Oligo Manganese-EDTA 5.8% Liquid

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

1.1. Product identifier
Trade name: **Van Iperen Oligo Manganese-EDTA 5.8% Liquid**
Identifier: disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']manganate(2-) ECHA No: 01-2119493600-40-0003
CAS No: 15375-84-5
EC No: 239-407-5
Index No: not available
IUPAC name: Disodium; 2-[2-(bis(carboxylatomethyl)amino)ethyl-(carboxylatomethyl)amino]acetate; manganese(+2) cation

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: fertilizer. Uses advised against: not identified.

1.3. Details of the supplier of the safety data sheet
Van Iperen International BV
Smidsweg 24
3273 LK Westmaas - Nederland
T +31 (0) 186 578 888 - F +31 (0) 186 573 452
info@iperen.com - www.vaniperen.com

1.4. Emergency telephone number
In case of emergency contact the national emergency telephone number: UK and Ireland: 112 or 999

Country	Official advisory body	Address	Emergency number
Ireland (Republic of)	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	: +353 1 8379964
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
No hazardous product as specified in EU-GHS/CLP No 1272/2008.

2.2. Label elements
Labelling according to EU-GHS/CLP No 1272/2008 - not required

2.3. Other hazards
The substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of the REACH Regulation. (see section 12).

SECTION 3: Composition/information on ingredients

3.1. Substances
Name: Mn EDTA
Formula: C10H12N2O8Na2Mn
ECHA No: 01-2119493600-40-0003
CAS No: 15375-84-5
EC No: 239-407-5
Index No: not available
IUPAC name: Disodium; 2-[2-(bis(carboxylatomethyl)amino)ethyl-(carboxylatomethyl)amino]acetate; manganese(+2) cation

SECTION 4: First aid measures

4.1. Description of first aid measures
General advice: The first step is to put the injured person from a contaminated environment.

If swallowed:
1. Rinse mouth, give 2-3 glasses of water to drink. Seek medical attention. Induce vomiting. Never give anything by mouth to an unconscious person.
2. Until transporting the patient to the hospital to ensure peace, lying and warm.

In case of eye contact:
1. Rinse thoroughly with plenty of cold water.
2. Seek medical attention.

In case of skin contact:
1. Rinse off with plenty of water. Remove contaminated cloths.
2. If symptoms persist, seek medical attention.

If inhaled
1. Move to fresh air. If needed, seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in section 2.

4.3 Indication of any immediate medical attention and special treatment needed
Treatment: Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Depending on the materials stored in the neighbourhood use following extinguishing media: foam, water spray, dry chemical powder, CO2..
Unsuitable extinguishing media: none known.

5.2. Special hazards arising
from the substance or mixtureHazardous decomposition / combustion products: produces oxides of nitrogen on combustion: NyOx,

5.3. Advice for firefighters
Fire-fighters should wear suitable protective clothing such as boots, overalls, gloves, eye and face protection and breathing apparatus. Do not allow to enter fire-fighting water to surface water or groundwater.

SECTION 6: Accidental release measures

General advice: Do not flush into public water courses. Do not empty into drains, ground or surface water and soil. If the product enters drains or water, immediately inform appropriate authorities.

6.1. Personal precautions,
protective equipment and emergency procedures
Ensure adequate ventilation. Use personal protective equipment – see section 8.

6.2. Environmental precautions
Do not let product enter drains. If the product enters drains or water, immediately inform appropriate authorities.

6.3. Methods and material for containment and cleaning up
Stop the leak. Collect into a suitable container using sorbent and pass for disposal. After removal, wash the spillage area with water.

6.4. Reference to other sections
For disposal see section 13.
For personal protective equipment see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid formation of mist/aerosol. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment according to section 8. Do not disposal to sewage system.

7.2. Conditions for safe storage, including any incompatibilities
Keep in original, tightly closed container in a dry place. Keep away from heat and source of ignition. Recommended storage temperature: 0°C till + 30°C.

7.3. Specific end use(s)
No data available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
According to the country-specific regulations.

DNEL:
Workers - Hazard via inhalation route (long term exposure, systemic effect) – 12 mg/m3
Workers - Hazard via inhalation route (acute/short term exposure, systemic effect) – No hazard identified Workers - Hazard via inhalation route (long term exposure, local effect) – No hazard identified
Workers - Hazard via inhalation route (acute/short term exposure, local effect) – No hazard identified Workers - Hazard via dermal route (long term exposure, systemic effect) - 25 000 mg/kg bw/day Workers - Hazard via dermal route (acute/short term exposure, systemic effect) – No hazard identified Workers - Hazard via dermal route (long term exposure, local effect) – No hazard identified

General population - Hazard via inhalation route (long term exposure, systemic effect) – 3 mg/m3
General population - Hazard via inhalation route (acute/short term exposure, systemic effect) – No hazard identified General population - Hazard via inhalation route (long term exposure, local effect) – No hazard identified
General population - Hazard via inhalation route (acute/short term exposure, local effect) – No hazard identified General population - Hazard via dermal route (long term exposure, systemic effect) - 12 500 mg/kg bw/day General population - Hazard via dermal route (acute/short term exposure, systemic effect) – No hazard identified General population - Hazard via oral route (long term exposure, systemic effect) – 2,5 mg/kg bw/day

General population - Hazard via oral route (acute/short term exposure, systemic effect) – No hazard identified General population – Eyes (local effects) – No hazard identified

PNEC:
PNEC aqua (freshwater) – 2,67 mg/L PNEC aqua (marine water) – 0,27 mg/L
PNEC aqua (intermittent releases) – 1,07 mg/L PNEC STP - 64 mg/L
Sediment (freshwater) – No exposure of sediment expected Sediment (marine water) - No exposure of sediment expected AIR - No hazard identified
PNEC soil – 0,208 mg/kg soil dw
PNEC secondary poisoning - No potential for bioaccumulation

8.2. Exposure controls
Personal protective equipment:

Eye/face protection Use safety goggles
Skin/hands protection Handle with protective gloves (recommended nitrile gloves, layer thickness 0,11 mm and breakthrough time > 480 minutes).
Use protective clothing.
Industrial hygiene: Handle in accordance with good industrial hygiene and safety practice. Change contaminated clothing. Avoid contact with skin. Avoid breathing dust. Wash hands after working with substance. When using do not eat or drink. Immediately remove spilled substance.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance/colour	Liquid/orange
Odour	Odourless
Odour threshold	Not applicable
pH value 1,0 % (w/v) solution	6,0 ± 1,0
Melting point/freezing point	No data available
Initial boiling point	decomposes before boiling
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	Not applicable (liquid)
Upper/lower flammability or explosive limits;	Not applicable
Vapour pressure	No data available
Vapour density	No data available
Relative density	1,28 g/cm3
Solubility(ies)	Water: 412 g/L at 25°C (OECD 105)
Partition coefficient: n-octanol/water	-8,12 (calculated)
Auto-ignition temperature	No data available
Decomposition temperature	starts to decompose at 252°C.
Viscosity	Not applicable
Explosive properties	Not explosive (EU Method A.14)
Oxidizing properties	No oxidising properties (EU method A.17)

9.2 Other information

Manganese (Mn)	5,8 % w/w (7,4% v/v)
Conductivity of 1,0% solution	2,40 mS/cm (at 20°C)

SECTION 10: Stability and reactivity

10.1 Reactivity -
the substance has low chemical reactivity.

10.2 Chemical stability –
stable under normal conditions of use and storage.

10.3 Possibility of hazardous reactions -
no data available

10.4 Conditions to avoid –
keep away from heat.

10.5 Incompatible materials –
none.

10.6 Hazardous decomposition products –
in the event of fire produces oxides of nitrogen NyOx

SECTION 11: Toxicological information

Acute toxicity:

Substance name	% w/w	Method	Result	Units
Mn EDTA	100	LD50 (oral, rat, OECD 423)	>2000	mg/kg
		LC50 (rat, inhal, 4 h, OECD 436)	> 5,16	mg/L
		LD50 (dermal, rat, OECD 402)	>2000	mg/kg bw

Skin corrosion/irritation - no irritating (Draft OECD guideline - in vitro skin irritation: Reconstructed human Epidermis (RhE) test method)
Serious eye damage/eye irritation - no irritating (OECD 437)
Respiratory or skin sensitization - no skin or respiratory sensitization OECD 429/EU Method B.42; (based on result for read-across substance FeNaEDTA)
Germ cell mutagenicity - no mutagenic
OECD Guideline 471 (Bacterial Reverse Mutation Assay) – negative
OECD 487 (In vitro micronucleus test in cultured human lymphocytes) – negative,
Carcinogenicity - no carcinogenic based on negative mutagenicity study

Reproductive toxicity – does not cause reproductive toxicity
NOAEL (P) = 500 mg/kg b.w/day, OECD Guideline 415 (One-Generation Reproduction Toxicity Study) NOAEL = 500 mg/kg b.w/day, OECD Guideline 414 (Prenatal Developmental Toxicity Study)
Specific target organ toxicity (STOT) - single exposure – not harmful Specific target organ toxicity (STOT)- repeated exposure - not harmful NOAEL (oral, rat, 28 days) = 500 mg/kg b.w/day (OECD Guideline 408) Aspiration hazard – not applicable (solid substance)

Potential health effects
No data available.

Signs and Symptoms of Exposure
No data available.

SECTION 12: Ecological information

12.1. Toxicity

Substance name	% w/w.	Method	Result	Units
Mn EDTA	100	NOEC (fish, 96h, OECD 203)	>1000	mg/l
		EC50 (daphnia, 21 days, ECD 211))	365	mg/l
		EC50 (alga, 72h, OECD 201)	649,3	mg/l

12.2 Persistence and degradability
Mn EDTA is not readily biodegradable according to OECD criteria, but ultimately biodegradable under special environmental conditions (slightly alkaline pH). No biodegradation observed in activated sludge simulation test.

12.3 Bioaccumulative potential
Calculation w ithKOWWIN: Log Kow = -8.12. The calculated log Kow is less than the bioconcentration threshold (log Kow =3) indicating that EDTA-Mn Na2 is not Bioaccumulative (not B).

12.4 Mobility in soil
The estimated log Koc values are less than the threshold value of 3, indicating no adsorbing potential for this compound. Additionally, since this compound is mostly negatively charged at relevant environmental pH values, reducing its chances of being adsorbed to soil minerals/humic acids.

12.5 Results of PBT and vPvB assessment
The substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of the REACH Regulation. Chemical safety assessment not required/not conducted.

12.6 Other adverse effects - no data available

SECTION 13: Disposal considerations

Packaging must be disposed of in compliance with the country-specific regulations or mast be passed to a packaging return system.

SECTION 14: Transport information

14.1 UN number
Not applicable

14.2 UN proper shipping name
Not applicable

14.3 Transport hazard class(es)
Not applicable

Oligo Manganese-EDTA 5.8% Liquid

14.4 Packing group
Not applicable

14.5 Environmental hazards
Not applicable

14.6 Special precautions for user
Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

1. REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENTAND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC with amendments
2. COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
3. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006; with amendments
4. 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.
5. Regulation (EC) No 850/2004 Of The European Parliament and of The Council Of 29 April 2004 On Persistent Organic Pollutants And Amending Directive 79/117/EEC.
6. European Agreement Concerning The International Carriage Of Dangerous Goods By Road (ADR), 2015

15.2. Chemical Safety Assessment
For this substance a chemical safety assessment was carried out.

SECTION 16: Other information

Other information:
To develop this MSDS used results obtained in accordance with the requirements of REACH regulation.

Abbreviation:
DNEL: Derived No-Effect Level
PNEC: Predicted No-Effect Concentration
NOAEL: No Observed Adverse Effect Level
LD50: Lethal Dose 50%. The LD50 corresponds to the dose of a tested substance causing 50% lethality during a specified time interval.
LC50: Lethal Concentration 50%. The LC50 corresponds to the concentration of a tested substance causing 50% lethality during a specified time interval.
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.
BCF: Bioconcentration factor
PBT: Persistent, bioaccumulative and toxic
vPvB: Very Persistent and very Bioccumulative

Indication of changes:
Section 15: update the regulatory information, as of May, 2017

Company disclaimer
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 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 proceed, unless specified in the text.