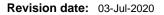
SAFETY DATA SHEET





Revision Number 1

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier		
Product Name	GLUCONO-DELTA-LACTONE	
Product Code(s)	00000053892	
Other means of identification		
CAS No.	90-80-2	
Recommended use of the chemical	and restrictions on use	
Recommended use	Industrial applications.	
Uses advised against	No information available.	
Details of the supplier of the safety	data sheet	
<u>Supplier</u> Ixom Operations Pty Ltd (Incorporated in Australia) NZBN: 9429041465226 Address: 166 Totara Street Mt Maunganui South New Zealand		
Telephone Number: +64 9 368 2700 Facimile: +64 9 368 2710		
For further information, please contact		
Contact Point	Product Safety Department	
Emergency telephone number		
Emergency Telephone	0 800 734 607 (ALL HOURS)	

2. HAZARDS IDENTIFICATION

Not classified as a Dangerous Good under NZS 5433:2012 Transport of Dangerous Goods on Land.

Based on available information, not classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017 and the Hazardous Substances (Classification) Notice 2017.

GHS Classification

Label elements

Hazard statements

Other hazards which do not result in classification

Dust can form an explosive mixture with air

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%
D-Gluconic acid, .deltalactone	90-80-2	99

4. FIRST AID MEASURES

Description of first aid measures

Emergency telephone number	Poisons Information Center, New Zealand: 0800 764 766 Poisons Information Center, Australia: 13 11 26
Inhalation	Remove to fresh air. Call a physician if symptoms occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation persists.
Skin contact	Wash skin with soap and water. Call a physician if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE FIGHTING MEASURES		
Suitable Extinguishing Media		
Suitable Extinguishing Media	Dry chemical, CO2, water spray or regular foam.	
Unsuitable extinguishing media	No information available.	
Specific hazards arising from the chemical		
Specific hazards arising from the chemical	Fine dust dispersed in air may ignite.	
Special protective actions for fire-fighters		
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.	

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Take precautionary measures against static discharges.

For emergency responders	Use personal protection recommended in Section 8.	
Environmental precautions		
Environmental precautions	See Section 12 for additional Ecological Information.	
Methods and material for containment and cleaning up		
Methods for containment	Prevent further leakage or spillage if safe to do so.	
Methods for cleaning up	Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust. Use only non-sparking tools.	
Precautions to prevent secondary hazards		
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.	

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid generation of dust. Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Remove all sources of ignition.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible materials	Strong oxidizing agents. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for particulate(s):

Particulates not otherwise classified: 8hr WES-TWA 10 mg/m³ (inhalable dust) or 3 mg/m³ (respirable dust)

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric

contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls

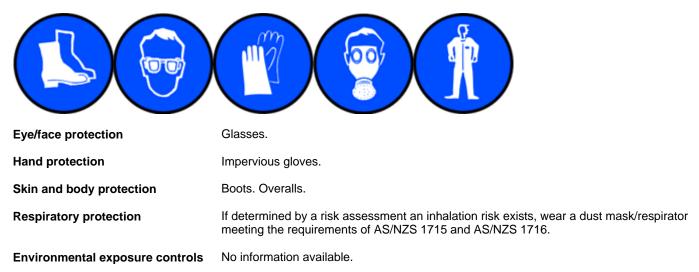
Engineering controls Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as personal protective equipment

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

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, DUST MASK.



9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	
Appearance	
Color	
Odor	
Odor threshold	

Property pH Melting point / freezing point Boiling point / boiling range Flash point Evaporation rate Flammability (solid, gas) Flammability Limit in Air Upper flammability or explosive limits Solid Powder White to Off-white Slight to Odourless No information available.

Values No data available 151-155°C No data available Not applicable No data available No data available

No data available

Remarks • Method

None known None known None known None known None known None known

Lower flammability or explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	1.3
Water solubility	Soluble in water
Solubility(ies)	No data available
Partition coefficient	No data available
Autoignition temperature	No data available
Decomposition temperature	153°C
Kinematic viscosity	No data available
Dynamic viscosity	No data available

None known None known

Other information

10. STABILITY AND REACTIVITY

Reactivity	
Reactivity	No information available.
Chemical stability	
Stability	Stable under normal conditions.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Possibility of hazardous reactions	
Hazardous polymerization	Hazardous polymerization does not occur.
Possibility of hazardous reactions	Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Conditions to avoid	
Conditions to avoid	Dust formation. Moisture. Heat, flames and sparks.
Incompatible materials	
Incompatible materials	Strong oxidizing agents. Strong bases.
Hazardous decomposition products	<u>8</u>

Hazardous decomposition products Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Information on likely routes of exposure

Product Information

No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

Inhalation	May cause irritation.
Eye contact	Dust contact with the eyes can lead to mechanical irritation.
Skin contact	Contact with dust can cause mechanical irritation or drying of the skin.
Ingestion	May cause gastrointestinal discomfort if consumed in large amounts.
Symptoms	No information available.

Acute toxicity

Numerical measures of toxicity

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
D-Gluconic acid, .deltalactone	= 7930 mg/kg (Rat)	-	-

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity	Keep out of waterways.
Persistence and degradability	
Persistence and degradability	No information available.
Bioaccumulative potential	
Bioaccumulation	No information available.

Mobility

Mobility in soil	No information available.		

Other adverse effects

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused	Dispose of in accordance with local regulations. Dispose of waste in accordance with
products	environmental legislation.

Contaminated packaging	No information available.
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14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT	Not classified as a Dangerous Good under NZS 5433:2012 Transport of Dangerous Goods on Land.
IATA_	Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.
IMDG	Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

New Zealand

National regulations	See section 8 for national exposure control parameters

International Inventories	
NZIoC	This material is listed on the New Zealand Inventory of Chemicals.
TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

Legend:

NZIOC - New Zealand Inventory of Chemicals

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

- EINECS/ELINCS European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- **ENCS** Japan Existing and New Chemical Substances
- **IECSC** China Inventory of Existing Chemical Substances
- KECL Korean Existing and Evaluated Chemical Substances
- PICCS Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. OTHER INFORMATION

Ixom Operations Pty Ltd Safety Data Sheet 01/2016

Prepared By	This Osfata Data Ohast has here an an and have been Ossartisms Division (Tavias) and		
	This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).		
Issuing Date:	03-Jul-2020		
Reason(s) For Issue:	First Issue Primary SDS		
Revision Note: The symbol (*) in the margin of this SDS indicates that this line has been revised. Key or legend to abbreviations and acronyms used in the safety data sheet Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)			
Ceiling Maximum limit val C Carcinogen	ue	*	Skin designation
C Carcinogen Key literature references and sources for data used to compile the SDS Agency for Toxic Substances and Disease Registry (ATSDR) U.S. Environmental Protection Agency ChemView Database European Food Safety Authority (EFSA) EPA (Environmental Protection Agency) Acute Exposure Guideline Level(s) (AEGL(s)) U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act U.S. Environmental Protection Agency High Production Volume Chemicals Food Research Journal Hazardous Substance Database International Uniform Chemical Information Database (IUCLID) Japan GHS Classification Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS) NIOSH (National Institute for Occupational Safety and Health) National Library of Medicine's ChemID Plus (NLM CIP) New Zealand's Chemical Classification and Information Database (CCID) Organization for Economic Co-operation and Development Environment, Health, and Safety Publications Organization for Economic Co-operation and Development Screening Information Data Set RTECS (Registry of Toxic Effects of Chemical Substances)			

World Health Organization

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since lxom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet