SAFETY DATA SHEET

SODIUM GLUCONATE

CAS No.: 527-07-1

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

SODIUM GLUCONATE
Sodium salt of gluconic acid; Sodium 2,3,4,5,6-pentahydroxy-hexanoate
CAS: 527-07-1

Other means of identification

EC No.: 208-407-7 | INCI Name: Sodium Gluconate | Food additive: E576

Recommended use of the chemical and restrictions on use

Relevant uses: Chelating/sequestering agent in food processing, cleaning formulations and detergents, electroplating and metal surface treatment, concrete admixtures (set retarder), water treatment. For industrial user only.

Uses advised against: All uses not specified in this section or in section 7.3.

Supplier's details

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS: This product has no classification under CLP/GHS based on available data. It is not identified as a PBT or vPvB substance.

GHS label elements, including precautionary statements

No hazard pictograms, signal word, hazard statements or precautionary statements are required for this product under GHS.

Other hazards which do not result in classification

Dust may cause mechanical irritation to eyes, skin and respiratory tract; this is not a classifying effect. This product is not identified as a PBT substance.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Sodium Gluconate

Identification	Chemical Name / Classification	Concentration
CAS: 527-07-1 EC: 208-407-7	Sodium Gluconate – Not classified	100%

To obtain more information on the hazards of the substance, consult sections 11, 12 and 16.

Mixtures

Non-applicable

4. FIRST AID MEASURES

Description of necessary first-aid measures

By inhalation
If adverse effects occur, remove to fresh air and get medical attention.

By skin contact
Wash thoroughly with soap and water.

By eye contact
Flush immediately with water or physiological saline for at least 15 minutes. Get prompt medical attention.

By ingestion
Get medical attention if adverse effects occur.

Most important symptoms/effects, acute and delayed

Skin: May cause irritation and redness for susceptible individuals. Eyes: May cause mild irritation; eyes may water profusely. Ingestion: May cause irritation if large amounts are swallowed – nausea, stomach pain, vomiting and diarrhoea may occur. Inhalation: May cause respiratory irritation in susceptible individuals – shortness of breath, sneezing and coughing. Long-term inhalation of excessive dust may cause delayed lung injury.

Indication of immediate medical attention and special treatment needed, if necessary

Eye wash stations should be available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Water, carbon dioxide, foam, dry chemical.
Unsuitable: None known.

Specific hazards arising from the chemical	In combustion, emits toxic fumes of carbon dioxide/carbon monoxide. Dust dispersed in air in sufficient concentration can be a dust explosion hazard.
Special protective actions for fire-fighters	Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Wear suitable protective clothing (see section 8). Do not create dust.
Environmental precautions	Do not discharge into drains or rivers.
Methods and materials for containment and cleaning up	Collect as much as possible for use or disposal in a properly labeled container. Flush remainder into normal drainage with copious amounts of water.
Reference to other sections	See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling	Wear suitable protective clothing. Ensure sufficient ventilation in the work area. Avoid generating dust.
Conditions for safe storage, including any incompatibilities	Store in a cool, well-ventilated area. Keep away from direct sunlight. Avoid contact with water and humidity. Suitable packaging: paper, plastic or poly-lined bags or drums.
Specific end use(s)	No special requirement beyond the uses specified in section 1.2.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Identification	Occupational Exposure Limit Type	Value
Sodium Gluconate CAS: 527-07-1	Respirable dust, 8-hour TWA (UK WEL reference)	4 mg/m³
	Respirable dust, 8-hour TWA (US OSHA reference)	5 mg/m³

No exposure levels are established specifically for this product in India; total inhalable dust (8-hour TWA) of 15 mg/m³ is a commonly referenced general nuisance-dust benchmark.

Appropriate engineering controls

Provide sufficient ventilation of the work area to keep airborne dust concentrations low.

B. Respiratory protection
Respirator with particle filter if dust levels are excessive.

C. Specific protection for the hands
Protective gloves.

D. Eye and face protection
Safety goggles; provide eye wash stations.

E. Bodily protection
Protective clothing; provide safety shower.

Environmental exposure controls
No special requirement under normal use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Granular powder
Color	White to tan
Odor	Odorless
Volatility	
Boiling point	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Vapour pressure at 25°C	7.23 x 10^{-18} mmHg (1 x 10^{-18} kPa)
Vapour density	Unknown
Product Description	
Relative density	945 kg/m³ (granular grade); 705 kg/m³ (powder grade)
pH	6.8 – 7.2 (10% aqueous solution)
Solubility in water at 25°C	Highly soluble, 5.9 x 10^{5} mg/L
Melting point/range	192 – 202°C
Decomposition temperature	> 210°C
Flammability	
Flammability (solid)	Not applicable
Auto-ignition temperature	Not applicable
Upper / Lower flammability limit	Not applicable
Other	
Viscosity	Not applicable
Molecular weight	218.13 g/mol

Other information

Oxidising properties	Non-oxidising
Explosive properties	Not applicable

10. STABILITY AND REACTIVITY

Reactivity
Stable under recommended transport and storage conditions.

Chemical stability
Stable under normal conditions.

Possibility of hazardous reactions
Hazardous reactions are not expected to occur under normal conditions.

Conditions to avoid

Direct Sunlight	Moist Air	Humidity
Avoid prolonged exposure	Avoid	Avoid contact

Incompatible materials
Strong oxidizers.

Hazardous decomposition products
In combustion, emits toxic fumes of carbon dioxide/carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

A. Ingestion (acute effect)
May cause irritation if large amounts are swallowed. Nausea and stomach pain may occur, with possible vomiting and diarrhoea.

B. Inhalation (acute effect)
May cause respiratory irritation in susceptible individuals; shortness of breath, sneezing and coughing.

C. Contact with skin and eyes (acute effect)
Skin: may cause irritation and redness for susceptible individuals. Eyes: may cause mild irritation; eyes may water profusely.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)
Carcinogenicity, mutagenicity, teratogenicity and reproductive toxicity: Not applicable/no data indicating a hazard.

E. Delayed/chronic effects
Long-term inhalation of excessive dust may cause delayed lung injury.

Product-specific toxicological information

Identification	Acute Toxicity	Species
Sodium Gluconate CAS: 527-07-1	LD50 oral: > 2000 mg/kg	Rat
	LD50 intravenous: 7630 mg/kg	Rabbit

12. ECOLOGICAL INFORMATION

Toxicity

Species	Test	Value
Fish	96h LC50	> 1000.0 mg/L
Daphnid	48h LC50	> 1000.0 mg/L
Green Algae	96h EC50	> 1000.0 mg/L
Fish	Chronic Value	> 100.0 mg/L
Daphnid	Chronic Value	> 100.0 mg/L
Algae	Chronic Value	> 100.0 mg/L
Bacteria	EC50	> 5000.0 mg/L

Persistence and degradability
Readily and rapidly biodegradable.

Bioaccumulative potential
Does not bioaccumulate.

Mobility in soil
Soluble in water; mobile.

Results of PBT and vPvB assessment
Not identified as a PBT substance.

Other adverse effects
Not expected to cause significant environmental impact.

13. DISPOSAL CONSIDERATIONS

Disposal methods
In accordance with applicable regulations; dilute residues can normally be flushed into normal drainage/sewers where locally permitted. Contaminated containers must not be treated as household waste – recycle via a licensed contractor where practical.

Refer to national and local regulations on waste management.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023)

14.1 UN number	Not assigned – not dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Non-applicable
14.4 Packing group	Non-applicable
14.5 Environmental hazard	No
14.6 Special precautions for user	None; physico-chemical properties see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG)

14.1 UN number	Not assigned – not dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Non-applicable
14.4 Packing group	Non-applicable
14.5 Marine pollutant	No
14.6 Special precautions for user	None
14.7 Transport in bulk	Not relevant

Transport of dangerous goods by air (IATA/ICAO)

14.1 UN number	Not assigned – not dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Non-applicable
14.4 Packing group	Non-applicable
14.5 Environmental hazard	No
14.6 Special precautions for user	None
14.7 Transport in bulk	Not relevant

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

Sodium gluconate is permitted for use as a food additive (E576) under applicable Indian (FSSAI) and international (Codex Alimentarius) food regulations, subject to the specific product grade and application. Consult Suraj Chemicals for grade-specific documentation.

Other legislation

The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 – Non-applicable (not classified as hazardous)

16. OTHER INFORMATION

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3

Not applicable – this product is not classified as hazardous under GHS.

Advice related to training

Minimal training is recommended to prevent industrial risks for staff using this product, to facilitate comprehension of this safety data sheet and the product label.

Principal bibliographical sources

Manufacturer's Safety Data Sheet (REACH Regulation (EC) No 1907/2006 – No 453/2010 format); publicly documented GHS classification data for CAS 527-07-1.

Abbreviations and acronyms

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals | CLP: Classification, Labelling and Packaging Regulation | PBT: Persistent, Bioaccumulative and Toxic | vPvB: very Persistent, very Bioaccumulative | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50

Disclaimer: The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

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