

BUNDABERG ICING SUGAR

Chemwatch Material Safety Data Sheet
Issue Date: 30-Mar-2006

Revision No: 2

Hazard Alert Code:
LOW
Chemwatch 69120
CD 2006/3

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 Limited

Address:

21 Magura Street

Enoggera






QLD, 4051

AUS

Telephone: +61 7 3335 8300

Fax: +61 7 3335 8311

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

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

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

POISONS SCHEDULE

None

RISK

Cumulative effects may result following exposure*.

* (limited evidence).

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:

- 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.
- 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

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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 may burn rapidly and fiercely if ignited
- 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-meter/sec

Combustion products include: carbon dioxide (CO₂).

FIRE INCOMPATIBILITY

Avoid contamination with strong oxidising agents as ignition may result.

HAZCHEM

None

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

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.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

sucrose 500 mg/m³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

sucrose 50 mg/m³

other than mild, transient adverse effects without perceiving a clearly defined odour is:

sucrose 30 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects:

sucrose 15 mg/m³

American Industrial Hygiene Association (AIHA)

Ingredients considered according exceed the following cutoffs

Very Toxic (T+) >= 0.1% Toxic (T) >= 3.0%

R50 >= 0.25% Toxic (T) >= 3.0%

R51 >= 2.5% Corrosive (C) >= 5.0%

else >= 10%

where percentage is percentage of ingredient found in the mixture

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

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+

+

+

+

+

+

X: Must not be stored together

O: May be stored together with specific preventions

+: May be stored together

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.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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
Australia Exposure Standards	sucrose (Sucrose (a))		10					
Australia Exposure Standards	starch (Starch (a))		10					

The following materials had no OELs on our record under the following CAS

- Bundaberg Icing Sugar:

EMERGENCY EXPOSURE LIMITS

ODOUR SAFETY FACTOR (OSF)

REL TWA: 10 mg/m³

INGREDIENT DATA

SUCROSE:

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:

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:

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- 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.
- 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.

Molecular Weight: Not applicable

Melting Range (°C): 160-186 decomp

Solubility in water (g/L): Miscible

pH (1% solution): 7

Volatile Component (%vol): Not applicable

Relative Vapour Density (air=1): Not applicable

Lower Explosive Limit (%): Not available

Autoignition Temp (°C): Not available.

Boiling Range (°C): Not applicable.

Specific Gravity (water=1): Not available

pH (as supplied): Not applicable

Vapour Pressure (kPa): Not applicable

Evaporation Rate: Not applicable

Flash Point (°C): Not applicable

Upper Explosive Limit (%): Not available.

Decomposition Temp (°C): Not available.

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State: Divided solid

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

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

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.

CHRONIC HEALTH EFFECTS

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

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

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

TOXICITY

SUCROSE:

Oral (rat) LD50: 29700 mg/kg

STARCH:

Intraperitoneal (Mouse) LD50: 6600 mg/kg

IRRITATION

Nil Reported

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

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

Section 12 - ECOLOGICAL INFORMATION

No data for Bundaberg Icing Sugar.

Refer to data for ingredients, which follows:

SUCROSE:

log Pow (Verschueren 1983):

- 3.67

ThOD:

1.12

log Kow : -2.25- -3.67

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

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

Air Transport IATA:

ICAO/IATA Class:

None

ICAO/IATA Subrisk:

None

UN/ID Number:

None

Packing Group:

-

ERG Code:

-

Shipping name:None

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

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Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

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)

Korea (South) Existing Chemicals List (KECL)

Malaysia Permissible Exposure Limits

New Zealand Transferred List of Single Component Substances

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 Levels 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)

Japan List of plant or animal sources of natural flavorings

Korea (South) Existing Chemicals List (KECL)

Malaysia Permissible Exposure Limits

New Zealand Transferred List of Single Component Substances

New Zealand Workplace Exposure Standards (WES)

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

Singapore Permissible Exposure Levels of Toxic Substances

Section 16 - OTHER INFORMATION

EXPOSURE STANDARD FOR MIXTURES

69120 "Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration: Composite Exposure Standard for Mixture (TWA) :9.3023 mg/m³. Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone. If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed. Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc (%).

Component	Breathing Zone (mg/m ³)	Mixture Conc (%)
starch	0.4651	5.0
sucrose	8.8372	95.0

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