

Potassium EDTA Iron 13%

Version number: 2.0

SECTION 1: Identification

1.1 Product identifier

Identification of the substance potassium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']ferrate(1-)

Trade name **Potassium EDTA Iron 13%**

CAS number 54959-35-2

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

Relevant identified uses Production of fertilizer

1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC
179 Calle Magdalena Suite 100
Encinitas, California CA 92024
United States

Telephone: +1 (760) 635 8500
e-mail: info@valudor.com
Website: www.valudor.com

1.4 Emergency telephone number

Emergency information 800-535-5053 (Infotrac)
As above or nearest toxicological information center.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
B.cD	combustible dust	Comb. Dust	cD	OSHA003

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word warning

Pictograms Not required.

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Hazard statements

OSHA003

May form combustible dust concentrations in air.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	potassium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']ferrate(1-)
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Identifiers

CAS No	54959-35-2
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Molecular formula	C ₁₀ H ₁₂ FeKN ₂ O ₈
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Molar mass	383.2 g/mol
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SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Self-protection of the first aider.

Remove affected person from the danger area and lay down.

Do not leave affected person unattended.

Take off immediately all contaminated clothing.

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

Rinse skin with water/shower.

Take off contaminated clothing and wash it before reuse.

Following eye contact

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth with water (only if the person is conscious).

Induce vomiting when the affected person is not unconscious.

Get medical advice/attention.

Notes for the doctor

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None.

4.2 Most important symptoms and effects, both acute and delayed

This information is not available.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

water, foam, alcohol resistant foam, fire extinguishing powder

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible.

Hazardous decomposition products: Section 10.

Deposited combustible dust has considerable explosion potential.

Hazardous combustion products

nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

Keep containers cool with water spray.

In case of fire and/or explosion do not breathe fumes.

Coordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

chemical protection suit, self-contained breathing apparatus (SCBA)

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Control of dust.

Do not breathe dust.

Avoid contact with skin and eyes.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

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Keep away from drains, surface and ground water.
Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.
Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.
Collect spillage.

Other information relating to spills and releases

Place in appropriate containers for disposal.
Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.
Personal protective equipment: see section 8.
Incompatible materials: see section 10.
Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes.
Do not breathe dust.

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.
Keep away from sources of ignition - No smoking.
Take precautionary measures against static discharge.
Removal of dust deposits.
Ground/bond container and receiving equipment.

Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room.
Danger of dust explosion.

Measures to protect the environment

Avoid release to the environment.
Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.
Remove contaminated clothing and protective equipment before entering eating areas.
Do not breathe dust.
Avoid contact with skin and eyes.
Wash hands after use.
Preventive skin protection (barrier creams/ointments) is recommended.

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7.2 Conditions for safe storage, including any incompatibilities

Explosive atmospheres

Removal of dust deposits.

Flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat, humidity

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

Store in a dry place. Store in a closed container.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Keep container tightly closed and in a well-ventilated place.

Keep cool.

Storage temperature

recommended storage temperature: -10 - 30 °C

Packaging compatibilities

Keep only in original container.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

The following constituents are the only constituents of the product which have a PEL, a TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Notation	Source
US	iron, soluble salts	-	REL	-	1 (10 h)	-	-	Fe	NIOSH REL
US	iron, soluble salts	-	TLV®	-	1	-	-	Fe	ACGIH® 2024
US	Iron salts, soluble	-	PEL (CA)	-	1	-	-	Fe	Cal/OSHA PEL
US	Particulates not otherwise regu-	-	PEL (CA)	-	10	-	-	dust	Cal/OSHA PEL

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Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
	lated								
US	Particulates not otherwise regulated	-	PEL (CA)	-	5	-	-	r	Cal/OSHA PEL
US	particulates not otherwise classified (PNOC)	-	PEL	-	15	-	-	dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	1,765	-	-	-	partml, dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	529.5	-	-	-	partml, r, dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	-	5	-	-	r	29 CFR 1910.1000
US	particulate not otherwise regulated	-	REL	-	-	-	-	appx-D	NIOSH REL

Notation

appx-D see Appendix D - Substances with No Established RELs

dust as dust

Fe calculated as Fe (iron)

partml particles/ml

r respirable fraction

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

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Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
NBR: acrylonitrile-butadiene rubber	≥ 0,11 mm	>480 minutes (permeation: level 6)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Body protection

Protective clothing for use against solid particulates.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particle filter device (DIN EN 143).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	solid
Color	light brown

Particle characteristics

Granulometry	< 47.8 µm = 10 % 115 µm = 50 % 211 µm = 90 %
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Odor	odorless
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Odor threshold	not determined
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Other safety parameters

pH (value)	5 – 7 (in aqueous solution: 1 wt%)
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	not determined
Flash point	not applicable

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Evaporation rate	not determined
Flammability (solid, gas)	this material is combustible, but will not ignite readily
Explosive limits	not determined
Explosion limits of dust clouds	not determined
Vapor pressure	0.114 mPa at 20 °C 0.177 mPa at 25 °C
Density and/or relative density	
Density	1.621 g/cm ³ at 20 °C (OECD Guideline 109, ECHA Chem)
Relative density	1.621 at 20 °C (water = 1)
Bulk density	0.6 – 0.8 g/cm ³
Relative vapour density	not relevant (solid)
Solubility(ies)	
Water solubility	600 g/l at 20 °C
Partition coefficient	
n-octanol/water (log KOW)	-4.6
Soil organic carbon/water (log KOC)	-4.91 (ECHA Chem, estimation)
Auto-ignition temperature	362 °C (EU method A.16) (relative self-ignition temperature for solids)
Decomposition temperature	>225.4 °C
Viscosity	not relevant (solid)
Explosive properties	none
Oxidizing properties	none
Information for relevant hazard classes according to GHS	there is no additional information
9.2 Other information	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

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The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Control of dust.

10.5 Incompatible materials

oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgment (weight of evidence determination).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic (oral).

Shall not be classified as acutely toxic (dermal).

Inhalation.

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Exposure route	Endpoint	Value	Species	Method	Source
oral	LD0	>2,000 mg/kg	rat, female	OECD Guideline 423	ECHA
dermal	LD0	>2,000 mg/kg	rat	OECD Guideline 402	ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

(ECHA, OECD Guideline 439, OECD Guideline 404)

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

(ECHA, OECD Guideline 405, OECD Guideline 437)

Respiratory or skin sensitization

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Skin sensitization

Shall not be classified as a skin sensitizer.
(ECHA, OECD Guideline 429)

Respiratory sensitization

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.
(ECHA, OECD Guideline 471, OECD Guideline 487, OECD Guideline 474, OECD Guideline 476)

Carcinogenicity

Shall not be classified as carcinogenic.

IARC Monographs

not listed

National Toxicology Program (United States)

not listed

OSHA Carcinogens

Not listed.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.
(ECHA, OECD Guideline 415)

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Other information

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
LC50	96 h	>120 mg/l	rainbow trout (Oncorhynchus mykiss)	OECD Guideline 203	ECHA Chem
EC50	48 h	100.9 mg/l	daphnia magna	OECD Guideline 202	ECHA Chem

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Aquatic toxicity (chronic)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
LC0	21 d	$\geq 100 \text{ mg/l}$	daphnia magna	-	ECHA
NOEC	35 d	$\geq 25.7 \text{ mg/l}$	zebra fish (Danio rerio)	OECD Guideline 210	ECHA Chem
NOEC	21 d	25 mg/l	daphnia magna	-	ECHA Chem
NOEC	72 h	48.4 mg/l	algae (raphidocelis subcapitata)	OECD Guideline 201	ECHA
NOEC	3 h	640 mg/l	microorganisms	OECD Guideline 209	ECHA
LOEC	21 d	50 mg/l	daphnia magna	-	ECHA Chem

12.2 Persistence and degradability

Biodegradation

Not readily biodegradable.

Process of degradability				
Process	Degradation rate	Time	Method	Source
oxygen depletion	2 %	28 d	OECD Guideline 301 D	ECHA Chem

Persistence

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

12.3 Bioaccumulative potential

The substance is not bioaccumulative.

n-octanol/water (log KOW) -4.6

BCF 1.8

12.4 Mobility in soil

The substance is very mobile.

The Organic Carbon normalised adsorption coefficient -4.91 (estimation)

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Remarks

None.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packages

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1	UN number	not subject to transport regulations
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14.2	UN proper shipping name	-
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14.3	Transport hazard class(es)	-
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14.4	Packing group	-
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14.5	Environmental hazards	-
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14.6	Special precautions for user	-
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14.7	Transport in bulk according to IMO instruments	-
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14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information

Not subject to transport regulations.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA)	Substance is listed (ACTIVE)
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Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

Not listed

Specific Toxic Chemical Listings (EPCRA Section 313)

Not listed

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Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Not listed

Clean Air Act

Not listed

Right to Know Hazardous Substance List

Toxic or Hazardous Substance List (MA-TURA)

Not listed

Hazardous Substances List (MN-ERTK)

Not listed

Hazardous Substance List (NJ-RTK)

Not listed

Hazardous Substance List (Chapter 323) (PA-RTK)

Not listed

Hazardous Substance List (RI-RTK)

Not listed

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Not listed

Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

Not listed

SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2021-08-19

Date of last revision: 2025-07-10.

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH® 2024	From ACGIH®, 2024 TLVs® and BEIs® Book. Copyright 2024. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
BCF	Bioconcentration factor
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)

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Abbr.	Descriptions of used abbreviations
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
IARC Mono-graphs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LOEC	Lowest Observed Effect Concentration
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NOEC	No Observed Effect Concentration
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
ppm	Parts per million
STEL	Short-term exposure limit
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200 (May 20, 2024 eff. July 19, 2024).
Transport of dangerous goods by road or rail (49 CFR US DOT).
International Maritime Dangerous Goods Code (IMDG).
Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
OSHA003	May form combustible dust concentrations in air.

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Responsible for the safety data sheet

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USA

Disclaimer

This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.