

Bundaberg Icing Sugar

(Chemwatch name: BUNDABERG ICING SUGAR)

Hazard Alert Code:
LOW

Chemwatch Material Safety Data Sheet

Version No: 2.0

Chemwatch 69120

Issue Date: 15-Oct-2010

CD 2011/1

NC317TCP

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

Bundaberg Icing Sugar

SYNONYMS

"icing sugar"

PRODUCT USE

Ingredient in food and food preparations.

SUPPLIER

Company: Bundaberg Sugar Ltd

Address:

Level 1, 155 Wharf Street

Spring Hill

QLD, 4000

Australia

Telephone: +61 7 3835 8400

Fax: +61 7 3835 8411

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to NOHSC Criteria, and ADG Code.

CHEMWATCH HAZARD RATINGS

	Min	Max	
Flammability:	1		
Toxicity:	0		
Body Contact:	1		
Reactivity:	0		
Chronic:	0		
			Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

POISONS SCHEDULE

None

RISK

None under normal operating conditions.

SAFETY

- Do not breathe dust.
- Avoid contact with skin.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
sucrose	57-50-1	95
starch	9005-25-8	5

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

EYE

- If this product comes in contact with the eyes:

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- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- If skin or hair contact occurs:
 - Flush skin and hair with running water (and soap if available).
 - Seek medical attention in event of irritation.

INHALED

- - If dust is inhaled, remove from contaminated area.
 - Encourage patient to blow nose to ensure clear passage of breathing.
 - If irritation or discomfort persists seek medical attention.

NOTES TO PHYSICIAN

- Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- - Water spray or fog.
 - Foam.
 - Dry chemical powder.
 - BCF (where regulations permit).
 - Carbon dioxide.

FIRE FIGHTING

- - Alert Fire Brigade and tell them location and nature of hazard.
 - Wear breathing apparatus plus protective gloves.
 - 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.

FIRE/EXPLOSION HAZARD

- - Solid which exhibits difficult combustion or is difficult to ignite.
 - Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion.
 - Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited; once initiated larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.
 - A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.
 - Usually the initial or primary explosion takes place in a confined space such as plant or machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often initiate a much larger secondary explosion. All large scale explosions have resulted from chain reactions of this type.
 - Dry dust can also be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport.
 - Build-up of electrostatic charge may be prevented by bonding and grounding.
 - Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.
 - All movable parts coming in contact with this material should have a speed of less than 1-metre/sec.

Combustion products include: carbon dioxide (CO₂).

FIRE INCOMPATIBILITY

- Avoid contamination with strong oxidising agents as ignition may result.

HAZCHEM

None

PERSONAL PROTECTION

Glasses:

Not normally required.

Gloves:

When handling larger quantities:

Respirator:

Particulate

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Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

-
- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable, labelled container for waste disposal.

MAJOR SPILLS

- Remove all ignition sources.
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Control personal contact by using protective equipment and dust respirator.
- Prevent spillage from entering drains, sewers or water courses.
- Avoid generating dust.
- Sweep, shovel up. Recover product wherever possible.
- Put residues in labelled plastic bags or other containers for disposal.
- If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Remove all ignition sources.
- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- When handling DO NOT eat, drink or smoke.
- Always wash hands with soap and water after handling.
- Avoid physical damage to containers.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.

SUITABLE CONTAINER

- Multi-ply paper bag with sealed plastic liner or heavy gauge plastic bag.
- NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse. Check that all containers are clearly labelled and free from leaks. Packing as recommended by manufacturer.

STORAGE INCOMPATIBILITY

- Avoid storage with oxidisers.

STORAGE REQUIREMENTS

-
- Keep dry.
- Store under cover.
- Store in a well ventilated area.
- Store away from sources of heat or ignition.
- Observe manufacturer's storing and handling recommendations.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



X: Must not be stored together

O: May be stored together with specific preventions

+: May be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC	Notes
Australia Exposure Standards	sucrose (Sucrose (a))		10						(see Chapter 14)

MATERIAL DATA

BUNDABERG ICING SUGAR:

REL TWA: 10 mg/m³

SUCROSE:

■ It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace.

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.

NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.

Sucrose has little adverse effect on the lung and does not produce significant organic disease. Massive doses are necessary to produce systemic toxicity. A Finnish study concluded that exposures below 5 mg/m³ should protect dental health, provided worker ingestion of the product was controlled. This finding was prompted by concerns within the bakery and confectionery industry of a connection between sucrose exposure and dental caries.

STARCH:

■ For starch:

The only adverse health effect associated with occupational exposure to starch is a mild dermatitis. The TLV-TWA is identical to a "nuisances-dust" value.

PERSONAL PROTECTION



EYE

■ No special equipment for minor exposure i.e. when handling small quantities.

● OTHERWISE:

- Safety glasses with side shields.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59]

HANDS/FEET

■ No special equipment needed when handling small quantities.

OTHERWISE: Wear chemical protective gloves, eg. PVC.

OTHER

■ No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Barrier cream.
- Eyewash unit.

RESPIRATOR

Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
10 x ES	P1 Air-line*	- -	PAPR-P1 -
50 x ES	Air-line**	P2	PAPR-P2
100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

-
- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.

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- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:
 - (a): particle dust respirators, if necessary, combined with an absorption cartridge;
 - (b): filter respirators with absorption cartridge or canister of the right type;
 - (c): fresh-air hoods or masks
- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding.
- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to efficiently remove the contaminant.

Type of Contaminant:	Air Speed:
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 4-10 m/s (800-2000 f/min) for extraction of crusher dusts generated 2 metres distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

White powder; soluble in water.

PHYSICAL PROPERTIES

Solid.

Mixes with water.

State	Divided solid	Molecular Weight	Not applicable
Melting Range (°C)	160-186 decomp	Boiling Range (°C)	Not applicable.
Solubility in water (g/L)	Miscible	Flash Point (°C)	Not applicable
pH (1% solution)	7	Decomposition Temp (°C)	Not available.
pH (as supplied)	Not applicable	Autoignition Temp (°C)	Not available.
Vapour Pressure (kPa)	Not applicable	Upper Explosive Limit (%)	Not available.
Specific Gravity (water=1)	Not available	Lower Explosive Limit (%)	Not available
Relative Vapour Density (air=1)	Not applicable	Volatile Component (%vol)	Not applicable

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Evaporation
Rate

Not
applicable

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

-
- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

- The solid/dust is non-toxic if swallowed.
- Considered an unlikely route of entry in commercial/industrial environments.

EYE

- The dust may produce eye discomfort causing smarting, pain and redness.

SKIN

- The material may be slightly discomforting to the skin if exposure is prolonged or from repeated exposures over long periods.

INHALED

- Not normally a hazard due to non-volatile nature of product.
- The dust may be discomforting to the upper respiratory tract.
- Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.
- If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.

CHRONIC HEALTH EFFECTS

- Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dusts.

TOXICITY AND IRRITATION

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

BUNDABERG ICING SUGAR:

- Not available. Refer to individual constituents.

SUCROSE:

TOXICITY

Oral (rat) LD50: 29700 mg/kg

Intraperitoneal (Mouse) LD50: 14000 mg/kg

Oral (Human) TDLo: 9.6E-5 mg/kg

IRRITATION

Nil Reported

TOXICITY

IRRITATION

STARCH:

Intraperitoneal (Mouse) LD50:
6600 mg/kg

Skin
(human):
0.3
mg/3d-l
Mild

- The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

Section 12 - ECOLOGICAL INFORMATION

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SUCROSE:

log Pow (Verschueren 1983): -3.67**ThOD:** 1.12

ThOD: 1.12

STARCH:

ThOD: 1.18

■ Sugar-based compounds (saccharides), including polysaccharides are generally easily decomposed by biodegradation. Not all polysaccharides decompose with equal rapidity, and polysaccharides are also synthesised by microorganisms during, for example, the compost maturation phases. Water-insoluble species such as cellulose take longer to decompose and those with a significant degree of branching also take longer.

DO NOT discharge into sewer or waterways.

ThOD: 1.18

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
sucrose	LOW		LOW	HIGH
starch			LOW	

Section 13 - DISPOSAL CONSIDERATIONS

-
- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Authority for disposal.
- Bury or incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM:

None (ADG7)

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADG7, UN, IATA, IMDG

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

Regulations for ingredients

sucrose (CAS: 57-50-1) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "China (Hong Kong) Occupational Exposure Limits", "China Inventory of Existing Chemical Substances", "Indonesia Threshold Limit Value for chemical substances in the workplace (Bahasa Indonesian)", "International Fragrance Association (IFRA) Survey: Transparency List", "Korea (South) Existing Chemicals List (KECL)", "Korea (South) Occupational Exposure Standards (Korean)", "Korea (South) Occupational Exposure Standards (Respirable microdust / Total dust) (Korean)", "Korea GHS", "Malaysia Permissible Exposure Limits", "New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Workplace Exposure Standards (WES)", "OECD Representative List of High Production Volume (HPV) Chemicals", "Philippines Inventory of Chemicals and Chemical Substances (PICCS)", "Singapore Permissible Exposure Limits of Toxic Substances"

starch (CAS: 9005-25-8) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "China (Hong Kong) Occupational Exposure Limits", "China Inventory of Existing Chemical Substances", "Indonesia Threshold Limit Value for chemical substances in the workplace (Bahasa Indonesian)", "International Fragrance Association (IFRA) Survey: Transparency List", "Japan List of plant or animal sources of natural flavorings (English)", "Japan Port Regulations Law (Japanese) - Chemical Liquid Waste", "Korea (South) Existing Chemicals List (KECL)", "Korea (South) Occupational Exposure Standards (Korean)", "Korea GHS", "Malaysia Permissible Exposure Limits", "New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Workplace Exposure Standards (WES)", "Philippines Inventory of Chemicals and Chemical Substances (PICCS)", "Philippines Regulatory Guidelines Concerning Food Additives - Permitted Food Additives", "Singapore Permissible Exposure Limits of Toxic Substances"

No data for Bundaberg Icing Sugar (CW: 69120)

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Section 16 - OTHER INFORMATION

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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