



## Safety Data Sheet: Buffit® (Sodium Bicarbonate)

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Post-Harvest Solutions Ltd Safety Data Sheet    Version: 2  
Date /Revised: 25/05/2018  
Product: **Buffit® (Sodium Bicarbonate)**

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### 1. Identification of the Material and Supplier

#### **Buffit® (Sodium Bicarbonate)**

Uses: It is a Food Additive, E500 (acidity regulator, anticaking agent, raising agent), a feed additive and a buffer and neutralizer in the Beverage industry. It is also used as an abrasive in toothpaste, in dry chemical extinguishers, to absorb odours and in the manufacture of speciality chemicals and pharmaceuticals.

#### **Manufacturer/supplier**

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**Web:** [www.postharvest.co.nz](http://www.postharvest.co.nz)

#### **Emergency Information**

National Poisons Centre (New Zealand): **0800 POISON (0800 764 766)**

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## 2. Hazard Identification

Not classified as hazardous according to the criteria of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

Not classified as dangerous goods according to NZS 5433:2012 Transport of Dangerous Goods on Land.

Sodium Bicarbonate as Carbonic acid monosodium salt, CAS Number 144-55-8, is listed in the New Zealand Inventory of Chemicals:

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## 3. Composition/information on Ingredients

### Chemical Nature:

Ingredients determined to be non-hazardous

Ingredient	CAS Number	Content (% w/w)
Sodium Bicarbonate	144-55-8	>90

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## 4. First-Aid Measures

### Inhalation:

If dust is inhaled and feeling unwell, remove to fresh air and keep at rest in a position comfortable for breathing.

Get medical advice and attention immediately from the **POISON CENTRE (0800 764 766)** or a doctor.

### Skin Contact:

Gently wash under shower with plenty of soap and water. If skin irritation occurs get medical advice and attention immediately from the **POISON CENTRE (0800 764 766)** or a doctor.

### Eye Contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice and attention immediately from the **POISON CENTRE (0800 764 766)** or a doctor.

### Ingestion:

If swallowed and feeling unwell, rinse mouth, do not induce vomiting. Get medical advice and attention immediately from the **POISON CENTRE (0800 764 766)** or a doctor.

### Note to physician:



Safety Data Sheet: Buffit® (Sodium Bicarbonate)  
Date / Revised: 25/05/2018  
Version 2

Treat symptomatically

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## 5. Fire-Fighting Measures

### Suitable extinguishing media

In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions: water, water spray, dry powder, foam, carbon dioxide (CO<sub>2</sub>).

### Specific Hazards:

Avoid generating dust, particularly clouds of dust in a confined or unventilated space. Powder handling equipments such as dust collectors, dryers and mills may require additional protection measures such as explosion venting. Combustion products include: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), other pyrolysis products typical of burning organic material.

### Protective Equipment and precautions for fire fighters

Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Use standard procedure for chemical fires. Prevent, by any means available, spillage from entering drains or water courses. Use water delivered as a fine spray to control fire and cool adjacent area. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.

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## 6. Accidental Release Measures

### Emergency Procedures:

For minor spills: Clean up all spills immediately. Stop spill if safe to do so. Avoid contact with skin and eyes. Avoid generating dust. Pick up and transfer to properly labeled containers for disposal. After cleaning, flush away traces with water.

For major spills: Clear area of personnel. Alert Fire Brigade and tell them location and nature of hazard. Control personal contact by using protective equipment. Prevent spillage from entering drains, sewers or water courses. Recover product wherever possible. Put residues in labeled plastic pails or other suitable sealed containers for disposal. If contamination of drains or waterways occurs, advise emergency services.

For Personal Protective Equipment (PPE) refer to Section 8

### Environmental precautions

Prevent spilled material from entering drains/surface waters/groundwater. If contamination has occurred, advise local emergency services.

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## 7. Handling and Storage

### Handling

Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with skin and eyes. Keep containers closed until ready for use. Avoid dust formation.

### Suitable Container

Food Grade polyethylene coated paper bags, fibre drums or polyethylene/propylene big bags. Packing as recommended by manufacturer. Check all containers are clearly labeled and free from leaks.

### Storage

Store tightly closed in dry, cool well ventilated conditions out of direct sunlight. Observe manufacturer's storing and handling recommendations.

**Store away from incompatible materials as specified in Section 10.**

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## 8. Exposure Controls and Personal Protection

### Exposure Controls

Source	Material	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	Peak (mg/m <sup>3</sup> )	TWA (F/CC)
New Zealand WES 2010	Inspirable dust	10			
New Zealand WES 2010	Respirable dust	3			

### Material Data:

No exposure limits set by OSH or NOHSC.

### Airbourne Exposure Limits:

No exposure limits set by OSH or NOHSC.

### Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the

emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

### **PPE (Personal Protective Equipment)**

The selection of PPE is dependent on a detailed risk assessment. This should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

#### Respiratory protection:

Where an inhalation risk exists, wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716

#### Eye protection:

Dust-proof safety goggles with side shields and/or face-shield, as appropriate. Maintain eye wash fountain and quick drench facilities in work area.

#### Body protection:

Hand protection with suitable chemically resistant long gloves (e.g. nitrile rubber 4mm). Overalls, lab coat or apron must be chosen depending on activity and possible exposure.

#### General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Wearing of close work clothing is recommended. No eating, drinking, smoking or tobacco use at the place of work.

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## **9. Physical and Chemical Properties**

Molecular Weight:	84.01
Melting Range (°C):	50°C (decomposition starts)
Solubility in water (g/L, 20°C):	96
pH (1% solution):	8.4
Volatile Component (%vol):	Nil
Relative Vapor Density (air=1):	Not Applicable
Lower Explosive Limit (%):	Not Applicable
Autoignition Temp (°C):	Not Available
Appearance:	White powder

## 10. Stability and Reactivity

Product is stable under normal conditions of use, storage and temperature. Avoid excessive heat, moisture, incompatible materials.

Reacts with acids to form carbon dioxide. Dangerous reaction with monoammonium phosphate dry chemical extinguishing agent. Moisture accelerates this reaction. Reacts violently with sodium-potassium alloy. Keep containers dry and tightly closed to avoid moisture absorption and contamination.

No decomposition if stored under normal conditions of use. Thermal decomposition can lead to release of carbon oxides.

Hazardous polymerization will not occur.

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## 11. Toxicological Information

### Health Hazard Summary:

#### Eye

May cause mild irritation.

#### Inhalation

Inhalation of dust may cause coughing and irritation of the respiratory tract.

#### Skin

The material is not thought to produce adverse health effects or skin irritation following contact.

#### Ingestion

Health injuries are not known or expected under normal use. Large doses may cause gastrointestinal upsets, with large amounts of carbon dioxide being produced.

#### Chronic Health Effects:

Chronic over ingestion may cause metabolic alkalosis, cyanosis and hypernatremia. Not considered to be mutagenic, carcinogenic or a reproductive toxin.

#### Toxicity Data:

Not hazardous Oral LD<sub>50</sub> (rat) : >5000 mg/kg.

#### Irritation:

Mild irritation of eyes and respiratory tract.

Skin irritation/corrosion Rabbit GLP study 40 CFR 798.4470: Slightly irritating

Eye irritation/Corrosion Rabbit EPA TSCA 40 CFR 798.4500 Draize test: minimally irritating Irritating



(dose of 220mg). [<http://inchem.org/documents/sids/sids/sodbicarb.pdf>]

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## 12. Ecological Information

### Ecotoxicity

48 hour EC50 Daphnia magna (water flea): >1000 mg/l  
96 hour LC50 Rainbow Trout: >7,700 mg/L  
48 hour LC50 Apis mellifera (Honeybee): >24 µ/bee

### Persistence and Degradability

Inorganic compound, found naturally in the environment. The natural mineral form is known as nahcolite. Sodium bicarbonate will absorb moisture and gradually decompose into sodium carbonate, water and carbon dioxide.

### Mobility

Sodium bicarbonate is present in the environment predominantly as sodium and bicarbonate ions in the aquatic environment.

### Environmental Fate (Exposure)

Not expected to present adverse effects on the environment.

### Bioaccumulative Potential

Will not accumulate in living tissues. [<http://inchem.org/documents/sids/sids/sodbicarb.pdf>]

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## 13. Disposal Considerations

Recycle wherever possible.

Consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.

Dispose of by: Burial in a licensed landfill or Incineration in a licensed apparatus (after admixture with suitable combustible material)

Empty contaminated packaging should be taken for local recycling, recovery or waste disposal.

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## 14. Transport Information

### Road and Rail Transport:

Not Classified as dangerous goods by the criteria of NZS 5433:2012: Transport of Dangerous Goods on Land

### Sea Transport

IMDG: Not classified as dangerous goods under transport regulations

### Air Transport

IATA/ICAO: Not classified as dangerous goods under transport regulations

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## 15. Regulatory Information

Not classified as hazardous according to the criteria of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

Sodium Bicarbonate, Food Additive E 500), is found on the following regulatory lists:

New Zealand - Australia New Zealand Food Standards Code - Food Additives - Schedule 1  
Permitted uses of food additives by food type.

New Zealand - Australia New Zealand Food Standards Code - Food Additives - Schedule 2

Miscellaneous additives permitted in accordance with GMP in processed foods specified in Schedule 1

CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP

Sodium bicarbonate is classified by the U.S. Food and Drug Administration (FDA) as a 'Generally Recognised as Safe' (GRAS) ingredient in food with no other limitation than current good manufacturing practice (FDA, 1978; FDA, 1983).

EU approved food additive (EU, 2000) and a feed ingredient (EU, 1998).

Sodium Bicarbonate, is found on the following chemical inventories:

TSCA (U.S Environmental Protection Agency) Inventory

AICS (Australian Inventory of Chemical Substances)

DSL (Canadian Domestic Substances List)

ENCS (Japanese Inventory of Chemical Substances)

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## 16. Other Information

### Additional Information

This safety data sheet was upgraded on 25/05/2018 (version 2) from October 2015 to bring all Post-Harvest Solution's SDSs into a common format.



The effects from exposure to this product depend on several factors including frequency and duration of use, the amount used, control measures adopted, personal protective equipment used and method of use. It is impractical to prepare a data sheet that encompasses all possible situations; therefore, it is anticipated that users will assess the risks and apply control measures as appropriate.

### **Abbreviations**

ACGIH – American Conference of Governmental Industrial Hygienists

ADG Code Australian Dangerous Goods

AICS – Australian Inventory of Chemical Substances

EN - European Standard

GHS - Globally Harmonized System of classification and labelling of chemicals

HSNO. Hazardous Substances New Organisms

IATA - International Air Transport Association

ICAO - International Civil Aviation Organization

IMDG - International Maritime Dangerous Goods Code

LD50 LD stands for Lethal Dose. LD50 is the amount of a substance, given all at once, which causes the death of 50% (one half) of a group of test animals.

NZIoC – New Zealand Inventory of Chemicals.

OECD - Organisation for Economic Co-operation and Development

PPE – Personal Protective Equipment

TLV – Threshold Limit Values

TWA – Time-Weighted Average

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*The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (COA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed. Please consult the relevant legislation and regulations governing the use and storage of this type of product. For further information, please contact Post-Harvest Solutions Ltd.*

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