

Belyntic

Safety data sheet according to Regulation (EG) No. 1907/2006 (REACH)

Safety Data Sheet

Version 1.0

Date of Issue: 28.02.2019

Valid From: 13.03.2019

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name/Trade Name : **Mixture of citric acid-sodium carbonate**

CAS-Nr. : n.v.

EG-Nr. : n.v.

Reach Nr. : Registration is not required

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

Identified uses : Reagent for scientific in vitro research only

Uses advised against : Other uses than stated

1.3 Contact of the manufacturer

Company : Belyntic GmbH
Richard-Willstätter Str. 11
D-12489 Berlin

Telefon : +49 30-8104-1113

Email : info@belyntic.com

1.4 Emergency telephone number : +49(0)30 30 686700 (Charité Berlin)

Section 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Eye Irrit.2; H319

2.2 Label elements

Pictograms



Signal Word

Warning

Hazard Statements

H319 Cause serious eye irritation

Precautionary statements

P261 Avoid breathing dust/spray

P264 Wash hands thoroughly after handling

P280 Wear protective gloves/protective clothing/eye protection.

P305 +P351 + P338

IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.

2.3 Other hazards

May form explosive dust-air mixture if dispersed.
No further hazards known.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

The product is a mixture

3.2 Mixtures

Hazardous Ingredients:

Name	Concentration (w/w %)	EC-No.	Index-No.	CAS-No.	Registration-No.	Classification
Citric acid	60-70	201-069-1	-	77-92-9	01-2119457026-42-XXXX	Eye Irrit.2; H319
Sodium carbonate	30-40	207-838-8	011-005-002-2	497-19-8	01-2119485498-19-XXXX	Eye Irrit.2; H319

The mixture does not contain according to our present knowledge further ingredients which are relevant according to subsection 3.2 of Regulation (EU) 2015/830.

Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Remove exposed person out of the hazardous area and keep at rest.
Seek medical advice if you feel unwell.

Following Inhalation

Care for fresh air and unrestricted breathing.

Following skin contact

Remove contaminated clothing. Wash immediately with plenty of water and soap.

Following eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion

Do not induce vomiting. Rinse mouth and drink plenty of water.

4.2 Most important symptoms and effects, both acute and delayed

Following ingestion: Irritation, nausea, gastrointestinal complaints; vomiting.
Following skin contact: Slight irritation.
Following eye contact: Strong Irritation.
Following inhalation: Respiratory irritation/coughing depending on concentration.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No further relevant information available.

Section 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

In case of fire use water spray, foam, dry chemical extinguisher or carbon dioxide
Unsuitable extinguishing agents: High pressure media

5.2 Special hazards arising from the substance or mixture

Combustible: Fine dust dispersed in air may ignite/explode; if in sufficient concentrations, and in the presence of an ignition source it is a potential dust explosion hazard.

In case of fire, hazardous burning gases/vapors/fumes/mists may be formed, e.g. carbonoxides.

Do not inhale gas/vapors/fumes/mists

5.3 Advice for firefighters

In case if fire use self-contained breathing apparatus. Wear full firefighting protective clothing.

5.4 Further advice

Avoid direct or indirect release of extinguishing water to surface water, ground water, soil or public sewage system. Knock down gases/vapors/fumes/mists with water spray.

Section 6: ACCIDENTAL RELEASE MEASURES

Dust deposits should not be allowed to accumulate on surfaces.
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Non-sparking tools should be used.

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment (skin and eye protection; protective clothing). Avoid contact with skin, eyes and clothing as well as inhalation of dust. Ensure adequate ventilation.

6.2 Environmental precautions

Avoid direct discharge to sewers and surface waters.

6.3 Methods and material for containment and cleaning up

Sweep up and place in a waste disposal container. Dispose material in accordance with applicable local and national regulations.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection.
See Section 13 for information on disposal.

Section 7: HANDLING AND STORAGE

7.1 Precautionary measures

Avoid breathing dust. Avoid contact with skin and clothing. Do not get in eyes. Keep container closed.
Wear skin and eye protective equipment.

Special handling advice on general occupational hygiene

Provide good ventilation in working area.

Advice on general occupational hygiene

Do not eat, drink and smoke in work area. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Storage temperature: 12-25 °C.
Protect from sunlight and heat and keep container closed. Ensure sufficient ventilation.
Store in a dry place.
All local and national regulations should be followed.

- 7.3 **Specific end use(s)**
No further relevant information available.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Citric acid: Limit value (inhalable): 2 mg/ m³; Short Term Limit Value: 4 mg/ m³; (TRGS 900) Remark: Y:
There is no reason to fear a risk of damage to the embryo or fetus if the limit values are observed
Sodium carbonate: DNEL. 10 mg/ m³ (ECHA)
Dust inhalable: A general 8 h limit value for 'Dust, inhalable' is established in Austria, Belgium, Denmark, France, Hungary, Ireland, Singapore, Spain, Sweden, Switzerland of 10 mg/m³.

PNECs for citric acid:
PNEC 0.44 mg/l freshwater; PNEC 0.044 mg/l marine water; PNEC 1,000 mg/l sewage treatment plant (STP); PNEC 34.6 mg/kg sediment freshwater; PNEC 3.46 mg/kg sediment marine water; PNEC 33.1 mg/kg soil

8.2 Exposure Controls

Appropriate engineering controls

Work in a hood. Local exhaust ventilation should be provided to control exposure when handling and processing.

Individual protection measures, such as personal protective equipment

Eye / face protection

Wear protective goggles.



Skin protection

Protective gloves: The glove material has to be impermeable and resistant to the product/ mixture and must satisfy CEN standards (Council directive 89/868/EEC; EN 374).
Suitable materials: Nitril rubber; Butyl rubber (e.g. KCL-GmbH),
thickness: 0,11 mm. Break through time: > 480 min.
Not suitable are gloves (not exhaustive): leather gloves.



Other protection

Wear appropriate protective work clothing. Avoid contamination of skin when taking off the work clothing.

Respiratory protection

When handling according to the intended use no special measures in addition to the recommended engineering controls (see 8.2.1) are necessary. For operations where dust inhalation exposure can occur use an appropriate and approved air purifying respirator (particulate filter device EN 143; P1).

Environmental exposure controls

Avoid discharge to sewers and surface waters.

Section 9: Physical and chemical properties

- a) Appearance

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Aggregate state	solid; powder, particle size 0,5 - 1.5 mm
Color	white
b) Odor	odorless
c) Odor threshold	n.av.
d) pH-Value (20°C)	The product is reacting in water with partly neutralization; after reaction with water (28 g/L, pH: 4.5)
e) Melting / freezing point	n.av.
f) Initial boiling point and boiling range	n.ap.
g) Flash point	n.ap.
h) Evaporation rate	n.ap.
i) Flammability (solid, gas)	n.av.
j) Upper/lower flammability or explosive limits	n.ap.
k) Vapor pressure	n.ap.
l) Vapor density	n.av.
m) Relative Density	n.av.
n) Solubilit(ies)	soluble in water with partly neutralization
o) Partition coefficient n-Octanol/Wasser	n.ap. (a mixture)
p) Auto-ignition temperature	Citric acid: a self-ignition temperature of 1010°C is reported in secondary literature. The original reference was not available for review and no further information is available. The reliability of this result is not assignable (ECHA).
q) Decomposition temperature	n.av.
r) Viscosity	n.ap. (powder)
s) Explosive properties	n.ap.
t) Oxidizing properties	n.ap.

Other information

May form explosible dust-air mixture if dispersed.

Section 10: Stability and Reactivity

10.1 Reactivity

Does not react in a hazardous manner when used for the intended use

10.2 Chemical stability

Chemically stable. No decomposition if used and stored according to specifications.

10.3 **Possibility of hazardous reactions**

Reaction with oxidizers and reducing agents, acids, bases and light metals; by heating

10.4 **Conditions to avoid**

Protect from flames, ignition sources, heat and sunlight.

10.5 **Incompatible materials**

Oxidizers and reducing agents, acids, bases; light metals.

10.6 **Hazardous decomposition products**

n.av.

Section 11: TOXICOLOGICAL INFORMATION

11.1 **Information on Toxicological Effects**

The substance has not been tested with respect to toxicological effects. Data /information are available for the ingredients citric acid and sodium carbonate (SDS, ECHA, HSDB-TOXNET)

Acute Toxicity

LD50 (rat oral):

Citric acid: > 3,000 mg/kg_{bw}

Sodium carbonate: 2,800 mg/kg_{bw}

LD50 (dermal, rat/rabbit):

Citric acid: > 2,000 mg/kg_{bw}

Sodium carbonate: > 2,000 mg/kg_{bw}

LC 50 (inhalation): n.av.

**Based on available information the classification criteria are met for
Acute Tox. 4; H302**

Skin corrosion/irritation: The ingredients citric acid and sodium carbonate are not classified based on available information. Slight skin irritation is possible.

Conclusive but not sufficient for classification

Serious eye damage/eye irritation: The ingredients citric acid and sodium carbonate are classified as

Eye Irrit.2; H319.

Respiratory or skin sensitisation

The ingredients citric acid and sodium carbonate are not classified.

Conclusive but not sufficient for classification

Germ cell mutagenicity:

Citric acid: Negative in an Ames test and in a Dominant lethal test up to 3 g/kg in male rats (HSDB-TOXNET).

Sodium carbonate: No DNA damage in an E.coli chromotest (0.1 –11,000 µg/ml)

Conclusive but not sufficient for classification

Carcinogenicity:

NOEL in a two-year chronic/carcinogenicity study (oral rat): 1,200 mg/kg_{bw} (HSDB-TOXNET).

Conclusive but not sufficient for classification

Reproductive toxicity:

Citric acid: NOEL in a two-generation study (90 d; rats): 2,500 mg/kg_{bw})

Sodium carbonate: In a study in mice (6-15 d of gestation) up to 340 mg/kg_{bw} there was conformation of no concern with regard to developmental toxicity (HSDB-TOXNET).

Conclusive but not sufficient for classification

STOT-single exposure:

The ingredients citric acid and sodium carbonate are not classified based on available information. Slight respiratory irritation is possible dependent on dust concentration.

Conclusive but not sufficient for classification

STOT-repeated exposure:

Citric acid: NOEL in a two-year chronic/carcinogenicity study (oral rat): 1,200 mg/kg_{bw} (HSDB-TOXNET)

Conclusive but not sufficient for classification

Aspiration hazard: n.ap. (a solid)

No classification

Information on likely routes of exposure: Skin and eye contact; Inhalation (dust)

Symptoms related to the physical, chemical and toxicological characteristics:

If in eyes: Strong irritation

If swallowed: Irritation, nausea, gastrointestinal complaints; vomiting

If on skin: Slight irritation

If inhaled: Slight respiratory irritation/coughing depending on concentration.

Delayed and immediate effects as well as chronic effects from short and long-term exposure: n.av.

Other information: No further relevant information available

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity

The substance has not been tested with respect to ecological information. Data /information are available for the ingredients citric acid and sodium carbonate (SDSs, ECHA)

Acute aquatic toxicity:

Ingredient	Effect dose	Value (mg/l)	Species	Test duration
Citric acid	LC ₅₀	440	Fish: <i>Leuciscus idus</i>	96h
Sodium carbonate	LC ₅₀	300	Fish	96h
Citric acid	EC ₅₀	120	<i>Daphnia magna</i>	72 h
Sodium carbonate	EC ₅₀	227		48
Citric acid	LOEC	850	Alge: <i>Scenedesmus quadricauda</i>	8d

Chronic aquatic toxicity:

Ingredient	Effect dose	Value (mg/l)	Species	Test duration	Bemerkungen
Citric acid Sodium carbonate	NOEC		Fish		Waiving (ECHA)
Citric acid Sodium carbonate	NOEC		Invertebrates		Waiving (ECHA)
Citric acid	NOEC	425	Algae: <i>Scenedesmus quadricauda</i>	8 d	
Sodium carbonate	NOEC		Algae		Waiving (ECHA)

12.2 Persistence and degradability

Citric acid: Rapidly biodegradable; degradation rate: 98% in 2 d

Sodium carbonate: For this inorganic compound the methods for biodegradation are not applicable. The substance dissociates fully on introduction to water.

12.3 Bioaccumulative potential

Citric acid: log POW: - 1.64

Sodium carbonate: The substance dissociates fully on introduction to water. Log Po/w is not applicable for an inorganic compound which dissociates (ECHA).

12.4 Mobility in soil

The product is soluble in water.

12.5 Results of PBT and vPvB assessment

PBT: No

VpVb: No

12.6 Other adverse effects

n.av.

Classification with respect to Hazardous to the Aquatic Environment is not possible due to data lacking.

Section 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

It is encouraged to recycle and reuse the product and packaging, where possible.

Product disposal

When recycle or reuse is not possible, it is recommended that the product be disposed of by thermal treatment or incineration at approved facilities.

All local and national regulations should be followed.

Waste code: 07 07 99 - Wastes from the MSFU from fine chemicals and chemical products not otherwise specified according to Directive 2008/98/EC; HP4.

Packaging disposal

Handle contaminated packages in the same way as the product itself. Disposal of emptied and cleaned packaging must be made in accordance with applicable local and national regulations.

Disposal-relevant information

Do not release directly or indirectly to surface water, ground water, soil or public sewage system.

Section 14: TRANSPORT INFORMATION

The product is not a dangerous good according to transport regulations

14.1 UN-Number: n.ap.

ADR/RID: n.ap.

IMDG: n.ap.

IATA: n.ap.

14.2 UN proper shipping name

ADR/RID:

n.ap.

IMDG:

n.a.

IATA:

n.a.

14.3 Dangerous good classification

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	ADR/RID: n.ap.	IMDG: n.ap.	IATA: n.ap.
14.4	Packaging group ADR/RID: n.ap.	IMDG: n.ap.	IATA: n.ap.
14.5	Environmental hazards ADR/RID: n.ap. Marine Pollutant: no	IMDG: n.ap.	IATA: n.ap.
14.6	Special precautions for user n.ap.		
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code n.ap.		

Section 15: REGULATORY INFORMATION

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

EU: REACH: Regulation (EU) No 1907/2006; CLP Regulation (EU) No.1272/2008; Regulation (EU) No.2015/830; Waste Framework Directive 2008/98/EC. Both ingredients are EU food additives: Citric acid E 330, sodium carbonate E 500.

National (Germany):

Water Hazard Class. WGK 1 according to AwSV (self-classification). Citric acid No. 57 and Sodium carbonate No. 222

15.2 Chemical safety assessment not performed since not required

Section 16: OTHER INFORMATION

a) **Indication of changes in the SDS:** n.ap.

b) **Abbreviations and Acronyms**

ADR	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
AwSV	Legislation concerning classification of substances into Water Hazard Classes (Germany)
BAM	Bundesanstalt für Materialforschung und Prüfung (Berlin)
bw	Body weight
CAS	Chemical Abstracts Service
CLP	Regulation (EU) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures
EINECS	European Inventory of Existing Commercial Chemical Substances
ECHA	European Chemicals Agency
EN	European norm
Eye Irrit.	Eye irritation category 2 (code according to CLP)
Flam. Liq.	Flammable Liquid (code according to CLP)
HSDB-	Hazardous Substances Data Bank (USA)
TOXNET	
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Code for Dangerous Goods
Met.Corr.	Corrosive to metals (code according to CLP)

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IOELV	Indicative Occupational Exposure Limit Value
MFSU	Wastes from the manufacture, formulation, supply and use
n.ap.	not applicable
n.av.	not available
OEL	Occupational (workplace) Exposure Limit
PBT	Persistent, Bioaccumulative, Toxic
PNEC	Predicted No Effect Concentration
REACH	Regulation (EU) No 1907/2006
RID	Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
SCL	Specific Concentration Limit
SDS	SDSs from suppliers
Skin Corr.	Skin Corrosion (code according to CLP)
TRGS	Technical Rules for Hazardous Substances (Germany)
VOC	Volatile Organic Compounds
vPvB	very Persistent very Bioaccumulative
VwVwS	Verwaltungsvorschrift wassergefährdender Stoffe
WEL	Workplace Exposure Limit

- c) **Key literature references and sources for data:** SDSs from suppliers; ECHA Databak Registered substances
- d) **Methods of evaluation for the purpose of classification in case of mixtures:** General concentration limits
- e) **List of relevant hazard statements (number and full text)**
H319 – Causes serious eye irritation
- f) **Advice on training**
The product should only be handled by trained persons. Training as required by national and company rules.