

SAFETY DATA SHEET

Mn 8.1% EDTA SL

This safety data sheet complies with the requirements of:
Regulation (EC) No. 453/2010 and Regulation (EC) No. 1272/2008



SDS # : NP-0362-A
Revision date: 2019-03-13
Format: EU
Version 1

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Code(s)	NP-0362-A
Product Name	Mn 8.1% EDTA SL
REACH registration number	01-2119980792-25-0003
EC-No	268-144-9
CAS-No	68015-77-0
Synonyms	IUPAC name: Dipotassium; 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

Recommended Use:	A soluble micronutrient fertiliser for use in agriculture and horticulture
Restrictions on use	Use as recommended by the label.

1.3. Details of the supplier of the safety data sheet

Manufacturer	FMC Agro Limited Rectors Lane Pentre Flintshire CH5 2DH United Kingdom Tel: + 44 1244 537370 E-mail: fmc.agro.uk@fmc.com
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For further information, please contact:

Contact point	Tel: +44(0) 1244 537370 Email: fmc.agro.uk@fmc.com
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1.4. Emergency telephone number

Emergency telephone	Tel: +44(0) 1244 537370 (Office hours only)
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Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture Regulation (EC) No 1272/2008

This product has no classification under CLP
This product has no label elements.
Hazard symbol not required.

2.2. Label elements**Hazard pictograms**

This product has no classification under CLP
This product has no label elements.
Hazard symbol not required.

2.3. Other hazards

This product is not identified as a PBT/vPvB substance.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Trade name: Mn EDTA K₂ Liquid

Formula: C₁₀H₁₂N₂O₈K₂Mn

REACH No: 01-2119980792-25-0003

CAS No: 68015-77-0

EC No: 268-144-9

Index No. not applicable

IUPAC name: Dipotassium; 2-[2-(bis(carboxylatomethyl)amino)ethyl-(carboxylatomethyl)amino]acetate; manganese(+2) cation

3.2 Mixtures

This product is a substance not a mixture.

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

Eye Contact	Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Call a doctor if irritation persists.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a doctor.
Inhalation	Remove person from exposure ensuring one's own safety while doing so. If symptoms persist, call a doctor.
Ingestion	Rinse mouth with water and afterwards drink plenty of water or milk. If vomiting does occur, rinse mouth and drink fluids again.

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

Most important symptoms and effects, both acute and delayed	Skin contact: May see mild irritation at the site of contact.
	Eye contact: Possible irritation and redness.
	Ingestion: Possible irritation of the throat.
	Inhalation: May experience irritation of the throat with a feeling of tightness in the chest.
	Delayed/Immediate effects: Immediate effects can be expected after short-term exposure.

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

Indication of immediate medical attention and special treatment needed, if necessary Treat symptomatically.

Section 5: FIREFIGHTING MEASURES**5.1. Extinguishing media****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Foam, Water spray, Dry chemical, Carbon dioxide (CO₂).

Unsuitable extinguishing media

No information available

5.2. Special hazards arising from the substance or mixture

Toxic fumes may be released in fire situations.

Hazardous Combustion Products

Nitrogen oxides (NO_x).

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus and full protective gear. Contaminated fire extinguishing water should not be discharged into drains, if preventable.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures****Personal Precautions**

For personal protection see section 8. Ensure adequate ventilation. Stop leak if you can do it without risk. In case of spill, avoid contact. Isolate area and keep out animals and unprotected persons.

For further clean-up instructions, call Emergency Hotline number listed in Section 1 "Product and Company Identification" above. If there is accidental release into water courses, drains, soil or vegetation, immediately contact the relevant authorities.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Do not discharge into drains or rivers.

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

Prevent further leakage or spillage if safe to do so. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up

Transfer to a closable, labeled salvage container for disposal by an appropriate method. Refer to section 13 of SDS for suitable method of disposal. Following product recovery, flush area with water.

6.4. Reference to other sections

See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Handling

Handle in accordance with good industrial hygiene and safety practice. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage

Protect from freezing. Store above 5°C. Keep in a dry, cool and well-ventilated place. To maintain product quality, do not store in heat or direct sunlight. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

Packageing material

Must only be kept in original packaging.

7.3. Specific end use(s)

Specific Use(s)

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

Risk Management Methods (RMM)

The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Derived No Effect Level (DNEL)

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
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Predicted No Effect Concentration (PNEC)

PNEC aqua (freshwater) – 3.13 mg/L
PNEC aqua (marine water) – 0.31 mg/L
PNEC aqua (intermittent releases) – 1.16 mg/L
PNEC STP - 69 mg/L
Sediment (freshwater) – No exposure of sediment expected
Sediment (marine water) - No exposure of sediment expected
AIR - No hazard identified
PNEC soil – 0,225 mg/kg soil dw.

8.2. Exposure controls

Engineering measures Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/Face Protection	Tightly fitting safety goggles. Provide emergency on-site eyewash.
Hand Protection	Protective gloves. Impervious butyl rubber gloves. Wear chemical protective gloves made of materials such as nitrile or neoprene. Be careful not to touch anything with contaminated gloves. Wash hands with water and soap immediately after work is finished.
Skin and Body Protection	Wear protective gloves/clothing. Avoid contact with skin and eyes.
Respiratory Protection	The product is not likely to present an airborne exposure concern during normal handling, but in the event of an accidental discharge of the material which produces a heavy vapour or mist, workers must put on officially approved respiratory protection equipment with a universal filter type including particle filter.

Environmental exposure controls Refer to specific Member State legislation for requirements under Community environmental legislation.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Liquid
Odour	Odourless
Colour	Light yellow
Odour threshold	No information available
pH	5.0 - 7.0 (1% solution)
Melting point/freezing point	No information available
Boiling point/boiling range	No information available
Flash point	No information available
Evaporation Rate	No information available
Flammability (solid, gas)	
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit	No information available
Vapour pressure	No information available
Vapour density	No information available
Specific gravity	1.31 - 1.33 g/cm ³
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	Not explosive
Oxidising properties	Non-oxidizing (by EC criteria)

9.2. Other information

Softening point	No information available
Molecular weight	No information available
VOC content (%)	No information available
Density	No information available
Bulk density	No information available
K_{st}	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

None under normal use conditions

10.2. Chemical stability

Stable under recommended storage conditions.

Explosion data

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

10.3. Possibility of hazardous reactions

Hazardous polymerisation

Hazardous polymerization does not occur.

Hazardous reactions

None under normal processing. Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

None.

10.6. Hazardous decomposition products

May emit toxic fumes under fire conditions. See Section 5.2 for more information.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information

. There no available toxicological studies for Mn EDTA K₂ as such. The assessment below was made on the basis of read-across substance – Mn EDTA Na₂.

LD50 Oral	> 2000 mg/kg (rat) (Method: OECD 423)
LD50 Dermal	> 2000 mg/kg/bw (rat) OECD 402
Inhalation LC50	> 5.16 mg/l (rat) 4 hr OECD 436

Skin corrosion/irritation	Non-irritating.
Serious eye damage/eye irritation	Non-irritating.
Sensitisation	Non-sensitizing
Mutagenicity	Not mutagenic.
Carcinogenicity	Did not show carcinogenic effects in animal experiments.

Reproductive toxicity	This product does not contain any known or suspected reproductive hazards.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.

Aspiration hazard	No information available.
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Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity**Ecotoxicity**

There no available ecotoxicological studies for Mn EDTA K₂ as such. The assessment was made on the basis of read-across substance – Mn EDTA Na₂.

Acute toxicity:

LC50 (Lepomis macrochirus) 2634 mg/L

EC50 (Daphnia magna, 48h) 100,9 mg/L (test substance: EDTA-FeNa)

NOEC (Daphnia magna, 48h) 30 mg/L (test substance: EDTA-FeNa)

EC10 (Pseudokirchneriella subcapitata, OECD 201) 42,8 mg/L test substance: EDTA-MnNa₂)

EC50 (Pseudokirchneriella subcapitata, OECD 201) 649,3 mg/L (test substance: EDTA-MnNa₂)

NOEC72h (Pseudokirchneriella subcapitata, OECD 201) 15 mg/L (test substance: EDTA-MnNa₂)

Chronic toxicity:

NOEC 35d (Danio rerio, OECD 210) = 25,7 mg/l (test substance: EDTA-CaNa₂)

Daphnia magna, OECD 211, test substance: EDTA-MnNa₂:

NOEC 21d 156 mg/L

LOEC 21d 500 mg/L

EC50 21d 365 mg/L

12.2. Persistence and degradability

Not readily biodegradable.

12.3. Bioaccumulative potential

The substance has a low potential to bioaccumulate in the environment.

12.4. Mobility in soil**Mobility in soil**

Not expected to adsorb on soil.

12.5. Results of PBT and vPvB assessment

This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues / unused products**

Transfer to a suitable container and arrange for collection by specialised disposal company. Alternatively, the product can be sent for water treatment. Diluted product and washings should also be sent for water treatment.

Contaminated Packaging

Clean container with water. Dispose of rinse water in accordance with local and national guidelines. Empty containers should be taken to an approved waste handling site for recycling or disposal.

EWC Waste Disposal No 02 01 09

OTHER INFORMATION NOTE : The user's attention is drawn to the possible existence of specific European, national or local regulations regarding disposal.

Section 14: TRANSPORT INFORMATION

NOTE NOT CLASSIFIED AS DANGEROUS IN THE MEANING OF TRANSPORT REGULATIONS.

IMDG/IMO

14.1 UN/ID no	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated
14.5 Marine Pollutant	Not applicable
14.6 Special Provisions	None
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code	This product is not transported in bulk containers.

RID

14.1 UN/ID no	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental Hazard	Not applicable
14.6 Special Provisions	None

ADR/RID

14.1 UN/ID no	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental Hazard	Not applicable
14.6 Special Provisions	None

ICAO/IATA

14.1 UN/ID no	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental Hazard	Not applicable
14.6 Special Provisions	None

Section 15: REGULATORY INFORMATION

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

National regulations

1. REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND 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), 2017

European Union**Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)

This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not Applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not Applicable

International Inventories**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: OTHER INFORMATION**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS:	CAS (Chemical Abstracts Service)
Ceiling:	Maximum limit value:
DNEL:	Derived No Effect Level (DNEL)
EINECS:	EINECS (European Inventory of Existing Chemical Substances)
GHS:	Globally Harmonised System (GHS)
IATA:	International Air Transport Association (IATA)
ICAO:	International Civil Aviation Organization
IMDG:	International Maritime Dangerous Goods (IMDG)
LC50:	LC50 (lethal concentration)
LD50:	LD50 (lethal dose)

PBT: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail
STEL: Short term exposure limit
SVHC: SVHC: Substances of Very High Concern for Authorisation:

TWA: time weighted average
vPvB: very Persistent and very Bioaccumulative

Revision date: 2019-03-13

Reason for revision: Initial Release.

Disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

Prepared By

FMC Corporation

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End of Safety Data Sheet