

BUNDABERG WHITE CRYSTALLINE SUGAR

Chemwatch Material Safety Data Sheet
Issue Date: 6-Dec-2007

Revision No: 2.0

Hazard Alert Code:
LOW
Chemwatch 87020
CD 2008/1

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BUNDABERG WHITE CRYSTALLINE SUGAR

SYNONYMS

"white sugar"

PRODUCT USE

Ingredient in food and food preparations.

SUPPLIER

Company: Bundaberg Sugar Ltd

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**SAFETY****Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS**

NAME	CAS RN	%
sucrose	57-50-1	>99

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

Combustible.

Avoid creating dust - may present dust explosion hazard. Dry dust can be electrostatically charged by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport. Build-up of electrostatic charge may be prevented by grounding.

Combustion products include: carbon monoxide (CO) and 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.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

+

+

+

+

+

+

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.

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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					

MATERIAL DATA

Not available. Refer to individual constituents.

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.

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

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- 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 crystals; soluble in water.

PHYSICAL PROPERTIES

Solid.

Mixes with water.

Molecular Weight: 342.34

Melting Range (°C): 160-186

Solubility in water (g/L): Miscible

pH (1% solution): Not available

Volatile Component (%vol): Not applicable

Relative Vapour Density (air=1): Not applicable

Lower Explosive Limit (%): 0.045 g/l

Autoignition Temp (°C): Not available

State: Divided solid

Boiling Range (°C): Not available

Specific Gravity (water=1): 1.59

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

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.

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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

None assigned. Refer to individual constituents.

SUCROSE:

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

TOXICITY

Oral (rat) LD50: 29700 mg/kg

IRRITATION

Nil Reported

Section 12 - ECOLOGICAL INFORMATION

No data for Bundaberg White Crystalline 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

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

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

Section 15 - REGULATORY INFORMATION**POISONS SCHEDULE**

None

REGULATIONS

Bundaberg White Crystalline Sugar (CAS: None):

No regulations applicable

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)

Korea (South) Occupational Exposure Standards (Korean)

Korea (South) Occupational Exposure Standards (Respirable microdust / Total dust) (Korean)

Malaysia Permissible Exposure Limits

New Zealand Inventory of Chemicals (NZIoC)

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 Food Regulations - Food Additives - Chemical preservatives

Singapore Permissible Exposure Limits of Toxic Substances

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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