

SAFETY DATA SHEET
MAIZE MICRONUTRIENT COMPLEX
This safety data sheet complies with the requirements of:
Regulation (EC) No. 453/2010 and Regulation (EC) No. 1272/2008



SDS # : NP-0031-A
Revision date: 2018-07-19
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Version 1.02

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

Product Code(s) NP-0031-A
Product Name MAIZE MICRONUTRIENT COMPLEX

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

Recommended Use: A fertilizer with micronutrients 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 (0) 1244 537370
E-mail: fmc.agro.uk@fmc.com

For further information, please contact:

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

1.4. Emergency telephone number

Emergency telephone Tel: +44(0)1244 537370 (Office hours only)

Section 2: HAZARDS IDENTIFICATION

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

Skin corrosion/irritation	Category 1 Sub-category C (H314)
Chronic aquatic toxicity	Category 3 (H412)

2.2. Label elements

Hazard pictograms



Signal Word

Danger

Hazard Statements

H314 - Causes severe skin burns and eye damage

H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

P273 - Avoid release to the environment

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P363 - Wash contaminated clothing before reuse

P501: Dispose of contents/container as hazardous waste.

2.3. Other hazards

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

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

The product is a mixture, not a substance.

3.2 Mixture containing the following hazardous ingredients:

Chemical name	EC-No	CAS-No	Weight percent	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
MANGANESE DINITRATE	233-828-8	10377-66-9	1-10	Ox. Sol. 2 (H272); Acute Tox. 4 (H302); Skin Corr. 1C (H314); STOT RE 2 (H373); Aquatic Chronic 3 (H412); (EUH071)	01-2119487993-17-0002
ZINC NITRATE	231-943-8	7779-88-6	1-10	Ox. Sol. 2 (H272); Acute Tox. 4 (H302); Skin Irrit. 2 (H315); Eye Irrit. 2 (H319); STOT SE 3 (H335); Aquatic Acute 1 (H400); Aquatic Chronic 2 (H411)	No data available

Additional Information

For the full text of the H-, R- and EUH- phrases mentioned in this Section, see Section 16.

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. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Transfer to hospital for specialist examination.

Skin Contact

Immediately remove all stained or splashed clothing that is not adhering to the skin. Wash off immediately with soap and plenty of water. Transfer to hospital if there are burns or symptoms of poisoning.

Inhalation

Remove person from exposure ensuring one's own safety while doing so. If symptoms persist, call a doctor.

Ingestion

Clean mouth with water. Do not induce vomiting. If conscious, give 2 glasses of water. Get immediate medical attention.

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

Skin contact: Irritation or pain may occur at the site of contact. Blistering may occur. Severe burns may occur.

Eye contact: There may be pain and redness. The eyes may water profusely. May cause permanent damage.

Ingestion: There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.

Inhalation: There may be 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**

Eye bathing equipment should be available on the premises. Immediate medical attention is required in case of ingestion or eye contact. Show this safety data sheet to the doctor in attendance.

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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers / tanks with water spray.

Unsuitable extinguishing media

No information available

5.2. Special hazards arising from the substance or mixture

Corrosive. Toxic fumes may be released in fire situations.

Hazardous Combustion Products

Nitrogen oxides (NOx).

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus and full protective gear. Wear protective clothing to prevent contact with skin and eyes. 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. Stop leak if you can do it without risk. In case of spill, avoid contact. Isolate area and keep out animals and unprotected persons. Keep people away from and upwind of spill/leak. In the case of large spills (1 ton or more), alert the appropriate authorities.

For further clean-up instructions, call Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Do not discharge into drains or rivers. Contain the spillage using bunding. Accidental release into water courses must be alerted to the appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for Containment	Surface drains within close vicinity of the spill should be covered. Dike to confine spill and absorb with non-combustible absorbent such as clay, sand or soil.
Methods for cleaning up	Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see Section 13).

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**

Use only in area provided with appropriate exhaust ventilation. Avoid contact with skin, eyes and clothing.

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. Keep away from direct sunlight. Keep away from heat. Keep out of reach of children and animals. Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)**Specific Use(s)**

No data available.

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) No information available.

Predicted No Effect Concentration (PNEC) No information available.

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.

Skin and Body Protection Impervious clothing.

Respiratory Protection Not required under normal use.

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	No information available
Odour	Barely perceptible
Colour	light orange
Odour threshold	No information available
pH	0.5 - 2.5
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)	No information available
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	1.27 - 1.30
Water solubility	Soluble in water
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	No information available
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

Strong bases. Strong reducing agents.

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**

LD50 Oral > 3000 mg/kg (rat) (Calculated Estimated Acute Toxicity - EAT)

Chemical name	LD50 Oral	LD50 Dermal	Inhalation LC50
MANGANESE DINITRATE	>300 mg/kg (rat)		
ZINC NITRATE	>300 mg/kg (rat)		

Skin corrosion/irritation No information available.
Serious eye damage/eye irritation No information available.
Sensitisation No information available.
Mutagenicity No information available.
Carcinogenicity No information available.

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.

Symptoms See Section 4.2 for more information.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity DAPHNIDS (*Daphnia magna*): 48H EC50 >100 mg/L (calculated)
RAINBOW TROUT (*Oncorhynchus mykiss*): 96H LC50 = 10.4 mg/L (calculated)
ALGAE: 72H ErC50 = 5.69 mg/L (calculated)

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
MANGANESE DINITRATE	<i>Desmodesmus subspicatus</i> : 72 ErC50 = 64.6 mg/L	Rainbow trout (<i>Oncorhynchus mykiss</i>): 96H LC50 = 47.2 mg/L	<i>Daphnia magna</i> : 48H EC50 = >100 mg/L
ZINC NITRATE	<i>Raphidocelis subcapitata</i> : 72H ErC50 = 0.128 mg/L	(<i>Cyprinus carpio</i>) static 96 h LC50: = 7.8 mg/L	<i>Daphnia magna</i> : 48H EC50 = 3.31 mg/L

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

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

No information available.

Mobility

Soluble in water.

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. Do not contaminate ponds, waterways or ditches with chemical or used containers. Do not discharge to sewer systems.

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 08

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

IMDG/IMO**14.1 UN/ID no**

UN1760

14.2 Proper Shipping Name

CORROSIVE LIQUID, N.O.S. (MANGANESE DINITRATE)

14.3 Hazard class

8

14.4 Packing Group

III

14.5 Marine Pollutant

Not applicable

Environmental Hazard

No

14.6 Special Provisions

No special precautions.

Tunnel code: E

Transport category: 3

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The product is not transported in bulk tankers.

RID

14.1 UN/ID no UN1760
14.2 Proper Shipping Name CORROSIVE LIQUID, N.O.S. (MANGANESE DINITRATE)
14.3 Hazard class 8
14.4 Packing Group III
14.5 Environmental Hazard No
14.6 Special Provisions No special precautions.
Tunnel code: E
Transport category: 3

ADR/RID

14.1 UN/ID no UN1760
14.2 Proper Shipping Name CORROSIVE LIQUID, N.O.S. (MANGANESE DINITRATE)
14.3 Hazard class 8
14.4 Packing Group III
14.5 Environmental Hazard No
14.6 Special Provisions No special precautions.
Tunnel code: E
Transport category: 3

ICAO/IATA

14.1 UN/ID no UN1760
14.2 Proper Shipping Name CORROSIVE LIQUID, N.O.S. (MANGANESE DINITRATE)
14.3 Hazard class 8
14.4 Packing Group III
14.5 Environmental Hazard No
14.6 Special Provisions No special precautions.
Tunnel code: E
Transport category: 3

Section 15: REGULATORY INFORMATION

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

National regulations Not applicable

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

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINC S (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
MANGANESE DINITRATE 10377-66-9	X	X	X	X	X	X	X	X
ZINC NITRATE	X	X	X	X	X	X	X	X

7779-88-6								
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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**Full text of R-phrases referred to under sections 2 and 3**

Not applicable

Full text of H-Statements referred to under sections 2 and 3

EUH071 - Corrosive to the respiratory tract

H272 - May intensify fire; oxidiser

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H373 - May cause damage to organs through prolonged or repeated exposure

H400 - Very toxic to aquatic life

H411 - Toxic to aquatic life with long lasting effects

H412 - Harmful to aquatic life with long lasting effects

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: 2018-07-19

Reason for revision: Format Change.

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