

1. IDENTIFICATION

Product Name	Sugar
Other Names	Sucrose; Sugar - Icing Mixture
Uses	As a sweetener or ingredient in food processing and food preparation.
Chemical Family	No Data Available
Chemical Formula	C12H22O11
Chemical Name	.alpha.-D-Glucopyranoside, .beta.-D-fructofuranosyl
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Not Scheduled

Globally Harmonised System



Hazard Classification NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Signal Word None

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Sucrose	C12H22O11	57-50-1	<=100 %
Corn flour (starch)	Unspecified	Unspecified	0 - 2 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	If swallowed: Give water to drink.
Eye	Eye contact: Flush thoroughly with copious amounts of running water. If eye irritation persists, get medical advice/attention.
Skin	Skin contact: Wash thoroughly with soap and water.
Inhaled	If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Advice to Doctor	Treat symptomatically. People with diabetes may need stabilisation.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	Combustible, product will burn in surrounding fire situation.
Extinguishing Media	Use water, dry chemical, Carbon dioxide or foam for extinction.
Fire and Explosion Hazard	Airborne sugar dust can explode under certain conditions.
Hazardous Products of Combustion	With heat, product burns/oxidises to form carbon, carbon monoxide and or carbon dioxide, and smoke.
Special Fire Fighting Instructions	No information available.
Personal Protective Equipment	Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.
Flash Point	No Data Available
Lower Explosion Limit	25 - 45 g/m ³
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	500 °C
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Remove sources of ignition. Increase ventilation. Do not touch or walk through spilled material.
Clean Up Procedures	Sweep up material avoiding dust generation; vacuum or dampen spilled material with water to avoid airborne dust, then transfer material to a suitable container.
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas.
Decontamination	Wash area with water ensuring all wash water is captured and discharged to an approved treatment facility.
Environmental Precautionary Measures	Notify relevant waste or environmental authority as required by the site's EPA licence, trade waste agreement and/or State legislation.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Use only in a well ventilated area. Keep containers sealed when not in use. Prevent the build up of dust in the work atmosphere. Avoid inhalation of dust and skin or eye contact. Establish good housekeeping practices. Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. Maintain high standards of personal hygiene.
Storage	This product should be stored in a cool, dry, well ventilated area, away from sources of ignition, oxidising agents and out of moisture. Keep containers closed when not in use. - Material can ferment if excessive moisture contamination is allowed. Fermentation can yield carbon dioxide with possible traces of ethanol or volatile fatty acids and if exposed to a spark or flame may result in an explosion.
Container	This product should be stored in its factory packaging.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m ³ (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m ³ (total); TWA = 3 mg/m ³ (respirable). - OSHA PEL (Particulates not otherwise regulated): TWA = 15 mg/m ³ (total); TWA = 5 mg/m ³ (respirable).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	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. Use explosion-proof electrical/ventilating/lighting equipment.
Personal Protection Equipment	Respiratory protection: An approved particulate respirator conforming to Australian Standards AS/NZS 1715 and AS/NZS 1716 should be worn when working with dusts. Respirators should be correctly fitted, maintained in good condition, and kept in clean storage when not in use. Eye/face protection: Ventilated non-fogging goggles, splash resistant should be worn if dust is generated. Eye protection devices should conform with Australian/New Zealand Standard AS/NZS 1337. Hand protection: Wear gloves of impervious material (such as PVC coated fabric). Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance. Skin/body protection: Direct skin contact should be avoided by wearing long sleeved shirts and long trousers, a cap or hat.
Special Hazards Precautions	If maintenance of a storage bin / vessel requires entry by personnel, confined space precautions should be complied with. Insufficient oxygen may be present in vessels containing the product due to the generation of gases during fermentation.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Work clothes should be washed regularly.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystals, lumps or powder
Odour	Sweet
Colour	White to dark brown
pH	No Data Available
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	Decomposes
Melting Point	160 - 186 °C
Freezing Point	No Data Available
Solubility	Soluble in water
Specific Gravity	1.59
Flash Point	No Data Available
Auto Ignition Temp	500 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No Data Available
Potential for Dust Explosion	Airborne sugar dust can explode under certain conditions of temperature and humidity and in the presence of an ignition source when the concentration exceeds 25 grams per cubic metre.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Combustible, product will burn in surrounding fire situation.
Reactions That Release Gases or Vapours	With heat, product burns/oxidises to form carbon, carbon monoxide and or carbon dioxide, and smoke. Fermentation can yield carbon dioxide with possible traces of ethanol or volatile fatty acids and if exposed to a spark or flame may result in an explosion.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Keep away from heat, flames and other ignition sources.
Materials to Avoid	Incompatible with oxidising agents.
Hazardous Decomposition Products	Carbon dioxide and carbon monoxide may form when heated to decomposition. Ethanol or volatile fatty acids if fermentation occurs.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	Information on possible routes of exposure: - Eye contact: Irritating to the eyes and may cause watering and redness. - Ingestion: No health effects under normal conditions of industrial use, but ingestion may destabilise people with diabetes. - Inhalation: Sugar dust may irritate the nose and throat. Repeated exposure to the powder and dust may result in increased nasal and respiratory secretions and coughing, but not irreversible health effects. - Skin contact: Skin contact may result in mild skin irritation. Repeated skin contact may cause dermatitis.
Acute	
Ingestion	Acute toxicity (Oral): - LD50, Rat: 29,700 mg/kg
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Non-toxic to aquatic and terrestrial organisms. Sucrose is an oxygen depleting substance in aquatic environments.
Persistence/Degradability	No information available.
Mobility	No information available.
Environmental Fate	Do not discharge product unmonitored into the environment.
Bioaccumulation Potential	No information available.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Product can be treated as a common waste for disposal to an organic recycler or into a landfill site/wastewater treatment plant in accordance with relevant authority guidelines. Recycle containers if possible or dispose of in an authorised landfill.
Special Precautions for Land Fill	Transportation of wet sugar waste may require Waste Transport Certification. Refer to your local Environment Protection Authority.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	Sugar
Class	No Data Available

Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	Sugar
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	Sugar
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	Sugar
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	Sugar
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available

Marine Pollutant No

Air Transport

IATA DGR

Proper Shipping Name Sugar
Class No Data Available
Subsidiary Risk(s) No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information No Data Available

Poisons Schedule (Aust) Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code Not Hazardous

National/Regional Inventories

Australia (AICS) Listed
Canada (DSL) Not Determined
Canada (NDSL) Not Determined
China (IECSC) Not Determined
Europe (EINECS) Not Determined
Europe (REACH) Not Determined
Japan (ENCS/METI) Not Determined
Korea (KECI) Not Determined
Malaysia (EHS Register) Not Determined
New Zealand (NZIoC) Listed
Philippines (PICCS) Not Determined
Switzerland (Giftliste 1) Not Determined

Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes

SUGARA1000, SUGARA1001, SUGARA2000, SUGARA3000, SUGBOT1000, SUGBOT2000, SUGBOT3000, SUGBOT3500, SUGBOT4000, SUGBRO1000, SUGBRO1001, SUGBRO1002, SUGBRO1003, SUGBRO1004, SUGBRO1005, SUGBRO1100, SUGBRO1900, SUGBRO1930, SUGBRO1960, SUGBRO1961, SUGBRO2000, SUGBRO3000, SUGBRO3500, SUGBRO3510, SUGBRO3600, SUGBRO3640, SUGBRO3645, SUGBRO3648, SUGBRO3650, SUGBRO3660, SUGBRO3670, SUGBRO4000, SUGBRO4500, SUGCAS1000, SUGCAS1001, SUGCAS1002, SUGCAS1003, SUGCAS1004, SUGCAS1005, SUGCAS1006, SUGCAS1007, SUGCAS1008, SUGCAS1009, SUGCAS1010, SUGCAS1018, SUGCAS1023, SUGCAS1100, SUGCAS2000, SUGCAS2001, SUGCAS2200, SUGCAS3000, SUGCAS3100, SUGCAS3200, SUGCAS3400, SUGCAS3450, SUGCAS3500, SUGCAS3510, SUGCAS3520, SUGCAS3530, SUGCAS3600, SUGCAS4000, SUGCAS5000, SUGCOF1000, SUGCOM1000, SUGCOM2000, SUGCOM2001, SUGCOM2002, SUGCON1000, SUGGRA1000, SUGICI1000, SUGICI1001, SUGICI1015, SUGICI1025, SUGICM1000, SUGICM1001, SUGICM1023, SUGICM2000, SUGICM4000, SUGICM4500, SUGMAN1000, SUGMAN1001, SUGMAN1002, SUGMAN1003, SUGMAN1004, SUGMAN1005, SUGMAN1006, SUGMAN1007, SUGMAN1008, SUGMAN1009, SUGMAN1010, SUGMAN1011, SUGMAN1012, SUGMAN1013, SUGMAN1014, SUGMAN1015, SUGMAN1016, SUGMAN1017, SUGMAN1018, SUGMAN1019, SUGMAN1020, SUGMAN1023, SUGMAN1024, SUGMAN1050, SUGMAN1060, SUGMAN1080, SUGMAN1100, SUGMAN1101, SUGMAN1200, SUGMAN1210, SUGMAN1300, SUGMAN1310, SUGMAN1400, SUGMAN1500, SUGMAN1600, SUGMAN1700, SUGMAN1820, SUGMAN1900, SUGMAN1920, SUGMAN2000, SUGMAN2001, SUGMAN2200, SUGMAN2300, SUGMAN2400, SUGMAN2500, SUGMAN2600, SUGMAN2700, SUGMAN2800, SUGMAN2900, SUGMAN3000, SUGMAN3100, SUGMAN3300, SUGMAN3301, SUGMAN3302, SUGMAN3400, SUGMAN3401, SUGMAN3402, SUGMAN3403, SUGMAN3405, SUGMAN3410, SUGMAN3415, SUGMAN3420, SUGMAN3500, SUGMAN3550, SUGMAN3555, SUGMAN3570, SUGMAN3575, SUGMAN3600, SUGMAN3605, SUGMAN3606, SUGMAN3650, SUGMAN3700, SUGMAN3720, SUGMAN4000, SUGMAN4001, SUGMAN4002, SUGMAN4200, SUGMAN4205, SUGMAN4220, SUGMAN4300, SUGMAN4301, SUGMAN4320, SUGMAN4400, SUGMAN4500, SUGMAN4600, SUGMAN4620, SUGMAN4700, SUGMAN4710, SUGMAN5000, SUGMAN5100, SUGMAN5110, SUGMAN5500, SUGMAN5700, SUGMAN6000, SUGMAN6001, SUGMAN6050, SUGMAN6060, SUGMAN6200, SUGMAN6500, SUGMAN7000, SUGMAN7001, SUGMAN8000, SUGORR2000, SUGORR2100, SUGORR2130, SUGORR2200, SUGORR6000, SUGORR6020, SUGRAW1000, SUGRAW1001, SUGRAW1002, SUGRAW1003, SUGRAW1004, SUGRAW1013, SUGRAW1023, SUGRAW1025, SUGRAW2000, SUGRAW3500, SUGRAW3600, SUGRAW4000, SUGRAW4010, SUGRAW4020, SUGRAW5000, SUGRAW5010, SUGSUC1000, SUGSUC1001

Revision

3

Revision Date

28 Nov 2017

Key/Legend

< Less Than

> Greater Than

AICS Australian Inventory of Chemical Substances

atm Atmosphere

CAS Chemical Abstracts Service (Registry Number)

cm² Square Centimetres

CO₂ Carbon Dioxide

COD Chemical Oxygen Demand

deg C (°C) Degrees Celcius

EPA (New Zealand) Environmental Protection Authority of New Zealand

deg F (°F) Degrees Farenheit

g Grams

g/cm³ Grams per Cubic Centimetre

g/l Grams per Litre

HSNO Hazardous Substance and New Organism

IDLH Immediately Dangerous to Life and Health

immiscible Liquids are insoluable in each other.

inHg Inch of Mercury

inH₂O Inch of Water

K Kelvin

kg Kilogram

kg/m³ Kilograms per Cubic Metre

lb Pound

LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.

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

ltr or **L** Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Health and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight