Safety Data Sheet

Issue Date: 24-Feb-2015 **Revision Date:** 19-Oct-2016 **Version:** 3.01

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

1.1. Product identifier

Product Name: **Greenmaster Liquid 0-0-0-6.3Fe**
Product Code **31070199DA**

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

Recommended Use: Fertilizer. Restricted to professional users.
Uses Advised Against: Consumer use [SU 21].

1.3. Details of the supplier of the safety data sheet

Everris International BV
Nijverheidsweg 1-5; 6422 PD Heerlen (NL); Tel: +31 (0) 45-5609100; Fax: +31 (0) 45-5609190

For further information, please contact

INFO-MSDS@EVERRIS.COM

1.4. Emergency telephone number

IN CASE OF AN EMERGENCY CALL: +44 1235 239 670 (24h)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Mixture

Regulation (EC) No 1272/2008

Acute toxicity - Oral	Category 4 - (H302)
Skin Corrosion or Irritation	Category 2 - (H315)
Eye Irritation	Category 2 - (H319)
Chronic aquatic toxicity	Category 3 - (H412)

2.2. Label elements

Signal Word:

Warning

Hazard Statements:

H319 - Causes serious eye irritation
H412 - Harmful to aquatic life with long lasting effects
H302 - Harmful if swallowed
H315 - Causes skin irritation

Precautionary Statements:

P264 - Wash hands thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P337 + P313 - If eye irritation persists: Get medical advice/attention
P501 - Dispose of container in accordance with local regulation

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Ingredients	EC-No.	CAS-No	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Iron sulphate; $FeSO_4+7H_2O$	231-753-5	7782-63-0	25 - 40%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	01-2119513203-57
Citric acid; $C_6H_8O_7$	201-069-1	77-92-9	1 - 5%	Eye Irrit. 2 (H319)	01-2119457026-42
Ethanolamine	205-483-8	141-43-5	0.1 - 1%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Corr. 1B (H314)	01-2119486455-28
Zinc sulphate mono hydrate; $ZnSO_4+1H_2O$	231-793-3	7446-19-7	< 0.1%	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119474684-27
Manganese sulphate; $MnSO_4+1H_2O$	232-08-99	7785-87-7	< 0.1%	STOT RE 2 (H373) Eye Dam. 1 (H318) Aquatic Chronic 2 (H411)	01-2119456624-35
Copper sulfate pentahydrate; $CuSO_4+5H_2O$	231-847-6	7758-99-8	< 0.1%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119520566-40

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice: First aid measures should be executed by trained personnel only.

Inhalation: If not breathing, give artificial respiration. If symptoms persist, call a physician. Move to fresh air in case of accidental inhalation of vapours or decomposition products.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Eye Contact: Rinse thoroughly with plenty of water, also under the eyelids. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. If eye irritation persists, consult a specialist.

Ingestion: Call a physician or Poison Control Centre immediately.

Protection of First-Aiders: Low hazard for usual industrial or commercial handling.

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

Symptoms: None under normal processing

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

Notes to Physician: None under normal processing.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
powder.

Unsuitable extinguishing media:
Water. High volume water jet.

5.2. Special hazards arising from the substance or mixture
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

5.3. Advice for firefighters
Coordinate fire extinguishing measures to fire in surrounding area.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions:
Wear personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas.

For Emergency Responders:
Use personal protection recommended in Section 8.

6.2. Environmental precautions
Do not allow product to enter the environment uncontrolled.

6.3. Methods and material for containment and cleaning up

Methods for Containment:
Prevent further leakage or spillage if safe to do so.

Methods for Cleanup:
Take up mechanically and collect in suitable container for disposal. If material is uncontaminated, collect and reuse as recommended for product.

6.4. Reference to other sections
§ 8, 12, 13.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

General hygiene considerations:	Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. When using, do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/storage conditions:	Keep containers tightly closed in a cool, well-ventilated place. Keep at temperatures between 0 °C and 40 °C.
LGK (Germany)	13
Packaging Materials:	Store in original container.

7.3. Specific end use(s)

Specific use(s)	Fertilizer; Read and follow label instructions; www.everris.com

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Iron sulphate; $FeSO_4+7H_2O$	
Belgium - 8 Hr TWA	1 mg/m³
Denmark	TWA: 1 mg/m³
Finland	TWA: 1 mg/m³
Ireland	TWA: 1 mg/m³ STEL: 2 mg/m³
Norway	TWA: 1 mg/m³ STEL: 1 mg/m³
Portugal	TWA: 1 mg/m³
Spain OEL - Time Weighted Average (TWA):	TWA: 1 mg/m³
Switzerland	TWA: 1 mg/m³
UK oes/mel:	TWA: 1 mg/m³
Citric acid; $C_6H_8O_7$	
greece OEL 15 minute	1
Ethanolamine	
European Union	TWA: 1 ppm TWA: 2.5 mg/m³ Skin
Austria	Skin STEL 3 ppm STEL 7.6 mg/m³ TWA: 1 ppm TWA: 2.5 mg/m³
Australia TWA	3 ppm TWA 7.5 mg/m³ TWA
Belgium - 8 Hr TWA	1 ppm TWA 2.5 mg/m³ TWA
Bulgaria - Occupational Exposure Limits - TWAs	1 ppm TWA; 2.5 mg/m³ TWA
Croatia - Occupational Exposure Limits - STELs (KGVIs)	3 ppm STEL [KGVI]; 7.6 mg/m³ STEL [KGVI]
Czech Republic OEL	2.5 mg/m³ TWA
Denmark	TWA: 1 ppm TWA: 2.5 mg/m³ Skin
Estonia - Occupational Exposure Limits - STELs	3 ppm STEL; 7.6 mg/m³ STEL
Finland	TWA: 1 ppm TWA: 2.5 mg/m³ STEL: 3 ppm STEL: 7.6 mg/m³ Skin
France - Occupational Exposure Limits - 8 Hour VMEs	TWA: 1 ppm TWA: 2.5 mg/m³ STEL: 3 ppm STEL: 7.6 mg/m³
greece OEL 15 minute	3 ppm STEL 7.6 mg/m³ STEL
Hungary - Occupational Exposure Limits - TWAs	2.5 mg/m³ TWA
Iceland - OEL - 8 Hour	1 ppm TWA 2.5 mg/m³ TWA
Indonesia - Occupational Exposure Limits - STELs (PSDs)	6 ppm STEL
Italy OEL Data - Time Weighted Average (TWA):	TWA: 1 ppm TWA: 2.5 mg/m³ STEL: 3 ppm STEL: 7.6 mg/m³ Skin
Ireland	TWA: 1 ppm TWA: 2.5 mg/m³ STEL: 3 ppm STEL: 7.6 mg/m³ Skin
Japan - TWAs	3 ppm OEL 7.5 mg/m³ OEL
Korea - ISHA - Occupational Exposure Limits - TWAs	3 ppm TWA (Serial No. 349); 8 mg/m³ TWA (Serial No. 349)
Latvia - Occupational Exposure Limits - TWAs	0.2 ppm TWA; 0.5 mg/m³ TWA
Malaysia - Occupational Exposure Limits - TWAs	3 ppm TWA; 7.5 mg/m³ TWA
Netherlands National MAC Data - Time Weighted Average (TWA):	Skin STEL: 7.6 mg/m³ TWA: 2.5 mg/m³

Norway	TWA: 1 ppm TWA: 2.5 mg/m³ Skin STEL: 1 ppm STEL: 2.5 mg/m³
Poland	STEL: 7.5 mg/m³ TWA: 2.5 mg/m³
Portugal	STEL: 3 ppm STEL: 7.6 mg/m³ TWA: 1 ppm TWA: 2.5 mg/m³
Romania - Occupational Exposure Limits - TWAs	1 ppm TWA; 2.5 mg/m³ TWA
Slovenia - Occupational Exposure Limits - TWAs	1 ppm TWA; 2.5 mg/m³ TWA
Spain OEL - Time Weighted Average (TWA):	S* STEL: 3 ppm STEL: 7.5 mg/m³ TWA: 1 ppm TWA: 2.5 mg/m³
Singapore - OEL:PELs	3 ppm PEL 7.5 mg/m³ PEL
Switzerland	STEL: 4 ppm STEL: 10 mg/m³ TWA: 2 ppm TWA: 5 mg/m³
UK oes/mel:	STEL: 3 ppm STEL: 7.6 mg/m³ TWA: 1 ppm TWA: 2.5 mg/m³ Skin
Manganese sulphate; $MnSO_4+1H_2O$	
Austria	STEL 2 mg/m³ TWA: 0.5 mg/m³
Australia TWA	0.2 mg/m³
Belgium - 8 Hr TWA	0.2 mg/m³
Denmark	TWA: 0.2 mg/m³
Finland	TWA: 0.02 mg/m³ TWA: 0.2 mg/m³
Ireland	TWA: 0.2 mg/m³ STEL: 0.6 mg/m³
Norway	TWA: 1 mg/m³ TWA: 0.1 mg/m³ STEL: 1 ppm STEL: 0.1 mg/m³
Poland	TWA: 0.2 mg/m³ TWA: 0.05 mg/m³
Portugal	TWA: 0.2 mg/m³
Spain OEL - Time Weighted Average (TWA):	TWA: 0.2 mg/m³
Switzerland	TWA: 0.5 mg/m³
UK oes/mel:	TWA: 0.5 mg/m³
Copper sulfate pentahydrate; $CuSO_4+5H_2O$	
Austria	STEL 4 mg/m³ STEL 0.4 mg/m³ TWA: 1 mg/m³ TWA: 0.1 mg/m³
Finland	TWA: 1 mg/m³
Poland	TWA: 0.2 mg/m³
Switzerland	STEL: 0.2 mg/m³ TWA: 0.1 mg/m³

8.2. Exposure controls

Personal protective equipment

Eye/Face Protection: Not required
Hand protection: Gloves. Nitrile rubber (0.26 mm). Break through time. > 8 h.
Respiratory Protection: No personal respiratory protective equipment normally required
Skin and Body Protection: Lightweight protective clothing

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State:	liquid
Appearance:	aqueous solution
Odor:	Not significant
Bulk density:	no data available
pH:	3.2
Melting Point/Freezing Point:	no data available
Boiling Point/Range:	no data available,
Flash Point:	no data available,
Evaporation Rate:	no data available,
Flammability (solid, gas):	Non-flammable
Vapor Pressure:	no data available,
Vapor Density:	no data available,
Specific Gravity:	no data available
Water Solubility:	Soluble in water
Solubility(ies)	no data available
Partition Coefficient:	no data available,
Autoignition Temperature:	Not Applicable
Decomposition Temperature:	no data available
Explosive Properties:	Doesn't present explosion hazard. Based on data of ingredients.

9.2. Other information

Not applicable

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Not reactive.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

10.4. Conditions to avoid

For quality reasons: Keep out of reach of direct sunlight, store under dry conditions, partly used bags should be closed well

10.5. Incompatible materials

Keep away from catalysts like derivates of hexavalent chromium and metal halides Keep away from flammable products (fuels) like charcoal, wood, flour, soot etc

10.6. Hazardous decomposition products

None under normal processing. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Information on the Likely Routes of Exposure (inhalation, ingestion, skin and eye contact):

Product Information

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Inhalation	Inhalation of dust in high concentration may cause irritation of respiratory system.
Eye contact	May cause slight irritation.
Skin Contact	May cause irritation.
Ingestion	May cause gastrointestinal discomfort if consumed in large amounts.

Information on Toxicological Effects:

Symptoms: No information available

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document:
ATEmix (oral): 1,936.00 mg/kg

Unknown Acute Toxicity: 0% of the mixture consists of ingredient(s) of unknown toxicity.

Ingredients	LD50 Oral	LD50 Dermal	LC50 Inhalation
Iron sulphate; $FeSO_4+7H_2O$	= 1520 mg/kg		
Citric acid; $C_6H_8O_7$	= 3 g/kg (Rat) = 3000 mg/kg (Rat)		
Ethanolamine	= 1720 mg/kg (Rat)	= 1000 mg/kg (Rabbit) = 1 mL/kg (Rabbit)	
Manganese sulphate; $MnSO_4+1H_2O$	= 782 mg/kg (Rat)		
Copper sulfate pentahydrate; $CuSO_4+5H_2O$	= 960 mg/kg (Rat) = 300 mg/kg (Rat)	> 2 g/kg (Rat)	

Delayed and Immediate Effects as well as Chronic Effects from Short and Long-Term Exposure:
No additional information available

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecotoxicity effects: Do not allow product to enter the environment uncontrolled.
Unknown Aquatic Toxicity: 0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Ingredients	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Citric acid; $C_6H_8O_7$	-	1516: 96 h Lepomis macrochirus mg/L LC50 static	-	120: 72 h Daphnia magna mg/L EC50
Ethanolamine	15: 72 h Desmodesmus subspicatus mg/L EC50	227: 96 h Pimephales promelas mg/L LC50 flow-through 3684: 96 h Brachydanio rerio mg/L LC50 static 300 - 1000: 96 h Lepomis macrochirus mg/L LC50 static 114 - 196: 96 h Oncorhynchus mykiss mg/L LC50 static 200: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	-	65: 48 h Daphnia magna mg/L EC50
Copper sulfate pentahydrate; $CuSO_4+5H_2O$	-	0.66 - 1.15: 96 h Lepomis macrochirus mg/L LC50 semi-static 0.96 - 1.8: 96	-	0.147 - 0.227: 48 h Daphnia magna mg/L EC50 Static

		h Lepomis macrochirus mg/L LC50 static 0.1478 - 0.165: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.09 - 0.19: 96 h Oncorhynchus mykiss mg/L LC50 static 0.6752: 96 h Pimephales promelas mg/L LC50 static		

12.2. Persistence and degradability
Persistence and Degradability: No information available.

12.3. Bioaccumulative potential
Bioaccumulation: No information available.

Ingredients	LOGPOW
Citric acid; $C_6H_8O_7$	-1.72
Ethanolamine	-1.91

12.4. Mobility in soil
Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment
PBT and vPvB assessment No information available.

12.6. Other adverse effects
Mobility: No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Disposal of Wastes: Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging: Do not re-use empty containers. Dispose of as unused product.
Other Information: Use up product completely. Packaging material is industrial waste.

Section 14: TRANSPORT INFORMATION

IMO / IMDG

14.1
UN-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: No information available
14.6
Special Provisions None
14.7
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not regulated

ADR/RID

14.1
UN-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 regulated
14.6
Special Provisions None

IATA
14.1
UN-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 regulated
14.6
Special Provisions None

Section 15: REGULATORY INFORMATION

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

Belgium

Denmark
Danish Sikkerhedsgruppe No data available

France
ICPE Not regulated

Germany
LGK (Germany) 13
Water Endangering Class (WGK): 1 (Everris classification)
Gefahrstoffverordnung (Germany) TRGS 511 Not regulated

Component	German WGK Section
Citric acid; $C_6H_8O_7$ 77-92-9 (1 - 5%)	class 1
Ethanolamine 141-43-5 (0.1 - 1%)	class 1
Zinc sulphate mono hydrate; $ZnSO_4+1H_2O$ 7446-19-7 (< 0.1%)	class 3
Manganese sulphate; $MnSO_4+1H_2O$ 7785-87-7 (< 0.1%)	class 1

European Union

REACH:

15.2 Chemical safety assessment
Substance(s) usage is covered according to Reach regulation 1907/2006

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Section 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H332 - Harmful if inhaled
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H319 - Causes serious eye irritation
H315 - Causes skin irritation
H373 - May cause damage to organs through prolonged or repeated exposure in contact with skin
H411 - Toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects

Key or legend to abbreviations and acronyms used in the safety data sheet
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail
ICAO: International Civil Aviation Organization
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
PNEC: Predicted No Effect Concentration
DNEL: Derived No-Effect Level
Reach: Registration, Evaluation, authorization of Chemicals
CLP: EU-GHS; Classification, Labelling and Packaging
OEL: Occupational Exposure Limit
TWA: Time Weighted Average
ATE: Acute Toxicity Estimate
EUH statement: CLP (EU) specific hazard statement

Classification procedure:	- Calculation method - Expert judgment and weight of evidence determination
Key literature references and sources for data	According to EC Regulation 1907/2006 (Reach), Regulation EU No. 2015/830 Regulation (EC) No 1272/2008
Prepared by:	Regulatory Affairs Department (INFO-MSDS@EVERRIS.COM)
Issue Date:	24-Feb-2015
Revision Date:	19-Oct-2016
Reason for revision:	*** Indicates changes since the last revision. This version replaces all previous versions

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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