

1. Identification of Substance & Company

Product

Product name	Karbyon
Other names	no other names
ACVM	P8557
HSNO approval	HSR000064
UN number	NA
DG class	NA
Proper Shipping Name	NA
Packaging group	NA
Hazchem code	NA
Uses	Control of fungal diseases in grapes, citrus and pip fruit

Company Details

Company	Biostart LTD	Biostart Brands PTY Ltd
Address	17 Reta Crescent Kerepehi 3671 New Zealand	L1/109 Jessie St Armidale NSW 2350 Australia
Telephone	0800 116 229	1800 359 555
Website	biostart.co.nz	biostart.com.au

2. Hazard Identification

Approval in New Zealand

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR000064): The substance has been classified as hazardous according to the criteria in the Hazardous substances (Hazard Classification) Notice 2020.

Classes Hazard Statements

Eye irritation category 2
Designed for biocidal action

H320 - Causes eye irritation.

SYMBOLS

WARNING



Australian GHS Classification

Eye irritation cat. 2

H320 - Causes eye irritation.

Precautionary Statements

Prevention	P103 - Read label before use. P264 - Wash hands thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P280 - Wear eye protection.
Response	P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 - If eye irritation persists: Get medical advice/attention.
Storage	No storage statements
Disposal	P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
potassium bicarbonate	298-14-6	90%
organic spray oil	mixture	10%

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

4. First Aid

General Information

You should call the National Poisons Centre if you feel that you may have been harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

Recommended first aid facilities Ready access to running water is recommended.

Exposure

Swallowed	Do NOT induce vomiting. Give a glass of water to drink. Contact a doctor.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Apply continuous irrigation with water for at least 15 minutes holding eyelids apart. If eye irritation persists: Get medical advice.
Skin contact	IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: get medical advice/attention.
Inhaled	Generally, inhalation of dusts is unlikely to result in adverse health effects. If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor.

Advice to Doctor

Treat symptomatically

5. Firefighting Measures

Fire and explosion hazards:	There are no specific risks for fire/explosion for this chemical. It is not classed as flammable.
Suitable extinguishing substances:	Carbon dioxide, extinguishing powder, foam, fog sprays, water jets.
Unsuitable extinguishing substances:	Unknown.
Products of combustion:	Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.
Protective equipment:	No special measures are required.
Hazchem code:	NA

6. Accidental Release Measures

Containment	If greater than 10000L is stored, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to storm water.
Emergency procedures	Generally, the containers size will limit a large spill from occurring. If a significant spill occurs: Stop leak if safe or necessary. Isolate area. Collect spill, see below. Transfer to container for disposal. Dispose of according to guidelines below (Section 13).
Clean-up method	This product is not considered flammable or ecotoxic. Small spills do not require any special clean up method. Larger spills (e.g., greater than 10kg) should be mopped up and collected.
Disposal	Mop up and collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.
Precautions	No special protective clothing is normally necessary.

7. Storage & Handling

Storage	Avoid storage of harmful substances with food. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames. Avoid contact with incompatible substances as listed in Section 10.
Handling	Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements.

8. Exposure Controls / Personal Protective Equipment

Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m³ for respirable particulates and 10mg/m³ for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA*	WES-STEL
	Oil mist	5mg/m ³	data unavailable

Exposure Standards - Australia

Australian Exposure Standards	Ingredient	WES-TWA*	WES-STEL
	Oil mist	5mg/m ³	data unavailable

Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

Personal Protective Equipment

Eyes



Avoid contact with eyes. Use safety glasses and or chemical splash goggles if splashes are possible. Select eye protection in accordance with AS/NZS 1337.

Skin

Protective gloves and clothing are not normally necessary. However, it is prudent to wear gloves when handling chemicals in bulk or for an extended period of time.

Respiratory

Respirator is not required under normal use. Ensure adequate natural ventilation. If product is being used in confined conditions, the use of a mask or respirator may be preferred.

WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance	white to off white powder
Odour	mild characteristic odour
Odour threshold	no data
pH	8.2-8.7 (1% solution)
Freezing / melting point	liquid at room temperature
Boiling point	as for water (100°C)
Flash point	no data
Flammability	no data
Upper & lower flammable limits	no data
Vapour pressure	no data
Vapour density	no data
Specific gravity / density	0.76-0.86g/cm ³
Solubility	completely soluble in water
Partition Coefficient:	no data
Auto-ignition temperature	no data
Decomposition temperature	no data
Viscosity	no data
Particle characteristics	no data

10. Stability & Reactivity

Stability	Stable
Conditions to be avoided	Containers should be kept closed in order to avoid contamination. Keep from extreme heat and open flames.
Incompatible groups	Strong acids and bases, oxidisers.
Substance Specific Incompatibility	none known

Hazardous decomposition products Oxides of carbon
Hazardous reactions none known

11. Toxicological Information

Summary

IF SWALLOWED: no known effect.
IF IN EYES: may be irritating to the eye.
IF ON SKIN: does not result in skin irritation.
IF INHALED: no known effects. Substance has a very low vapour pressure.
CHRONIC TOXICITY: no known effects.

Supporting Data

Acute	Oral	Using LD ₅₀ 's for ingredients, the calculated LD ₅₀ (oral, rat) for the mixture is >5,000 mg/kg. Data considered includes: organic spray oil >5000mg/kg.
	Dermal	No evidence of dermal toxicity.
	Inhaled	No evidence of inhalation toxicity.
	Eye	The mixture is considered to be an eye irritant.
	Skin	The mixture is not considered to be a skin irritant.
Chronic	Sensitisation	No ingredient present at concentrations > 0.1% is considered a sensitizer.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity	No ingredient present at concentrations > 0.1% is considered a carcinogen.
	Reproductive / Developmental	No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.
	Systemic	No ingredient present at concentrations > 1% is considered a target organ toxicant.
	Aggravation of existing conditions	None known.

12. Ecological Data

Summary

Highly refined oils have a very low toxicity towards aquatic organisms. May cause physical fouling of aquatic organisms. This mixture may be ecotoxic towards aquatic organisms.

Supporting Data

Aquatic	Using EC ₅₀ 's for ingredients, the calculated EC ₅₀ for the mixture is between 1 and 100 mg/L and none of the components are considered bioaccumulative or persistent in the aquatic environment. Data considered includes: potassium bicarbonate LC ₅₀ (4 days) 68 mg/L (fish), EC ₅₀ (48 h) 200 mg/L (aquatic invertebrates)
Bioaccumulation	No evidence
Degradability	Not considered degradable, but will biodegrade. Log Kow 3.9-6 (estimates).
Soil	No evidence of soil toxicity.
Terrestrial vertebrate	Not considered ecotoxic towards terrestrial vertebrates (see acute toxicity)
Terrestrial invertebrate	No evidence of toxicity towards terrestrial invertebrates.
Biocidal	no data
Environmental effect levels	No EELs are available for this mixture or ingredients

13. Disposal Considerations

Restrictions	There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.
Disposal method	Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority.
Contaminated packaging	Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging.

14. Transport Information

Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007

There are no specific restrictions for this product (not a dangerous good).

UN number:	NA	Proper shipping name:	NA
Class(es)	NA	Packing group:	NA
Precautions:	NA	Hazchem code:	NA

IMDG

UN number:	NA	Proper shipping name:	NA
Class(es)	NA	Packing group:	NA
Precautions:	NA	Hazchem code:	NA

IATA

UN number:	NA	Proper shipping name:	NA
Class(es)	NA	Packing group:	NA
Precautions:	NA	Hazchem code:	NA

15. Regulatory Information

NZ regulations

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR000064. All ingredients appear on the NZIoC.

ACVM approval number: P8557.

Specific Controls

Key requirements are:

SDS	To be available within 10 minutes in workplaces storing any quantity.
Inventory	An inventory of all hazardous substances must be prepared and maintained.
Packaging	All hazardous substances should be appropriately packaged including substances that have been decanted, transferred or manufactured for own use or have been supplied
Labelling	Must comply with the Hazardous Substances (Labelling) Notice 2017.
Emergency plan	Required if > 10000L is stored.
Certified handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Required if > 10000L is stored.
Signage	Required if > 10000L is stored.
Location compliance certificate	Not required.
Flammable zone	Not required.
Fire extinguisher	Not required.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

Australian regulations

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP)	Not scheduled
Applicable prohibitions and notifications/licensing requirements Agricultural and Veterinary Chemicals Act	Not listed
Listing in the Australian Inventory of Chemical Substances (AICS)	Potassium bicarbonate - IMAP - Tier I - Human Health Mineral oil - IMAP - Tier II - Human Health
Additional information	Not applicable

16. Other Information

Abbreviations

Approval Code	Approval HSR000064, Controls, EPA. www.epa.govt.nz
AICS	Australian Inventory of Chemical Substances
CAS Number	Unique Chemical Abstracts Service Registry Number
Ceiling	Ceiling Exposure Value: The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time.
Controls Matrix	List of default controls linking regulation numbers to Matrix code (e.g. T1, I16).
EC₅₀	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
ES	Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed in a work day.
EPA	Environmental Protection Authority (New Zealand)
GHS	Globally Harmonised System of Classification and Labelling of Chemicals
HAZCHEM Code	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
HSNO	Hazardous Substances and New Organisms (Act and Regulations)
IARC	International Agency for Research on Cancer
LEL/UEL	Lower Explosive Limit/ Upper Explosive Limit
LD₅₀	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC₅₀	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
MSDS (SDS)	Material Safety Data Sheet (or Safety Data Sheet)
NICNAS	National Industrial Chemicals Notification and Assessment Scheme
NZIoC	New Zealand Inventory of Chemicals
STEL	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
STOT RE	System Target Organ Toxicity – Repeated Exposure
STOT SE	System Target Organ Toxicity – Single Exposure
TWA	Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)
UN Number	United Nations Number
WES	Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

References

Data	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).
Controls	EPA notices, www.epa.govt.nz , Health and Safety at Work (Hazardous Substances) Regulations 2017, www.legislation.govt.nz
WES	The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – www.worksafe.govt.nz .
ES	Workplace Exposure standards for airborne contaminants – Safework Australia.
Other References:	Suppliers SDS, EU ECHA, ingredients SDS's, ChemIDplus

Review

Date	Reason for review
December 2019	Not applicable – new SDS, supercedes previous SDS
April 2023	Update, new address, HSNO to GHS
May 2024	New address

Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely GHS 7 classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: +64 21 1040951.

