Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product Name: GreenForce Lawn Feed Weed & Mosskiller
Product Number(s): G21022 (15kg), P21028 (3kg)

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

Lawncare product

1.3 Details of the supplier of the safety data sheet

Hygeia Chemicals Limited, Carrowmoneash, Oranmore, Co. Galway
Tel: 091-794722 Fax: 091-794738 email: services@hygeia.ie

1.4 Emergency telephone number

National Poisons Information Centre (Tel: 01-8379964) (Fax: 01-8368476)

Section 2: Hazards Identification

2.1 Classification according to Regulation (EC) 1272/2008 [EU-GHS/CLP]

Eye Irrit. 2: H319; Aquatic Chronic 3: H412

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP):

Hazard pictogram: GHS07: Irritant
Signal words: Warning
Hazard statements: H319: Causes serious eye irritation
H412: Harmful to aquatic life with long lasting effects
Precautionary statements: P264: Wash hands thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P501: Dispose of contents/container to an approved waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P101: If medical advice is needed, have product container or label at hand
P102: Keep out of reach of children
P103: Read label before use

2.3 Other hazards

Classification has been determined from tests on the product as supplied

Section 3: Composition/information on ingredients

3.1 Substances

Not available

3.2 Mixtures

Name	No.	Classification	% Wt.
Iron (II) Sulfate Heptahydrate	CAS No: 7720-78-7 EC No: 231-753-5	Skin Irrit. 2: H315; Eye Irrit. 2: H319; Acute Tox. 4: H302; Skin Sens. 1: H317	10-30%
Mecoprop-P and its Salts	CAS No: 66423-05-0 EC No: 240-539-0	Eye Dam. 1: H318; Acute Tox. 4: H302; Aquatic Chronic 2: H411	<1%
Dicamba (ISO)	CAS No: 1918-00-9 EC No: 217-635-6	Eye Dam. 1: H318; Acute Tox. 4: H302; Acute Tox. 4: H332; Aquatic Chronic 2; H411	<1%
Potassium Hydroxide	CAS No: 1310-58-3 EC No: 215-181-3	Skin Corr. 1A: H314; Acute Tox. 4: H302	<1%
Calcium bis (dihydrogen orthophosphate) (Superphosphate (SSP))	CAS No: 7758-23-8 EINECS: 231-837-1	Eye Dam. 1: H318	<10%

Section 4: First Aid Measures

4.1 Description of First Aid Measures

Eye Contact: If substance has got into the eyes, immediately wash out with plenty of water for at least 10 minutes maintaining eyelids open. Protect unharmed eye. Take care not to wash the chemical from one eye into the other. Obtain medical attention immediately. (Show this Safety Data Sheet)

Skin Contact: Remove contaminated clothing immediately. If skin contamination occurs wash immediately with plenty of clean, gently flowing water for at least 10 minutes. Repeat skin decontamination process until all signs of chemicals have gone. Obtain medical attention immediately. (Show this Safety Data Sheet)

Ingestion: If ingestion is suspected, obtain medical attention immediately. (Show this Safety Data Sheet)

Inhalation: Move to fresh air. If there is breathing difficulty or coughing, keep patient at rest seated in position of maximum comfort. Obtain medical attention immediately. (Show this Safety Data Sheet)

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in Section 2

4.3 Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Firefighting Measures

5.1 Extinguishing media

Extinguish with carbon dioxide, dry chemical, foam or water spray

5.2 Special hazards arising from the substance or mixture

In case of fire, toxic fumes and poisonous gases may be released

5.3 Advice for firefighters

Wear self-contained breathing apparatus, suitable gloves, safety boots and eye/face protection

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate protective clothing and eye protection

6.2 Environmental precautions

Do not allow product to enter drains or water courses

6.3 Methods and material for containment and cleaning up

Sweep up and place in suitable labelled containers and dispose as hazardous waste where appropriate

6.4 Reference to other sections

Refer to Sections 8 and 13

Section 7: Handling and Storage

7.1 Precautions for safe handling

When using, do not eat, drink or smoke. Avoid contact with eyes and skin. Provide adequate ventilation. Protect the product against moisture

7.2 Conditions for safe storage, including any incompatibilities

Keep bags tightly closed in a dry, cool and well-ventilated place to which children do not have access. Keep away from food, drink and animal feedingstuff

7.3 Specific end use(s)

Not Available

Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters

Occupational Exposure Limits

Iron (II) Sulfate Heptahydrate

Long-term exposure limit (8-hour TWA): WEL: 1 mg/m^3

Short-term exposure limit (15-minute): WEL: 2 mg/m^3

Potassium Hydroxide

Long-term exposure limit (8-hour TWA): WEL: No data available

Short-term exposure limit (15-minute): WEL: 2 mg/m^3

WEL = Workplace Exposure Limit

CMPP-PK 600g/l

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	10mg/m^3	20 mg/m^3	-	-

DNEL/PNEC Values: No data available

Dicamba
WEL (8hr TWA) 10 mg/m^3

Potassium Hydroxide
WEL (short term value) 2 mg/m^3

8.2 Exposure Controls

Engineering Controls:	Provide adequate general and local exhaust ventilation
Eye/Face Protection:	Wear tightly fitting safety goggles conforming to EN 166
Hand Protection:	Wear suitable protective gloves conforming to EN 374. Seek recommendations from manufacturer or supplier. After using gloves the hands should be washed and thoroughly dried and a suitable moisturiser applied
Other Skin and Body Protection:	Wear appropriate clothing to prevent any possibility of skin contact
Hygiene Measures:	Do not smoke in work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke
Respiratory Protection:	If ventilation is insufficient suitable respiratory protection must be provided. Seek advice and recommendations off the manufacturer or supplier of equipment

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Brown/Beige Granule	
Odour:	Slight	
pH:	No data available	
Boiling Point:	No data available	
Melting Point/Range:	No data available	
Decomposition Temp.:	No data available	
Flash Point:	No data available	
Auto Ignition Temp.:	No data available	
Flammability (solid, gas):	No data available	
Explosive Properties:	None known	
Oxidising Properties:	None known	
Vapour Pressure:	No data available	
Bulk Density:	No data available	
Solubility:	**Water Solubility:**	Soluble
	Fat/Solvent Solubility:	No data available
Partition Coefficient:	(CMPP-P)	Log P_{ow} = -0.391
	(Ferrous Sulphate)	Log P_{ow} = <3 (n-Octanol/Water)
	(Dicamba)	Log P_{ow} = 0.7 (Water), Log P_{ow} = -1.9 (Buffer pH 7)

9.2 Other information
Not Available

Section 10: Stability and Reactivity

10.1 Reactivity
Stable under recommended storage conditions

10.2 Chemical stability
Stable under normal conditions of storage and use

10.3 Possibility of hazardous reactions
None known

10.4 Conditions to avoid
Protect granules from moisture

10.5 Incompatible materials
Avoid strong acids, strong bases and oxidising agents. Avoid heat flames and other sources of ignition

10.6 Hazardous decomposition products
Formation of toxic fumes is possible during heating or in case of fire

Section 11: Toxicological Information

11.1 Information on toxicological effects

Ferrous Sulphate

Acute Toxicity:	
Oral:	Large doses in humans may cause severe liver damage. Children are more susceptible than adults to iron poisoning LD_{50} Oral rat (anhydrous ferrous sulphate) 319 mg/kg
Inhalation:	No data available
Skin:	No data available
Corrosivity/Irritation:	
Eye:	May cause eye irritation
Skin:	May cause skin irritation
Sensitisation:	
Skin:	No data available
Repeated Dose Toxicity:	No standard test data available, however Ferrous Sulphate has been used as an iron supplement for humans for many years
Mutagenicity:	Did not show mutagenic effects in animal experiments
Carcinogenicity:	Not believed to be a carcinogen
Reproductive Toxicity:	No data available

CMPP-P K 600 g/l AI

Acute Toxicity:	IHL Rat LC_{50} > 5.4 mg/l ORL Rat LD_{50} 500-2000 mg/kg SKN Rat LD_{50} > 2000 ml/kg
Hazardous Ingredients:	Potassium Hydroxide: ORL Rat LD_{50} 273 mg/kg
Routes of Exposure:	Refer to Section 4 of SDS for routes of exposure and corresponding symptoms.

Dicamba

Acute Oral Toxicity:	LD_{50}: 1581 mg/kg (Rat)	OECD 401
Acute Dermal Toxicity:	LD_{50}: > 2000 mg/kg (Rat)	OECD 402
Acute Inhalation Toxicity:	LC_{50}: 4.46 mg/l (Rat; 4 h; male)	OECD 403
Acute Skin Irritation:	Rabbit: mildly irritating	OECD 404
Acute Eye Irritation:	Rabbit: severely irritating	OECD 405

Skin Sensitization: Not sensitizing (Guinea Pig; assessment according to 2001/59/EC; Maximization test) OECD 406

Mutagenic/Carcinogenic/ Teratogenicity/Repoductive/STOT: Did not show effects in animal experiments

Superphosphate (SSP) and Superphosphates (TSP)

Acute Toxicity

LD/LC$_{50}$ Values relevant for classification:

No reliable study with this product is present
This study is conducted on an analogous substance (read-across)
No classification is necessary

7783-28-0 Diammonium Hydrogenorthophosphate		
Oral	LD_{50}	>2000 mg/kg (Rat) (OECD 425) not classified
Dermal	LD_{50}	>2000 mg/kg (Rat) (OECD 402) not classified
Inhalative	LC_{50}/4h	>5,0 mg/l (Rat) (OECD 403)

Primary Irritant Effect:

Effect Species Method		
7722-76-1 Ammonium Dihydrogenorthophosphate		
Irritation of Skin	OECD 404	Not irritating (Rabbit)
8011-76-5 Superphosphate (SSP)		
Irritation of Eyes	OECD 405, EC B.5	Irritating (Rabbit)
7783-28-0 Diammonium Hydrogenorthophosphate		
Sensitisation	OECD 429, EC B.42	Not sensitising (Mouse)

Toxicokinetics, Metabolism and Distribution:

This product dissociates into calcium, sulfate and phosphate ions, which are normal body and nutritional components

Repeated Dose Toxicity		
65996-95-4 Superphosphates, concd		
Oral	NOAEL	250 mg/kg bw/day (Rat) (OECD 422) Should not be classified for general toxicity

CMR Effects (Carcinogenicity, mutagenicity and toxicity for reproduction)

Mutagenicity:

Negative (according to OECD 471, CAS 65996-95-4 Superphosphate concentrated)
Negative (according to OECD 473, CAS 8011-76-5 single Superphosphate)
Negative (according to OECD 476, CAS 7722-76-1 ammonium dihydrogenorthophosphate)

Carcinogenicity:

No data available
(no carcinogenicity study needs to be performed as this substance is not genotoxic)

Toxicity for Reproduction:

No classification is necessary
Reproduction Toxicity: NOAEL: 750 mg/kg bw/day; Rat; Oral
Development Toxicity: NOAEL: 750 mg/kg bw/day; Rat; Oral
(OECD 422, CAS 65996-95-4 Superphosphate, concentrated)

Section 12: Ecological Information

Ferrous Sulphate

12.1 Ecotoxicity

Rainbow Trout (*Onchorhynchus mykiss*) 96h LC_{50} (OECD Test Guideline 203) 86.2 mg/l
Water Flea (*Daphnia Magna*) 48h EC_{50} (OECD Test Guideline 202) 1-10 mg/l

12.2 Persistence & Degradability

Method for the determination of biodegradability are not applicable to inorganic substances

12.3 Bioaccumulative Potential

Octanol/water partition coefficient (Pow) indicates that ferrous sulphate has a very low bioaccumulative potential

12.4 Mobility in Soil

No data available

12.5 Results of PBT and VPvB Assessment

Iron Sulphate is an inorganic substance, thus a PBT and vPvB Assessment is not required

12.6 Other Adverse Effects

None known

CMPP-P K 600 g/l AI

12.1 Ecotoxicity

Species	Test	Value	Units
Daphnia magna	NOEC	22.2	mg/l (MCPP-p)
Lemna minor	72h or 96h ErC_{50}	1.6	mg/l (MCPP-p)
Pseudokirchneriella subcapitata	72h or 96h ErC_{50}	16.2	mg/l (MCPP-p)
Rainbow Trout (Oncorhynchus mykiss)	96h LC_{50}	>100	mg/l (MCPP-p)
Rainbow Trout (Oncorhynchus mykiss)	NOEC	>50	mg/l (MCPP-p)
Daphnia magna	48h EC_{50}	>91	mg/l (MCPP-p)

12.2 Persistence & Degradability

Rapidly biodegradable

12.3 Bioaccumulative Potenial

Potential for bioaccumulation is low based on Log Pow

12.4 Mobility in Soil

Fairly mobile but rapidly degraded in aerobic soils

12.5 Results of PBT and VPvB Assessment

This product is not identified as a PBT and vPvB substance

12.6 Other Adverse Effects

Lemna gibba 14 day EC_{50} 1.6 mg/l

Dicamba

12.1

Toxicity to Fish:	LC_{50} *Oncorhynchus mykiss* (Rainbow Trout), 135.4 mg/l, 96h
Toxicity to Aquatic Invertebrates:	EC_{50} *Dapnhia magna* (Water Flea), 110.7 mg/l, 48h
Toxicity to Aquatic Plants:	EbC_{50} *Anabaena flos-aquae* (Bluegreen Algae), 43.1 mg/l, 72h ErC_{50} *Anabaena flos-aquae* (Bluegreen Algae), 44.9 mg/l, 72h NOEC *Lemna gibba* (Duckweed), 0.25 mg/l, 14d
Toxicity to Bacteria:	IC_{50} Activated Sewage Sludge, > 500 mg/l, 3h

12.2 Persistence & Degradability

Biodegradability:	Not readily biodegradable
Stability in Water:	Degradation half life: 35 - 46d. Not persistent in water
Stability in Soil:	Degradation half life: 1.4 - 11d. Not persistent in soil

12.3 Bioaccumulative Potential
Dicamba has low potential to bioaccumulation

12.4 Mobility in Soil
Dicamba has very high mobility in soil

12.5 Results of PBT and vPvB Assessment
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)
This substance is not considered to be very persistent nor very bioaccumulating (vPvB)

12.6 Other Adverse Effects
None known

Superphosphate (SSP) and Superphosphates concd (TSP)

12.1 Aquatic Toxicity: Inorganic phosphates are not considered to be toxic to aquatic species

Ammonium dihydrogenorthophosphate:	LC_{50}/96h (static), >85.9 mg/l (Rainbow Trout)
7722-76-1	(OECD 203) freshwater
Superphosphate (SSP):	LC_{50}/72h, 1790 mg/l, (Daphnia carinata)
8011-76-5	freshwater
Superphosphates, concd:	EC50/72h (static), >87.6 mg/l (algae)
65996-95-4	(OECD 201) NOEC ≥87.6 mg/l

12.2 Persistence & Degradability
The substance is inorganic, therefore no biodegradation tests are applicable. This product dissociates into Ca^{2+}, sulfate and phosphate ions, which cannot be further degraded

12.3 Bioaccumulative Potential
Does not accumulate in organisms. This substance is highly water soluble and dissociating

12.4 Mobility in Soil
Low potential for adsorption (based on substance properties). This substance is highly water soluble and dissociating

12.5 Results of PBT and vPvB Assessment
PBT: No assessment is required for inorganic substances
vPvB: No assessment is required for inorganic substances

12.6 Other Adverse Effects
Behaviour in Sewage Processing Plants: EC_{50}/3h: >100 mg/l (activated sludge) (OECD 209, EC C.11)

Remark: Inorganic phosphates are not considered to be toxic to sewage treatment plant microorganisms

General Notes: According to the criteria of the EU-classification and labelling "Dangerous for the environment" (93/21/EWG) the substance/the product has to be classified as non-hazardous for the environment

Section 13: Disposal Considerations

13.1 Waste treatment methods
Product Disposal: Dispose of according to local and national regulations
Container Disposal: Dispose of according to local and national regulations

Section 14: Transport Information

Non hazardous for transport

14.1 UN number
14.2 UN Proper shipping Name
14.3 Transport Hazard Class(es)
14.4 Packing Group
14.5 Environmental Hazards
14.6 Special Precautions for User
14.7 Transport in bulk according to Annex II of MARP0L73/78 and the IBC Code

Section 15: Regulatory Information

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

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

15.2 Chemical safety assessment

A chemical safety assessment was not carried out

Section 16: Other Information

Text of Phrases mentioned in Sections 2 and 3:

H-Statements

H290	May be corrosive to metals
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects
H332	Harmful if inhaled

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, release and is not to be considered a warranty of quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text