## 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

**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<br>EC No: 231-753-5 | Skin Irrit. 2: H315;<br>Eye Irrit. 2: H319;<br>Acute Tox. 4: H302;<br>Skin Sens. 1: H317 | 10-30% |
| Mecoprop-P and its Salts | CAS No: 66423-05-0<br>EC No: 240-539-0 | Eye Dam. 1: H318;<br>Acute Tox. 4: H302;<br>Aquatic Chronic 2: H411 | <1% |
| Dicamba (ISO) | CAS No: 1918-00-9<br>EC No: 217-635-6 | Eye Dam. 1: H318;<br>Acute Tox. 4: H302;<br>Acute Tox. 4: H332;<br>Aquatic Chronic 2; H411 | <1% |
| Potassium Hydroxide | CAS No: 1310-58-3<br>EC No: 215-181-3 | Skin Corr. 1A: H314;<br>Acute Tox. 4: H302 | <1% |
| Calcium bis (dihydrogen orthophosphate) (Superphosphate (SSP)) | CAS No: 7758-23-8<br>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<br>$LD_{50}$ 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<br>ORL Rat $LD_{50}$ 500-2000 mg/kg<br>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)<br>not classified |
| Dermal | $LD_{50}$ | >2000 mg/kg (Rat) (OECD 402)<br>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)<br>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<br>$ErC_{50}$ *Anabaena flos-aquae* (Bluegreen Algae), 44.9 mg/l, 72h<br>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*