

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Citric Acid Monohydrate
Substance name : Citric acid
Molecular formula : C₆H₈O₇·H₂O
Chemical identity : 2-hydroxypropane-1,2,3-tricarboxylic acid hydrate
CAS-No. : 5949-29-1
EC-No. : 201-069-1
REACH Registration Number : 01-2119457026-42-0000

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

Use of the Substance/Mixture : Manufacture of substances
Formulation of preparations
Formulation into solid matrix
Industrial use
Manufacture of chemical products, Chemical intermediate
Products such as pH-regulators, flocculants, precipitants, neutralization agents
Washing and cleaning products
Air care products, Perfumes, fragrances
Cosmetics, personal care products
Paper and board treatment products, Manufacture of pulp, paper and paper products
Building and construction work, Use in cement retardation products
Polymer preparations and compounds, Plastic articles, Adhesives, sealants, Manufacture of rubber products
Extraction of crude petroleum
Manufacture of textiles, leather, fur, Textile dyes and impregnating products, Leather treatment products, Polishes and wax blends
Coatings and paints, thinners, paint removers
Photo-chemicals
Water treatment chemicals, Water softeners
Metal surface treatment products, Base metals and alloys, Cleaning of metal surfaces
Laboratory chemicals
Fertilizers
Manufacture of basic pharmaceutical products
Food/ feedstuff additives
For further information see eSDS.

Recommended restrictions on use : None known.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

1.3 Details of the supplier of the safety data sheet

Company : Jungbunzlauer Austria AG
Werk Pernhofen
2064 Wulzeshofen
Austria
www.jungbunzlauer.com

Telephone : +43 2527 200-0
Telefax : +43 2527 200-80
Responsible/issuing person : msds@jungbunzlauer.com

1.4 Emergency telephone number

National Chemical Emergency Centre (NCEC)
+44 1865 407 333

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2

H319: Causes serious eye irritation.

Specific target organ toxicity - single exposure, Category 3, Respiratory system

H335: May cause respiratory irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Hazard statements : H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Precautionary statements : **P261 Avoid breathing dust.**
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/ doctor if you feel unwell.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: 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.

Toxicological information: 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.

May form explosible dust-air mixture if dispersed.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : Citric acid
CAS-No. : 5949-29-1
EC-No. : 201-069-1
Chemical nature : Solid
REACH Registration Number : 01-2119457026-42-0000

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
Protection of first-aiders : Wear personal protective equipment.
If inhaled : If breathed in, move person into fresh air.
If symptoms persist, call a physician.
If unconscious, place in recovery position and seek medical

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

-
- advice.
If symptoms persist, call a physician.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water.
Get medical attention if symptoms occur.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : 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.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : irritant effects
- Risks : Causes serious eye irritation.
May cause respiratory irritation.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Water spray
Dry powder
Foam
Carbon dioxide (CO₂)
- Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : Exposure to decomposition products may be a hazard to health.
- Hazardous combustion products : Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

5.3 Advice for firefighters

- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Further information : Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
Avoid contact with skin and eyes.

6.2 Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Neutralize with chalk, alkali solution or ammonia.
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of respirable particles.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.

Hygiene measures : When using do not eat or drink. When using do not smoke.
Wash hands before breaks and at the end of workday.

Dust explosion class : St1

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage : Keep container tightly closed in a dry and well-ventilated

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

areas and containers : place. Electrical installations / working materials must comply with the technological safety standards.

Advice on common storage : Incompatible with strong bases and oxidizing agents.

Further information on storage stability : Keep in a dry place.
No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : For further information see eSDS.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures

Provide adequate ventilation.

Personal protective equipment

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Hand protection

Remarks : Wear suitable gloves tested to EN374.

The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection

: Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection

: No personal respiratory protective equipment normally required.

In the case of dust or aerosol formation use respirator with an approved filter.

Half mask with a particle filter P2 (EN 143)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : crystalline

Colour : white

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date: SDS Number: Date of last issue: 05.05.2022
AT / EN 06.05.2022 100000000013 Date of first issue: 04.05.2022

Odour : odourless

Odour Threshold : Not relevant

Melting point/freezing point : ca. 135 - 152 °C

Boiling point/boiling range : Decomposes below the boiling point.

Flammability : does not ignite

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : Not applicable

Auto-ignition temperature : Not applicable

Decomposition temperature : Not applicable

pH : 1,85 (25 °C)
Concentration: 5 %

Viscosity
Viscosity, kinematic : Not applicable

Solubility(ies)
Water solubility : ca. 1.840 g/l (20 °C)

Partition coefficient: n-octanol/water : log Pow: -1,8 - -0,2
Calculation

Vapour pressure : 0,0002 hPa (25 °C)

Relative density : 1,665 (20 °C)

Density : No data available

Relative vapour density : Not applicable

9.2 Other information

Explosives : Not explosive

Oxidizing properties : No oxidising effect.

Dust explosion class : St1

Surface tension : not determined

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date: 06.05.2022 SDS Number: 100000000013 Date of last issue: 05.05.2022
AT / EN Date of first issue: 04.05.2022

Molecular weight : 210,14 g/mol

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

Dust may form explosive mixture in air.

10.4 Conditions to avoid

Conditions to avoid : Avoid dust formation.

10.5 Incompatible materials

Materials to avoid : Strong bases
Oxidizing agents

10.6 Hazardous decomposition products

Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.
Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Not classified based on available information.

Components:

citric acid:

Acute oral toxicity : LD50 Oral (Mouse): 5.400 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : (Guinea pig): ca. 75 mg/l
Exposure time: 3 min
Test atmosphere: dust/mist
Target Organs: Respiratory Tract
Symptoms: Cough

Acute dermal toxicity : LD50 Dermal (Rat): > 2.000 mg/kg

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified based on available information.

Components:

citric acid:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

citric acid:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

citric acid:

Remarks : No known sensitising effect.

Germ cell mutagenicity

Not classified based on available information.

Components:

citric acid:

Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Concentration: 0 - 5000 µg/plate
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Result: negative

Test Type: Micronucleus test
Test system: Human lymphocytes
Concentration: 50, 100, 200, 3000 µg/ml

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Method: Mutagenicity (in vitro mammalian cytogenetic test)
Result: positive

Genotoxicity in vivo : Test Type: Chromosomal aberration
Species: Rat
Cell type: Bone marrow
Application Route: Oral
Dose: 0,3 mg/kg bw
Method: OECD Test Guideline 475
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

citric acid:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Reproductive toxicity

Not classified based on available information.

Components:

citric acid:

Reproductive toxicity - Assessment : No toxicity to reproduction

STOT - single exposure

May cause respiratory irritation.

Components:

citric acid:

| | |
|-----------------|--|
| Exposure routes | : Inhalation |
| Target Organs | : Respiratory Tract |
| Assessment | : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation. |

STOT - repeated exposure

Not classified based on available information.

Components:

citric acid:

Remarks : No data available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Repeated dose toxicity

Components:

citric acid:

Species : Rat
NOAEL : 4.000 mg/kg
LOAEL : 8.000 mg/kg
Application Route : Oral
Exposure time : 10 d
Dose : 2, 4, 8, 16 g/kg bw/day

Aspiration toxicity

Not classified based on available information.

Components:

citric acid:

No aspiration toxicity classification

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : 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.

Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

citric acid:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 440 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 1.535 mg/l
Exposure time: 24 h

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : NOEC (Scenedesmus quadricauda (Green algae)): 425 mg/l
Exposure time: 8 d
Test Type: static test

Toxicity to microorganisms : TT (Pseudomonas putida): > 10.000 mg/l
Exposure time: 16 h

12.2 Persistence and degradability

Components:

citric acid:

Biodegradability : Biodegradation: 97 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
Readily biodegradable.

Biodegradation: 100 %
Exposure time: 19 d
Method: OECD Test Guideline 301E
Readily biodegradable.

Physico-chemical removability : Readily biodegradable.

Stability in water : Not applicable

12.3 Bioaccumulative potential

Components:

citric acid:

Bioaccumulation : 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: -1,8 - -0,2

12.4 Mobility in soil

Components:

citric acid:

Stability in soil : Readily biodegradable.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : 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.

12.7 Other adverse effects

Product:

Additional ecological information : No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : In accordance with local and national regulations.

Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number or ID number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date: SDS Number: Date of last issue: 05.05.2022
AT / EN 06.05.2022 100000000013 Date of first issue: 04.05.2022

14.6 Special precautions for user

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Fire Hazard Class : Not applicable

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

Water hazard class (Germany) : WGK 1 slightly hazardous to water
Code Number: 8.248
Classification according to AwSV, Annex 1 (4)

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Not applicable

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

REACH : This substance has been registered according to Regulation (EC) No. 1907/2006 (REACH).

TSCA : All substances listed as active on the TSCA inventory

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date: SDS Number: Date of last issue: 05.05.2022
AT / EN 06.05.2022 100000000013 Date of first issue: 04.05.2022

| | | |
|-------|---|--|
| 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 |
| NZIoC | : | On the inventory, or in compliance with the inventory |
| TCSI | : | On the inventory, or in compliance with the inventory |

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; REACH - Regulation (EC) No 1907/2006 of the European

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Annex

Exposure Scenario

| Number | Title |
|--------|---|
| ES1 | Manufacture |
| ES2 | Formulation or re-packing; Various products (PC1, PC3, PC9a, PC12, PC30, PC31, PC35, PC39). |
| ES3 | Use at industrial sites; Other (PC0); Various sectors (SU8, SU9). |
| ES4 | Use at industrial sites; Various products (PC3, PC28, PC31, PC35, PC36). |
| ES5 | Widespread use by professional workers; Various products (PC3, PC31, PC35, PC36). |
| ES6 | Consumer use; Various products (PC3, PC31, PC35, PC36). |
| ES7 | Widespread use by professional workers; Cosmetics, personal care products (PC39). |
| ES8 | Consumer use; Cosmetics, personal care products (PC39). |
| ES9 | Use at industrial sites; Paper and board treatment products (PC26); Manufacture of pulp, paper and paper products (SU6b). |
| ES10 | Use at industrial sites; Other: building and construction preparations (PC0). |
| ES11 | Widespread use by professional workers; Other: building and construction preparations (PC0). |
| ES12 | Consumer use; Other: building and construction preparations (PC0). |
| ES13 | Service life - workers; Other (AC0). |
| ES14 | Service life - workers; Other (AC0). |
| ES15 | Service life - consumers; Other (AC0). |
| ES16 | Use at industrial sites; Polymer preparations and compounds (PC32); Various sectors (SU11, SU12). |
| ES17 | Use at industrial sites; Various products (PC35, PC37); Various sectors (SU2a, SU2b). |
| ES18 | Use at industrial sites; Various products (PC20, PC23, PC34); Manufacture of textiles, leather, fur (SU5). |
| ES19 | Use at industrial sites; Coatings and paints, thinners, paint removers (PC9a). |
| ES20 | Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a); Various sectors (SU18, SU19). |
| ES21 | Consumer use; Coatings and paints, thinners, paint removers (PC9a). |
| ES22 | Service life - workers; Other (AC0). |
| ES23 | Service life - workers; Other (AC0). |
| ES24 | Service life - consumers; Other (AC0). |
| ES25 | Use at industrial sites; Photo-chemicals (PC30). |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|-------------|--|
| ES26 | Consumer use; Photo-chemicals (PC30). |
| ES27 | Use at industrial sites; Various products (PC20, PC36, PC37). |
| ES28 | Use at industrial sites; Various products (PC7, PC14). |
| ES29 | Service life - workers; Other (AC0). |
| ES30 | Use at industrial sites; Washing and cleaning products (PC35). |
| ES31 | Use at industrial sites; Fertilizers (PC12). |
| ES32 | Widespread use by professional workers; Fertilizers (PC12). |
| ES33 | Consumer use; Fertilizers (PC12). |
| ES34 | Use at industrial sites; Laboratory chemicals (PC21). |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES1: Manufacture

1.1. Title section

| | |
|-------------------------------|---------------|
| Exposure Scenario name | : Manufacture |
| Structured Short Title | : Manufacture |

| Environment | | |
|-------------|---|--------|
| CS1 | Manufacture of the substance | ERC1 |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions | PROC1 |
| CS4 | Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions | PROC2 |
| CS5 | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition | PROC3 |
| CS6 | Chemical production where opportunity for exposure arises | PROC4 |
| CS7 | Transfer of substance or mixture (charging/discharging) at dedicated facilities | PROC8b |

1.2. Conditions of use affecting exposure

1.2.1. Control of environmental exposure: Manufacture of the substance (ERC1)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

1.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Clear spills immediately.
Avoid contact with contaminated tools and objects.
Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

1.2.3. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Use in closed process
Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

1.2.4. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Product (article) characteristics

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Use in closed process With occasional controlled exposure Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

1.2.5. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

| | |
|---|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Use in closed process Batch process With occasional controlled exposure Provide a basic standard of general ventilation (1 to 3 air changes per hour). | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

1.2.6. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

1.2.7. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

1.3. Exposure estimation and reference to its source

1.3.1. Environmental release and exposure: Manufacture of the substance (ERC1)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

1.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | | | | |
|--|--|--|--------------------|--|
| | | | conclude safe use. | |
|--|--|--|--------------------|--|

1.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Not relevant

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES2: Formulation or re-packing; Various products (PC1, PC3, PC9a, PC12, PC30, PC31, PC35, PC39).

2.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Formulation or re-packing, Formulation into preparations |
| Structured Short Title | : Formulation or re-packing; Various products (PC1, PC3, PC9a, PC12, PC30, PC31, PC35, PC39). |

| Environment | | |
|-------------|--|------------|
| CS1 | Formulation into mixture, Formulation into solid matrix | ERC2, ERC3 |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions, liquid | PROC1 |
| CS4 | Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, liquid | PROC2 |
| CS5 | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, liquid | PROC3 |
| CS6 | Chemical production where opportunity for exposure arises, liquid | PROC4 |
| CS7 | Mixing or blending in batch processes, liquid | PROC5 |
| CS8 | Industrial spraying, liquid | PROC7 |
| CS9 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, liquid | PROC8a |
| CS10 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, liquid | PROC8b |
| CS11 | Transfer of substance or mixture into small containers (dedicated filling line, including weighing), liquid | PROC9 |
| CS12 | Treatment of articles by dipping and pouring, liquid | PROC13 |
| CS13 | Use as laboratory reagent, liquid | PROC15 |
| CS14 | Manual activities involving hand contact, liquid | PROC19 |
| CS15 | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions, solid | PROC1 |
| CS16 | Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, solid | PROC2 |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | | |
|------|---|--------|
| CS17 | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, solid | PROC3 |
| CS18 | Chemical production where opportunity for exposure arises, solid | PROC4 |
| CS19 | Mixing or blending in batch processes, solid | PROC5 |
| CS20 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, solid | PROC8a |
| CS21 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, solid | PROC8b |
| CS22 | Transfer of substance or mixture into small containers (dedicated filling line, including weighing), solid | PROC9 |
| CS23 | Use as laboratory reagent, solid | PROC15 |
| CS24 | Manual activities involving hand contact, solid | PROC19 |

2.2. Conditions of use affecting exposure

2.2.1. Control of environmental exposure: Formulation into mixture (ERC2) / Formulation into solid matrix (ERC3)

| |
|---|
| Product (article) characteristics |
| Covers percentage substance in the product up to 100 %. |

2.2.2. Control of worker exposure: Other (PROC0)

| |
|--|
| Technical and organisational conditions and measures |
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Training of staff on good practice Assumes a good basic standard of occupational hygiene is implemented |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. Unless otherwise stated. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

2.2.3. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Use in closed process Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.4. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Use in closed process | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

With occasional controlled exposure
Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

2.2.5. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Use in closed process

Batch process

With occasional controlled exposure

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

2.2.6. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.7. Control of worker exposure: Mixing or blending in batch processes (PROC5)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.8. Control of worker exposure: Industrial spraying (PROC7)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.9. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

| | |
|---|----------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.10. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| Other conditions affecting workers exposure | |
|---|---|
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.11. Control of worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

| Product (article) characteristics | |
|--|---|
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.12. Control of worker exposure: Treatment of articles by dipping and pouring (PROC13)

| Product (article) characteristics | |
|---|-----------------|
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.13. Control of worker exposure: Use as laboratory reagent (PROC15)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

2.2.14. Control of worker exposure: Manual activities involving hand contact (PROC19)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Body parts exposed | : Assumes that potential dermal contact is limited to hands and forearms. |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.15. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Use in closed process Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.16. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Use in closed process Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

2.2.17. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Use in closed process Batch process With occasional controlled exposure Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.18. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.19. Control of worker exposure: Mixing or blending in batch processes (PROC5)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

2.2.20. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.21. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.22. Control of worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.23. Control of worker exposure: Use as laboratory reagent (PROC15)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.2.24. Control of worker exposure: Manual activities involving hand contact (PROC19)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Body parts exposed | : Assumes that potential dermal contact is limited to hands and forearms. |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

2.3. Exposure estimation and reference to its source

2.3.1. Environmental release and exposure: Formulation into mixture (ERC2) / Formulation into solid matrix (ERC3)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

2.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

2.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES3: Use at industrial sites; Other (PC0); Various sectors (SU8, SU9).

3.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Industrial use, Intermediate |
| Structured Short Title | : Use at industrial sites; Other (PC0); Various sectors (SU8, SU9). |

| Environment | | |
|-------------|--|--------|
| CS1 | Use of intermediate | ERC6a |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions, solid | PROC1 |
| CS4 | Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, solid | PROC2 |
| CS5 | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, solid | PROC3 |
| CS6 | Chemical production where opportunity for exposure arises, solid | PROC4 |
| CS7 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, solid | PROC8b |

3.2. Conditions of use affecting exposure

3.2.1. Control of environmental exposure: Use of intermediate (ERC6a)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

3.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Avoid splashes.
Clear spills immediately.
Avoid contact with contaminated tools and objects.
Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

3.2.3. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Use in closed process
Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

3.2.4. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Use in closed process With occasional controlled exposure Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

3.2.5. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Use in closed process | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| |
|--|
| Batch process With occasional controlled exposure Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % |
| For further specification, refer to section 8 of the SDS. |
| Other conditions affecting workers exposure |
| Indoor or outdoor use : Indoor use |
| Temperature : Assumes process temperature up to 40 °C |

3.2.6. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

| |
|--|
| Product (article) characteristics |
| Covers percentage substance in the product up to 100 %. |
| Physical form of product : Solid, medium dustiness |
| Vapour pressure : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) |
| Duration : Exposure duration <= 4 h |
| Technical and organisational conditions and measures |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced |
| Local exhaust ventilation Inhalation - minimum efficiency of 90 % |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % |
| For further specification, refer to section 8 of the SDS. |
| Other conditions affecting workers exposure |
| Indoor or outdoor use : Indoor use |
| Temperature : Assumes process temperature up to 40 °C |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

3.2.7. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

3.3. Exposure estimation and reference to its source

3.3.1. Environmental release and exposure: Use of intermediate (ERC6a)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

3.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|-----------------|-----|
| Eye | local | short-term | Qualitative ap- | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | | | | |
|------------|-------|------------|---|--|
| | | | proach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

3.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES4: Use at industrial sites; Various products (PC3, PC28, PC31, PC35, PC36).

4.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Industrial use, Use in cleaning products |
| Structured Short Title | : Use at industrial sites; Various products (PC3, PC28, PC31, PC35, PC36). |

| Environment | | |
|-------------|--|--------|
| CS1 | Use of non-reactive processing aid at industrial site (no inclusion into or onto article) | ERC4 |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, liquid | PROC2 |
| CS4 | Chemical production where opportunity for exposure arises, liquid | PROC4 |
| CS5 | Industrial spraying, liquid | PROC7 |
| CS6 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, liquid | PROC8a |
| CS7 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, liquid | PROC8b |
| CS8 | Transfer of substance or mixture into small containers (dedicated filling line, including weighing), liquid | PROC9 |
| CS9 | Roller application or brushing, liquid | PROC10 |
| CS10 | Treatment of articles by dipping and pouring, liquid | PROC13 |
| CS11 | Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, solid | PROC2 |
| CS12 | Chemical production where opportunity for exposure arises, solid | PROC4 |
| CS13 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, solid | PROC8a |
| CS14 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, solid | PROC8b |
| CS15 | Transfer of substance or mixture into small containers (dedicated filling line, including weighing), solid | PROC9 |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

4.2. Conditions of use affecting exposure

4.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

4.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Training of staff on good practice Assumes a good basic standard of occupational hygiene is implemented |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. Unless otherwise stated. |

4.2.3. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |
| Physical form of product : Liquid |
| Vapour pressure : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) |
| Duration : Exposure duration <= 8 h |
| Technical and organisational conditions and measures |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| Conditions and measures related to personal protection, hygiene and health evaluation | |
|--|---|
| Use suitable eye protection. | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.4. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

| Product (article) characteristics | |
|---|---|
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.5. Control of worker exposure: Industrial spraying (PROC7)

| Product (article) characteristics | |
|---|-----------------|
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.6. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

| | |
|---|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|-----------------------|---|
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.7. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.8. Control of worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.9. Control of worker exposure: Roller application or brushing (PROC10)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.10. Control of worker exposure: Treatment of articles by dipping and pouring (PROC13)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.11. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

| | |
|---|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, low dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| Conditions and measures related to personal protection, hygiene and health evaluation | |
|--|---|
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.12. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

| Product (article) characteristics | |
|---|---|
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, low dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.13. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, low dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.14. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, low dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.2.15. Control of worker exposure: Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, low dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

4.3. Exposure estimation and reference to its source

4.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Additional information on exposure estimation

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

4.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

4.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES5: Widespread use by professional workers; Various products (PC3, PC31, PC35, PC36).

5.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Professional use, Use in cleaning products |
| Structured Short Title | : Widespread use by professional workers; Various products (PC3, PC31, PC35, PC36). |

| Environment | | |
|-------------|---|-------------------------------------|
| CS1 | Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor), Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor), Widespread use of functional fluid (indoor), Widespread use of functional fluid (outdoor) | ERC8a, ERC8d, ERC9a, ERC9b |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Roller application or brushing, liquid, Indoor | PROC10 |
| CS4 | Roller application or brushing, liquid, Outdoor | PROC10 |
| CS5 | Non-industrial spraying, liquid, Indoor | PROC11 |
| CS6 | Non-industrial spraying, liquid, Outdoor | PROC11 |
| CS7 | Treatment of articles by dipping and pouring, liquid, Indoor | PROC13 |
| CS8 | Treatment of articles by dipping and pouring, liquid, Outdoor | PROC13 |
| CS9 | Manual activities involving hand contact, liquid, Indoor | PROC19 |
| CS10 | Manual activities involving hand contact, liquid, Outdoor | PROC19 |
| CS11 | Manual activities involving hand contact, solid, Indoor | PROC19 |
| CS12 | Manual activities involving hand contact, solid, Outdoor | PROC19 |

5.2. Conditions of use affecting exposure

5.2.1. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d) / Widespread use of functional fluid (indoor) (ERC9a) / Widespread use of functional fluid (outdoor) (ERC9b)

| |
|--|
| Product (article) characteristics |
|--|

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Covers percentage substance in the product up to 100 %.

5.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Training of staff on good practice Assumes a good basic standard of occupational hygiene is implemented |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. Unless otherwise stated. |

5.2.3. Control of worker exposure: Roller application or brushing (PROC10)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |
| Physical form of product : Liquid |
| Vapour pressure : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) |
| Duration : Exposure duration <= 8 h |
| Technical and organisational conditions and measures |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. For further specification, refer to section 8 of the SDS. |
| Other conditions affecting workers exposure |
| Indoor or outdoor use : Indoor use |
| Temperature : Assumes process temperature up to 40 °C |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

5.2.4. Control of worker exposure: Roller application or brushing (PROC10)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

5.2.5. Control of worker exposure: Non-industrial spraying (PROC11)

| | |
|---|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

5.2.6. Control of worker exposure: Non-industrial spraying (PROC11)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

5.2.7. Control of worker exposure: Treatment of articles by dipping and pouring (PROC13)

| | |
|---|-----------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

5.2.8. Control of worker exposure: Treatment of articles by dipping and pouring (PROC13)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|-------------|---|
| Temperature | : Assumes process temperature up to 40 °C |
|-------------|---|

5.2.9. Control of worker exposure: Manual activities involving hand contact (PROC19)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

5.2.10. Control of worker exposure: Manual activities involving hand contact (PROC19)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

5.2.11. Control of worker exposure: Manual activities involving hand contact (PROC19)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, low dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

5.2.12. Control of worker exposure: Manual activities involving hand contact (PROC19)

| |
|--|
| Product (article) characteristics |
|--|

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, low dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

5.3. Exposure estimation and reference to its source

5.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d) / Widespread use of functional fluid (indoor) (ERC9a) / Widespread use of functional fluid (outdoor) (ERC9b)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

5.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

5.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES6: Consumer use; Various products (PC3, PC31, PC35, PC36).

6.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Consumer use, Use in cleaning products |
| Structured Short Title | : Consumer use; Various products (PC3, PC31, PC35, PC36). |
| Environment | |
| CS1 | Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor), Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC8a, ERC8d |
| Consumer | |
| CS2 | Various products PC3, PC31, PC35, PC36 |

6.2. Conditions of use affecting exposure

6.2.1. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

| | |
|--|----------------------------------|
| Other conditions affecting environmental exposure | |
| Indoor or outdoor use | : Covers indoor and outdoor use. |

6.2.2. Control of consumer exposure: Air care products (PC3) / Polishes and wax blends (PC31) / Washing and cleaning products (PC35) / Water softeners (PC36)

| |
|--|
| Product (article) characteristics |
| Covers percentage substance in the product up to 5%. |

6.3. Exposure estimation and reference to its source

6.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Additional information on exposure estimation

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

6.3.2. Consumer exposure: Air care products (PC3) / Polishes and wax blends (PC31) / Washing and cleaning products (PC35) / Water softeners (PC36)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | | | Qualitative approach used to conclude safe use. | |
| inhalative | | | Qualitative approach used to conclude safe use. | |

6.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES7: Widespread use by professional workers; Cosmetics, personal care products (PC39).

7.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Professional use, Cosmetics, personal care products |
| Structured Short Title | : Widespread use by professional workers; Cosmetics, personal care products (PC39). |

| Environment | | |
|-------------|--|--------------|
| CS1 | Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) | ERC8a |
| Worker | | |
| CS2 | Cosmetics, personal care products | PROC0 |

7.2. Conditions of use affecting exposure

7.2.1. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

| Other conditions affecting environmental exposure | |
|---|--------------|
| Indoor or outdoor use | : Indoor use |

7.2.2. Control of worker exposure: Other (PROC0)

| Other conditions affecting workers exposure | |
|---|--------------|
| Indoor or outdoor use | : Indoor use |

7.3. Exposure estimation and reference to its source

7.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

| Additional information on exposure estimation |
|---|
|---|

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

7.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| inhalative | | | Qualitative approach used to conclude safe use. | |
| Eye | | | Qualitative approach used to conclude safe use. | |

7.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES8: Consumer use; Cosmetics, personal care products (PC39).

8.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Consumer use, Cosmetics, personal care products |
| Structured Short Title | : Consumer use; Cosmetics, personal care products (PC39). |

| | | |
|--------------------|--|--------------|
| Environment | | |
| CS1 | Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) | ERC8a |
| Consumer | | |
| CS2 | Cosmetics, personal care products | PC39 |

8.2. Conditions of use affecting exposure

8.2.1. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

| | |
|--|--------------|
| Other conditions affecting environmental exposure | |
| Indoor or outdoor use | : Indoor use |

8.2.2. Control of consumer exposure: Cosmetics, personal care products (PC39)

| | |
|--|--------------|
| Other conditions affecting consumers exposure | |
| Indoor or outdoor use | : Indoor use |

8.3. Exposure estimation and reference to its source

8.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0

ö

Date:

SDS Number:

Date of last issue: 05.05.2022

AT / EN

06.05.2022

100000000013

Date of first issue: 04.05.2022

8.3.2. Consumer exposure: Cosmetics, personal care products (PC39)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | | | Qualitative approach used to conclude safe use. | |
| inhalative | | | Qualitative approach used to conclude safe use. | |

8.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES9: Use at industrial sites; Paper and board treatment products (PC26); Manufacture of pulp, paper and paper products (SU6b).

9.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Industrial use, Use in paper industry |
| Structured Short Title | : Use at industrial sites; Paper and board treatment products (PC26); Manufacture of pulp, paper and paper products (SU6b). |

| Environment | | |
|-------------|---|--------|
| CS1 | Use of non-reactive processing aid at industrial site (no inclusion into or onto article) | ERC4 |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, liquid | PROC2 |
| CS4 | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, liquid | PROC3 |
| CS5 | Mixing or blending in batch processes, liquid | PROC5 |
| CS6 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, solid | PROC8a |
| CS7 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, solid | PROC8b |

9.2. Conditions of use affecting exposure

9.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

9.2.2. Control of worker exposure: Other (PROC0)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Training of staff on good practice Assumes a good basic standard of occupational hygiene is implemented |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. Unless otherwise stated. |

9.2.3. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

| Product (article) characteristics |
|--|
| Covers percentage substance in the product up to 100 %. |
| Physical form of product : Liquid |
| Vapour pressure : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) |
| Duration : Exposure duration <= 8 h |
| Technical and organisational conditions and measures |
| Use in closed process With occasional controlled exposure |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. For further specification, refer to section 8 of the SDS. |
| Other conditions affecting workers exposure |
| Indoor or outdoor use : Indoor use |
| Temperature : Assumes process temperature up to 40 °C |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

9.2.4. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Use in closed process Batch process With occasional controlled exposure | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Local exhaust ventilation Inhalation - minimum efficiency of 90 % | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

9.2.5. Control of worker exposure: Mixing or blending in batch processes (PROC5)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

9.2.6. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

9.2.7. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

9.3. Exposure estimation and reference to its source

9.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

9.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|-----------------|-----|
| Eye | local | short-term | Qualitative ap- | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | | | | |
|------------|-------|------------|---|--|
| | | | proach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

9.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES10: Use at industrial sites; Other: building and construction preparations (PC0).

10.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Industrial use, Use in cement retardation products |
| Structured Short Title | : Use at industrial sites; Other: building and construction preparations (PC0). |

| Environment | | |
|-------------|--|--------|
| CS1 | Use at industrial site leading to inclusion into/onto article | ERC5 |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, liquid | PROC2 |
| CS4 | Chemical production where opportunity for exposure arises, liquid | PROC4 |
| CS5 | Industrial spraying, liquid | PROC7 |
| CS6 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, liquid | PROC8a |
| CS7 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, liquid | PROC8b |
| CS8 | Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions, solid | PROC2 |
| CS9 | Chemical production where opportunity for exposure arises, solid | PROC4 |
| CS10 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, solid | PROC8a |
| CS11 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, solid | PROC8b |

10.2. Conditions of use affecting exposure

10.2.1. Control of environmental exposure: Use at industrial site leading to inclusion into/onto article (ERC5)

| |
|--|
| Product (article) characteristics |
|--|

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Covers percentage substance in the product up to 1 %.

10.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Training of staff on good practice Assumes a good basic standard of occupational hygiene is implemented |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. Unless otherwise stated. |

10.2.3. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

| Product (article) characteristics |
|--|
| Covers percentage substance in the product up to 1 %. |
| Physical form of product : Liquid |
| Vapour pressure : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) |
| Duration : Exposure duration <= 8 h |
| Technical and organisational conditions and measures |
| Use in closed process With occasional controlled exposure Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| For further specification, refer to section 8 of the SDS. |
| Other conditions affecting workers exposure |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|-----------------------|---|
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

10.2.4. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

10.2.5. Control of worker exposure: Industrial spraying (PROC7)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

10.2.6. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

10.2.7. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|---|----------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

10.2.8. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, high dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Use in closed process With occasional controlled exposure | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|-------------|---|
| Temperature | : Assumes process temperature up to 40 °C |
|-------------|---|

10.2.9. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, high dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

10.2.10. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, high dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

10.2.11. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, high dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

10.3. Exposure estimation and reference to its source

10.3.1. Environmental release and exposure: Use at industrial site leading to inclusion in- to/onto article (ERC5)

Additional information on exposure estimation

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

10.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

10.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES11: Widespread use by professional workers; Other: building and construction preparations (PC0).

11.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Professional use, Use in cement retardation products |
| Structured Short Title | : Widespread use by professional workers; Other: building and construction preparations (PC0). |

| Environment | | |
|-------------|--|--------------|
| CS1 | Widespread use leading to inclusion into/onto article (indoor), Widespread use leading to inclusion into/onto article (outdoor) | ERC8c, ERC8f |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Roller application or brushing, liquid, Indoor | PROC10 |
| CS4 | Roller application or brushing, liquid, Outdoor | PROC10 |
| CS5 | Non-industrial spraying, liquid, Indoor | PROC11 |
| CS6 | Non-industrial spraying, liquid, Outdoor | PROC11 |
| CS7 | Treatment of articles by dipping and pouring, liquid, Indoor | PROC13 |
| CS8 | Treatment of articles by dipping and pouring, liquid, Outdoor | PROC13 |
| CS9 | Manual activities involving hand contact, liquid, Indoor | PROC19 |
| CS10 | Manual activities involving hand contact, liquid, Outdoor | PROC19 |
| CS11 | Tabletting, compression, extrusion, pelettisation, granulation, solid, Indoor | PROC14 |
| CS12 | Tabletting, compression, extrusion, pelettisation, granulation, solid, Outdoor | PROC14 |
| CS13 | Manual activities involving hand contact, solid, Indoor | PROC19 |
| CS14 | Manual activities involving hand contact, solid, Outdoor | PROC19 |
| CS15 | Low energy manipulation and handling of substances bound in/on materials and/or articles, solid, Indoor | PROC21 |
| CS16 | Low energy manipulation and handling of substances bound in/on materials and/or articles, solid, Outdoor | PROC21 |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

11.2. Conditions of use affecting exposure

11.2.1. Control of environmental exposure: Widespread use leading to inclusion into/onto article (indoor) (ERC8c) / Widespread use leading to inclusion into/onto article (outdoor) (ERC8f)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 1 %. |

11.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Training of staff on good practice Assumes a good basic standard of occupational hygiene is implemented |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. Unless otherwise stated. |

11.2.3. Control of worker exposure: Roller application or brushing (PROC10)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 1 %. |
| Physical form of product : Liquid |
| Vapour pressure : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) |
| Duration : Exposure duration <= 8 h |
| Technical and organisational conditions and measures |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| Conditions and measures related to personal protection, hygiene and health evaluation | |
|--|---|
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.4. Control of worker exposure: Roller application or brushing (PROC10)

| Product (article) characteristics | |
|--|---|
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.5. Control of worker exposure: Non-industrial spraying (PROC11)

| Product (article) characteristics | |
|--|----------------------------|
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.6. Control of worker exposure: Non-industrial spraying (PROC11)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.7. Control of worker exposure: Treatment of articles by dipping and pouring (PROC13)

| | |
|---|----------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.8. Control of worker exposure: Treatment of articles by dipping and pouring (PROC13)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.9. Control of worker exposure: Manual activities involving hand contact (PROC19)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.10. Control of worker exposure: Manual activities involving hand contact (PROC19)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | | |
|-------------|---|---|
| Temperature | : | Assumes process temperature up to 40 °C |
|-------------|---|---|

11.2.11. Control of worker exposure: Tableting, compression, extrusion, pelettisation, granulation (PROC14)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, high dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.12. Control of worker exposure: Tableting, compression, extrusion, pelettisation, granulation (PROC14)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, high dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.13. Control of worker exposure: Manual activities involving hand contact (PROC19)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, high dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.14. Control of worker exposure: Manual activities involving hand contact (PROC19)

| | |
|---|-------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, high dustiness |
| Vapour pressure | : < 0,000006 Pa |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.15. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, high dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.2.16. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, high dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

11.3. Exposure estimation and reference to its source

11.3.1. Environmental release and exposure: Widespread use leading to inclusion into/onto article (indoor) (ERC8c) / Widespread use leading to inclusion into/onto article (outdoor) (ERC8f)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

11.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

11.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.
If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES12: Consumer use; Other: building and construction preparations (PC0).

12.1. Title section

| | | |
|-------------------------------|---|--|
| Exposure Scenario name | : | Consumer use, Use in cement retardation products |
| Structured Short Title | : | Consumer use; Other: building and construction preparations (PC0). |

| | | |
|--------------------|--|--------------|
| Environment | | |
| CS1 | Widespread use leading to inclusion into/onto article (indoor), Widespread use leading to inclusion into/onto article (outdoor) | ERC8c, ERC8f |
| Consumer | | |
| CS2 | Other: building and construction preparations | PC0 |

12.2. Conditions of use affecting exposure

12.2.1. Control of environmental exposure: Widespread use leading to inclusion into/onto article (indoor) (ERC8c) / Widespread use leading to inclusion into/onto article (outdoor) (ERC8f)

| |
|---|
| Product (article) characteristics |
| Covers percentage substance in the product up to 1 %. |

12.2.2. Control of consumer exposure: Other: building and construction preparations (PC0)

| |
|--|
| Product (article) characteristics |
| Covers percentage substance in the product up to 1 %. |
| Other conditions affecting consumers exposure |
| Indoor or outdoor use : Covers indoor and outdoor use. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

12.3. Exposure estimation and reference to its source

12.3.1. Environmental release and exposure: Widespread use leading to inclusion into/onto article (indoor) (ERC8c) / Widespread use leading to inclusion into/onto article (outdoor) (ERC8f)

| Additional information on exposure estimation |
|---|
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

12.3.2. Consumer exposure: Other: building and construction preparations (PC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | | | Qualitative approach used to conclude safe use. | |
| inhalative | | | Qualitative approach used to conclude safe use. | |

12.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES13: Service life - workers; Other (AC0).

13.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Industrial use, Use in cement retardation products |
| Structured Short Title | : Service life - workers; Other (AC0). |

| Environment | | |
|-------------|--|-------------------|
| CS1 | Processing of articles at industrial sites with low release, Processing of articles at industrial sites with high release | ERC12a, ERC12b |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Low energy manipulation and handling of substances bound in/on materials and/or articles, Indoor | PROC21 |
| CS4 | Low energy manipulation and handling of substances bound in/on materials and/or articles, Outdoor | PROC21 |
| CS5 | High (mechanical) energy work-up of substances bound in/on materials and/or articles, Indoor | PROC24 |
| CS6 | High (mechanical) energy work-up of substances bound in/on materials and/or articles, Outdoor | PROC24 |

13.2. Conditions of use affecting exposure

13.2.1. Control of environmental exposure: Processing of articles at industrial sites with low release (ERC12a) / Processing of articles at industrial sites with high release (ERC12b)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 1 %. |

13.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|---|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

13.2.3. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Solid, low dustiness

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

13.2.4. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Solid, low dustiness

Vapour pressure : < 0,000006 Pa

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

13.2.5. Control of worker exposure: High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, low dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

13.2.6. Control of worker exposure: High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, low dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

13.3. Exposure estimation and reference to its source

13.3.1. Environmental release and exposure: Processing of articles at industrial sites with low release (ERC12a) / Processing of articles at industrial sites with high release (ERC12b)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

13.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

13.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES14: Service life - workers; Other (AC0).

14.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Professional use, Use in cement retardation products |
| Structured Short Title | : Service life - workers; Other (AC0). |

| Environment | | |
|-------------|--|-------------------|
| CS1 | Widespread use of articles with low release (outdoor), Widespread use of articles with low release (indoor) | ERC10a, ERC11a |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Low energy manipulation and handling of substances bound in/on materials and/or articles, Indoor | PROC21 |
| CS4 | Low energy manipulation and handling of substances bound in/on materials and/or articles, Outdoor | PROC21 |
| CS5 | High (mechanical) energy work-up of substances bound in/on materials and/or articles, Indoor | PROC24 |
| CS6 | High (mechanical) energy work-up of substances bound in/on materials and/or articles, Outdoor | PROC24 |

14.2. Conditions of use affecting exposure

14.2.1. Control of environmental exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 1 %. |

14.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|---|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

14.2.3. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Solid, low dustiness

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Basic

Conditions and measures related to personal protection, hygiene and health evaluation

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

14.2.4. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Solid, low dustiness

Vapour pressure : < 0,000006 Pa

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

14.2.5. Control of worker exposure: High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, low dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

14.2.6. Control of worker exposure: High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, low dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

14.3. Exposure estimation and reference to its source

14.3.1. Environmental release and exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

14.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

14.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES15: Service life - consumers; Other (AC0).

15.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Consumer use, Use in cement retardation products |
| Structured Short Title | : Service life - consumers; Other (AC0). |

| | | |
|--------------------|--|-------------------|
| Environment | | |
| CS1 | Widespread use of articles with low release (outdoor), Widespread use of articles with low release (indoor) | ERC10a, ERC11a |
| Consumer | | |
| CS2 | Other | AC0 |

15.2. Conditions of use affecting exposure

15.2.1. Control of environmental exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

| |
|---|
| Product (article) characteristics |
| Covers percentage substance in the product up to 1 %. |

15.2.2. Control of consumer exposure: Other (AC0)

| |
|--|
| Product (article) characteristics |
| Covers percentage substance in the product up to 1 %. |
| Other conditions affecting consumers exposure |
| Indoor or outdoor use : Covers indoor and outdoor use. |

15.3. Exposure estimation and reference to its source

15.3.1. Environmental release and exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Additional information on exposure estimation

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

15.3.2. Consumer exposure: Other (AC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | | | Qualitative approach used to conclude safe use. | |
| inhalative | | | Qualitative approach used to conclude safe use. | |

15.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES16: Use at industrial sites; Polymer preparations and compounds (PC32); Various sectors (SU11, SU12).

16.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Industrial use, Use in polymers and plastics |
| Structured Short Title | : Use at industrial sites; Polymer preparations and compounds (PC32); Various sectors (SU11, SU12). |

| Environment | | |
|-------------|---|--------|
| CS1 | Use of non-reactive processing aid at industrial site (no inclusion into or onto article) | |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, liquid | PROC3 |
| CS4 | Mixing or blending in batch processes, liquid | PROC5 |
| CS5 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, solid | PROC8a |
| CS6 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, solid | PROC8b |

16.2. Conditions of use affecting exposure

16.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

16.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Clear spills immediately.
Avoid contact with contaminated tools and objects.
Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

16.2.3. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Use in closed process
With occasional controlled exposure
Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

16.2.4. Control of worker exposure: Mixing or blending in batch processes (PROC5)

Product (article) characteristics

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

16.2.5. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

16.2.6. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

16.3. Exposure estimation and reference to its source

16.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

characterization was performed.

16.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

16.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES17: Use at industrial sites; Various products (PC35, PC37); Various sectors (SU2a, SU2b).

17.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Industrial use, Use in scale inhibition in oilfield water systems |
| Structured Short Title | : Use at industrial sites; Various products (PC35, PC37); Various sectors (SU2a, SU2b). |

| Environment | | |
|-------------|---|--------|
| CS1 | Use of non-reactive processing aid at industrial site (no inclusion into or onto article) | ERC4 |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, liquid | PROC3 |
| CS4 | Chemical production where opportunity for exposure arises, liquid | PROC4 |
| CS5 | Mixing or blending in batch processes, liquid | PROC5 |
| CS6 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, liquid | PROC8a |
| CS7 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, liquid | PROC8b |

17.2. Conditions of use affecting exposure

17.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

17.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
|--|

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Minimisation of manual phases
Avoid splashes.
Clear spills immediately.
Avoid contact with contaminated tools and objects.
Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

17.2.3. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

17.2.4. Control of worker exposure: Chemical production where opportunity for exposure arises (PROC4)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

17.2.5. Control of worker exposure: Mixing or blending in batch processes (PROC5)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

17.2.6. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 4 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.

Wear suitable respiratory protection.

Inhalation - minimum efficiency of 90 %

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

17.2.7. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

17.3. Exposure estimation and reference to its source

17.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

17.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

17.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES18: Use at industrial sites; Various products (PC20, PC23, PC34); Manufacture of textiles, leather, fur (SU5).

18.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Industrial use, Use in textile industry |
| Structured Short Title | : Use at industrial sites; Various products (PC20, PC23, PC34); Manufacture of textiles, leather, fur (SU5). |

| Environment | | |
|-------------|---|--------|
| CS1 | Use of non-reactive processing aid at industrial site (no inclusion into or onto article) | ERC4 |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Industrial spraying, liquid | PROC7 |
| CS4 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, solid | PROC8a |
| CS5 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, solid | PROC8b |
| CS6 | Roller application or brushing, liquid | PROC10 |
| CS7 | Treatment of articles by dipping and pouring, liquid | PROC13 |

18.2. Conditions of use affecting exposure

18.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

18.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Clear spills immediately.
Avoid contact with contaminated tools and objects.
Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

18.2.3. Control of worker exposure: Industrial spraying (PROC7)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 4 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.

Wear suitable respiratory protection.

Inhalation - minimum efficiency of 90 %

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

18.2.4. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

Product (article) characteristics

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

18.2.5. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

18.2.6. Control of worker exposure: Roller application or brushing (PROC10)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

18.2.7. Control of worker exposure: Treatment of articles by dipping and pouring (PROC13)

| | |
|--|-----------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

18.3. Exposure estimation and reference to its source

18.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

18.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

18.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES19: Use at industrial sites; Coatings and paints, thinners, paint removers (PC9a).

19.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Industrial use, Use in paints and coatings |
| Structured Short Title | : Use at industrial sites; Coatings and paints, thinners, paint removers (PC9a). |

| Environment | | |
|-------------|--|--------|
| CS1 | Use at industrial site leading to inclusion into/onto article | ERC5 |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Industrial spraying, liquid | PROC7 |
| CS4 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, liquid | PROC8a |
| CS5 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, liquid | PROC8b |
| CS6 | Roller application or brushing, liquid | PROC10 |
| CS7 | Transfer of substance or mixture (charging/discharging) at non dedicated-facilities, solid | PROC8a |
| CS8 | Transfer of substance or mixture (charging/discharging) at dedicated facilities, solid | PROC8b |

19.2. Conditions of use affecting exposure

19.2.1. Control of environmental exposure: Use at industrial site leading to inclusion into/onto article (ERC5)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 1 %. |

19.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Avoid splashes.
Clear spills immediately.
Avoid contact with contaminated tools and objects.
Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

19.2.3. Control of worker exposure: Industrial spraying (PROC7)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

19.2.4. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

| | |
|---|--|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

19.2.5. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

19.2.6. Control of worker exposure: Roller application or brushing (PROC10)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

19.2.7. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0
AT / EN

ion Date:
06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| Conditions and measures related to personal protection, hygiene and health evaluation | |
|--|---|
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

19.2.8. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| Product (article) characteristics | |
|--|---|
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

19.3. Exposure estimation and reference to its source

19.3.1. Environmental release and exposure: Use at industrial site leading to inclusion in-to/onto article (ERC5)

| Additional information on exposure estimation |
|---|
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

19.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

19.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES20: Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a); Various sectors (SU18, SU19).

20.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Professional use |
| Structured Short Title | : Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a); Various sectors (SU18, SU19). |

| Environment | | |
|-------------|--|--------------|
| CS1 | Widespread use leading to inclusion into/onto article (indoor), Widespread use leading to inclusion into/onto article (outdoor) | ERC8c, ERC8f |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Roller application or brushing, liquid | PROC10 |
| CS4 | Non-industrial spraying, liquid | PROC11 |
| CS5 | Manual activities involving hand contact, liquid | PROC19 |
| CS6 | Manual activities involving hand contact, solid | PROC19 |

20.2. Conditions of use affecting exposure

20.2.1. Control of environmental exposure: Widespread use leading to inclusion into/onto article (indoor) (ERC8c) / Widespread use leading to inclusion into/onto article (outdoor) (ERC8f)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 1 %. |

20.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.

Training of staff on good practice

Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.

Unless otherwise stated.

20.2.3. Control of worker exposure: Roller application or brushing (PROC10)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

Occupational Health and Safety Management System: Basic

Conditions and measures related to personal protection, hygiene and health evaluation

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

20.2.4. Control of worker exposure: Non-industrial spraying (PROC11)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

20.2.5. Control of worker exposure: Manual activities involving hand contact (PROC19)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

20.2.6. Control of worker exposure: Manual activities involving hand contact (PROC19)

| |
|--|
| Product (article) characteristics |
|--|

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

20.3. Exposure estimation and reference to its source

20.3.1. Environmental release and exposure: Widespread use leading to inclusion into/onto article (indoor) (ERC8c) / Widespread use leading to inclusion into/onto article (outdoor) (ERC8f)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

20.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

20.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES21: Consumer use; Coatings and paints, thinners, paint removers (PC9a).

21.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Consumer use, Use in paints and coatings |
| Structured Short Title | : Consumer use; Coatings and paints, thinners, paint removers (PC9a). |

| | | |
|--------------------|--|-----------------|
| Environment | | |
| CS1 | Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor), Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) | ERC8a, ERC8d |
| Consumer | | |
| CS2 | Use in paints and coatings | PC9a |

21.2. Conditions of use affecting exposure

21.2.1. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

| |
|---|
| Product (article) characteristics |
| Covers percentage substance in the product up to 1 %. |

21.2.2. Control of consumer exposure: Coatings and paints, thinners, paint removers (PC9a)

| | |
|---|-------------------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 1 %. | |
| Physical form of product | : Liquid Solid, medium dustiness |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

21.3. Exposure estimation and reference to its source

21.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

| Additional information on exposure estimation |
|---|
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

21.3.2. Consumer exposure: Coatings and paints, thinners, paint removers (PC9a)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | | | Qualitative approach used to conclude safe use. | |
| inhalative | | | Qualitative approach used to conclude safe use. | |

21.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES22: Service life - workers; Other (AC0).

22.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Industrial use, Use in paints and coatings |
| Structured Short Title | : Service life - workers; Other (AC0). |

| Environment | | |
|-------------|--|-------------------|
| CS1 | Processing of articles at industrial sites with low release, Processing of articles at industrial sites with high release | ERC12a, ERC12b |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | various processes, Indoor | PROC21, PROC24 |
| CS4 | various processes, Outdoor | PROC21, PROC24 |

22.2. Conditions of use affecting exposure

22.2.1. Control of environmental exposure: Processing of articles at industrial sites with low release (ERC12a) / Processing of articles at industrial sites with high release (ERC12b)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 1 %. |

22.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Training of staff on good practice Assumes a good basic standard of occupational hygiene is implemented |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

22.2.3. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21) / High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Solid, low dustiness

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

22.2.4. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21) / High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Solid, low dustiness

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

22.3. Exposure estimation and reference to its source

22.3.1. Environmental release and exposure: Processing of articles at industrial sites with low release (ERC12a) / Processing of articles at industrial sites with high release (ERC12b)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

22.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

22.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES23: Service life - workers; Other (AC0).

23.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Professional use, Use in paints and coatings |
| Structured Short Title | : Service life - workers; Other (AC0). |

| Environment | | |
|-------------|--|-------------------|
| CS1 | Widespread use of articles with low release (outdoor), Widespread use of articles with low release (indoor) | ERC10a, ERC11a |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | various processes, Indoor | PROC21, PROC24 |
| CS4 | various processes, Outdoor | PROC21, PROC24 |

23.2. Conditions of use affecting exposure

23.2.1. Control of environmental exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 1 %. |

23.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Training of staff on good practice Assumes a good basic standard of occupational hygiene is implemented |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

23.2.3. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21) / High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Solid, low dustiness

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Basic

Conditions and measures related to personal protection, hygiene and health evaluation

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

23.2.4. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21) / High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Solid, low dustiness

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

23.3. Exposure estimation and reference to its source

23.3.1. Environmental release and exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

23.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

23.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES24: Service life - consumers; Other (AC0).

24.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Consumer use, Use in paints and coatings |
| Structured Short Title | : Service life - consumers; Other (AC0). |

| | | |
|--------------------|--|-----------------------|
| Environment | | |
| CS1 | Widespread use of articles with low release (outdoor), Widespread use of articles with low release (indoor) | ERC10a, ERC11a |
| Consumer | | |
| CS2 | Use in paints and coatings | AC0 |

24.2. Conditions of use affecting exposure

24.2.1. Control of environmental exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

| |
|---|
| Product (article) characteristics |
| Covers percentage substance in the product up to 1 %. |

24.2.2. Control of consumer exposure: Other (AC0)

| |
|---|
| Product (article) characteristics |
| Covers percentage substance in the product up to 1 %. |

24.3. Exposure estimation and reference to its source

24.3.1. Environmental release and exposure: Widespread use of articles with low release (outdoor) (ERC10a) / Widespread use of articles with low release (indoor) (ERC11a)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

24.3.2. Consumer exposure: Other (AC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | | | Qualitative approach used to conclude safe use. | |
| inhalative | | | Qualitative approach used to conclude safe use. | |

24.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES25: Use at industrial sites; Photo-chemicals (PC30).

25.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Industrial use, Photochemical |
| Structured Short Title | : Use at industrial sites; Photo-chemicals (PC30). |

| Environment | | |
|-------------|--|------------------|
| CS1 | Use of reactive processing aid at industrial site (no inclusion into or onto article) | ERC6b |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | various processes, liquid | PROC5, PROC13 |
| CS4 | various processes, solid | PROC5, PROC13 |

25.2. Conditions of use affecting exposure

25.2.1. Control of environmental exposure: Use of reactive processing aid at industrial site (no inclusion into or onto article) (ERC6b)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

25.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Training of staff on good practice Assumes a good basic standard of occupational hygiene is implemented |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

25.2.3. Control of worker exposure: Mixing or blending in batch processes (PROC5) / Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 4 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Wear suitable respiratory protection.
Inhalation - minimum efficiency of 90 %
For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

25.2.4. Control of worker exposure: Mixing or blending in batch processes (PROC5) / Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Solid, medium dustiness

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

25.3. Exposure estimation and reference to its source

25.3.1. Environmental release and exposure: Use of reactive processing aid at industrial site (no inclusion into or onto article) (ERC6b)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

25.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

25.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES26: Consumer use; Photo-chemicals (PC30).

26.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Consumer use, Photochemical |
| Structured Short Title | : Consumer use; Photo-chemicals (PC30). |

| | | |
|--------------------|--|--------------|
| Environment | | |
| CS1 | Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) | ERC8a |
| Consumer | | |
| CS2 | Photochemical | PC30 |

26.2. Conditions of use affecting exposure

26.2.1. Control of environmental exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

| |
|--|
| Product (article) characteristics |
| Covers percentage substance in the product up to 5%. |

26.2.2. Control of consumer exposure: Photo-chemicals (PC30)

| |
|--|
| Product (article) characteristics |
| Covers percentage substance in the product up to 5%. |

26.3. Exposure estimation and reference to its source

26.3.1. Environmental release and exposure: Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

26.3.2. Consumer exposure: Photo-chemicals (PC30)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | | | Qualitative approach used to conclude safe use. | |
| inhalative | | | Qualitative approach used to conclude safe use. | |

26.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES27: Use at industrial sites; Various products (PC20, PC36, PC37).

27.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Industrial use, Use as an anti-scalant, complexing agent in water treatment systems |
| Structured Short Title | : Use at industrial sites; Various products (PC20, PC36, PC37). |

| Environment | | |
|-------------|---|---------------------------|
| CS1 | Use of non-reactive processing aid at industrial site (no inclusion into or onto article), Use of functional fluid at industrial site | |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | various processes, liquid | PROC1, PROC2, PROC4 |
| CS4 | various processes, liquid | PROC7, PROC9 |
| CS5 | various processes, solid | PROC8a, PROC8b |

27.2. Conditions of use affecting exposure

27.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4) / Use of functional fluid at industrial site (ERC7)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

27.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|---|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

27.2.3. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1) / Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) / Chemical production where opportunity for exposure arises (PROC4)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

27.2.4. Control of worker exposure: Industrial spraying (PROC7) / Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Product (article) characteristics

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

27.2.5. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a) / Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

27.3. Exposure estimation and reference to its source

27.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4) / Use of functional fluid at industrial site (ERC7)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

27.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

27.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.
If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES28: Use at industrial sites; Various products (PC7, PC14).

28.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Industrial use, Use in metal surface treatment |
| Structured Short Title | : Use at industrial sites; Various products (PC7, PC14). |

| Environment | | |
|-------------|--|--------------------------------------|
| CS1 | Use at industrial site leading to inclusion into/onto article | ERC5 |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | various processes, liquid | PROC2, PROC3, PROC4, PROC10 |
| CS4 | various processes, liquid | PROC7, PROC9, PROC13 |
| CS5 | various processes, solid | PROC8a, PROC8b |

28.2. Conditions of use affecting exposure

28.2.1. Control of environmental exposure: Use at industrial site leading to inclusion into/onto article (ERC5)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

28.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|---|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

28.2.3. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) / Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3) / Chemical production where opportunity for exposure arises (PROC4) / Roller application or brushing (PROC10)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

28.2.4. Control of worker exposure: Industrial spraying (PROC7) / Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9) / Treatment of articles by dipping and pouring (PROC13)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

28.2.5. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a) / Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| Conditions and measures related to personal protection, hygiene and health evaluation | |
|---|---|
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

28.3. Exposure estimation and reference to its source

28.3.1. Environmental release and exposure: Use at industrial site leading to inclusion into/onto article (ERC5)

| Additional information on exposure estimation |
|---|
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

28.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

28.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES29: Service life - workers; Other (AC0).

29.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Industrial use, Use in metal surface treatment |
| Structured Short Title | : Service life - workers; Other (AC0). |

| Environment | | |
|-------------|--|-------------------|
| CS1 | Processing of articles at industrial sites with low release, Processing of articles at industrial sites with high release | ERC12a, ERC12b |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | various processes, Indoor | PROC21, PROC24 |
| CS4 | various processes, Outdoor | PROC21, PROC24 |

29.2. Conditions of use affecting exposure

29.2.1. Control of environmental exposure: Processing of articles at industrial sites with low release (ERC12a) / Processing of articles at industrial sites with high release (ERC12b)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 1 %. |

29.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Training of staff on good practice Assumes a good basic standard of occupational hygiene is implemented |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

29.2.3. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21) / High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Solid, low dustiness

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

29.2.4. Control of worker exposure: Low energy manipulation and handling of substances bound in/on materials and/or articles (PROC21) / High (mechanical) energy work-up of substances bound in/on materials and/or articles (PROC24)

Product (article) characteristics

Covers percentage substance in the product up to 1 %.

Physical form of product : Solid, low dustiness

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Outdoor use |
| Temperature | : Assumes process temperature up to 40 °C |

29.3. Exposure estimation and reference to its source

29.3.1. Environmental release and exposure: Processing of articles at industrial sites with low release (ERC12a) / Processing of articles at industrial sites with high release (ERC12b)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

29.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

29.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES30: Use at industrial sites; Washing and cleaning products (PC35).

30.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Industrial use, Cleaning of metal surfaces |
| Structured Short Title | : Use at industrial sites; Washing and cleaning products (PC35). |

| Environment | | |
|-------------|--|----------------------------|
| CS1 | Use of non-reactive processing aid at industrial site (no inclusion into or onto article) | |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | various processes, liquid | PROC7, PROC9, PROC13 |
| CS4 | various processes, solid | PROC8a, PROC8b |
| CS5 | Roller application or brushing, liquid | PROC10 |

30.2. Conditions of use affecting exposure

30.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

30.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|---|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

30.2.3. Control of worker exposure: Industrial spraying (PROC7) / Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9) / Treatment of articles by dipping and pouring (PROC13)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 4 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.

Wear suitable respiratory protection.

Inhalation - minimum efficiency of 90 %

For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

30.2.4. Control of worker exposure: Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a) / Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

30.2.5. Control of worker exposure: Roller application or brushing (PROC10)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|-----------------------|---|
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

30.3. Exposure estimation and reference to its source

30.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| Additional information on exposure estimation |
|---|
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

30.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

30.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES31: Use at industrial sites; Fertilizers (PC12).

31.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Industrial use, Use in agriculture |
| Structured Short Title | : Use at industrial sites; Fertilizers (PC12). |

| Environment | | |
|-------------|---|-----------------------------|
| CS1 | Use of non-reactive processing aid at industrial site (no inclusion into or onto article) | ERC4 |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, liquid | PROC3 |
| CS4 | various processes, liquid | PROC5, PROC8a, PROC8b |
| CS5 | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, solid | PROC3 |
| CS6 | various processes, solid | PROC5, PROC8a, PROC8b |

31.2. Conditions of use affecting exposure

31.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

31.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
|--|

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Minimisation of manual phases
Avoid splashes.
Clear spills immediately.
Avoid contact with contaminated tools and objects.
Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

31.2.3. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Use in closed process
Batch process
With occasional controlled exposure
Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Advanced

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

31.2.4. Control of worker exposure: Mixing or blending in batch processes (PROC5) / Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a) / Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| | |
|--|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

31.2.5. Control of worker exposure: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

| | |
|--|----------------------------|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| |
|---|
| Use in closed process Batch process With occasional controlled exposure Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % |
| For further specification, refer to section 8 of the SDS. |
| Other conditions affecting workers exposure |
| Indoor or outdoor use : Indoor use |
| Temperature : Assumes process temperature up to 40 °C |

31.2.6. Control of worker exposure: Mixing or blending in batch processes (PROC5) / Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a) / Transfer of substance or mixture (charging/discharging) at dedicated facilities (PROC8b)

| |
|--|
| Product (article) characteristics |
| Covers percentage substance in the product up to 100 %. |
| Physical form of product : Solid, medium dustiness |
| Vapour pressure : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) |
| Duration : Exposure duration <= 4 h |
| Technical and organisational conditions and measures |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. |
| Wear suitable respiratory protection. Inhalation - minimum efficiency of 90 % |
| For further specification, refer to section 8 of the SDS. |
| Other conditions affecting workers exposure |
| Indoor or outdoor use : Indoor use |
| Temperature : Assumes process temperature up to 40 °C |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

31.3. Exposure estimation and reference to its source

31.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)

| Additional information on exposure estimation |
|---|
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

31.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

31.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES32: Widespread use by professional workers; Fertilizers (PC12).

32.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Professional use, Use in agriculture |
| Structured Short Title | : Widespread use by professional workers; Fertilizers (PC12). |

| Environment | | |
|-------------|--|------------------------------|
| CS1 | Widespread use of reactive processing aid (no inclusion into or onto article, indoor), Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) | ERC8b, ERC8d |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Roller application or brushing, liquid | PROC10 |
| CS4 | Non-industrial spraying, liquid | PROC11 |
| CS5 | Use as laboratory reagent, liquid | PROC15 |
| CS6 | various processes, solid | PROC14, PROC15, PROC19 |

32.2. Conditions of use affecting exposure

32.2.1. Control of environmental exposure: Widespread use of reactive processing aid (no inclusion into or onto article, indoor) (ERC8b) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

32.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|---|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

Regular cleaning of work area
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Training of staff on good practice
Assumes a good basic standard of occupational hygiene is implemented

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
Unless otherwise stated.

32.2.3. Control of worker exposure: Roller application or brushing (PROC10)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

Amount used, frequency and duration of use (or from service life)

Duration : Exposure duration <= 8 h

Technical and organisational conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).
Occupational Health and Safety Management System: Basic

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection.
For further specification, refer to section 8 of the SDS.

Other conditions affecting workers exposure

Indoor or outdoor use : Indoor use

Temperature : Assumes process temperature up to 40 °C

32.2.4. Control of worker exposure: Non-industrial spraying (PROC11)

Product (article) characteristics

Covers percentage substance in the product up to 100 %.

Physical form of product : Liquid

Vapour pressure : < 0,000006 Pa

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|---|---|
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

32.2.5. Control of worker exposure: Use as laboratory reagent (PROC15)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Liquid |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 8 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

32.2.6. Control of worker exposure: Tableting, compression, extrusion, pelettisation, granulation (PROC14) / Use as laboratory reagent (PROC15) / Manual activities involving hand contact (PROC19)

| | |
|---|---|
| Product (article) characteristics | |
| Covers percentage substance in the product up to 100 %. | |
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Basic | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

32.3. Exposure estimation and reference to its source

32.3.1. Environmental release and exposure: Widespread use of reactive processing aid (no inclusion into or onto article, indoor) (ERC8b) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

32.3.2. Worker exposure: Other (PROC0)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

32.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES33: Consumer use; Fertilizers (PC12).

33.1. Title section

| | |
|-------------------------------|--|
| Exposure Scenario name | : Consumer use, Use in agriculture |
| Structured Short Title | : Consumer use; Fertilizers (PC12). |
| Environment | |
| CS1 | Widespread use of reactive processing aid (no inclusion into or onto article, indoor), Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC8b, ERC8d |
| Consumer | |
| CS2 | Fertilizers PC12 |

33.2. Conditions of use affecting exposure

33.2.1. Control of environmental exposure: Widespread use of reactive processing aid (no inclusion into or onto article, indoor) (ERC8b) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

| |
|--|
| Product (article) characteristics |
| Covers percentage substance in the product up to 5%. |

33.2.2. Control of consumer exposure: Fertilizers (PC12)

| |
|--|
| Product (article) characteristics |
| Covers percentage substance in the product up to 5%. |

33.3. Exposure estimation and reference to its source

33.3.1. Environmental release and exposure: Widespread use of reactive processing aid (no inclusion into or onto article, indoor) (ERC8b) / Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

| |
|--|
| Additional information on exposure estimation |
|--|

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

33.3.2. Consumer exposure: Fertilizers (PC12)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | | | Qualitative approach used to conclude safe use. | |
| inhalative | | | Qualitative approach used to conclude safe use. | |

33.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

ES34: Use at industrial sites; Laboratory chemicals (PC21).

34.1. Title section

| | |
|-------------------------------|---|
| Exposure Scenario name | : Industrial use, Use as laboratory reagent |
| Structured Short Title | : Use at industrial sites; Laboratory chemicals (PC21). |

| Environment | | |
|-------------|--|---------------------------------------|
| CS1 | Use of non-reactive processing aid at industrial site (no inclusion into or onto article), Use of functional fluid at industrial site | ERC4, ERC7 |
| Worker | | |
| CS2 | General measures applicable to all activities | PROC0 |
| CS3 | Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions, solid | PROC1 |
| CS4 | various processes, solid | PROC2, PROC4, PROC8a, PROC15 |

34.2. Conditions of use affecting exposure

34.2.1. Control of environmental exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4) / Use of functional fluid at industrial site (ERC7)

| Product (article) characteristics |
|---|
| Covers percentage substance in the product up to 100 %. |

34.2.2. Control of worker exposure: Other (PROC0)

| Technical and organisational conditions and measures |
|--|
| Minimisation of manual phases Avoid splashes. Clear spills immediately. Avoid contact with contaminated tools and objects. Regular cleaning of work area Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| |
|--|
| Training of staff on good practice Assumes a good basic standard of occupational hygiene is implemented |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. Unless otherwise stated. |

34.2.3. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1)

| |
|---|
| Product (article) characteristics |
| Covers percentage substance in the product up to 100 %. |
| Physical form of product : Solid, medium dustiness |
| Vapour pressure : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) |
| Duration : Exposure duration <= 8 h |
| Technical and organisational conditions and measures |
| Use in closed process Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced |
| Conditions and measures related to personal protection, hygiene and health evaluation |
| Use suitable eye protection. For further specification, refer to section 8 of the SDS. |
| Other conditions affecting workers exposure |
| Indoor or outdoor use : Indoor use |
| Temperature : Assumes process temperature up to 40 °C |

34.2.4. Control of worker exposure: Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2) / Chemical production where opportunity for exposure arises (PROC4) / Transfer of substance or mixture (charging/discharging) at non dedicated-facilities (PROC8a) / Use as laboratory reagent (PROC15)

| |
|---|
| Product (article) characteristics |
| Covers percentage substance in the product up to 100 %. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

| | |
|--|---|
| Physical form of product | : Solid, medium dustiness |
| Vapour pressure | : < 0,000006 Pa |
| Amount used, frequency and duration of use (or from service life) | |
| Duration | : Exposure duration <= 4 h |
| Technical and organisational conditions and measures | |
| Provide a basic standard of general ventilation (1 to 3 air changes per hour). Occupational Health and Safety Management System: Advanced | |
| Conditions and measures related to personal protection, hygiene and health evaluation | |
| Use suitable eye protection. | |
| Wear suitable respiratory protection. | |
| Inhalation - minimum efficiency of 90 % | |
| For further specification, refer to section 8 of the SDS. | |
| Other conditions affecting workers exposure | |
| Indoor or outdoor use | : Indoor use |
| Temperature | : Assumes process temperature up to 40 °C |

34.3. Exposure estimation and reference to its source

34.3.1. Environmental release and exposure: Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4) / Use of functional fluid at industrial site (ERC7)

| |
|---|
| Additional information on exposure estimation |
| As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed. |

34.3.2. Worker exposure: Other (PROC0)

| Exposure route | Health effect | Exposure indicator | Exposure level | RCR |
|----------------|---------------|--------------------|---|-----|
| Eye | local | short-term | Qualitative approach used to conclude safe use. | |
| inhalative | local | short-term | Qualitative approach used to conclude safe use. | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Jungbunzlauer

Citric Acid Monohydrate

Version 2.0 Revision Date:
AT / EN 06.05.2022

SDS Number:
100000000013

Date of last issue: 05.05.2022
Date of first issue: 04.05.2022

34.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit to his use.

If other OC/RMM are adopted, the user should ensure that risks are managed to at least equivalent levels.