Version: 03.2022

Material safety data sheet

According to EU Regulation 1907/2006 in the current version

GLUCONO-DELTA-LACTONE

1. Identification of the substance/mixture and company

Trade name:	Glucono-delta-Lactone
I.N.C.I.	Gluconolactone
CAS No. :	90-80-2
EC No.:	90-80-2
REACH pre-registration No.	01-2119451153-49-0000
Utilization:	Cosmetic ingredient
Supplier company identification:	Elemental SRL, Piața Cazărmii no.15, 410188-Oradea, jud.Bihor, Romania Tel/Fax: +40259-436.755, www.ellemental.com
Emergency:	RO: număr național pentru cazuri de urgență: 021 3183606 Institutul de Sănătate Publică București. International emergency number: +49 180 2273-112

2. Hazards Identification

2.1 Classification of the substance or mixture
Classification (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements
Labelling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards
This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

3. Declaration of ingredients

3.1. Substances
Non-hazardous ingredients : Glucono-delta-lactone
Concentration 100%

3.2. Mixtures
Non concerned

4. First aid measures

4.1 Description of first aid measures
General advice:
Get medical advice/ attention if you feel unwell.
Show this safety data sheet to the doctor in attendance.
If inhaled:
If breathed in, move person into fresh air.
In case of skin contact:
Wash off with soap and water.
In case of eye contact:
If easy to do, remove contact lens, if worn.

Immediately flush eye(s) with plenty of water.
If swallowed:
Clean mouth with water and drink afterwards plenty of water.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms:
No information available.
Risks:
None known.

4.3 Indication of any immediate medical attention and special treatment needed
Treatment:
Treat symptomatically.

5. Fire fighting measures

5.1 Extinguishing media
Suitable extinguishing media:
Water
Water spray
Dry chemical
Foam
Carbon dioxide (CO_2)
Unsuitable extinguishing media:
High volume water jet

5.2 Special hazards arising from the substance or mixture
Specific hazards during fire-fighting:
Do not use a solid water stream as it may scatter and spread fire.
Hazardous decomposition products formed under fire conditions.

5.3 Advice for firefighters
Special protective equipment for firefighters:
In the event of fire, wear self-contained breathing apparatus. Wear fire resistant or flame retardant clothing.
Further information:
Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local cir-cumstances and the surrounding environment.
In the event of fire and/or explosion do not breathe fumes.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Personal precautions:
Avoid dust formation.
Avoid breathing dust.
Ensure adequate ventilation, especially in confined areas.
Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions
Environmental precautions:
Prevent further leakage or spillage if safe to do so.

6.3 Methods and material for containment and cleaning up
Methods for cleaning up:
Use mechanical handling equipment.
Keep in suitable, closed containers for disposal.
Clean contaminated surface thoroughly.

6.4 Reference to other sections
For personal protection see section 8.
For disposal considerations see section 13.

7. Handling and storage

7.1 Precautions for safe handling
Advice on safe handling:
For personal protection see section 8.
Avoid creating dust.
Do not breathe dust.
Avoid contact with skin and eyes.

Advice on protection against fire and explosion:
Normal measures for preventive fire protection.
Hygiene measures:
Handle in accordance with good industrial hygiene and safety practice.
General industrial hygiene practice.
Do not breathe dust.
Avoid contact with skin, eyes and clothing.
Dust explosion class:St1

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers:
Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep in an area equipped with acid resistant flooring.
Store in original container.
Further information on stor-age conditions:
Do not store at temperatures above 30 °C / 86 °F.
Advice on common storage:
Never allow product to get in contact with water during stor-age.
Other data:
No decomposition if stored and applied as directed.

7.3 Specific end use(s)
Specific use(s): none

8. Exposure controls / personal protection

8.1 Control parameters
Contains no substances with national occupational exposure limit values.

8.2 Exposure controls
Engineering measures
Provide adequate ventilation.
Personal protective equipment
Eye protection: Safety glasses
Hand protection
Material:
Rubber gloves
Break through time: > 480 min
Skin and body protection: Lightweight protective clothing
Choose body protection according to the amount and concen-tration of the dangerous substance at the work place.
Respiratory protection: In the case of dust or aerosol formation use respirator with an approved filter.
Half mask with a particle filter P2 (EN 143)

9. Physical and chemical properties

9.1 Information on physical and chemical properties
Appearance: Crystalline powder
Colour: white
Odour: slight, none
Odour Threshold: Not relevant
pH: ca. 2,6, 1 % Method: 2h (as aqueous solution)
Melting point/range: 153 - 155 °C
Decomposition Boiling point/boiling range: 153 - 155 °C
Flash point: Not applicable
Evaporation rate: Not applicable
Flammability (solid, gas): not auto-flammable
Upper explosion limit: No data available
Lower explosion limit: No data available
Vapour pressure: < 0,00001 hPa (25 °C)
Vapour density: Not applicable
Relative density: 1.720 (20 °C)
Density: 1.720 g/cm3 (20 °C)
Bulk density: 600 - 1.000 kg/m3
Water solubility: ca. 587 g/l soluble (20 °C)
Partition coefficient: n-octanol/water: log Pow: = -1,98 Calculation
Auto-ignition temperature: > 200 °C
Ignition temperature: No data available
Thermal decomposition: > 150 °C
Viscosity, dynamic: Not applicable
Explosive properties: No data available

9.2 Other information

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Molecular weight: 178,15 g/mol

10. Stability and reactivity

10.1 Reactivity
No decomposition if stored and applied as directed.

10.2 Chemical stability
Stable under normal conditions.
10.3 Possibility of hazardous reactions
Hazardous reactions:
None known.

10.4 Conditions to avoid
Conditions to avoid:
Protect from moisture.

10.5 Incompatible materials
Materials to avoid:
Oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products:
No decomposition if stored normally.
Thermal decomposition can lead to release of irritating gases and vapours.

11. Toxicological information

11.1 Information on toxicological effects
Acute toxicity
Acute oral toxicity:
LD50 Rat, male and female: 6.060 mg/kg
Method: OECD Test Guideline 401
Test substance: Potassium Gluconate
Acute dermal toxicity:
LD50 Rat, male and female: > 2.000 mg/kg
Method: OECD Test Guideline 402
Test substance: Gluconic Acid
GLP: yes
Skin corrosion/irritation:
Species: Rabbit
Result: No skin irritation
Method: OECD Test Guideline 404
GLP: yes
Test substance:Gluconic Acid
Serious eye damage/eye irritation:
Species: Rabbit
Result: No eye irritation

Method: OECD Test Guideline 405
GLP: yes
Test substance: Gluconic Acid
Respiratory or skin sensitisation:
Species: Mouse
Result: Did not cause sensitisation on laboratory animals.
Method: OECD Test Guideline 429
GLP: yes
Test substance: Gluconic Acid
Germ cell mutagenicity
Germ cell mutagenicity- Assessment:
Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Carcinogenicity
Carcinogenicity - Assessment:
Did not show carcinogenic or teratogenic effects in animal experiments.
Reproductive toxicity
Reproductive toxicity - Assessment:
No toxicity to reproduction
STOT - single exposure No data available
STOT - repeated exposure No data available
Repeated dose toxicity:
Rat: LOAEL: 250 mg/kg
Application Route: Oral
Method: OECD Test Guideline 408
Aspiration hazard
No data

12. Ecological information

12.1 Toxicity
Toxicity to fish:
NOEC (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
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
LC50 (Fish): 360 mg/l
Exposure time: 48 h
Test substance: Glucono-delta-lactone
Method: OECD Test Guideline 203
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
Toxicity to algae:
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
Toxicity to bacteria:
NOEC : 100 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition of activated sludge
Test substance: Glucono-delta-lactone
Method: OECD Test Guideline 209
EC50 : 649,8 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition of activated sludge
Test substance: Glucono-delta-lactone
Method: OECD Test Guideline 209

12.2 Persistence and degradability
Biodegradability:
Test Type: Zahn-Wellens Test
Inoculum: activated sludge
Result: Inherently biodegradable
Exposure time: 3 d
Kinetic: 98,3 %
Method: OECD Test Guideline 302
Test substance: Sodium gluconate
Test Type: aerobic
Result: Readily biodegradable.
Exposure time: 28 d
Kinetic: 89 %
Method: OECD Test Guideline 301D
Test substance: Sodium gluconate
Test Type: anaerobic
Result: 100% anaerobically biodegradable
Exposure time: 35 d
Kinetic: 100 %
Method: OECD Test Guideline 311
Test substance: Sodium gluconate
Biochemical Oxygen De-mand (BOD):
Biochemical oxygen demand within 5 days 698 mg/g
Chemical Oxygen Demand (COD): 987 mg/g

12.3 Bioaccumulative potential
Bioaccumulation:
The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.
Partition coefficient:
log Pow: = -1,98 octanol/water
Calculation

12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
Assessment:
This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

12.6 Other adverse effects
Additional ecological information:
Contains no substances known to be hazardous to the envi-ronment or not degradable in waste water treatment plants.

13. Disposal considerations

13.1 Waste treatment methods
Product:
Where possible recycling is preferred to disposal or incinera-tion.
Can be landfilled, when in compliance with local regulations.
Waste codes should be assigned by the user based on the application for which the product was used.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Contaminated packaging:
Empty containers should be taken to an approved waste han-dling site for recycling or disposal.
Dispose of as unused product.

14. Transport information

14.1 UN number
ADR:Not dangerous goods
RID:Not dangerous goods
IMDG:Not dangerous goods
IATA:Not dangerous goods

14.2 Proper shipping name
ADR:Not dangerous goods
RID:Not dangerous goods
IMDG:Not dangerous goods
IATA:Not dangerous goods

14.3 Transport hazard class
ADR:Not dangerous goods
RID:Not dangerous goods
IMDG:Not dangerous goods

IATA:Not dangerous goods

14.4 Packing group
ADR:Not dangerous goods
RID:Not dangerous goods
IMDG:Not dangerous goods
IATA:Not dangerous goods

14.5
ADR:Not dangerous goods
RID:Not dangerous goods
IMDG:Not dangerous goods
IATA:Not dangerous goods

14.6
Special precautions for user
Remarks: Not classified as dangerous in the meaning of transport regu-lations.

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

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major accident hazards involving dangerous substances. Not applicable
The components of this product are reported in the following inventories:
EINECS:On the inventory, or in compliance with the inventory
TSCA:On TSCA Inventory
AICS:On the inventory, or in compliance with the inventory
DSL:All components of this product are on the Canadian DSL
NZIoC:On the inventory, or in compliance with the inventory
KECI:On the inventory, or in compliance with the inventory
ENCS: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:Notification number: 01-2119451153-49

15.2 Chemical safety assessment
A Chemical Safety Assessment has been carried out for this substance

16. Additional information

Abbreviations and acronyms:
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CLP: Classification, Labeling, Packaging.
DNEL: Derived No Effect Level.

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EINECS: European Inventory of Existing Commercial Chemical Substances.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
LTE: Long-term exposure.
PNEC: Predicted No Effect Concentration.
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE: Short-term exposure.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.

Disclaimer:

This material safety data sheet does not constitute a guarantee of the properties of the product and is not a contractual legal report. The information is given in good faith on the basis of our best knowledge of the product at the indicated time. However, we cannot accept responsibility or liability for any consequences arising from its use, no warranty for correctness and completeness is given. We caution the users against the incurred possible risks when the product is used at other ends than the use for which it was initially planned. It is the user's responsibility during handling, storage and product use to consult the main regulatory texts in force regarding workers and environment protection.