



Material Safety Data Sheet

According to EC Regulation 1907/2006

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Identification of the substance or preparation

MSDS Ref. No.: 3107.01.18
 Product name: Greenmaster Liquid Effect 6.9%Fe

Use of the Substance/Preparation

Recommended use: Liquid concentrate

Company/Undertaking Identification

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2. HAZARDS IDENTIFICATION

Classification

Most important hazards

None

S -phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature of the preparation

Components	CAS-No	Weight %	EC-No.	Classification
Sulfuric acid	7664-93-9	1 - 5%	016-020-00-8	C;R35
Iron sulphate, FeSO ₄ +1H ₂ O	7720-78-7	10 - 25%	231-753-5	Xn;R22 R36/38

Components	CAS-No	Weight %	EC-No.	Classification
Manganese sulphate, MnSO ₄	7785-87-7	< 1%	232-08-99	N;R51/53 Xn;R48/20/22

The product contains no substances known to be hazardous to health in concentrations which need to be taken into account.

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

General advice:	If you feel unwell, seek medical advice (show the label where possible).
Ingestion:	Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Consult a physician if necessary.
Inhalation:	Not applicable.
Skin contact:	If a person feels unwell or symptoms of skin irritation appear, consult a physician. Wash hands and exposed skin after use / handling.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

The product itself does not burn. Coordinate fire extinguishing measures to fire in surrounding area.

Unsuitable extinguishing media:

Not applicable

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases:

Danger of toxic gases in smoke in case of fire

Special protective equipment for firefighters:

Standard procedure for chemical fires.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Wear personal protective equipment.

Environmental precautions:

Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up:

Wipe up with absorbent material (e.g. cloth, fleece). Take up mechanically and collect in suitable container for disposal. Do not use flammable material (wood shavings) for liquid absorption.

7. HANDLING AND STORAGE

Handling:

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Technical measures/precautions:	No special technical protective measures required.
Safe handling advice:	No information available
Storage:	
Technical measures/storage conditions:	Store in original container. Keep at temperatures above 0 °C. Keep away from food, drink and animal feeding stuffs. In crystalline form, enhances combustibility of other substances. Keep from drying out. Protect from contamination. Keep in a dry place. Keep away from frost.
Incompatible products:	No information available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure: Ensure adequate ventilation.

Occupational exposure controls

Personal protective equipment

Respiratory protection:	Not required.
Hand protection:	Protective gloves.
Eye/face protection	Safety glasses. Eye wash bottle with pure water.
Skin and body protection:	Wear suitable protective clothing.
Hygiene measures	When using, do not eat, drink or smoke. General industrial hygiene practice. Avoid contact with skin and eyes.

Exposure limit values

Sulfuric acid

Belgium - 8 Hr VLE	1 mg/m ³ TWA
Czech Republic OEL	= 1 mg/m ³ TWA
Finland - Occupational Exposure Limits - 8 hour	0.2 mg/m ³ TWA
France - Valeurs Limites d'exposition (VLE)	3 mg/m ³ VLCT
France INRS (VME)	1 mg/m ³ VME
Germany (DFG) - MAK	0.1 mg/m ³ MAK
Norway - 8 h:	0.1 mg/m ³ TWA
	0.2 mg/m ³ TWA
Portugal - TWAs	0.2 mg/m ³ TWA
Spain - Valores Limite Ambientales - VLE	1 mg/m ³ VLA-ED
Sweden - OEL - 8 Hour	1 mg/m ³ LLV

Iron sulphate, FeSO₄+1H₂O

Belgium - 8 Hr VLE	1 mg/m ³
Finland - Occupational Exposure Limits - 8 hour	1 mg/m ³
Netherlands - OEL - MACs:	1 mg/m ³
Norway - 8 h:	0.01 mg/m ³
Portugal - TWAs	1 mg/m ³ TWA
Spain - Valores Limite Ambientales - VLE	1 mg/m ³ VLA-ED
UK EH40 WEL:	LTEL (8 hr TWA) 1 mg/m ³
	STEL (15 min) 2mg/m ³

Manganese sulphate, MnSO₄

Belgium - 8 Hr VLE	0.2 mg/m ³
Czech Republic OEL	= 1 mg/m ³ TWA

Finland - Occupational Exposure Limits - 8 hour	0.5 mg/m ³
Germany TRGS900:	0.5 mg/m ³ TWA
Germany (DFG) - MAK	0.5 mg/m ³ MAK
Netherlands - OEL - MACs:	1 mg/m ³
Norway - 8 h:	2.5 mg/m ³
Portugal - TWAs	0.2 mg/m ³ TWA
Spain - Valores Limite Ambientales - VLE	0.2 mg/m ³ VLA-ED
Sweden - OEL - 8 Hour	0.1 mg/m ³ LLV
	0.2 mg/m ³ LLV
UK EH40 WEL:	5 mg/m ³

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Physical State:	Liquid
Appearance:	Clear
Color:	Green
Odor:	Not significant

Important Health Safety and Environmental Information

Boiling point/range:	105 (°C)
Density:	1.23 - 1.25 g/cm ³

Other information

pH:	3 - 4
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10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Conditions to avoid:	Do not allow solution to dry out. Prevent uncontrolled heating.
Materials to avoid:	Strong bases. Galvanized container (corrosion). Soaking of flammable material (fire risk after drying).
Hazardous decomposition products:	No decomposition if stored normally

11. TOXICOLOGICAL INFORMATION

Component information

<i>Iron sulphate, FeSO₄+1H₂O</i>	
LD ₅₀ /oral/rat =	1389 mg/kg
<i>Manganese sulphate, MnSO₄</i>	
LD ₅₀ /oral/rat =	9 g/kg

Other information on acute toxicity:

No information available

Product information**Local effects**

Skin effects:	May cause skin irritation in susceptible persons
Eye effects:	May cause eye irritation with susceptible persons
Inhalation:	May cause sensitization by inhalation
Ingestion:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea

12. ECOLOGICAL INFORMATION

Product information**Aquatic toxicity:**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Water Endangering Class (WGK): 1 (Scotts classification)**Component information***Iron sulphate, FeSO₄+1H₂O***Ecotoxicity effects**EC50/48h/daphnia = >100mg/l
LC50/96h/rainbow trout = >72.5mg/l (6d)
EC50/72h/algae = 22mg/l*Manganese sulphate, MnSO₄***Ecotoxicity effects**

EC50/48h/daphnia => 100 mg/l

Does not bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods:	Dispose of in accordance with local regulations.
Contaminated packaging:	Rinse empty containers with water and use the rinse-water to prepare the working solution. Can be offered for recycling, re-conditioning or puncture.

14. TRANSPORT INFORMATION

Product information**Physical State:** Liquid

14. TRANSPORT INFORMATION

ADR/RID

UN-No: Not classified for transport

IATA

UN-No: Not classified for transport

IMO / IMDG

UN-No: Not classified for transport

15. REGULATORY INFORMATION

In accordance with local and national regulations

16. OTHER INFORMATION

Text of R Phrases mentioned in Section 3

R22 - Harmful if swallowed.

R35 - Causes severe burns.

R36 - Irritating to eyes.

R48/20/22 - Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Reason for revision: *** Indicates changes since the last revision. This version replaces all previous versions

Prepared by: Regulatory Affairs Department.

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End of Safety Data Sheet