ar\ suitable\ protective\ clothing,\ gloves\ and\ eye/face\ protection.$

S 3/9/49 Keep only in the original container in a cool, well-ventilated place.

Other information Avoid contact with eyes as product may cause irritation.

SECTION 16 - OTHER INFORMATION

Packaging and Labelling:

Packed in 5ℓ HDPE containers and labelled according to South African regulations and guidelines.

Disclaimer:

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The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.