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Issued 16/11/2010

Revision 1.0(16/11/2010)

SAFETY DATA SHEET
(According to Regulation EC No 453/2010)**1 - IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING**

1.1 Product identifier	
Chemical name:	Manganese EDTA
Trade name:	DALT Mn
Synonyms:	Ethylendiamminotetraacetic acid, complex Disodic Manganese
CAS Registry number:	15375-84-5
EC N°:	239-407-5
Index No.:	N.A.
Registration number:	N.A.
Molecular weight:	389.1
Formula:	C10H12MnN2O8.2Na
1.2 Relevant identified uses of the substance and uses advised against	
Relevant identified uses of the substance:	Fertiliser
1.3 Details of the supplier of the safety data sheet:	
Company:	VALAGRO Spa Zona Industriale 66041 ATESSA (CHIETI) ITALY Tel. (+39) 0872 8811 Fax (+39) 0872 881382
Competent person responsible for the safety data sheet:	E-mail: regulatory@valagro.com
1.4 Emergency telephone number:	Tel. (+39) 02 66101029 (Centro Antiveneni Ospedale Niguarda Milano) Tel. (+39) 0872 8811 (Valagro Spa _ from Monday to Friday from 8.30 to 13:00 and from 14:00 to 17.30 h)

2 - HAZARDS IDENTIFICATIONS

2.1 Classification of the substance:
Classification according to Regulation (EC) No 1272/2008: Not classified as dangerous
Classification according to Directive 67/548/EEC: Not classified as dangerous
Most important adverse physicochemical, human health and environmental effects: see sections from 9 to 12.
2.2 Label Elements:
Hazard pictograms : none Signal word: none Hazard statements: none Precautionary statements: none
2.3 Other hazards:
None



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3 - COMPOSITION/INFORMATION ON INGREDIENTS

<i>Name</i>	<i>EC N°</i>	<i>CAS NUMBER</i>	<i>%</i>
Managanese EDTA	239-407-5	15375-84-5	100

4 - FIRST AID MEASURES**4.1 Description of first aid measures****Routes of exposure:**

- **Inhalation:**
Well ventilate the area and go to the open space.
- **Skin:**
Take off all contaminated clothing. Rinse abundantly with water and soap. Seek medical advice in case of irritation. Wash clothes before reuse.
- **Eye:**
Rinse immediately and abundantly with water for at least 10 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if the irritation spreads out
- **Ingestion:**
Rinse mouth, give water to drink, induce vomiting. If the subject is unconscious do not induce vomiting. Seek medical advice

Advice:

Who provides the first medical aide must use the individual protection equipment (latex gloves and safety glasses).

4.2 Most important symptoms and effects, both acute and delayed

- **Inhalation:**
Possible irritation of respiratory tract
- **Skin:**
Possible irritation according to the contact time with the product
- **Eye:**
Possible irritation according to the contact time with the product
- **Ingestion:**
Possible irritation of mouth and digestive tract.

4.3 Indication of any immediate medical attention and special treatment needed

In case of accident, seek immediately medical advice showing the safety data sheet

5 - FIREFIGHTING MEASURES**5.1 Extinguishing media****Suitable extinguishing media:**Water spray, foam, carbon dioxide (CO₂),**Information on the appropriate extinguishing media:**

Not relevant

Unsuitable extinguishing media:

None

Indications if extinguishing media are inappropriate for a particular situation involving the substance or mixture:

None

5.2 Special hazards arising from the substance:In case of fire avoid to breath fumes , it may release toxic fumes (NO_x, CO)



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5.3 Advice for firefighters
In case of fire and in close proximity wear the protective clothes heat resistant and air respiratory equipment

6 - ACCIDENTAL RELEASE MEASURE

6.1 Personal precautions, protective equipment and emergency procedures
For non-emergency personnel: Keep away from the affected area people not involved in the emergency intervention Alert the responsible of the internal emergency
For emergency responders: Wear protective clothes giving a total skin protection, latex gloves and safety glasses. See also section 8
6.2 Environmental precautions:
If possible store into a clean container either to reuse or disposal . Avoid waterway and discharging contamination, competent authority must be informed in case of waterway accidental contamination
6.3 Methods and material for containment and cleaning up:
Any release should be immediately cleaned up wearing protective clothes(suit, latex gloves and safety glasses). If possible store into a clean container either to reuse or disposal. If possible absorb with the inert material After store , wash the area with water and suitable materials
6.4 Reference to other sections:
referred to Sections 8 and 13

7 - HANDLING AND STORAGE

7.1. Precautions for safe handling
Avoid powder inhalation Avoid direct contact with skin and eyes. See the following section 8 . Remove all protective clothing before access to the areas where you eat Always respect hygienic rules, do not drink neither eat in the working areas
7.2 Conditions for safe storage, including any incompatibilities
Keep containers tightly closed in a well-ventilated place far from humidity and heat source.
7.3 Specific end use(s)
None

8 - EXPOSURE CONTROL/ PERSONAL PROTECTION

8.1 Control parameters										
Occupational exposure limit values:										
ACGIH										
<table border="1"> <thead> <tr> <th>Substance name</th> <th>TLW-TWA (ppm)</th> <th>TLV-STEL (ppm)</th> <th>note</th> <th>critical effects</th> </tr> </thead> <tbody> <tr> <td>Manganese EDTA</td> <td>N.A.</td> <td>N.A.</td> <td>N.A.</td> <td>N.A.</td> </tr> </tbody> </table>	Substance name	TLW-TWA (ppm)	TLV-STEL (ppm)	note	critical effects	Manganese EDTA	N.A.	N.A.	N.A.	N.A.
Substance name	TLW-TWA (ppm)	TLV-STEL (ppm)	note	critical effects						
Manganese EDTA	N.A.	N.A.	N.A.	N.A.						
Biological limit values: N.A.										
DNEL: N.A.										
PNEC: N.A.										



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Recommended monitoring procedures: N.A.

8.2 Exposure control

- Appropriate engineering controls:
Operate in well-ventilated areas
- Individual protection measures, such as personal protective equipment:
The personal protective equipment must be compliant to the regulation UNI -EN in force
Eye / face protection:
Wear safety glasses according to the standard EN 166, don't use contact lenses.
Skin protection:
-Hand protection:
Wear latex gloves according to the standard EN 374.
-Other:
Wear total skin protection clothes
Respiratory protection:
Use anti-powder mask with P2 filters in case of dust making. The powder exposition limit must be respected
- **Environmental exposure controls:**
Keep the product concentration under the exposure limits established by the law

9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance (25° C):	Beige microgranules	
Odour:	Odourless	
Odour threshold:	N.A.	
pH:	N.A.	at 25 °C
Melting point/freezing point:	N.A.	
Initial boiling point and boiling range:	N.A.	
Flash point:	N.A.	
Evaporation rate:	N.A.	
Flammability (solid, gas):	N.A.	
Upper/lower flammability or explosive limits:	>40	
Vapour pressure:	N.A.	
Vapour density:	N.A.	
Relative density:	0.85	
Solubility:		
- Solubility in water:	800	g/l at 25°C
- Lipid solubility:		g/l at 25°C
Partition coefficient: n-octanol/water	N.A.	
Auto-ignition temperature:	N.A.	
Decomposition temperature:	N.A.	
Viscosity:	N.A.	cps
Explosive properties:	N.A.	
Oxidising properties:	N.A.	
9.2 Other information		
pH water solution 1%	5.0	at 25° C
Conductivity	0.4	(1‰) mS/cm 18 °C



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10 - STABILITY AND REACTIVITY**10.1 Reactivity:**

Reacts with strong oxidizing agents .

10.2 Chemical stability:

Stable at the usual work condition

10.3 Possibility of hazardous reactions:

The water solution in contact with copper and aluminum can develop hydrogen

10.4 Conditions to avoid:

Heating of the product at high temperatures (>200°C)

10.5 Incompatible materials:

Strong oxidizing agents

10.6 Hazardous decomposition products:In case of fire may release toxic fumes (NO_x, CO)**11 - TOXICOLOGICAL INFORMATION**

Toxicological (health) effects caused by exposure to the substance: see also sections 2 and 4.

11.1 Information on toxicological effects

- **acute toxicity:**
not available data
- **skin corrosion/irritation:**
not available data
- **serious eye damage/irritation:**
not available data
- **respiratory or skin sensitisation:**
not available data
- **germ cell mutagenicity:**
not available data
- **Carcinogenicity:**
not available data
- **reproductive toxicity:**
not available data
- **STOT-single exposure:**
not available data
- **STOT-repeated exposure**
not available data
- **aspiration hazard:**
not available data

Information on likely routes of exposure:

Inhalation: can be irritant for nose and respiratory system

Skin: can be irritant for skin

Eye: can be irritant for eyes

Ingestion: can be irritant for mouth and digestive tract

Other informations:

N.A.



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12 - ECOLOGICAL INFORMATION

Use according to good working rules, avoid to dispose of the product in the environment (see sections 6, 7, 13,14 e 15).

12.1 Toxicity

N.A.

12.2 Persistence and degradability

N.A.

12.3 Bioaccumulative potential

N.A.

12.4 Mobility in soil

N.A.

12.5 Results of PBT and vPvB assessment

N.A.

12.6 Other adverse effects

N.A.

13 - DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Recover the product, if possible, or send to the incineration and disposal system.
Avoid waterway and discharging contamination.
Follow the local and national disposition in force

14 - TRANSPORT INFORMATION

Not dangerous product within the meaning of transport regulations

15 - REGULATORY INFORMATION

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

Council Directive 67/548/EEC (Classification, packaging and labelling of dangerous substances) and subsequent amendments. Council Directive 1999/45/EC (Classification, packaging and labelling of dangerous preparations) and subsequent amendments. Regulation (EC) nr 1272/2008 (CLP). Commission Directive 98/24/EC (Protection of the health and safety of workers from the risk related to chemical agent).
Commission Directive 2000/39/EC occupational exposure limit values).
Regulation (EC) No 1907/2006 (REACH).

15.2. Chemical safety assessment

N.A.



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16 - OTHER INFORMATION

This MSDS was revised to get it compliant to regulation 453/2010 and cancels and replaces any preceding release. The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold
ACGIH - Threshold Limit Values - 2004 edition
ESIS

Acronyms used in the safety data sheet:

ADN: Accord europeen relative au transport international des marchandises dangereuses par voies de navigation interieures
ADR: Accord europeen relative au transport International des marchandises dangereuses par route
ACGIH: American Conference of Governmental Industrial Hygienist
LC50: Lethal concentration 50(Lethal Concentration for the 50% of the individuals)
CLP: Classification, Labelling and Packaging
CSR: Chemical Safety Report
LD 50: Lethal Dose 50 ((Lethal dose for the 50% of the individuals)
DNEL : Derived No effect level
IARC: International Agency for Research on Cancer
IATA: International air transport association
ICAO: International Civil aviation Organization
Codice IMDG: International Maritime Dangerous Goods code
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted No Effect Concentration
RID: Reglement concernent le transport International ferroviarie des marchandises dangereuses
STEL: short term exposure limit
TLV: threshold limit value
TWA: Time Weighted Average
UE: European Union (Unione europea)
vPvB: Very persistent very bioaccumulative

N.A. : not available