

SAFETY DATA SHEET

Gluconic Acid 50%

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Issued: 10/11/2020
Revision No: 1

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier:

Product name: GLUCONIC ACID 50% SOLUTION

Synonyms; trade names: GLUCONIC ACID 50% SOL FG

Relevant identified uses of the substance or mixture and uses advised against:

Identified uses: Industrial application Cosmetics Food industry

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Classification (EC 1272/2008):

Physical hazards: Not Classified

Health hazards: Not Classified

Environmental hazards: Not Classified

Label elements:

Hazard statements: NC Not Classified

Other hazards: This product does not contain any substances classified as PBT or vPvB.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures:

GLUCONIC ACID: $\geq 50 - \leq 52\%$

CAS number: 526-95-4

EC number: 208-401-4

REACH registration number: 01-2119454394-36-XXXX

Classification: Not Classified

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WATER: $\geq 48 - < 50\%$
CAS number: 7732-18-5
EC number: 231-791-2
Classification: Not Classified

The full text for all hazard statements is displayed in Section 16.

Composition comments: The data shown are in accordance with the latest EC Directives.

4. FIRST AID MEASURES

Description of first aid measures:

General information: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Inhalation: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.

Ingestion: Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention if any discomfort continues.

Skin contact: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Get medical attention if any discomfort continues.

Eye contact: Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Most important symptoms and effects, both acute and delayed:

Eye contact: May cause temporary eye irritation.

Indication of any immediate medical attention and special treatment needed:

Notes for the doctor: No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture:

Specific hazards: Hazardous decomposition products will be formed at elevated temperatures. When heated and in case of fire, toxic vapours/gases may be formed.

Hazardous combustion products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon.

Advice for firefighters:

Protective actions during firefighting: Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Contain and collect extinguishing water.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal precautions: Provide adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Avoid contact with skin and eyes. Avoid inhalation of vapours and spray/mists.

Environmental precautions: Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

Methods and material for containment and cleaning up:

Methods for cleaning up: Stop leak if safe to do so. Neutralise spilled material with crushed limestone, slaked lime (calcium hydroxide), soda ash (sodium carbonate) or sodium bicarbonate. Absorb spillage with inert, damp, non-combustible material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water.

Reference to other sections: For personal protection, see Section 8. For waste disposal, see Section 13.

7. HANDLING AND STORAGE

Precautions for safe handling:

Usage precautions: Avoid inhalation of vapours and spray/mists. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Provide adequate ventilation. Avoid contact with skin and eyes.

Advice on general occupational hygiene: Observe good chemical hygiene practices. Avoid inhalation of vapours and spray/mists. Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities:

Storage precautions: Store in tightly closed, original container in a dry, cool and well-ventilated place. Store at temperatures between 15°C and 25°C.

Specific end use(s): The identified uses for this product are detailed in Section 1.2.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Ingredient comments: No exposure limits known for ingredient(s).

Exposure controls:

Protective equipment:



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- Appropriate engineering controls:** Provide adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure.
- Eye/face protection:** Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.
- Hand protection:** The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The selected gloves should have a breakthrough time of at least 8 hours. Rubber (natural, latex). To protect hands from chemicals, gloves should comply with European Standard EN374.
- Other skin and body protection:** Wear appropriate clothing to prevent skin contamination.
- Hygiene measures:** When using do not eat, drink or smoke. Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas. Eye wash facilities and emergency shower must be available when handling this product.
- Respiratory protection:** Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. If ventilation is inadequate, suitable respiratory protection must be worn. EN 136/140/141/145/143/149.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

- Appearance:** Liquid.
- Colour:** Light (or pale). Yellow. to Yellow. to Light brown.
- Odour:** Characteristic.
- Odour threshold:** No information available.
- pH:** pH (concentrated solution): ~ 1.8
- Melting point:** 8 - 12°C
- Initial boiling point and range:** ~102°C
- Flash point:** No information available.
- Evaporation rate:** No information available.
- Evaporation factor:** No information available.
- Flammability (solid, gas):** No information available.
- Upper/lower flammability or explosive limits:** No information available.
- Other flammability:** No information available.
- Vapour pressure:** No information available.
- Vapour density:** No information available.
- Relative density:** 1.23 - 1.25 @ 20°C
- Bulk density:** No information available.
- Solubility(ies):** Miscible with water.
- Partition coefficient:** No information available.
- Auto-ignition temperature:** No information available.
- Decomposition Temperature:** No information available.
- Viscosity:** 10 mPa s @ 20°C

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Explosive properties: Not considered to be explosive.
Explosive under the influence of a flame: No information available.
Oxidising properties: Does not meet the criteria for classification as oxidising.

Other information:

Refractive index: No information available.
Particle size: No information available.
Molecular weight: 196.16
Volatility: No information available.
Saturation concentration: No information available.
Critical temperature: No information available.
Volatile organic compound: No information available.

10. STABILITY AND REACTIVITY

Reactivity: There are no known reactivity hazards associated with this product.

Chemical stability:

Stability: Stable at normal ambient temperatures and when used as recommended.

Possibility of hazardous reactions: Not determined.

Conditions to avoid: Store at temperatures above 15°C.

Incompatible materials:

Materials to avoid: Strong oxidising agents. Strong alkalis.

Hazardous decomposition products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Acute toxicity – oral:

Notes (oral LD₅₀): No information available.

Acute toxicity – dermal:

Notes (dermal LD₅₀): No information available.

Acute toxicity – inhalation:

Notes (inhalation LC₅₀): No information available.

Skin corrosion/irritation:

Animal data: No information available.

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Serious eye damage/irritation:

Serious eye damage/irritation: No information available.

Respiratory sensitisation:

Respiratory sensitisation: No information available.

Skin sensitisation:

Skin sensitisation: No information available.

Germ cell mutagenicity:

Genotoxicity - in vitro: No information available.

Carcinogenicity:

Carcinogenicity: No information available.

Reproductive toxicity:

Reproductive toxicity – fertility: No information available.

Specific target organ toxicity - single exposure:

STOT - single exposure: No information available.

Specific target organ toxicity - repeated exposure:

STOT - repeated exposure: No information available.

Aspiration hazard:

Aspiration hazard: No information available.

Inhalation:

Gas or vapour in high concentrations may irritate the respiratory system.

Ingestion:

May cause discomfort if swallowed.

Skin contact:

Liquid may irritate skin.

Eye contact:

May cause temporary eye irritation.

Toxicological information on ingredients.

GLUCONIC ACID:

Acute toxicity – oral:

Acute toxicity oral (LD₅₀mg/kg): 6,060.0

Species: Rabbit

Notes (oral LD₅₀): OECD 401

ATE oral (mg/kg): 6,060.0

Acute toxicity – dermal:

Notes (dermal LD₅₀): LD₅₀ > 2000 mg/kg, Dermal, Rat OECD 402

Skin corrosion/irritation:

Skin corrosion/irritation: Not irritating.

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Serious eye damage/irritation:

Serious eye damage/irritation: Not irritating.

Respiratory sensitisation:

Respiratory sensitisation: Not sensitising. OECD 429

Specific target organ toxicity - repeated exposure:

STOT - repeated exposure: LOAEL 250 mg/kg, Oral, Rat OECD 408

Inhalation: May cause respiratory system irritation.

Ingestion: Gastrointestinal symptoms, including upset stomach.

Skin contact: May be slightly irritating to skin.

Eye contact: May cause temporary eye irritation.

12. ECOLOGICAL INFORMATION

Ecotoxicity: The product is not expected to be hazardous to the environment. However, large or frequent spills may have hazardous effects on the environment.

Ecological information on ingredients:

GLUCONIC ACID:

Ecotoxicity: The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

Toxicity:

Toxicity: Not considered toxic to fish.

Ecological information on ingredients.

GLUCONIC ACID:

Acute aquatic toxicity:

Acute toxicity – fish: LC₅₀, 96 hours: 360 mg/l, Fish

Persistence and degradability:

Persistence and degradability: The product is readily biodegradable.

Biological oxygen demand: 634 g O₂/g substance

Chemical oxygen demand: 897 g O₂/g substance

Ecological information on ingredients.

GLUCONIC ACID:

Persistence and degradability: The product is readily biodegradable.

Bioaccumulative potential:

Bioaccumulative potential: The product does not contain any substances expected to be bioaccumulating.

Partition coefficient: No information available.

Ecological information on ingredients.

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GLUCONIC ACID:

Partition coefficient log Pow: -1.86

Mobility in soil:

Mobility: The product is soluble in water.

Ecological information on ingredients.

GLUCONIC ACID:

Mobility: The product is soluble in water.

Results of PBT and vPvB assessment:

Results of PBT and vPvB assessment: This product does not contain any substances classified as PBT or vPvB.

Other adverse effects:

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

General information: Waste should be treated as controlled waste. Do not puncture or incinerate, even when empty.

Disposal methods: Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. TRANSPORT INFORMATION

General: The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

UN number: Not applicable.

UN proper shipping name: Not applicable.

Transport hazard class(es): No transport warning sign required.

Packing group: Not applicable.

Environmental hazards:

Environmentally hazardous substance/marine pollutant: No.

Special precautions for user: Not applicable.

Transport in bulk according to Annex II of MARPOL and the IBC Code:

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.

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15. REGULATORY INFORMATION

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

EU legislation: Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Commission Regulation (EU) No 2015/830 of 28 May 2015.

Chemical safety assessment: A chemical safety assessment has been carried out.

Inventories:

EU - EINECS/ELINCS: All the ingredients are listed or exempt.
Canada - DSL/NDL: All the ingredients are listed or exempt. DSL.
US – TSCA: All the ingredients are listed or exempt.
Australia – AICS: All the ingredients are listed or exempt.
Japan – ENCS: All the ingredients are listed or exempt.
Korea – KECI: All the ingredients are listed or exempt.
China – IECSC: All the ingredients are listed or exempt.
Philippines – PICCS: All the ingredients are listed or exempt.
New Zealand – NZIOC: All the ingredients are listed or exempt.

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Abbreviations and acronyms used in the safety data sheet:

ATE: Acute Toxicity Estimate.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
CAS: Chemical Abstracts Service.
DNEL: Derived No Effect Level.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
Kow: Octanol-water partition coefficient.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
PBT: Persistent, Bioaccumulative and Toxic substance.
PNEC: Predicted No Effect Concentration.

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REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.

RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.

vPvB: Very Persistent and Very Bioaccumulative.

IARC: International Agency for Research on Cancer.

MARPOL 73/78: International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978.

cATpE: Converted Acute Toxicity Point Estimate.

BCF: Bioconcentration Factor.

BOD: Biochemical Oxygen Demand.

EC₅₀: 50% of maximal Effective Concentration.

LOAEC: Lowest Observed Adverse Effect Concentration.

LOAEL: Lowest Observed Adverse Effect Level.

NOAEC: No Observed Adverse Effect Concentration.

NOAEL: No Observed Adverse Effect Level.

NOEC: No Observed Effect Concentration.

LOEC: Lowest Observed Effect Concentration.

DMEL: Derived Minimal Effect Level.

EL50: Exposure Limit 50

hPa: Hectopascal

LL50: Lethal Loading fifty

OECD: Organisation for Economic Co-operation and Development

POW: Octanol-water partition coefficient

SCBA: self-contained breathing apparatus

STP: Sewage Treatment Plant

VOC: Volatile Organic Compounds

Classification abbreviations and acronyms:

Acute Tox. = Acute toxicity

Aquatic Acute = Hazardous to the aquatic environment (acute)

Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation.

This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.