

# SAFETY DATA SHEET

## ROOT 66

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



SDS # : NP-0035-A  
Revision date: 2018-07-23  
Format: EU  
Version 1.02

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

Product Code(s) NP-0035-A

Product Name ROOT 66

#### 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)
Specific target organ toxicity — repeated exposure	Category 2 (H373)

#### 2.2. Label elements

Hazard pictograms



**Signal Word**

Danger

**Hazard Statements**

H314 - Causes severe skin burns and eye damage

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

**Precautionary Statements**

P260 - Do not breathe spray

P264 - Wash hands thoroughly after handling

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

P314 - Get medical advice/attention if you feel unwell

**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	10-30	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

**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. Transfer to hospital for specialist examination.

**Skin Contact**

Immediately remove all stained or splashed clothing that is not adhering to the skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Transfer to hospital if there are burns or symptoms of poisoning.

**Inhalation**

Remove person from exposure ensuring one's own safety while doing so. Get medical attention immediately if symptoms occur.

**Ingestion**

Rinse mouth. Do not induce vomiting. If conscious, give 2 glasses of water. Get immediate medical attention. 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: Irritation or pain may occur at the site of contact. There may be redness or whiteness of the skin in the area of exposure. 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: Corrosive burns may appear around the lips. Nausea and stomach pain may

occur.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

Exposure may cause coughing or wheezing.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

Possible systemic effects via inhalation.

#### **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.

### **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**

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.

### **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. 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**

Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Dike to confine spill and absorb with non-combustible absorbent such as clay, sand or soil. Surface drains within close vicinity of the spill should be covered.

##### **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

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

#### 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** Gloves (acid resistant).

**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

<b>Physical State</b>	Liquid
<b>Appearance</b>	Liquid suspension
<b>Odour</b>	Barely perceptible
<b>Colour</b>	No information available
<b>Odour threshold</b>	No information available
<b>pH</b>	<2

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	1.36 - 1.38
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 <sub>st</sub>	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 reducing agents, Strong bases.

**10.6. Hazardous decomposition products**

May emit toxic fumes under fire conditions: Nitrogen oxides (NO<sub>x</sub>).

## Section 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Acute toxicity

#### Product Information

Product does not present an acute toxicity hazard based on known or supplied information.

**LD50 Oral** > 2000 mg/kg (rat) (Calculated Estimated Acute Toxicity - EAT)

Chemical name	LD50 Oral	LD50 Dermal	Inhalation LC50
MANGANESE DINITRATE	>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

Skin contact: Irritation or pain may occur at the site of contact. There may be redness or whiteness of the skin in the area of exposure. An itchy rash may occur at the site of contact. Blistering may occur.  
Eye contact: There may be pain and redness. The eyes may water profusely. May cause permanent damage.  
Ingestion: Corrosive burns may appear around the lips. 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. There may be coughing and a sore throat.  
Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

**Aspiration hazard** No information available.

## Section 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

There is no data available for this product.

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
MANGANESE DINITRATE	Desmodesmus subspicatus: 72 ErC50 = 64.6 mg/L	Rainbow trout (Oncorhynchus mykiss): 96H LC50 = 47.2 mg/L	Daphnia magna: 48H EC50 = >100 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**

Negligible

## 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

**14.6 Special Provisions**

No special precautions.

Tunnel code: E

Category of transport: 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**

Not applicable

**14.6 Special Provisions**

No special precautions.

Tunnel code: E

Category of transport: 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	Not applicable
14.6 Special Provisions	No special precautions. Tunnel code: E Category of transport: 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	Not applicable
14.6 Special Provisions	No special precautions. Tunnel code: E Category of transport: 3

## Section 15: REGULATORY INFORMATION

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****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/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
MANGANESE DINITRATE 10377-66-9	X	X	X	X	X	X	X	X

**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  
H373 - May cause damage to organs through prolonged or repeated exposure  
H412 - Harmful to aquatic life with long lasting effects

**Legend**

<b>ADR:</b>	European Agreement concerning the International Carriage of Dangerous Goods by Road
<b>CAS:</b>	CAS (Chemical Abstracts Service)
<b>Ceiling:</b>	Maximum limit value:
<b>DNEL:</b>	Derived No Effect Level (DNEL)
<b>EINECS:</b>	EINECS (European Inventory of Existing Chemical Substances)
<b>GHS:</b>	Globally Harmonised System (GHS)
<b>IATA:</b>	International Air Transport Association (IATA)
<b>ICAO:</b>	International Civil Aviation Organization
<b>IMDG:</b>	International Maritime Dangerous Goods (IMDG)
<b>LC50:</b>	LC50 (lethal concentration)
<b>LD50:</b>	LD50 (lethal dose)
<b>PBT:</b>	Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
<b>RID:</b>	Regulations Concerning the International Transport of Dangerous Goods by Rail
<b>STEL:</b>	Short term exposure limit
<b>SVHC</b>	SVHC: Substances of Very High Concern for Authorisation:
<b>TWA:</b>	time weighted average
<b>vPvB:</b>	very Persistent and very Bioaccumulative

Revision date: 2018-07-23

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**