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

1.1 Product identifier

Product Name: Powergrow - Slow Release Fertiliser
Product Number(s): P21007 (1Kg)

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

Season long granular nutrient mix for feeding plant

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]

Not classified

2.2 Label Elements

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

Hazard pictogram:	Not classified
Signal words:	Not classified
Hazard statements:	Not classified
Precautionary statements:	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 P501: Dispose of contents/container in a safe way

2.3 Other hazards

Not available

Section 3: Composition/information on Ingredients

3.1 Substances

Not available

3.2 Mixtures

Name	No.	Classification	% Wt.
Ammonium Nitrate	CAS No: 6484-52-2 EINECS: 229-347-8	Ox. Sol. 3: H272; Eye Irrit. 2: H319	10 - 45%
Disodium tetraborate pentahydrate	CAS No: 12179-04-3 EINECS: 215-540-4	Repr. 1B: H360FD; Eye Irrit. 2: H319	≤ 2%

Section 4: First Aid Measures

4.1 Description of First Aid Measures

If inhaled: Keep patient calm, remove to fresh air, seek medical attention. If unconscious place in recovery position and seek medical advice. In case of lung irritation, first treatment with dexametason aerosol (spray)

In case of Skin Contact: Wash off with soap and water

In case of Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

If Swallowed (Ingestion): Clean mouth with water and drink afterwards plenty of water

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: No information available

Risks: Later control for pneumonia and lung oedema

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. There is no specific antidote available

Section 5: Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media: Water

Unsuitable Extinguishing Media: Foam, Dry Chemical, Carbon Dioxide (CO_2), Sand

5.2 Special hazards arising from the substance or mixture

At temperatures above 130ºC, dangerous decomposition gases can be emitted. Nitrogen monoxide, nitrogen dioxide, dinitrogenoxide, ammonia

5.3 Advice for firefighters

Special Protective Equipment for Firefighters: In the event of fire, wear self-contained breathing apparatus

Further Information: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formatin. Ensure adquate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment

6.2 Environmental precautions

Do not empty into drains. Retain and dispose of contaminated wash water

6.3 Methods and material for containment and cleaning up

Use mechanical handling equipment

6.4 Reference to other sections

For personal protection see Section 8

Section 7: Handling and Storage

7.1 Precautions for safe handling

Advice on Safe Handling: Protect from contamination. Keep away from direct sunlight. Protect against heat. Protect from moisture

Advice on Protection against Fire and Explosion: The product is not flammable. Keep awy from heat and sources of ignition. Keep away from combustible materials

7.2 Conditions for safe storage, including any incompatibilities

Requirements for Storage Areas and Containers:	Keep away from heat. Keep away from sources of ignition - No smoking. Keep away from combustible material. Protect from contamination. When stored loose do not mix with other fertilisers. Protect against humidity (product is hygroscopic and tends to cake or disintegrate)
Further Information on Storage Conditions:	Protect against water. Keep away from direct sunlight
Advice on Common Storage:	Store well away from other substances
German Storage Class:	5.1C Ammonium Nitrate and Ammonium Nitrate containing preparations

7.3 Specific end use(s)

Always read the label and product information before use

Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters

Ammonium Nitrate

DNEL

End Use: Workers
Exposure Routes: Inhalation
Potential Health Effects: Specific effects
Exposure time: 1 d
Value: 37,6 mg/m^3

End Use: Workers
Exposure Routes: Skin contact
Potential Health Effects: Specific effects
Exposure time: 1 d
Value: 21,3 mg/kg

End Use: Consumers
Exposure Routes: Ingestion
Potential Health Effects: Specific effects
Exposure time: 1 d
Value: 12,8 mg/kg

End Use: Consumers
Exposure Routes: Inhalation
Potential Health Effects: Specific effects
Exposure time: 1 d
Value: 11,1 mg/m^3

PNEC

Fresh Water
Value: 0,45 mg/l

Marine Water
Value: 0,045 mg/l

Ceiling Limit Value
Value: 4,5 mg/l

8.2 Exposure Controls

Personal Protective Equipment

Respiratory Protection:	Breathing apparatus only if aerosol or dust is formed. Particle filter EN 143. Type P1, low efficiency (solid particles of inert substances)
Hygiene Measures:	At the end of the shift the skin should be cleaned and skin-care agents applied

Environmental Exposure Controls

General Advice: Do not empty into drains. Retain and dispose of contaminated wash water

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Granular
Colour:	Various
Odour:	Very faint
pH:	ca.5, Concentration: 100,00 g/l, 20ºC
Melting Point/Range:	No data available
Boiling Point/Range:	Not applicable
Flash Point:	Not applicable
Evaporation Rate:	Not applicable
Flammability (solid/gas):	The product is not flammable
Lower Explosion Limit:	Not applicable
Upper Explosion Limit:	No data available
Vapour Pressure:	Not applicable
Relative Vapour Density:	Not applicable
Water Solubility:	Soluble
Partition Coefficient: (n-Octanol/Water)	Not applicable
Autoignition Temperature:	Not auto-flammable
Thermal Decomposition:	>130ºC. To avoid thermal decomposition, do not overheat
Viscosity, Dynamic:	Not applicable
Viscosity, Kinematic:	Not applicable
Explosive Properties:	Not explosive
Oxidizing Properties:	Not considered an oxidizing substance

9.2 Other information

Bulk Density: ca. 1.150 kg/m^3

Section 10: Stability and Reactivity

10.1 Reactivity

No decomposition if stored and applied as directed

10.2 Chemical stability

No decomposition if stored and applied as directed

10.3 Possibility of hazardous reactions

Evolution of ammonia under influence of alkalies

10.4 Conditions to avoid

Protect from frost, heat and sunlight. Avoid moisture

10.5 Incompatible materials

Avoid sulphur, chlorites,chloride,chlorates, Hypochlorites, acid or alkaline reacting substances, flammable oxidizable substances, flammable oxidizable substances, nitrites, metallic salts, metallic powder, herbicide, chlorinated hydrocarbons, organic compounds

10.6 Hazardous decomposition products

Nitrogen monoxide, nitrogen dioxide, dinitrogenoxide, ammonia

Section 11: Toxicological Information

11.1 Information on toxicological effects

Product

Acute Oral Toxicity:	LD_{50}: >2.000 mg/kg, Rat
Skin Corrosion/Irritation:	Rabbit, Result: non-irritant, OECD Test Guideline 404
Serious Eye Damage/Eye Irritation:	Rabbit, Result: non-irritant, OECD Test Guideline 405
Respiratory or Skin Sensitization:	Result: non-sensitizing
Germ Cell Mutagenicity Genotoxicity in Vitro:	Contains no hazardous ingredients according to GHS
Carcinogenicity:	Contains no ingredient listed as a carcinogen
Reproductive Toxicity:	No toxicity to reproduction
Teratogenicity:	Did not show teratogenic effects in animal experiments
STOT - Single Exposure:	Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure
STOT- Repeated Exposure:	Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure
Further Information:	The product was not tested. The statement was derived from products of similar structure and composition

Components

Ammonium Nitrate

Acute Oral Toxicity:	LD_{50}: >2.950 mg/kg, Rat, OECD Test Guideline 401
Acute Inhalation Toxicity:	>88,8 mg/l, No information available
Acute Dermal Toxicity:	LD_{50}: >5.000 mg/kg, Rat, OECD Test Guideline 402
Skin Corrosion/Irritation:	Rabbit, Result: non-irritant, OECD Test Guideline 404
Serious Eye Damage/Eye Irritation:	Rabbit, Result: irritant, OECD Test Guideline 405
Respiratory or Skin Sensitization:	Result: Does not cause skin sensitization
Germ Cell Mutagenicity Genotoxicity in vitro:	Result: negative, OECD Test Guideline 471
Carcinogenicity:	Rat, Animal testing did not show any carcinogenic effects
Reproductive Toxicity:	Rat, Animal testing did not show any effects on fertility
Teratogenicity:	Rat, Did not show teratogenic effects in animal experiments
STOT - Repeated Exposure:	Rat, Oral, Exposure time: 28 d, NOAEL: >1.500 mg/kg
STOT - Repeated Exposure:	Rat, Oral, Exposure time: 52 w, NOAEL: =256 mg/kg, OECD Test Guideline 453
STOT - Repeated Exposure:	Rat, by inhalation, Exposure time: 2 w, NOAEL: >=185 mg/kg, Repeated Dose Inhalation Toxicity: 28-day or 14-day Study

Disodium Tetraborate Pentahydrate

Acute Oral Toxicity:	LD_{50}: 3.200-3.400 mg/kg, Rat
Acute Inhalation Toxicity:	LC_{50}: 2,0 mg/l, Rat
Acute Dermal Toxicity:	LD_{50}: >5.000 mg/kg, Rat, OECD Test Guideline 403
Skin Corrosion/Irritation:	Rabbit, Result: no skin irritation
Serious Eye Damage/Eye Irritation:	Rabbit, Result: moderate eye irritation. Classification: Irritant
Respiratory or Skin Sensitization:	Buehler Test, Guinea Pig, Result: Does not cause skin sentization, OECD Test Guideline 406
Germ Cell Mutagenicity:	Assessment: In vitro tests showed mutagenic effects

Section 12: Ecological Information

12.1 Toxicity

Product

Toxicity to Fish:	LC_{50}: 422 mg/l, 48 h, Cyprinus sp., static test
Toxicity to Daphnia and Other Aquatic Invertebrates:	EC_{50}: 555 mg/l, 48 h, Daphnia, static test
Toxicity to Algae:	No observed effect concentration: 83 mg/l, 168 h, Desmodesmus subspicatus (green algae), other, no data available
Toxicity to Bacteria:	EC_{20}: ca. > 100 mg/l, 0,5 h, activated sludge, other, no data available

Components

Ammonium Nitrate

Toxicity to Fish:	LC_{50}: > 100 mg/l, 96 h, Fish
Toxicity to Daphnia and Other Aquatic Invertebrates:	EC_{50}: 490 mg/l, 48 h, Daphnia LC_{50}: 490 mg/l
Toxicity to Algae:	EC_{50}: 1.700 mg/l, 10 d, Selenastrum capricornutum (green algae)

Disodium Tetraborate Pentahydrate

Toxicity to Fish:	LC_{50}: 74 mg/l, 96 h, Dab
Toxicity to Daphnia and Aquatic Invertebrates:	EC_{50}: 242 mg/l, 24 h, Daphnia magna (Water flea)
Toxicity to Algae:	EC_{10}: 24 mg/l, 96 h, Scenedesmus subspicatus

12.2 Persistence & Degradability

Product

The product works in the soil as fertilizer and is diminished in a few weeks

Components

Ammonium Nitrate

The methods for determining the biological degradability are not applicable to inorganic substances

12.3 Bioaccumulative Potential

Product

Bioaccumulation is unlikely

Components

Ammonium Nitrate

Bioaccumulation is unlikely

12.4 Mobility

Product

No data available

12.5 Results of PBT and vPvB assessment

Product

Assessment: No data available

12.6 Other Adverse Effects

Product

Additional Ecological Information: Disposal via sewage water treatment plants may cause impairment of the nitrification activity of the activated sludge. There is a high probability that the product is acute not harmful to aquatic organisms. The product has not been tested. Additional ecological information, The information is derived from the properties of the individual components. At higher pH values, which can be found in natural surface waters, an increase of toxic effects on aquatic organisms may be expected

Section 13: Disposal Considerations

13.1 Waste treatment methods

Product:	Check if agricultural use is possible. Contact manufacturer
Contaminated Packaging:	Contaminated packaging should be emptied as far as possible, then it can be passed on for recycling after being thoroughly cleaned

Section 14: Transport Information

14.1 UN number

Non-dangerous goods

14.2 UN proper shipping name

ADR/GGVS	:	Not relevant
RID	:	Not relevant
ADNR	:	Not relevant
IMDG	:	Not relevant
IATA-DGR	:	Not relevant

14.3 Transport hazard class(es)

ADR/GGVS	:	Not relevant
RID	:	Not relevant
ADNR	:	Not relevant
IMDG	:	Not relevant
IATA-DGR	:	Not relevant

14.4 Packing group

-

14.5 Environmental hazards

IMDG	:	Not a Marine Pollutant

14.6 Special precautions for user

Not relevant

14.7 Transport in bulk according to Annex II of MARP0L73/78 and the IBC Code

Remarks: Not relevant

Section 15: Regulatory Information

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

Water Contaminating Class: (Germany)	WGK 1 slightly endangering
Other Regulations:	TRGS 511 ‘Ammonium Nitrate’

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance

Section 16: Other Information

Text of Phrases mentioned in Sections 2 and 3:

H-Statements

H272	May intensify fire; oxidiser
H319	Causes serious eye irritation
H360FD	May damage fertility. May damage the unborn child

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