

SAFETY DATA SHEET

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

1.1 Product Identifier:

Coco Grow Hardwater A

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

Supplied for use as an amateur use fertiliser

1.3 Details of the supplier of the safety data sheet:

Plant Magic Plus Ltd
Unit 12
Liberty Industrial Park
South Liberty Lane
Bristol
BS3 2SU

Contact: The Safety Officer
Phone number: 0117 978 2499

Email: info@plantmagicplus.co.uk

1.4 Emergency phone number

For urgent medical help or advice, contact the NHS by calling 111.

Phone number: 0117 978 2499

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFICATION in accordance with Regulation (EC) No 1272/2008:

Eye Damage 1; H318 Causes serious eye damage.

2.2 Label Elements

Coco Grow Hardwater A

(Contains: Nitric acid, ammonium calcium salt E.C. 15245-12-2)

Hazard pictogram:

GHS05



Signal word:

Danger

Hazard statements:

H318 Causes serious eye damage.

Precautionary statements:

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P280 Wear protective gloves/eye protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/ doctor.

2.3 Other Hazards

Mixture does not meet criteria in REACh as PBT or vPvB

3.COMPOSITION/INFORMATION ON INGREDIENTS

Product Code: *not specified*

3.2 Mixtures**Hazardous components**

Chemical Name	CAS-No. / EC-No.	Index No. /REACH no.	Classification in accordance with Regulation (EC) No 1272/2008	Concentrations [%]
Nitric acid, ammonium calcium salt	239-289-5/ 15245-12-2	REACH no. 01-2119493947-16	Acute Tox. 4 (oral) H302 Eye Dam. 1 H318	5.0 – 15.0
Ammonium nitrate	6484-52-2/ 229-347-8	REACH no. 01-2119490981- 27-0020	Oxid. Solid 3 H272 Eye Irrit. 2 H319	≤ 5.0
Magnesium nitrate hexahydrate	13446-18-9/ 233-826-7	REACH no. 01-2119491164-38	Eye Irrit. 2 H319	≤ 5.0

The full text for all phrases if not displayed in section 2 or 3 are displayed in Section 16

FIRST AID MEASURES**4.1 Description of first aid measures****4.1.1 Inhalation**

Remove from source of exposure to fresh air; seek medical attention if symptoms persist or develop

4.1.2 Skin & Eye exposure

Drench immediately with water. Remove any contaminated clothing and launder before re-use. Seek medical attention if symptoms persist or develop.

Eyes: Rinse cautiously for several minutes, Remove contact lenses, if present and easy to do, rinse with clean water for 15 minutes. Seek medical attention IMMEDIATELY.

4.1.3 Ingestion

Do not induce vomiting. Wash out mouth with water and give water to drink. Seek medical attention IMMEDIATELY.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Causes severe eye damage.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following: pain watering redness

4.3 Indication of any immediate medical attention and special treatment needed.

Information not available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Use Foam, carbon dioxide, dry powder, sand. The mixture is not classified as flammable as such extinguishing media should be chosen as appropriate for surrounding materials.

5.2 Special Hazards arising from the substance or mixture

Possible irritant fumes arising from combustion

5.3 Advice for fire-fighters

Cool down containers/equipment exposed to heat with a water spray. Contain spread of extinguishing fluids (these fluids may be hazardous for the environment). Wear complete protective clothing and self-contained breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Prevent contact with skin and eyes. Wear protective goggles with side shields, protective gloves and clothing. Ensure adequate ventilation.

6.2 Environmental Precautions

Do not allow to enter storm drains or water courses. If this product enters a water course or a sewer (including via contaminated soil & vegetation) contact local water authority and inform the Environment Agency

6.3 Methods and material for containment and cleaning up

Use soil, sand or other absorbent material to soak up spill and place into suitable labelled containers making sure to avoid any contact with skin and eyes. Contact specialist waste disposal contractor.

6.4 Reference to other sections

See section 8 for personal protection

7. HANDLING AND STORAGE

7.1 Precaution for safe handling

Avoid contact with skin and eyes. Wash Hands thoroughly after handling

Do not eat, drink or smoke when using this product. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry atmosphere in original labelled containers. Do not store in metal or alloy packaging. Store in frost free conditions, ideally above 7°C.

7.3 Specific end use(s)

No specific information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

There are no workplace exposure limits set for this mixture or its components.

Recommended monitoring procedures:

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Nitric acid, ammonium calcium salt:

Derived effect levels:

Product/ingredient name	Type	Exposure	Workers	Population	Effects
Nitric acid, ammonium calcium salt	DNEL	Long term Dermal	13.9 mg/Kg/bw/day	Workers	Systemic
Nitric acid, ammonium calcium salt	DNEL	Long term Inhalation	24.5 mg m ⁻³	Workers	Systemic
Nitric acid, ammonium calcium salt	DNEL	Long term Dermal	8.33 mg/Kg/bw/day	Consumers	Systemic
Nitric acid, ammonium calcium salt	DNEL	Long term Inhalation	6.33 mg m ⁻³	Consumers	Systemic
Nitric acid, ammonium calcium salt	DNEL	Long term Oral	8.33 mg/Kg/bw/day	Consumers	Systemic

Ammonium nitrate:

DNEL	ORAL	INHALATION	DERMAL
Industry - Long Term – Local effects	-	-	-
Industry - Long Term - Systemic effects	-	37.6 mg m ⁻³	21.3 mg Kg ⁻¹ bw d ⁻¹
Industry - Short term - Local effects	-	-	-

Industry - Short term - Systemic effects	-	-	-
DNEL	ORAL	INHALATION	DERMAL
Professional - Long Term – Local effects	-	-	-
Professional - Long Term - Systemic effects	-	-	-
Professional - Short term - Local effects	-	-	-
Professional - Short term - Systemic effects	-	-	-
Consumer - Long Term - Local effects	-	-	-
Consumer - Long Term - Systemic effects	12.8 mg Kg ⁻¹ bw d ⁻¹	11.1 mg m ⁻³	12.8 mg Kg ⁻¹ bw d ⁻¹
Consumer - Short term - Local effects	-	-	-
Consumer - Short term - Systemic effects	-	-	-

	PNEC
Aquatic Compartment	
Fresh water	0.45 mg/l
Sea water	0.045 mg/l
Intermittent releases	4.5 mg/l
Terrestrial Compartment	-
Sewage Treatment Plant	18 mg/l
Atmospheric Compartment	-

Magnesium nitrate hexahydrate:

Derived effect levels:

Product/ingredient name	Type	Exposure	Value	Populations	Effects
Magnesium nitrate hexahydrate	DNEL	Long term Dermal	20,8 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	36.7 mg/m ³	Workers	Systemic
	DNEL	Long term dermal	12,5 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	10,9 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Oral	12,5 mg/kg bw/day	Consumers	Systemic

Predicted effect concentrations

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
Magnesium nitrate hexahydrate	PNEC	Fresh water	0.45 mg/l	Assessment factors
	PNEC	Marine	0.045 mg/l	Assessment factors
		Sewage Treatment Plant	18 mg/l	Assessment factors

8.2 Exposure controls

The following precautions are considered to be good practice when using any chemicals irrespective of their classification unless otherwise specified.

Engineering Measures: Ensure adequate ventilation. Ensure eye wash stations are available.

Respiratory Equipment: No specific respiratory equipment needed.

Hand Protection: Gloves to BS EN374 of gauntlet type in Natural Rubber or PVC (not Nitrile) recommended for acid resistance.

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

polyvinylchloride (PVC) - 0.7 mm coating thickness

butyl rubber (butyl) - 0.7 mm coating thickness

fluoroelastomer (Viton)

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye Protection: Tightly fitting safety goggles (cage goggles) (e.g. EN 166) and face shield.

Skin Protection: Body protection must be chosen based on level of activity and exposure., acid- resp. lye-proof apron, e.g. of rubber (f.e. according to EN 14605), protection boots, f.e. of rubber (e.g. according to EN 20346), acid-proof chemical protection suit (f.e. according to EN 14605)

Hygiene Measures: Wash hands thoroughly after handling. Do not eat, drink or smoke whilst using this product. Personal protective equipment should be decontaminated prior to reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance; Liquid

Odour; Information not available

Odour threshold; Information not available

pH; Information not available

Melting point/freezing; Information not available

Initial boiling point and boiling range; Information not available

Flash point; Information not available

Evaporation rate; Information not available

Flammability (solid, gas); Information not available

Upper /lower flammability or explosive limits; Information not available

Vapour Pressure; Information not available

Vapour density; Information not available

Relative density; Information not available

Solubility (ies); Information not available

Partition coefficient: n-octanol/water; Information not available

Auto ignition temperature: Information not available

Decomposition temperature: Information not available

9.2 Other Information

No other relevant information available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No hazardous reactions if stored and handled as prescribed.

May have corrosive effect on metals.

10.2 Chemical Stability

Stable under normal conditions

10.3 Possibility of hazardous reactions

May react with metals with the evolution of flammable hydrogen gas.

10.4 Conditions to avoid

Metals, metal containers.

10.5 Incompatible materials

Metals, bases, oxidising agents.

10.6 Hazardous decomposition products

Possible Irritant fumes

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Mixture has not been assessed for toxicological effects. Hazards outlined in section 2 are based on individual component contents

Toxicological information on hazardous components where available:

Nitric acid, ammonium calcium salt

Acute toxicity

Product/ ingredient name	Result	Species	Dose	Exposure	Reference
Nitric acid, ammonium calcium salt					
	LD50 Oral	Rat	>300 mg/Kg	-	IUCLID 5
	LD50 Dermal	Rat	>2,000 mg/Kg	-	IUCLID 5

Conclusion/Summary: Harmful

Irritation/Corrosion

Product/ ingredient name	Result	Species	Score	Exposure	Observation	References
Nitric acid, ammonium calcium salt	Eyes – severe irritant	Rabbit		24-72 h	21 d	IUCLID

Conclusion/summary

Skin contact:	Non-irritating to the skin
Eye contact:	Causes serious eye damage
Respiratory:	Non-irritating to the respiratory system

Sensitization

Conclusion/Summary

Skin: Not sensitizing

Respiratory: Not sensitizing

Mutagenicity

Conclusion/Summary: No mutagenic effect

Carcinogenicity

Conclusion/Summary: No carcinogenic effect

Teratogenicity:

No known significant effects or critical hazards

Reproductive toxicity:

Product/ ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure	References
Nitric acid, ammonium calcium salt	Negative	Negative	Negative	Rat	Oral: 1500 mg/Kg	53 days	IUCLID5

Conclusion/Summary:

No known significant effects or critical hazards.

Information on the likely routes of exposure:

not available

Potential acute health effects

Inhalation: May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion: Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin contact: No known significant effects or critical hazards.

Eye contact: Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No specific data.

Ingestion: Adverse symptoms may include the following: stomach pains

Skin contact: Adverse symptoms may include the following: pain or irritation redness, blistering may occur

Eye contact: Adverse symptoms may include the following: pain, watering, redness

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects:

Adverse health effects are considered unlikely, when the product is used according to directions.

Potential delayed effects: None identified.

Long term exposure

Potential immediate effects: Adverse health effects are considered unlikely, when the product is used according to directions.

Potential delayed effects: None identified.

Product/ ingredient name	Result	Species	Dose	Exposure	References
Nitric acid, ammonium calcium salt	Sub-acute NOAEL	Rat	>1000 mg/Kg	28 h	IUCLID 5

Conclusion/Summary: Not toxic.

General: No known significant effects or critical hazards.
 Carcinogenicity: No known significant effects or critical hazards.
 Mutagenicity: No known significant effects or critical hazards.
 Teratogenicity: No known significant effects or critical hazards.
 Developmental effects: No known significant effects or critical hazards.
 Fertility effects: No known significant effects or critical hazards.

Toxicokinetics

Absorption: Rapidly absorbed.
 Distribution: Enters the systemic circulation without passing through liver tissues.
 Metabolism: Rapidly metabolized. Metabolized to the following: Ca^{2+} NH_4^+ NO_3^-
 Elimination: Excreted via the urine. The chemical and its metabolite are fully excreted and do not accumulate within the body

Ammonium nitrate:

Potential acute health effects

Inhalation:	Unlikely route of exposure
Ingestion:	Low acute toxicity
Skin contact:	Low acute toxicity
Eye contact:	Low acute toxicity

Acute oral toxicity:	Low acute toxicity. LD50 (rat) > 5000 mg/kg bw/d.
Acute inhalation toxicity:	Unlikely route of exposure.
Acute dermal toxicity:	LD50 (rat) 2950 mg/kg bw

Skin corrosion/irritation: Non-irritant.
Serious eye damage/irritation: Eye Irrit. 2; Causes serious eye irritation.
Respiratory or skin sensitization: It is not a skin sensitiser.
Mutagenicity: There is no evidence of mutagenic potential.
Carcinogenicity: No evidence of carcinogenicity
Reproductive toxicity: Not classified. NOAEL(No Observed Adverse Effect Level) \geq 1500 mg/kg bw/d.
STOT - single exposure: No data. Not classified.
STOT - repeated exposure: NOAEL: 256 mg/kg bw/d [Chronic, (rat)]. Chronic effects are unlikely.
Aspiration hazard: Not classified.

Other information: None.

Magnesium nitrate hexahydrate:

Acute toxicity:

Product/Ingredient name	Result	Species	Dose	Exposure
Magnesium nitrate hexahydrate	LD50 Dermal	Rat - Male, Female	>5000 mg/kg	-
	LD50 Oral	Rat - Female	>2000 mg/Kg	-

Conclusion/Summary:

Not toxic

Irritation/Corrosion:

Conclusion/Summary

Skin : Non-irritant to skin.

Eyes : Irritant

Respiratory : No data available for this end-point, hence this classification is not considered to be applicable.

Sensitisation:

Conclusion/Summary

Skin : Non-sensitiser to skin.

Respiratory : No data available for this end-point, hence this classification is not considered to be applicable.

Mutagenicity:

Product/ingredient name	gggbh	Experiment	Result
Magnesium nitrate Hexahydrate	OECD 476 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Germ	Negative

Conclusion/Summary: No mutagenic effect

Carcinogenicity:

Conclusion/Summary: No carcinogenic effect.

Reproductive toxicity:

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Magnesium nitrate hexahydrate	Negative	Negative	Negative	Rat – Male, Female	Oral ≥ 1500 kg/Kg	28 days

					Repeate d dose	
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Teragenecity

Conclusion/summary: No significant effects or critical hazards.

Specific target organ toxicity (single exposure):

No applicable toxicity data

Specific target organ toxicity (repeated exposure):

No applicable toxicity data

Aspiration hazard:

No applicable toxicity data

Information on the likely routes of exposure:

Routes of entry anticipated: Dermal.

Potential acute health effects

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : Irritating to mouth, throat and stomach.

Skin contact : No known significant effects or critical hazards.

Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:

pain or irritation

watering

redness

Inhalation: No specific data.

Skin contact: No specific data.

Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available.

Potential delayed effects: None identified.

Long term exposure

Potential immediate effects: Not available.

Potential delayed effects: None identified.

Potential chronic health effects:

Product/ingredient name	Result	Species	Dose	Exposure
Magnesium nitrate Hexahydrate	Sub-acute NOAEL Oral	Rat – Male, Female	≥1500 mg/Kg Repeated dose	28 days

Conclusion/Summary: Not toxic.

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.
Absorption: Rapidly absorbed.
Metabolism: Rapidly metabolised.
Elimination: Metabolised before excretion. Excreted via the urine.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Mixture not classified as harmful to the environment accordance with Regulation (EC) No 1272/2008.

Ecotoxicological information on hazardous components where available:

Nitric acid, ammonium calcium salt:

Product/ ingredient name	Result	Species	Exposure	Reference
Nitric acid, ammonium calcium salt				
	Acute LC50 447 mg/l Fresh water	Fish	48 h	IUCLID 5
	Acute EC50 > 100 mg/l Fresh water	Daphnia	48 h	IUCLID 5
	Acute LC50 > 100 mg/l Fresh water	Aquatic plants	72 h	IUCLID 5

Conclusion/Summary:

The product does not show any bioaccumulation phenomena. The product is not expected to harm the environment when used properly according to directions.

Ammonium nitrate:

Low toxicity to aquatic organisms.

LC50 (Fresh water Fish)(48 hour): 447 mg/l.

By analogy with similar materials: Potassium nitrate:

Low toxicity to invertebrates. Fresh water: LC50: 490 mg/l.

Low toxicity to algae. Fresh water: LC50: 1700 mg/l.

Magnesium nitrate hexahydrate:

Magnesium nitrate hexahydrate	EC50 490 mg/l Fresh water LC50 1378 mg/l Fresh water Acute EC50 >1000 mg/l Marine water	Daphnia - Daphnia magna Fish - Poecilia reticulata Micro-organism Algae Daphnia	48 hours 96 hours 180 minutes 10 days 48 hours 180 minutes
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	Acute NOEC 1700 mg/l Fresh water Acute NOEC 490 mg/l Fresh water Acute NOEC 180 mg/l	Micro-organism	
Magnesium nitrate hexahydrate	EC50 490 mg/l Fresh water LC50 1378 mg/l Fresh water Acute EC50 >1000 mg/l Acute NOEC 1700 mg/l Marine water Acute NOEC 490 mg/l Fresh water Acute NOEC 180 mg/l	Daphnia - Daphnia magna Fish - Poecilia reticulata Micro-organism Algae Daphnia Micro-organism	48 hours 96 hours 180 minutes 10 days 48 hours 180 minutes

Conclusion/Summary : Not toxic. The product does not show any bioaccumulation phenomena.

12.2 Persistence and degradability

Information not available

12.3 Bioaccumulative potential

Information not available

12.4 Mobility in soil

Information not available

12.5 Results of PBT and vPvB

Not classified

12.6 Other adverse effects

Information not available

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Use only licensed waste disposal companies. Do not re-use empty containers for any purpose. Do not remove labels from containers.

14. Transport Information

14.1 UN number: Product not classified for transport

14.2 UN proper shipping name: Product not classified for transport

14.3 Transport hazard: Product not classified for transport

14.4 Packing group: Product not classified for transport

14.5 Environmental hazards: Product not classified for transport

14.6 Special precautions for user: Product not classified for transport

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

Applicable for Maritime bulk transport only. Check with carrier.

15. REGULATORY INFORMATION

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

This mixture is classified and labelled in accordance with:

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures;

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH);

Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents.

15.2 Chemical Safety Assessment

CSA not undertaken for this substance

16. OTHER INFORMATION

Full text of hazard statements not displayed in section 2 or 3:

H272 May intensify fire; oxidiser

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

List of abbreviations

Acute Tox. 4 (oral)	Acute Toxicity (Oral) Category 4
Eye Irrit. 2	Eye Irritation Category 2
Oxid. Solid 3	Oxidising Solid 3
EC50	Half maximal effective concentration
LC0	Maximum tolerable concentration
LC50	Lethal Concentration, 50%
LD50	Lethal Dose, 50%
NOAEL	No Observed Adverse Effect Level
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, bioaccumulative and toxic
vPvB	Very Persistent very Bioaccumulative

This Safety Data Sheet is compiled using data submitted for raw materials and practical experience.

This Safety Data Sheet is prepared in compliance with Regulation (EC) 1272/2008 and Annex II of the REACH regulation 453/2010.

THE INFORMATION GIVEN HEREIN IS, TO THE BEST OF OUR KNOWLEDGE, CORRECT AND IS PRESENTED IN GOOD FAITH BUT NO WARRANTY, EXPRESSED OR IMPLIED IS GIVEN.

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