

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

### 1.1. Product identifier

Product form	: Substance
Trade name	: Fe-EDTA 13% - K
IUPAC name	: potassium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']ferrate(1-)
EC-No.	: 259-411-0
CAS-No.	: 54959-35-2
REACH registration No	: 01-2120085738-40
Product code	: 100.132.000
Formula	: C10H12FeKN2O8

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

#### 1.2.1. Relevant identified uses

Main use category	: Industrial use, Professional use
Use of the substance/mixture	: Fertilizers

#### 1.2.2. Uses advised against

No additional information available

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

Biron B.V.  
De Vecht 5  
8253 PH Dronten - The Netherlands  
T +31 (0)321 336 730  
[Info@biron.nl](mailto:Info@biron.nl) - [www.biron.nl](http://www.biron.nl)

### 1.4. Emergency telephone number

Emergency number	: National Poisons Information Service +44 870 600 6266 worldwide: <a href="http://www.who.int/ipcs/poisons/centre/directory/en">http://www.who.int/ipcs/poisons/centre/directory/en</a>
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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

#### Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

### 2.2. Label elements

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008.  
No labelling applicable

### 2.3. Other hazards

No additional information available

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Fe-EDTA K	(CAS-No.) 54959-35-2 (EC-No.) 259-411-0 (REACH-no) 01-2120085738-40	100	Not classified

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after skin contact	: Rinse with water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention. Wash skin with plenty of water.
First-aid measures after eye contact	: Immediately rinse with water for a prolonged period while holding the eyelids wide open. Consult an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Drink two glasses of water. Do not give an unconscious person anything to drink. Do not induce vomiting. Move to fresh air. Call a POISON CENTER/doctor if you feel unwell. Call a poison center or a doctor if you feel unwell.

#### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Making extinguishing agents environment-friendly. Water spray. Dry powder. Foam.

#### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Not flammable.
Explosion hazard	: Not applicable.
Hazardous decomposition products in case of fire	: On burning: release of harmful/irritant gases/vapours. Nitrogen oxides.

#### 5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

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|--------------------------------|--|
| Firefighting instructions      | : Exercise caution when fighting any chemical fire. Dilute toxic gases with water spray. Use water moderately and if possible collect or contain it.   |
| Protection during firefighting | : Fire fighters have to wear suited clothing and an independent respiratory device (SCBA) that covers the face completely with pressure. Clothing for fire fighters (including helmets, protective boots and gloves) according to European Regulation EN 469, give a basic protection level for an incident with chemicals. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

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|------------------|--|
| General measures | : Avoid raising dust. Avoid inhalation of product. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. |
|------------------|--|

#### 6.1.1. For non-emergency personnel

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|----------------------------------|---|
| Protective equipment             | : Wear suitable protective clothing. Concerning personal protective equipment to use, see section 8.    |
| Emergency procedures             | : Ventilate spillage area. Clear the danger area. Notify police and fire brigade as soon as possible.   |
| Measures in case of dust release | : Dust production: have neighbourhood close doors and windows. In case of dust production: keep upwind. |

#### 6.1.2. For emergency responders

- |                      |   |
|----------------------|---|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
|----------------------|---|

### 6.2. Environmental precautions

Avoid release to the environment. Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.

### 6.3. Methods and material for containment and cleaning up

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|-------------------------|---|
| For containment         | : Stop leak if safe to do so. Knock down/dilute dust cloud with water spray. Shovel or sweep up and put in a closed container for disposal.   |
| Methods for cleaning up | : Mechanically recover the product. Collect all waste in suitable and labelled containers and dispose according to local legislation. Wash away remainder with plenty of water. Wash clothing and equipment after handling. Do not discharge into drains or rivers. |
| Other information       | : Dispose of materials or solid residues at an authorized site.   |

### 6.4. Reference to other sections

Concerning personal protective equipment to use, see item 8. Concerning disposal elimination after cleaning, see item 13. For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

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|-------------------------------|--|
| Precautions for safe handling | : Wear personal protective equipment. Ensure good ventilation of the work station. Avoid contact with skin, eyes and clothing. Wear personal protective clothing (see chapter 8). Avoid dust formation. Avoid all unnecessary exposure. Do not breathe dust. |
| Hygiene measures              | : Always wash hands after handling the product. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.   |

### 7.2. Conditions for safe storage, including any incompatibilities

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|------------------------------|--|
| Storage conditions           | : Store in a well-ventilated place. Keep cool.                   |
| Storage temperature          | : -5 – 30 °C   |
| Information on mixed storage | : Keep away from food, drink and animal feeding stuffs.          |
| Storage area                 | : Store in dry, well-ventilated area.                            |
| Special rules on packaging   | : closing. dry. correctly labelled. meet the legal requirements. |
| Packaging materials          | : plastics. paper with plastic inner lining.                     |

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### 7.3. Specific end use(s)

Fertilisers.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

No additional information available

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

Fe-EDTA 13% - K (54959-35-2)	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, dermal	2800 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3.95 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects, oral	0.28 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.97 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	1400 mg/kg bodyweight/day
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	2.5 mg/l
PNEC aqua (marine water)	0.25 mg/l
PNEC aqua (intermittent, freshwater)	1.009 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	87.175 mg/kg dwt
PNEC sediment (marine water)	8.7175 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	15.92 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	64 mg/l

#### 8.1.5. Control banding

No additional information available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

##### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

Personal protective equipment symbol(s):

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### 8.2.2.1. Eye and face protection

<b>Eye protection:</b>			
Safety spectacles with side shields. Safety glasses			
Type	Field of application	Characteristics	Standard
Safety glasses			EN 166

### 8.2.2.2. Skin protection

<b>Skin and body protection:</b>
Wear suitable protective clothing

### Hand protection:

Protective gloves					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
	Latex	6 (> 480 minutes)			EN ISO 374

### 8.2.2.3. Respiratory protection

<b>Respiratory protection:</b>
No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation

### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Microgranular.
Colour	: light brown.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 6 (5 – 7)
pH solution	: 1 %
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: > 225.4 °C
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: 362 °C (EU Method A.16)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 0.7

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Density	: 770 kg/m <sup>3</sup> Type: 'bulk density'
Solubility	: Soluble in water. Water: 558.16 g/l 20°C
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: -4.6
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: Not oxidizing.
Explosive limits	: Not applicable

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The substance has low chemical reactivity.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Prevent moisture contact. Avoid high temperatures.

### 10.5. Incompatible materials

None known.

### 10.6. Hazardous decomposition products

On burning: release of (highly) toxic gases/vapours. Nitrogen oxides.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

### Fe-EDTA 13% - K (54959-35-2)

LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LC50 Inhalation - Rat	> 2.75 mg/l/4h (Read-across FeNa-EDTA)

Skin corrosion/irritation	: Not classified pH: 6 (5 – 7)
Serious eye damage/irritation	: Not classified pH: 6 (5 – 7)
Respiratory or skin sensitisation	: Not classified

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Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified

### Fe-EDTA 13% - K (54959-35-2)

NOAEL (animal/male, F0/P)	500 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
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STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

### Fe-EDTA 13% - K (54959-35-2)

NOAEL (oral, rat, 90 days)	> 11.2 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents), Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
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Aspiration hazard : Not classified

### Fe-EDTA 13% - K (54959-35-2)

Viscosity, kinematic	Not applicable
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## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

### Fe-EDTA 13% - K (54959-35-2)

LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	100.9 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 87.3 mg/l (Read-across FeNa-EDTA)
LOEC (chronic)	50 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	25 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

### Fe-EDTA 13% - K (54959-35-2)

Partition coefficient n-octanol/water (Log Kow)	-4.6
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### 12.4. Mobility in soil

No additional information available

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### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste)	: Dispose of contaminated materials in accordance with current regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

### 14.1 UN number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No. (RID)	: Not applicable

### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable
Proper Shipping Name (ADN)	: Not applicable
Proper Shipping Name (RID)	: Not applicable

### 14.3. Transport hazard class(es)

<b>ADR</b>	
Transport hazard class(es) (ADR)	: Not applicable
<b>IMDG</b>	
Transport hazard class(es) (IMDG)	: Not applicable
<b>IATA</b>	
Transport hazard class(es) (IATA)	: Not applicable
<b>ADN</b>	
Transport hazard class(es) (ADN)	: Not applicable
<b>RID</b>	
Transport hazard class(es) (RID)	: Not applicable

### 14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available



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### 14.6. Special precautions for user

#### Overland transport

No data available

#### Transport by sea

No data available

#### Air transport

No data available

#### Inland waterway transport

No data available

#### Rail transport

No data available

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Fe-EDTA 13% - K is not on the REACH Candidate List

Fe-EDTA 13% - K is not on the REACH Annex XIV List

Fe-EDTA 13% - K is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Fe-EDTA 13% - K is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

#### 15.1.2. National regulations

##### Germany

Water hazard class (WGK) : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting

giftige stoffen – Borstvoeding

NIET-limitatieve lijst van voor de voortplanting : The substance is not listed

giftige stoffen – Vruchtbaarheid

NIET-limitatieve lijst van voor de voortplanting : The substance is not listed

giftige stoffen – Ontwikkeling

### 15.2. Chemical safety assessment

A chemical safety assessment has been carried out for the substance or the mixture by the supplier

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Indication of changes:

Complete review of safety data sheet.

### Abbreviations and acronyms:

CLP	CLP = Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
SDS	SDS = Safety Data Sheet

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REACH	REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
DMEL	DMEL = Derived Minimal Effect level
DNEL	DNEL = Derived-No Effect Level
EC50	Median effective concentration
LC50	Median lethal concentration
LD50	Median lethal dose
PNEC	PNEC = Predicted No-Effect Concentration
STP	Sewage treatment plant
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
EC-No.	European Community number
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	zPzB = Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Data sources : ECHA Website: Information on Registered Substances  
Handbook of Chemistry and Physics CRC Press Inc  
Information suppliers  
BIG-database.

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Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.