SAFETY DATA SHEET

Grennan's Crop Boost

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

SDS # : NP-0192-2-A
Revision date: 2018-09-11
Format: EU
Version 2

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

Product Code(s) NP-0192-2-A

Product Name Grennan's Crop Boost

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

Recommended Use: A micronutrient suspension concentrate for use in agriculture

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*

Acute aquatic toxicity	Category 1 (H400)
Chronic aquatic toxicity	Category 2 (H411)
EUH208: Contains 1,2-Benzisothiazolin-3-one. May produce an allergic reaction.	

2.2. Label elements

Hazard pictograms

Signal Word
WARNING

Hazard Statements
H400 - Very toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects
EUH208: Contains 1,2-Benzisothiazolin-3-one. May produce an allergic reaction.

Precautionary Statements
P273 - Avoid release to the environment
P391 - Collect spillage
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
ZINC PHOSPHATE	231-944-3	7779-90-0	5-10	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119485044-40-XXXX
Sulphur powder (ground)	231-722-6	7704-34-9	5-10	Skin Irrit. 2 (H315)	01-2119487295-27-XXXX
ethane-1,2-diol	203-473-3	107-21-1	1-5	Acute Tox. 4 (H302) STOT RE 2: (H373)	01-2119456816-28-XXXX
DICOPPER CHLORIDE TRIHYDROXIDE	215-572-9	1332-65-6	1-5	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)	01-2119966120-46-XXXX

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

Contains 1,2-Benzisothiazolin-3-one (CAS number 2634-33-5) at a level below the concentration limit for classification of the mixture as sensitising.

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. Call a doctor if irritation persists.

Skin Contact Wash off immediately with soap and plenty of water. If symptoms persist, call a doctor.

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

Ingestion Rinse mouth. 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: May see mild irritation at the site of contact.

Eye contact: Possible irritation and redness.

Ingestion: Possible irritation of the throat.

Inhalation: May experience 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. 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
Toxic fumes may be released in fire situations.

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. 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.

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

Chemical name	European Union	The United Kingdom	France	Spain	Germany
ethane-1,2-diol 107-21-1	TWA 20 ppm TWA 52 mg/m³ STEL 40 ppm STEL 104 mg/m³ S*	STEL 40 ppm STEL 104 mg/m³ STEL 30 mg/m³ TWA 10 mg/m³ TWA 20 ppm TWA 52 mg/m³ Skin	TWA 20 ppm TWA 52 mg/m³ STEL 40 ppm STEL 104 mg/m³ P*	TWA 20 ppm TWA 52 mg/m³ STEL 40 ppm STEL 104 mg/m³ S*	-
DICOPPER CHLORIDE TRIHYDROXIDE 1332-65-6	-	TWA 1 mg/m³; STEL 2 mg/m³	-	-	-

Chemical name	Italy	Portugal	The Netherlands	Finland	Denmark
ethane-1,2-diol 107-21-1	TWA 20 ppm TWA 52 mg/m³ STEL 40 ppm STEL 104 mg/m³ Pelle*	TWA 20 ppm TWA 52 mg/m³ STEL 40 ppm STEL 104 mg/m³ Ceiling 100 mg/m³ C(A4) P*	Huid* STEL 104 mg/m³ TWA 52 mg/m³ TWA 10 mg/m³	TWA 20 ppm TWA 50 mg/m³ STEL 40 ppm STEL 100 mg/m³ iho*	TWA 10 ppm TWA 26 mg/m³ TWA 10 mg/m³ H*

Chemical name	Austria	Switzerland	Poland	Norway	Ireland
ethane-1,2-diol 107-21-1	H* STEL 20 ppm STEL 52 mg/m³ TWA 10 ppm TWA 26 mg/m³	SS-C** H* TWA 10 ppm TWA 26 mg/m³ STEL 20 ppm STEL 52 mg/m³	TWA 15 mg/m³ STEL 50 mg/m³	TWA 20 mg/m³ TWA 52 ppm TWA 52 mg/m³ S* STEL 104 mg/m³ STEL 40 ppm	TWA 10 mg/m³ TWA 20 ppm TWA 52 mg/m³ STEL 40 ppm STEL 104 mg/m³ Skin

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. The floor of the storage room must be impermeable to prevent the escape of liquids.

Personal protective equipment

Eye/Face Protection Safety glasses with side-shields. 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 Wear protective gloves/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 green
Odour threshold	No information available
pH	8.5 - 10.0
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	1.55 - 1.57
Water solubility	Dispersible 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 oxidising agents, Strong acids, Strong bases.

10.6. Hazardous decomposition products

May emit toxic fumes under fire conditions.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information
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LD50 Oral > 4000 mg/kg (rat) (Calculated Estimated Acute Toxicity - EAT)

Chemical name	LD50 Oral	LD50 Dermal	Inhalation LC50
ZINC PHOSPHATE	> 5000 mg/kg (Rat)		
Sulphur powder (ground)	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 9.23 mg/L (Rat) 4 h
DICOPPER CHLORIDE TRIHYDROXIDE	1398 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	4.74 mg/L (4 hr) (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: May see mild irritation at the site of contact.

Eye contact: Possible irritation and redness.

Ingestion: Possible irritation of the throat.

Inhalation: May experience irritation of the throat with a feeling of tightness in the chest.

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

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity ALGAE (Pseudokirchneriella subcapitata): 72H IC50 = 2.27 mg/L (calculated)

DAPHNIDS (Daphnia magna): 48H EC50 = 3.71 mg/L (calculated)

RAINBOW TROUT (Oncorhynchus mykiss): 96H LC50 = 1.49 mg/L (calculated)

.

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
ZINC PHOSPHATE	Raphidocelis subcapitata: 72H IC50 = 0.268 mg/L (ZnO data)	Oncorhynchus mykiss: 96H LC50 = 0.160 mg/L (ZnCl2 data)	Daphnia magna: 48H EC50 = 2.13 mg/L
Sulphur powder (ground)	-	96 h LC50: = 866 mg/L (Brachydanio rerio) static 96 h LC50: < 14 mg/L (Lepomis macrochirus) static 96 h LC50: > 180 mg/L (Oncorhynchus mykiss) static	-
DICOPPER CHLORIDE TRIHYDROXIDE	ALGAE (Raphidocelis supcapitata) 72H ErC50 0.238 mg/L	96 h LC50: = 0.082 mg/L (Oncorhynchus mykiss) semi-static 96 h LC50: 0.29 - 0.55 mg/L (Oncorhynchus mykiss) static 96 h LC50: = 2940 mg/L (Cyprinus carpio) static 96 h LC50: > 180 mg/L (Lepomis macrochirus) static	DAPHNID (Daphnia magna) 48H LC50 0.067 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.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

Toxic to aquatic organisms.

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. Alternatively, the product can be incinerated, in accordance with local regulations. The diluted product and washings should be sent to a water treatment facility. 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	UN3082
14.2 Proper Shipping Name	Not regulated
14.3 Hazard class	9
14.4 Packing Group	III
14.5 Marine Pollutant	Yes
Environmental Hazard	Yes
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	This product is not shipped in bulk containers.

RID

14.1 UN/ID no	UN3082
14.2 Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC PHOSPHATE; DICOPPER CHLORIDE TRIHYDROXIDE)
14.3 Hazard class	9
14.4 Packing Group	III
14.5 Environmental Hazard	Yes
14.6 Special Provisions	No special precautions. Tunnel code: E Transport category: 3

ADR/RID

14.1 UN/ID no	UN3082
14.2 Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC PHOSPHATE; DICOPPER CHLORIDE TRIHYDROXIDE)
14.3 Hazard class	9
14.4 Packing Group	III
14.5 Environmental Hazard	Yes
14.6 Special Provisions	No special precautions. Tunnel code: E Transport category: 3

ICAO/IATA

14.1 UN/ID no	UN3082

14.2 Proper Shipping Name	Not regulated
14.3 Hazard class	9
14.4 Packing Group	III
14.5 Environmental Hazard	Yes
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/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
ZINC PHOSPHATE 7779-90-0	X	X	X	X	X	X	X	X
Sulphur powder (ground) 7704-34-9	X	X	X		X	X	X	X
ethane-1,2-diol 107-21-1	X	X	X	X	X	X	X	X
DICOPPER CHLORIDE TRIHYDROXIDE 1332-65-6	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
EUH208 - May produce an allergic reaction
H302 - Harmful if swallowed
H302 + H332 - Harmful if swallowed or if inhaled

H315 - Causes skin irritation
H332 - Harmful if inhaled
H373 - May cause damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H411 - Toxic 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: 2018-09-11

Reason for revision: Initial Release.

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

End of Safety Data Sheet