Safety data sheet
according to 1907/2006/EC, Article 31

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

· **1.1 Product identifier**

· **Trade name: Citric acid monohydrate**

· **Article number:** 1018
· **CAS Number:**
5949-29-1
· **EC number:**
201-069-1
· **Application of the substance / the mixture** Laboratory chemicals

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
PANREAC QUIMICA S.L.U.
C/Garraf 2
Polígono Pla de la Bruguera
E-08211 Castellar del Vallès (Barcelona)
Tel. (+34) 937 489 400
Fax. (+34) 937 489 401
e-mail: product.safety@panreac.com

· **Further information obtainable from:** email: product.safety@panreac.com
· **1.4 Emergency telephone number:**
Single telephone number for emergency calls: 112 (EU)
Tel.: (+34) 937 489 499

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
Eye Irrit. 2 H319 Causes serious eye irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
· **Hazard pictograms**

GHS07

· **Signal word** Warning
· **Hazard statements**
H319 Causes serious eye irritation.
· **Precautionary statements**
P264 Wash thoroughly after handling.

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P280 Wear eye protection / face protection.
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.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.1 Substances**
· **CAS No. Description**
5949-29-1 Citric acid monohydrate
· **Identification number(s)**
· **EC number:** 201-069-1

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Personal protection for the First Aider.
Take affected persons out into the fresh air.
Involve doctor immediately.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately rinse with water.
Immediately remove any clothing soiled by the product.
If skin irritation continues, consult a doctor.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
make victim drink water (maximum of 2 drinking glasses)
Do not induce vomiting; call for medical help immediately.
If symptoms persist consult doctor.
· **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
Carbon dioxide
Foam
Use fire extinguishing methods suitable to surrounding conditions.
· **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Non-combustible.
· **5.3 Advice for firefighters**
· **Protective equipment:** Wear self-contained respiratory protective device.
· **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Wear protective equipment. Keep unprotected persons away.
Avoid substance contact.
Ensure adequate ventilation
· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Avoid formation of dust.
Clean up affected area.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** Any unavoidable deposit of dust must be regularly removed.
· **Information about fire - and explosion protection:** The product is not flammable.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Provide acid-resistant floor.
· **Information about storage in one common storage facility:** Store away from oxidising agents.
· **Further information about storage conditions:**
Keep container tightly sealed.
Open receptacle only under localised extractor facilities.
· **Recommended storage temperature:** Room Temperature
· **Storage class:** 13
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:** Not required.

· **PNECs**	
Aquatic compartment - freshwater	0.44 mg/L
Aquatic compartment - marine water	0.044 mg/L
Aquatic compartment - sediment in freshwater	3.46 mg/kg
Aquatic compartment - sediment in marine water	34.6 mg/kg
Terrestrial compartment - soil	33.1 mg/kg
Sewage treatment plant	>1,000 mg/L

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see item 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
· **Respiratory protection:**
Required when dusts are generated.

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Filter P2

· **Hand protection**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
Value for the permeation: Level ≥ 480 min

· **As protection from splashes gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
Value for the permeation: Level ≥ 480 min

· **Eye/face protection**

Tightly sealed goggles

· **Body protection:**
Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazourdous substances handled.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**	
· **Physical state**	Solid
· **Colour:**	White
· **Odour:**	Odourless
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	135-152 °C
· **Boiling point or initial boiling point and boiling range**	Undetermined.
· **Flammability**	Product is not flammable.
· **Lower and upper explosion limit**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Flash point:**	Not applicable.
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	>170 °C
· **pH**	1.8
· **Viscosity:**	
· **Kinematic viscosity**	Not applicable.
· **Dynamic:**	Not applicable.
· **Solubility**	
· **water at 25 °C:**	676 g/l
· **Partition coefficient n-octanol/water (log value)**	-1.79997
· **Vapour pressure:**	Not applicable.
· **Density and/or relative density**	
· **Density at 20 °C:**	1.54 g/cm³

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· **Relative density**	Not determined.
· **Bulk density:**	550-950 kg/m³
· **Vapour density**	Not applicable.

· **9.2 Other information**	
· **Appearance:**	
· **Form:**	Solid
· **Important information on protection of health and environment, and on safety.**	
· **Explosive properties:**	Product does not present an explosion hazard.
· **Change in condition**	
· **Evaporation rate**	Not applicable.

· **Information with regard to physical hazard classes**	
· **Explosives**	Void
· **Flammable gases**	Void
· **Aerosols**	Void
· **Oxidising gases**	Void
· **Gases under pressure**	Void
· **Flammable liquids**	Void
· **Flammable solids**	Void
· **Self-reactive substances and mixtures**	Void
· **Pyrophoric liquids**	Void
· **Pyrophoric solids**	Void
· **Self-heating substances and mixtures**	Void
· **Substances and mixtures, which emit flammable gases in contact with water**	Void
· **Oxidising liquids**	Void
· **Oxidising solids**	Void
· **Organic peroxides**	Void
· **Corrosive to metals**	Void
· **Desensitised explosives**	Void

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** Heating.
· **10.3 Possibility of hazardous reactions**
Exothermic reactions with:
oxidizing agent
reducing agents
metals
Bases
· **10.4 Conditions to avoid** Thermal decomposition: >170°C
· **10.5 Incompatible materials:**
oxidizing agent
Bases
reducing agents
· **10.6 Hazardous decomposition products:** In the event of fire: See chapter 5
· **Additional information:** releases water of crystallization when heated.

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.

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· **LD/LC50 values relevant for classification:**
Quantitative data on the toxicological effect of this product are not available.

· Components	Type	Value	Species
Oral	LD50	5,400 mg/kg (mouse)	
Dermal	LD50	>2,000 mg/kg (rat)	

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **After inhalation:** No irritant effect.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.
· **11.2 Information on other hazards**
· **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.

· Type of test	Effective concentration	Method	Assessment
LC50/24 h	1,535 mg/l (daphnia magna)		
LC50/48 h	440 mg/l (fish)		
NOEC	425 mg/L (Algae)		

· **12.2 Persistence and degradability** The product is easily biodegradable.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **Additional ecological information:**
· **General notes:**
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values.
A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:**
Disposal must be made according to official regulations.

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Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

· **14.1 UN number or ID number** · **ADR, ADN, IMDG, IATA**	Void
· **14.2 UN proper shipping name** · **ADR, ADN, IMDG, IATA**	Void
· **14.3 Transport hazard class(es)** · **ADR, ADN, IMDG, IATA** · **Class**	Void
· **14.4 Packing group** · **ADR, IMDG, IATA**	Void
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.
· **UN "Model Regulation":**	Void

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** Substance is not listed.

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations**
· **Substances of very high concern (SVHC) according to REACH, Article 57** Substance is not listed.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

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· *** Data compared to the previous version altered.**

Annex: Exposure scenario

· **Short title of the exposure scenario** Use in laboratories
· **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
· **Conditions of use**
· **Duration and frequency** 5 workdays/week.
· **Physical parameters**
· **Physical state** Solid
· **Concentration of the substance in the mixture** Raw material.
· **Other operational conditions**
· **Other operational conditions affecting environmental exposure** No special measures required.
· **Other operational conditions affecting worker exposure** Avoid contact with eyes.
· **Other operational conditions affecting consumer exposure** No special measures required.
· **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
· **Risk management measures**
· **Worker protection**
· **Organisational protective measures** No special measures required.
· **Technical protective measures**
Ensure that suitable extractors are available on processing machines
· **Personal protective measures**
Do not inhale dust / smoke / mist.
Avoid contact with the eyes.
Tightly sealed goggles
· **Measures for consumer protection** Ensure adequate labelling.
· **Environmental protection measures**
· **Water** No special measures required.
· **Disposal measures** Ensure that waste is collected and contained.
· **Disposal procedures**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· **Waste type** Partially emptied and uncleaned packaging
· **Exposure estimation**
· **Consumer** Not relevant for this Exposure Scenario.
· **Guidance for downstream users** No further relevant information available.