

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended

### Fe Citrate concentrated solution (100x)

Version 5.0

Revision Date: 31.01.2025

Date of last issue: 26.04.2024

Date of first issue: 12.12.2016

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

### 1.1 Product identifier

Product name : Fe Citrate concentrated solution (100x)

Material number : BE02-059F

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

Use of the Substance/Mixture : Suitable for GMP manufacturing.

Recommended restrictions : Not for human or animal in vivo or diagnostic use.  
on use

### 1.3 Details of the supplier of the safety data sheet

Company : **Lonza Ltd**  
Muenchensteinerstrasse 38  
CH-4002 Basel, Switzerland  
Business Telephone: +41 61 316 81 11

**Lonza Verviers Sprl**  
Parc Industriel de Petit-Rechain  
BE-4800 Verviers, Belgium  
Business Telephone: +32 8732 1611

**Lonza Cologne GmbH**  
Nattermannallee 1  
DE-50829 Köln, Germany  
Business Telephone: + 49 221 99 1990

E-mail address / : sds@lonza.com  
Responsible/issuing person

### 1.4 Emergency telephone number

Emergency telephone : Lonza Ltd, CH-4002 Basel, Switzerland  
number Telephone: +41 61 313 94 94 (24h)

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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

### 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.

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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.

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**SECTION 3: Composition/information on ingredients****3.2 Mixtures****Components**

Remarks : No hazardous ingredients

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**SECTION 4: First aid measures****4.1 Description of first aid measures**

- If inhaled : Move to fresh air.  
If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : Wash with water and soap as a precaution.  
If on clothes, remove clothes.  
In the case of skin irritation or allergic reactions see a physician.
- In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Keep eye wide open while rinsing.  
Protect unharmed eye.  
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.  
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 : No information available.

**4.3 Indication of any immediate medical attention and special treatment needed**

Treatment : Treat symptomatically.

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**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media : Water spray

Unsuitable extinguishing media : High volume water jet

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**5.2 Special hazards arising from the substance or mixture**

- Specific hazards during firefighting : Heating or fire can release toxic gas.
- Hazardous combustion products : No hazardous combustion products are known

**5.3 Advice for firefighters**

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
- Further information : Use a water spray to cool fully closed containers.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

- Personal precautions : Use personal protective equipment.

**6.2 Environmental precautions**

- Environmental precautions : Try to prevent the material from entering drains or water courses.

**6.3 Methods and material for containment and cleaning up**

- Methods for cleaning up : Use neutralizing agents. Neutralize with chalk, alkali solution or ammonia. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**6.4 Reference to other sections**

- For personal protection see section 8.  
For disposal considerations see section 13.

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**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

- Advice on safe handling : No special precautions required. For personal protection see section 8.
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

**7.2 Conditions for safe storage, including any incompatibilities**

- Requirements for storage areas and containers : Keep container tightly closed. Keep in a well-ventilated place. To maintain product quality, do not store in heat or direct sunlight.
- Advice on common storage : No special restrictions on storage with other products.

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Further information on storage stability : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Countries not listed may have their own country specific values.

#### Occupational Exposure Limits

##### Switzerland

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Iron(3+) citrate	3522-50-7	TWA (inhalable dust)	1 mg/m <sup>3</sup> (Iron)	CH SUVA

### 8.2 Exposure controls

#### Engineering measures

Avoid splashes.

#### Personal protective equipment

Eye protection : Safety glasses

Hand protection

Remarks : Wear protective gloves. Break through time : > 480 min

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
Lightweight protective clothing

Respiratory protection : No personal respiratory protective equipment normally required.  
In the case of vapour formation use a respirator with an approved filter.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state : liquid

Appearance : Aqueous solution

Colour : light brown

Odour : No data available

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Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	ca. 2,1
Viscosity		
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Density	:	No data available
Relative vapour density	:	No data available

### 9.2 Other information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

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Hazardous reactions : Stable under recommended storage conditions.  
No hazards to be specially mentioned.

**10.4 Conditions to avoid**

Conditions to avoid : Heat

**10.5 Incompatible materials**

Materials to avoid : Oxidizing agents  
Strong acids and strong bases

**10.6 Hazardous decomposition products**

No decomposition if used as directed.  
No hazardous decomposition products are known.

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**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity**

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

**Skin corrosion/irritation**

Remarks : No data available

**Serious eye damage/eye irritation**

Remarks : No data available

**Respiratory or skin sensitisation**

Remarks : No data available

**Germ cell mutagenicity**

Genotoxicity in vitro : Remarks: No data available

Remarks : No data available

**Reproductive toxicity**

Effects on fertility : Remarks: No data available

**STOT - single exposure**

Remarks : No data available

**STOT - repeated exposure**

Remarks : No data available

**Aspiration toxicity**

No aspiration toxicity classification

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**11.2 Information on other hazards****Endocrine disrupting properties**

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**

Remarks : No data available

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**SECTION 12: Ecological information****12.1 Toxicity**

Toxicity to fish : Remarks: No data available

**12.2 Persistence and degradability**

Biodegradability : Remarks: No data available

**12.3 Bioaccumulative potential**

Bioaccumulation : Remarks: No data available

**12.4 Mobility in soil**

Distribution among environmental compartments : Remarks: No data available

**12.5 Results of PBT and vPvB assessment**

Assessment : 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.

**12.6 Endocrine disrupting properties**

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**

Additional ecological information : No data available

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Product : Solutions with low pH-value must be neutralized before discharge.  
Dispose of contents/container in accordance with local

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regulation.  
Contact waste disposal services.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

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**SECTION 14: Transport information**

**IATA** Not dangerous goods

**14.1 UN number** : Not applicable  
**14.2 Proper shipping name** : Not applicable  
**14.3 Transport hazard class(es)** : Not applicable  
**14.4 Packing group** : Not applicable  
**14.5 Environmental hazards** : no

**IMDG** Not dangerous goods

**14.1 UN number** : Not applicable  
**14.2 Proper shipping name** : Not applicable  
**14.3 Transport hazard class(es)** : Not applicable  
**14.4 Packing group** : Not applicable  
**14.5 Environmental hazards** : Marine pollutant: no

**ADR** Not dangerous goods

**14.1 UN number** : Not applicable  
**14.2 Proper shipping name** : Not applicable  
**14.3 Transport hazard class(es)** : Not applicable  
**14.4 Packing group** : Not applicable  
**14.5 Environmental hazards** : no

**RID** Not dangerous goods

**14.1 UN number** : Not applicable  
**14.2 Proper shipping name** : Not applicable  
**14.3 Transport hazard class(es)** : Not applicable  
**14.4 Packing group** : Not applicable  
**14.5 Environmental hazards** : no

**DOT** : Not dangerous goods

**14.1 UN number** : Not applicable  
**14.2 Proper shipping name** : Not applicable  
**14.3 Transport hazard class(es)** : Not applicable  
**14.4 Packing group** : Not applicable



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**TDG** : Not dangerous goods

**14.1 UN number** : Not applicable

**14.2 Proper shipping name** : Not applicable

**14.3 Transport hazard class(es)** : Not applicable

**14.4 Packing group** : Not applicable

**14.5 Environmental hazards** : no

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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## 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

International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors : Not applicable

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

Regulation (EU) No 2024/590 on substances that deplete the ozone layer : Not applicable

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

Council Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors : Neither banned nor restricted

SIN (Substitute it Now!) List (ChemSec) : Not listed

Community rolling action plan (CORAP) List of Substances : Not listed

EU Dual-Use export controls regulation 2021/821 (Annex I, 1C350 and 1C450) as amended : Not applicable

Council Regulation (EC) No 273/2004 on drug precursors : Not applicable

U.S. EPA PFAS List of Lists : Not applicable

REACH - List of substances subject to authorisation : Not applicable

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(Annex XIV)

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 2 obviously hazardous to water  
Classification according to AwSV, Annex 1 (5.2)

**15.2 Chemical safety assessment**

not required

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**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; AIIIC - 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 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; TECl - 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**

Other information : This Safety Data Sheet is a generic European Safety Data Sheet and therefore does not contain all specific information for each European country.

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Date format : dd.mm.yyyy

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.

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