Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2020
1.5	10/25/2021	100000000042	Date of first issue: 06/07/2016
US / EN			

SECTION 1. IDENTIFICATION

Product name	:	Sodium Gluconate
Substance name	:	Sodium gluconate
Molecular formula	:	C6-H11-O7-Na
Chemical identity	:	Sodium pentahydroxy capronate
CAS-No.	:	527-07-1
Chemical nature	:	Solid

Manufacturer or supplier's details

Details of the supplier of the safety data sheet

Company	:	Jungbunzlauer Inc. 95 Wells Avenue, Suite 150 Newton, Massachusetts 02459 USA www.jungbunzlauer.com
Telephone	:	+1 617 969-0900
Telefax	:	+1 617 964-2921
E-mail address Responsible/issuing person	:	msds@jungbunzlauer.com

Emergency telephone number

National Chemical Emergency Centre (NCEC)
+1 202 464 2554

Recommended use of the chemical and restrictions on use

Recommended use	:	Food additive Feed additive Cosmetic additive Industrial use Pharmaceutical raw material
Restrictions on use	:	None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Combustible dust

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS).

GHS label elements

No labeling elements required.

Signal word : Warning

Hazard statements : May form combustible dust concentrations in air.

Hazards Not Otherwise Classified

May form combustible dust concentrations in air (during processing).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	:	Pure substance
Chemical nature	:	Solid
Substance name	:	Sodium gluconate
CAS-No.	:	527-07-1

SECTION 4. FIRST AID MEASURES

General advice : If you feel unwell, seek medical advice (show the label where possible).
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If breathed in, move person into fresh air.

If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : Immediately flush skin with large amounts of water.

In case of eye contact : Flush eyes with water as a precaution.

Remove contact lenses.
Protect unharmed eye.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.

Drink water as a precaution.
Do NOT induce vomiting.

Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed	:	No information available. None known.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water Water spray Dry chemical Foam Carbon dioxide (CO2)
Specific hazards during fire-fighting	:	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Do not use a solid water stream as it may scatter and spread fire. Hazardous decomposition products formed under fire conditions.
Hazardous combustion products	:	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
Further information	:	In the event of fire and/or explosion do not breathe fumes. Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for firefighters	:	Use personal protective equipment. Wear fire resistant or flame retardant clothing. Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Avoid breathing dust. Ensure adequate ventilation, especially in confined areas. Avoid dust formation.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. No special environmental precautions required. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Non-sparking tools should be used.
After cleaning, flush away traces with water.
Clean contaminated surface thoroughly.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection. Provide appropriate exhaust ventilation at places where dust is formed.
Advice on safe handling	:	Avoid creating dust. Risk of dust explosion. Do not breathe dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Conditions for safe storage	:	Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Take measures to prevent the build up of electrostatic charge. Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	No materials to be especially mentioned.
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Provide adequate ventilation.

Personal protective equipment

Respiratory protection	:	In the case of dust or aerosol formation use respirator with an approved filter. Use NIOSH approved respiratory protection. General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn.

Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection
Material : Rubber or plastic gloves
Break through time : < 480 min

Remarks : For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work.

Eye protection : Safety glasses

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Protective suit

Hygiene measures : Do not breathe dust.
Avoid contact with skin, eyes and clothing.
Handle in accordance with good industrial hygiene and safety practice.
Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	granular, Crystalline powder
Colour	:	white, off-white
Odour	:	slight, none
Odour Threshold	:	Not relevant
pH	:	6.5 - 7.5 Concentration: 10 % (as aqueous solution)
Melting point/range	:	Decomposes before melting.
	:	No data available
Flash point	:	Not applicable

Evaporation rate	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Bulk density	:	600 - 1,000 kg/m3
Solubility(ies)		
Water solubility	:	ca. 590 g/l (77 °F / 25 °C)
Solubility in other solvents	:	(68 °F / 20 °C) slightly soluble Solvent: Alcohol Description: slightly soluble
Partition coefficient: n-octanol/water	:	log Pow: -5.99
Auto-ignition temperature	:	> 1022 °F / > 550 °C
Decomposition temperature	:	338 - 428 °F / 170 - 220 °C
Viscosity		
Viscosity, dynamic	:	Not applicable
Explosive properties	:	Dust can form an explosive mixture in air.
Oxidizing properties	:	Not applicable
Molecular weight	:	218.14 g/mol
Dust explosion class	:	St1
Particle size	:	ca. 0.15 - 1.18 mm

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under normal conditions. No decomposition if stored and applied as directed.
Possibility of hazardous reac-	:	Stable under recommended storage conditions.

tions		No hazards to be specially mentioned. Dust may form explosive mixture in air.
Conditions to avoid	:	Avoid dust formation.
Incompatible materials	:	Oxidizing agents Not applicable
Hazardous decomposition products	:	No decomposition if stored normally. Thermal decomposition can lead to release of irritating gases and vapours. Build-up of dangerous/toxic fumes possible in cases of fire/high temperature. Carbon dioxide (CO2) Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Components:

Sodium gluconate:

Acute oral toxicity	:	LDLo (Rat, male and female): > 2,000 mg/kg Test substance: Sodium gluconate Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available
Acute toxicity (other routes of administration)	:	LD0 (Rabbit): ca. 7,630 mg/kg Application Route: i.v. Test substance: Sodium gluconate

Skin corrosion/irritation

Not classified based on available information.

Components:

Sodium gluconate:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes
Test substance	:	Gluconic Acid

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Sodium gluconate:

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
GLP	:	yes
Test substance	:	Gluconic Acid

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Sodium gluconate:

Remarks	:	No data available

Germ cell mutagenicity

Not classified based on available information.

Components:

Sodium gluconate:

Genotoxicity in vitro	:	Test system: Saccharomyces cerevisiae Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test substance: Sodium gluconate
Genotoxicity in vivo	:	Species: Mouse Exposure time: 4d Result: negative
Germ cell mutagenicity - Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Not classified based on available information.

Components:

Sodium gluconate:

Carcinogenicity - Assessment	:	Did not show carcinogenic or teratogenic effects in animal experiments.

IARC No component of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Components:

Sodium gluconate:

Reproductive toxicity - Assessment	:	No toxicity to reproduction

STOT - single exposure

Not classified based on available information.

Components:

Sodium gluconate:

Remarks	:	No data available

STOT - repeated exposure

Not classified based on available information.

Components:

Sodium gluconate:

Remarks	:	No data available

Repeated dose toxicity

Components:

Sodium gluconate:

Species	:	Rat, female
NOAEL	:	2,000 mg/kg
Application Route	:	oral (gavage)
Exposure time	:	28d
Test substance	:	Sodium gluconate
Assessment	:	No adverse effects

Species	:	Rat, male
NOAEL	:	1,000 mg/kg
Application Route	:	oral (gavage)
Exposure time	:	28d
Test substance	:	Sodium gluconate
Assessment	:	No adverse effects

Aspiration toxicity

Not classified based on available information.

Components:

Sodium gluconate:

No data available

Experience with human exposure

Product:

Inhalation	:	Target Organs: Respiratory system Symptoms: No information available.
Skin contact	:	Target Organs: Skin Symptoms: No information available.
Eye contact	:	Target Organs: Eyes Symptoms: No information available.
Ingestion	:	Target Organs: Digestive organs Symptoms: No information available.

Further information

Product:

Remarks	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Sodium gluconate:

Toxicity to fish	:	LC50 (Oryzias latipes (Orange-red killifish)): > 100 mg/l Exposure time: 96 h Test Type: semi-static test Test substance: Sodium gluconate Method: OECD Test Guideline 203 Remarks: No toxicity at the limit of solubility
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h Test Type: static test Test substance: Sodium gluconate Method: OECD Test Guideline 202 GLP: yes Remarks: No toxicity at the limit of solubility
Toxicity to algae/aquatic plants	:	EC0 (Desmodesmus subspicatus (green algae)): < 100 mg/l Exposure time: 72 h Test Type: static test

Test substance: Sodium gluconate
Method: OECD Test Guideline 201
Remarks: No toxicity at the limit of solubility

Toxicity to microorganisms : (Pseudomonas putida): Exposure time: 16 h
Test substance: Sodium gluconate
Method: DIN 38 412 Part 8
Remarks: Not classified due to data which are conclusive although insufficient for classification.

Persistence and degradability

Components:

Sodium gluconate:

Biodegradability : Closed Bottle test
Exposure time: 28 d
Kinetic:
: 89 %
Method: OECD Test Guideline 301D
Test substance: Sodium gluconate
Remarks: Readily biodegradable.

anaerobic
Result: Totally biodegradable
Exposure time: 35 d
Kinetic:
: 100 %
Method: OECD Test Guideline 311
Test substance: Sodium gluconate
Remarks: Readily biodegradable.

Biochemical Oxygen Demand (BOD) : 507 mg/g

Chemical Oxygen Demand (COD) : 807 mg/g

Bioaccumulative potential

Components:

Sodium gluconate:

Bioaccumulation : Remarks: The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

Partition coefficient: n-octanol/water : log Pow: -5.99
Remarks: Calculation

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	No data available

Components:

Sodium gluconate:

Results of PBT and vPvB assessment	:	This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
Endocrine disrupting potential	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Additional ecological information	:	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Where possible recycling is preferred to disposal or incineration. Can be landfilled or incinerated, when in compliance with local regulations.
Contaminated packaging	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Components	CAS-No.	Component TPQ (lbs)

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Fire Hazard
Combustible dust

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Sodium gluconate Not Assigned

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
REACH	:	This substance is exempt from registration according to Regulation (EC) No. 1907/2006 (REACH).
NZIoC	:	On the inventory, or in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Har-

monized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Items where relevant changes have been made to the previous version are highlighted in the body of this document by two vertical lines, red letters and grey shading.

Revision Date : 10/25/2021

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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