

Fertiliser Safety Data Sheets

It is likely that you will get asked to provide these in your next ACCS inspection!

The full set of safety data sheets are listed on the following pages. You only have to have the sheets for the fertiliser products that apply to your farm.

To find out which sheets/groups apply, please see the list below:-

- Group 1 Ammonium Nitrate
- Group 2 High N's grades (more than 70% AN)
- Group 3 Nitrogen <70% (e.g. CAN, ASN, Blends ,<70%AN blends)
- Group 4 NPK,NP & NK <70% AN **non cigar** burners
- Group 5 NPK,NP & NK <70% AN Cigar burners)
- Group 6 Urea & Ammsul
- Group 7 NPK,NP& NK with **zero** AN
- Group 8 PK's, MAP, DAP & TSP





PSDS GROUP 1 PRODUCT FMA PRODUCT SAFETY DATA SHEET – GROUP 1

0. INTRODUCTION

This Product Safety Data Sheet applies exclusively to products manufactured or marketed by members of the Fertiliser Manufacturers Association. It does not apply to any other product of similar name or nature. The products covered will be clearly identified by the name of the marketer and/or manufacturer on the associated labels and/or documents. Qualifying product will be marked as follows:



1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

1.1 Identification of the Product

Products in Group 1 are solid straight nitrogen fertilisers based on ammonium nitrate and which are classified as oxidising substances. They are identified as such by the yellow oxidising symbol and the relevant UN number (see Section 14).

NOTE:

The nitrogen content must not be less than 20%.

The designation includes mixtures of ammonium nitrate with chemically inert materials or limestone and/or dolomite. It covers a range of products including UN No 2067, 2068 and 2069 products. However, in practice, products containing limestone and/or dolomite and with nitrogen content <28% are designated as Calcium Ammonium Nitrate (CAN). They have no UN numbers assigned; a specific Safety Data Sheet (PSDS Group 3) has been prepared for these products.

This Product Safety Data Sheet also applies to products which have UN No 2072 (see Section 14)

1.2 Company

See details below

2. COMPOSITION/INFORMATION ON INGREDIENTS

These products will contain ammonium nitrate and may contain some or all of the following ingredients:-

Ammonium sulphate
Magnesium nitrate
Limestone or dolomite
Inert fillers such as sand
Coating materials such as oil, amine, clay or talc

3. HAZARDS IDENTIFICATION

3.1 Human Health

Products are of a low toxicity but prolonged skin or eye contact may cause some irritation.

Ingestion: Small quantities are unlikely to cause toxic effects.

Large quantities may give rise to gastro-intestinal disorders and in extreme cases (particularly in children) formation of methaemoglobin ("blue baby" syndrome) and cyanosis (indicated by blueness around the mouth) may occur. No adverse long term effects are known.

Inhalation: Low toxicity dust but high concentration of air-borne material may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. Generally regarded as a nuisance dust with no specific official Occupational Exposure Limit (OEL). Recommend a total inhalable dust standard for nuisance dust of 10 mg/m³ as an 8 hour Time Weighted Average. See HSE Guidance Notes EH 40 and HSG 173.

Molten material: Will cause burns and inhalation of decomposition gases (eg in a fire) may cause serious delayed lung effects.

3.2 Environment

Ammonium nitrate is a nitrogen fertilizer. Heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters or nitrate contamination. See Section 12.

4. FIRST AID MEASURES

Product

Skin contact: wash the affected area with soap and water

Eye contact: irrigate eyes with copious amounts of eyewash solution or water for at least 10 minutes. Obtain medical advice if symptoms persist.

Ingestion: **do not** induce vomiting. Give milk or water to drink. Obtain medical attention if more than small quantities have been swallowed.

Inhalation: remove from source of exposure to dust. Keep warm and at rest. Obtain medical advice if symptoms persist.

Fire and Thermal Decomposition Products

Skin contact: wash areas in contact with molten material. Wash copiously with cold water. Seek medical advice.

Inhalation: remove from source of exposure to fumes. Keep warm and at rest.

5. FIRE-FIGHTING MEASURES

When the fertiliser **is not** directly involved in the fire, use the best means available to control the fire.

When the fertiliser **is** involved:-

1. Avoid breathing the fumes. Wherever possible wear an approved breathing mask when fighting a fire or when fumes are being emitted.
2. Call the fire brigade.
3. Use plenty of water.
4. Open doors and windows to give maximum ventilation.
5. **Do not** use chemical extinguishers or foams or attempt to smother the fire with steam or sand.
6. **Do not** allow molten fertiliser to run into drains.

If safe to do so prevent the contamination of the fertiliser by oil and other combustible materials. If water containing the fertiliser enters any drain or water course, inform the appropriate water authorities immediately.

Note also first aid precautions (4).

6. ACCIDENTAL RELEASE MEASURES

Clean up spillage promptly. Sweep up and place in a clean appropriately labelled container. Do not allow to mix with sawdust and other combustible or organic substances.

7. HANDLING AND STORAGE

7.1 Handling: Avoid excessive generation of dust. Avoid contamination by materials such as diesel oil, grease and other combustible materials. Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up.

7.2 Storage: The basic requirements are the avoidance of involvement in a fire and contamination. Locate away from sources of heat, fire or explosion. Keep away from combustible materials and chemical substances taking particular care on farms to ensure that it is not stored near hay, grain, diesel, etc. Ensure high standard of house-keeping in the storage areas. **Do not** permit smoking or the use of naked lights in the storage area. Restrict stack size to 300 tonnes at non-manufacturing sites and keep 1 metre distance between stacks. Buildings used for storage should be dry and well ventilated, stacks therein should be at least 1 metre from walls, eaves and beams. Further guidance is given in HSE Guidance IND(G)230L.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Occupational exposure limits

No specific official limits

ACGIH recommended value (1995-1996) for inhalable particulate: TLV/TWA 10mg/m³.

8.2 Precautionary and engineering measures

Avoid high dust concentration and provide ventilation where necessary.

8.3 Personal Protection

Wear suitable gloves when handling the product over long periods. Use suitable dust respirator if dust concentration is high.

After handling product, wash hands and observe good hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White or off-white granules or prills unless deliberately coloured during manufacture.
Odour	Odourless.
pH water solution (100g/l)	> 4.5.
Melting point	160-170°C depending on moisture content.
Boiling point	> 210°C (decomposes).
Explosive properties	Not explosive as per EEC test A14 (67/548/EEC). The fertilizer has a high resistance to detonation. This resistance is decreased by the presence of contaminants and/or high temperatures. Heating under strong confinement (e.g. in tubes or drains) may lead to a violent reaction or explosion especially if there is contamination by some of the substances mentioned under Section 10.3.
Oxidizing properties	Can support combustion and oxidize. Not classified as an oxidizing material according to Directive 67/548/EEC and test A17.
Bulk density	Normally between 900-1100kg/m ³
Solubility in water	Pure ammonium nitrate: 1900g/l of water at 20°C. Hygroscopic - readily picks up moisture from the air.

10. STABILITY AND REACTIVITY

Stable under normal storage and handling conditions. Oxidising agent therefore can enhance the combustion of combustible materials. Liberates ammonia when in contact with alkalies eg Caustic Soda, Soda Ash.

Not itself combustible. Melts and decomposes when heated strongly with molten material starting to form between 160 - 165°C. On decomposition gives off water vapour and toxic fumes which may contain oxides of nitrogen and ammonia. Decomposition is accelerated by a number of substances such as acids; carbonaceous materials; chromates; zinc, copper and their alloys; chlorates and reducing agents.

Has a high resistance to detonation. This resistance is decreased by a number of factors such as the presence of contaminants and/or high temperature. Heating under strong confinement (eg in tubes or drains) may lead to a violent reaction or explosion, especially if there is contamination by substances mentioned above.

Do not weld or apply heat to equipment or plant which may have contained the fertiliser without first washing thoroughly to remove all fertiliser.

TOXICOLOGICAL INFORMATION

11.1 General

Ammonium nitrate itself is basically harmless when handled correctly. When heated it can give off toxic gases. See Section 3.1.

11.2 Toxicity Data

LD50 (oral, rat) > 2000mg/kg
May cause methaemoglobinemia See Section 3.1.

12. ECOLOGICAL INFORMATION

12.1 Mobility

Very soluble in water. The nitrate ion is mobile. The ammonium ion is adsorbed by soil.

12.2 Persistence/Degradability

The nitrate ion is the predominant form of plant nutrition. It follows the natural nitrification/denitrification cycle to give nitrogen.

12.3 Bio-accumulation

The product does not show any bio-accumulation phenomena.

12.4 Ecotoxicity

Low toxicity to aquatic life. TLM 96 between 10-100ppm.

13. DISPOSAL CONSIDERATIONS

Depending on the degree of contamination, dispose of by use on farm, by spreading thinly on open ground or to an authorised waste facility. Take care to avoid the contamination of watercourses and drains. Inform the appropriate water authority in the event of accidental watercourse contamination.

14. TRANSPORT INFORMATION

14.1 UN classification

Class 5, Division 5.1 Oxidizing Substances UN Nos. 2067, 2068, 2069 and 2072 depending on composition. See Section 14.2.

They are not classified as hazardous material for supply purposes according to EC Directive 67/548/EEC and CHIP

14.2 Details

<i>Composition</i>	<i>UN No</i>	<i>Class</i>	<i>Transport Mode Particulars</i>
>90% AN ≥0.2% combustible Inert materials	2067	5.1 (Type A1)	ADR/RID Item 21° (c) IMDG:
			Packaging gr: III Stowage cat: A Code page: 5123(94) Bulk shipments BC – code, Appendix B
>70 and <90% AN ≥0.4% combustible Inert materials	2067	5.1 (Type A1)	as above
>80 and 90% AN ≥0.4% combustible Limestone/dolomite	2068	5.1 (Type A2)	as above
>45 and <70% AN ≥0.4% combustible Ammonium sulphate	2069	5.1 (Type A3)	as above
Fertilisers containing AN not otherwise specified	2072	5.1	as above

16 OTHER INFORMATION

This safety data sheet provides health and safety information. The product is to be used in applications consistent with best farming practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of the FMA's knowledge correct as at the date of publication.

Neither the FMA nor the Manufacturer, UKASTA or Supplier accepts liability for any loss or damage (other than that arising from death or personal injury caused by negligence if proved) resulting from reliance on this information. Further information on individual products covered by this safety data sheet may be obtained from the Supplier or the Company whose name, address and telephone number will be found on the fertiliser container

Data Sheet Compiled by:

Fertiliser Manufacturers Association
Great North Road
Peterborough, PE8 6HJ

Product Supplied by:

Tel: (01780) 781360 Fax: (01780) 781369

Do not transport with combustible materials and farm or other chemicals such as acids; carbonaceous materials; chromates; zinc, copper and their alloys; chlorates and reducing agents. Ensure that the transport is clean before loading the product.

15. REGULATORY INFORMATION**15.1 EC Directives**

76/116/EEC (Relating to fertilisers)
80/876/EEC (Straight Ammonium Nitrate)
87/94/EEC (Resistance to detonation)
96/82/EC (Control of Major Accident Hazards)

15.2 National Regulations

The Fertilisers Regulations 1991 and subsequent amendments



PSDS GROUP 2 PRODUCT

FMA PRODUCT SAFETY DATA SHEET - GROUP 2

INTRODUCTION

This Product Safety Data Sheet applies exclusively to products manufactured or marketed by members of the Fertiliser Manufacturers Association. It does not apply to any other product of similar name or nature. The products covered will be clearly identified by the name of the marketer and/or manufacturer on the associated labels and/or documents. Qualifying product will be marked as follows:



1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

1.1 Identification of the Product

Products in Group 2 are solid compound fertilisers (NPK, NP, NK) with between 70% and 90% ammonium nitrate and not more than 0.4% total combustible material. They are not capable of self sustaining decomposition ("cigar-burning").

1.2 Company

See details below

2. COMPOSITION/INFORMATION ON INGREDIENTS

These products may contain some or all of the following ingredients in addition to the ammonium nitrate. Mono and di-ammonium phosphate, potassium chloride (muriate of potash), potassium sulphate, calcium nitrate, inert fillers such as sand or limestone, and coating materials, such as oil, amine, clay or talc, secondary nutrients and/or micro-nutrients.

3. HAZARDS IDENTIFICATION

3.1 Human Health

Products are of a low toxicity but prolonged skin or eye contact may cause some irritation.

Ingestion: Small quantities are unlikely to cause toxic effects.

Large quantities may give rise to gastro-intestinal disorders and in extreme cases (particularly in children) formation of methaemoglobin ("blue baby" syndrome) and cyanosis (indicated by blueness around the mouth) may occur. No adverse long term effects are known.

Inhalation: Low toxicity dust but high concentration of air-borne material may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. Generally regarded as a nuisance dust with no specific official Occupational Exposure Limit (OEL). Recommend a total inhalable dust standard for nuisance dust of 10 mg/m³ as an 8 hour Time Weighted Average. See HSE Guidance Notes EH 40 and HSG 173.

Molten material: Will cause burns and inhalation of decomposition gases (eg in a fire) may cause serious delayed lung effects.

3.2 Environment

As this fertiliser contains nitrate and phosphate, heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters or nitrate contamination. See Section 12.

4. FIRST AID MEASURES

Product

Skin contact: wash the affected area with soap and water

Eye contact: irrigate eyes with copious amounts of eyewash solution or water for at least 10 minutes. Obtain medical advice if symptoms persist.

Ingestion: **do not** induce vomiting. Give milk or water to drink. Obtain medical attention if more than small quantities have been swallowed.

Inhalation: remove from source of exposure to dust. Keep warm and at rest. Obtain medical advice if symptoms persist.

Fire and Thermal Decomposition Products

Skin contact: wash areas in contact with molten material. Wash copiously with cold water. Seek medical advice.

Inhalation: remove from source of exposure to fumes. Keep warm and at rest.

5. FIRE-FIGHTING MEASURES

When the fertiliser **is not** directly involved in the fire use the best means available to control the fire.

When the fertiliser **is** involved:-

1. Avoid breathing the fumes. Wherever possible wear an approved breathing mask when fighting a fire or when fumes are being emitted.
2. Call the fire brigade.
3. Use plenty of water.
4. Open doors and windows to give maximum ventilation.
5. **Do not** use chemical extinguishers or foams or attempt to smother the fire with steam or sand.
6. **Do not** allow molten fertiliser to run into drains.

If safe to do so prevent the contamination of the fertiliser by oil and other combustible materials. If water containing the fertiliser enters any drain or water course, inform the appropriate water authorities immediately.

Note also first aid precautions (4).

6. ACCIDENTAL RELEASE MEASURES

Clean up spillage promptly. Sweep up and place in a clean appropriately labelled container. Do not allow to mix with sawdust and other combustible or organic substances.

7. HANDLING AND STORAGE

7.1 Handling: Avoid excessive generation of dust. Avoid contamination by materials such as diesel oil, grease and other

combustible materials. Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up.

7.2 Storage: The basic requirements are the avoidance of involvement in a fire and contamination. Locate away from sources of heat, fire or explosion. Keep away from combustible materials and chemical substances taking particular care on farms to ensure that it is not stored near hay, grain, diesel, etc. Ensure high standard of house-keeping in the storage areas. **Do not** permit smoking or the use of naked lights in the storage area. Restrict stack size to 300 tonnes at non-manufacturing sites and keep 1 metre distance between stacks. Buildings used for storage should be dry and well ventilated, stacks therein should be at least 1 metre from walls, eaves and beams. Further guidance is given in HSE Guidance IND(G)230L.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.4 Occupational exposure limits

No specific official limits

ACGIH recommended value (1995-1996) for inhalable particulate: TLV/TWA 10mg/m³.

8.5 Precautionary and engineering measures

Avoid high dust concentration and provide ventilation where necessary.

8.6 Personal Protection

Wear suitable gloves when handling the product over long periods. Use suitable dust respirator if dust concentration is high.

After handling product, wash hands and observe good hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White grey or brown granules or prills unless deliberately coloured during manufacture.
Odour	Odourless.
pH water solution (100g/l)	Usually > 4.5.
Melting point	Depends on composition. May decompose before melting 160-170°C depending on moisture content
Boiling point	> 210°C (decomposes).
Explosive properties	Not explosive as per EEC test A14 (67/548/EEC). The fertilizer has a high resistance to detonation. This resistance is decreased by the presence of contaminants and/or high temperatures. Heating under strong confinement (e.g. in tubes or drains) may lead to a violent reaction or explosion especially if there is contamination by some of the substances mentioned under Section 10.3.
Oxidizing properties	Products with high nitrate content can support combustion. Not classified as an oxidizing material according to Directive 67/548/EEC and test A17.
Bulk density	Normally between 900-1100kg/m ³ .
Solubility in water	Soluble in water, extent depends on composition. Most formulations are hygroscopic.

10. STABILITY AND REACTIVITY

Stable under normal storage and handling conditions. Oxidising agent therefore can enhance the combustion of combustible materials. Liberates ammonia when in contact with alkalies eg Caustic Soda, Soda Ash.

Not itself combustible. Melts and decomposes when heated strongly with molten material starting to form between 160 - 165°C. On decomposition gives off water vapour and toxic fumes which may

contain oxides of nitrogen and ammonia. Decomposition is accelerated by a number of substances such as acids; carbonaceous materials; chromates; zinc, copper and their alloys; chlorates and reducing agents.

Has a high resistance to detonation. This resistance is decreased by a number of factors such as the presence of contaminants and/or high temperature. Heating under strong confinement (eg in tubes or drains) may lead to a violent reaction or explosion, especially if there is contamination by substances mentioned above.

Do not weld or apply heat to equipment or plant which may have contained the fertiliser without first washing thoroughly to remove all fertiliser.

11. TOXICOLOGICAL INFORMATION

11.1 General

See Section 3.1.

11.2 Toxicity Data

Product toxicity will depend on the composition.

Ammonium nitrate:

LD₅₀ (oral, rat) > 2000mg/kg

May cause methæmoglobinæmia

See Section 3.1.

Monoammonium phosphate:

LD₅₀ (oral, rat) > 2000mg/kg

Diammonium phosphate:

LD₅₀ (oral, rat) > 2000mg/kg

Potassium chloride or sulphate:

LD₅₀ (oral, rat) > 2000mg/kg

Calcium nitrate:

LD₅₀ (oral, rat) 2100mg/kg

12. ECOLOGICAL INFORMATION

12.1 Mobility

Very soluble in water. The nitrate ion is mobile. The ammonium ion is adsorbed by soil.

12.2 Persistence/Degradability

The nitrate ion is mobile; the ammonium ion is adsorbed by soil particles. Phosphates, whether water or citrate soluble, are translocated in the soil over very short distances and are then immobilised. The dissolved potassium ion in the soil solution is adsorbed by clay minerals; where these are absent in light soils part of the potassium may be leached.

12.3 Bio-accumulation

The product does not show any bio-accumulation phenomena.

12.4 Ecotoxicity

Low toxicity to aquatic life.

13. DISPOSAL CONSIDERATIONS

Depending on the degree of contamination, dispose of by use on farm, by spreading thinly on open ground or to an authorised waste facility. Take care to avoid the contamination of watercourses and drains. Inform the appropriate water authority in the event of accidental watercourse contamination.

14. TRANSPORT INFORMATION

14.1 UN classification

UN Classification No 2070. Class 5.1 Oxidising substance. (Yellow diamond label).

Transport Classification ADR/RID No 5.1, Item 21° (c).

Do not transport with combustible materials and farm or other chemicals such as acids; carbonaceous materials; chromates; zinc, copper and their alloys; chlorates and reducing agents. Ensure that the transport is clean before loading the product.

15. REGULATORY INFORMATION

15.1 EC Directives

76/116/EEC (Relating to fertilisers)

96/82/EC (Control of Major Accident Hazards)

15.2 National Regulations

The Fertilisers Regulations 1991 and subsequent amendments.

The Control of Major Accident Hazards Regulations 1999

16. OTHER INFORMATION

This safety data sheet provides health and safety information. The product is to be used in applications consistent with best farming practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of the FMA's knowledge correct as at the date of publication.

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Product Supplied by:

Data Sheet Compiled by:

Fertiliser Manufacturers Association
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Tel: (01780) 781360 Fax: (01780) 781369



INTRODUCTION

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PSDS GROUP 3 PRODUCT

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

1.1 Identification of the Product

Products in Group 3 are solid straight nitrogen fertilisers with less than 70% ammonium nitrate and not more than 0.4% total combustible materials with inert materials or with less than 80% ammonium nitrate with limestone or dolomite filler and not more than 0.4% total combustible material or with less than 45% ammonium nitrate with ammonium sulphate and not more than 0.4% combustible material.

1.2 Company

See details below

2. COMPOSITION/INFORMATION ON INGREDIENTS

These products may contain some or all of the following ingredients in addition to the ammonium nitrate:

Ammonium sulphate, limestone, dolomite, gypsum (calcium sulphate), calcium nitrate, Inert fillers such as sand, coating materials such as oil, amine, clay or talc, secondary nutrients and/or micro-nutrients.

3. HAZARDS IDENTIFICATION

3.1 Human Health

Products are of a low toxicity but prolonged skin or eye contact may cause some irritation.

Ingestion: Small quantities are unlikely to cause toxic effects.

Large quantities may give rise to gastro-intestinal disorders and in extreme cases (particularly in children) formation of methaemoglobin ("blue baby" syndrome) and cyanosis (indicated by blueness around the mouth) may occur. No adverse long term effects are known.

Inhalation: Low toxicity dust but high concentration of air-borne material may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. Generally regarded as a nuisance dust with no specific official Occupational Exposure Limit (OEL). Recommend a total inhalable dust standard for nuisance dust of 10 mg/m³ as an 8 hour Time Weighted Average. See HSE Guidance Notes EH 40 and HSG 173.

Molten material: Will cause burns and inhalation of decomposition gases (eg in a fire) may cause serious delayed lung effects.

Ammonium nitrate is a nitrogen fertilizer. Heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters or nitrate contamination. See Section 12.

4. FIRST AID MEASURES

Product

Skin contact: wash the affected area with soap and water

Eye contact: irrigate eyes with copious amounts of eyewash solution or water for at least 10 minutes. Obtain medical advice if symptoms persist.

Ingestion: **do not** induce vomiting. Give milk or water to drink. Obtain medical attention if more than small quantities have been swallowed.

Inhalation: remove from source of exposure to dust. Keep warm and at rest. Obtain medical advice if symptoms persist.

Fire and Thermal Decomposition Products

Skin contact: wash areas in contact with molten material. Wash copiously with cold water. Seek medical advice.

Inhalation: remove from source of exposure to fumes. Keep warm and at rest.

5. FIRE-FIGHTING MEASURES

When the fertiliser **is not** directly involved in the fire use the best means available to control the fire.

When the fertiliser **is** involved:-

1. Avoid breathing the fumes. Wherever possible wear an approved breathing mask when fighting a fire or when fumes are being emitted.
2. Call the fire brigade.
3. Use plenty of water.
4. Open doors and windows to give maximum ventilation.
5. **Do not** use chemical extinguishers or foams or attempt to smother the fire with steam or sand.
6. **Do not** allow molten fertiliser to run into drains.

If safe to do so prevent the contamination of the fertiliser by oil and other combustible materials. If water containing the fertiliser enters any drain or water course, inform the appropriate water authorities immediately.

Note also first aid precautions (4).

6. ACCIDENTAL RELEASE MEASURES

Clean up spillage promptly. Sweep up and place in a clean appropriately labelled container. Do not allow to mix with sawdust and other combustible or organic substances.

7. HANDLING AND STORAGE

7.1 Handling: Avoid excessive generation of dust. Avoid contamination by materials such as diesel oil, grease and other combustible materials. Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up.

7.2 *Storage:* The basic requirements are the avoidance of involvement in a fire and contamination. Locate away from sources of heat, fire or explosion. Keep away from combustible materials and chemical substances taking particular care on farms to ensure that it is not stored near hay, grain, diesel, etc. Ensure high standard of house-keeping in the storage areas. **Do not** permit smoking or the use of naked lights in the storage area. Buildings used for storage should be dry and well ventilated, stacks therein should be at least 1 metre from walls, eaves and beams. Further storage guidance is given in HSE Guidance IND(G)230L.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Occupational exposure limits

No specific official limits

ACGIH recommended value (1995-1996) for inhalable particulate: TLV/TWA 10mg/m³.

8.2 Precautionary and engineering measures

Avoid high dust concentration and provide ventilation where necessary.

8.3 Personal Protection

Wear suitable gloves when handling the product over long periods. Use suitable dust respirator if dust concentration is high.

After handling product, wash hands and observe good hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White, off-white or grey granules or prills unless deliberately coloured during manufacture.
Odour	Odourless.
pH water solution (100g/l)	> 4.5.
Explosive properties	Not explosive as per EEC test A14 (67/548/EEC). The fertilizer has a high resistance to detonation. This resistance is decreased by the presence of contaminants and/or high temperatures. Heating under strong confinement (e.g. in tubes or drains) may lead to a violent reaction or explosion especially if there is contamination by some of the substances mentioned under Section 10.3.
Oxidizing properties	Can support combustion Not classified as an oxidizing material according to Directive 67/548/EEC and test A17.
Bulk density	Normally between 900-1100kg/m ³
Solubility in water	Ammonium nitrate highly soluble: Product hygroscopic. Calcium and magnesium carbonates sparingly soluble

10. STABILITY AND REACTIVITY

Stable under normal storage and handling conditions. Oxidising agent therefore can enhance the combustion of combustible materials. Liberates ammonia when in contact with alkalis eg Caustic Soda, Soda Ash.

Not itself combustible. Melts and decomposes when heated strongly with molten material starting to form between 160 - 165°C. On decomposition gives off water vapour and toxic fumes which may contain oxides of nitrogen and ammonia. Decomposition is accelerated by a number of substances such as acids; carbonaceous materials; chromates; zinc, copper and their alloys; chlorates and reducing agents.

Has a high resistance to detonation. This resistance is decreased by a number of factors such as the presence of contaminants and/or high temperature. Heating under strong confinement (eg in tubes or

drains) may lead to a violent reaction or explosion, especially if there is contamination by substances mentioned above.

Do not weld or apply heat to equipment or plant which may have contained the fertiliser without first washing thoroughly to remove all fertiliser.

11. TOXICOLOGICAL INFORMATION

11.1 General

See Section 3.1.

11.2 Toxicity Data

LD50 (oral, rat) > 2000mg/kg
May cause methaemoglobinemia See Section 3.1.

12. ECOLOGICAL INFORMATION

12.1 Mobility

Very soluble in water. The nitrate ion is mobile. The ammonium ion is adsorbed by soil.

12.2 Persistence/Degradability

The nitrate ion is the predominant form of plant nutrition. It follows the natural nitrification/denitrification cycle to give nitrogen.

12.3 Bio-accumulation

The product does not show any bio-accumulation phenomena.

12.4 Ecotoxicity

Low toxicity to aquatic life. TLM 96 between 10-100ppm

13. DISPOSAL CONSIDERATIONS

Depending on the degree of contamination, dispose of by use on farm, by spreading thinly on open ground or to an authorised waste facility. Take care to avoid the contamination of watercourses and drains. Inform the appropriate water authority in the event of accidental watercourse contamination.

14. TRANSPORT INFORMATION

14.1 UN classification

Not classified, i.e. considered non-hazardous material according to the UN Orange Book and international transport codes e.g. RID (rail), ADR (road) and IMDG (sea).

15. REGULATORY INFORMATION

15.1 EC Directives

76/116/EEC (Relating to fertilisers)

15.2 National Regulations

The Fertilisers Regulations 1991 and subsequent amendments

16. OTHER INFORMATION

This safety data sheet provides health and safety information. The product is to be used in applications consistent with best farming practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of the FMA's knowledge correct as at the date of publication.

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from reliance on this information. Further information on individual products covered by this safety data sheet may be obtained from the Supplier or the Company whose name, address and telephone number will be found on the fertiliser container

Product Supplied by:

Data Sheet Compiled by:

Fertiliser Manufacturers Association
Great North Road
Peterborough, PE8 6HJ

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PSDS GROUP 4 PRODUCT

FMA PRODUCT SAFETY DATA SHEET - GROUP 4

INTRODUCTION

This Product Safety Data Sheet applies exclusively to products manufactured or marketed by members of the Fertiliser Manufacturers Association. It does not apply to any other product of similar name or nature. The products covered will be clearly identified by the name of the marketer and/or manufacturer on the associated labels and/or documents. Qualifying product will be marked as follows:



1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

1.1 Identification of the Product

Products in Group 4 are solid compound fertilisers (NPK, NP, NK) with not more than 70% ammonium nitrate. They are not capable of self sustaining decomposition ("cigar-burning").

1.2 Company

See details below

2. COMPOSITION/INFORMATION ON INGREDIENTS

These products may contain some or all of the following ingredients in addition to the ammonium nitrate. Ammonium sulphate, urea, mono and di-ammonium phosphate, normal (single) superphosphate, triple superphosphate, phosphate rock, potassium chloride (muriate of potash), potassium sulphate, calcium nitrate, inert fillers such as sand or limestone, and coating materials, such as oil, amine, clay or talc., secondary nutrients and/or micro-nutrients.

3. HAZARDS IDENTIFICATION

3.1 Human Health

Products are of a low toxicity but prolonged skin or eye contact may cause some irritation.

Ingestion: Small quantities are unlikely to cause toxic effects.

Large quantities may give rise to gastro-intestinal disorders and in extreme cases (particularly in children) formation of methaemoglobin ("blue baby" syndrome) and cyanosis (indicated by blueness around the mouth) may occur. No adverse long term effects are known.

Inhalation: Low toxicity dust but high concentration of air-borne material may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. Generally regarded as a nuisance dust with no specific official Occupational Exposure Limit (OEL). Recommend a total inhalable dust standard for nuisance dust of 10 mg/m³ as an 8 hour Time Weighted Average. See HSE Guidance Notes EH 40 and HSG 173.

Molten material: Will cause burns and inhalation of decomposition gases (eg in a fire) may cause serious delayed lung effects.

3.2 Environment

As this fertiliser contains nitrate and phosphate, heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters or nitrate contamination. See Section 12.

4. FIRST AID MEASURES

Product

Skin contact: wash the affected area with soap and water

Eye contact: irrigate eyes with copious amounts of eyewash solution or water for at least 10 minutes. Obtain medical advice if symptoms persist.

Ingestion: **do not** induce vomiting. Give milk or water to drink. Obtain medical attention if more than small quantities have been swallowed.

Inhalation: remove from source of exposure to dust. Keep warm and at rest. Obtain medical advice if symptoms persist.

Fire and Thermal Decomposition Products

Skin contact: wash areas in contact with molten material. Wash copiously with cold water. Seek medical advice.

Inhalation: remove from source of exposure to fumes. Keep warm and at rest.

5. FIRE-FIGHTING MEASURES

When the fertiliser **is not** directly involved in the fire use the best means available to control the fire.

When the fertiliser **is** involved:-

1. Avoid breathing the fumes. Wherever possible wear an approved breathing mask when fighting a fire or when fumes are being emitted.
2. Call the fire brigade.
3. Use plenty of water.
4. Open doors and windows to give maximum ventilation.
5. **Do not** use chemical extinguishers or foams or attempt to smother the fire with steam or sand.
6. **Do not** allow molten fertiliser to run into drains.

If safe to do so prevent the contamination of the fertiliser by oil and other combustible materials. If water containing the fertiliser enters any drain or water course, inform the appropriate water authorities immediately.

Note also first aid precautions (4).

6. ACCIDENTAL RELEASE MEASURES

Clean up spillage promptly. Sweep up and place in a clean appropriately labelled container. Do not allow to mix with sawdust and other combustible or organic substances.

7. HANDLING AND STORAGE

7.1 Handling: Avoid excessive generation of dust. Avoid contamination by materials such as diesel oil, grease and other combustible materials. Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up.

7.2 *Storage:* The basic requirements are the avoidance of involvement in a fire and contamination. Locate away from sources of heat, fire or explosion. Keep away from combustible materials and chemical substances taking particular care on farms to ensure that it is not stored near hay, grain, diesel, etc. Ensure high standard of house-keeping in the storage areas. **Do not** permit smoking or the use of naked lights in the storage area. Buildings used for storage should be dry and well ventilated, stacks therein should be at least 1 metre from walls, eaves and beams. Further storage guidance is given in HSE Guidance IND(G)230L.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Occupational exposure limits

No specific official limits

ACGIH recommended value (1995-1996) for inhalable particulate: TLV/TWA 10mg/m³.

8.2 Precautionary and engineering measures

Avoid high dust concentration and provide ventilation where necessary.

8.3 Personal Protection

Wear suitable gloves when handling the product over long periods. Use suitable dust respirator if dust concentration is high.

After handling product, wash hands and observe good hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White grey or brown granules or prills unless Deliberately coloured during manufacture.
Odour	Odourless.
pH water solution (100g/l)	Usually > 4.5.
Melting point	Depends on composition. May decompose Before melting 160-170°C depending on moisture content
Boiling point	> 210°C (decomposes).
Explosive properties	Not explosive as per EEC test A14 (67/548/EEC). The fertilizer has a high resistance to detonation. This resistance is decreased by the presence Of contaminants and/or high temperatures. Heating under strong confinement (e.g. in Tubes or drains) may lead to a violent reaction Or explosion especially if there is contamination By some of the substances mentioned under Section 10.3.
Bulk density	Normally between 900-1100kg/m ³ .
Solubility in water	Soluble in water, extent depends on composition Most formulations are hygroscopic.

10. STABILITY AND REACTIVITY

Stable under normal storage and handling conditions. Oxidising agent therefore can enhance the combustion of combustible materials. Liberates ammonia when in contact with alkalies eg Caustic Soda, Soda Ash.

Not itself combustible. Melts and decomposes when heated strongly with molten material starting to form between 160 - 165°C. On decomposition gives off water vapour and toxic fumes which may contain oxides of nitrogen and ammonia. Decomposition is accelerated by a number of substances such as acids; carbonaceous materials; chromates; zinc, copper and their alloys; chlorates and reducing agents.

Has a high resistance to detonation. This resistance is decreased by a number of factors such as the presence of contaminants and/or high temperature. Heating under strong confinement (eg in tubes or drains) may lead to a violent reaction or explosion, especially if there is contamination by substances mentioned above.

Do not weld or apply heat to equipment or plant which may have contained the fertiliser without first washing thoroughly to remove **all** fertiliser.

11. TOXICOLOGICAL INFORMATION

11.1 General

See Section 3.1.

11.2 Toxicity Data

Product toxicity will depend on the composition.

Ammonium nitrate:

LD₅₀ (oral, rat) > 2000mg/kg

May cause methaemoglobinemia See Section 3.1.

Monoammonium phosphate:

LD₅₀ (oral, rat) > 2000mg/kg

Diammonium phosphate:

LD₅₀ (oral, rat) > 2000mg/kg

Potassium chloride or sulphate:

LD₅₀ (oral, rat) > 2000mg/kg

Calcium nitrate:

LD₅₀ (oral, rat) 2100mg/kg

12. ECOLOGICAL INFORMATION

12.1 Mobility

Very soluble in water. The nitrate ion is mobile. The ammonium ion is adsorbed by soil.

12.2 Persistence/Degradability

The nitrate ion mobile; the ammonium ion is adsorbed by soil particles. Phosphates, whether water or citrate soluble, are translocated in the soil over very short distances and are then immobilised. The dissolved potassium ion in the soil solution is adsorbed by clay minerals; where these are absent in light soils part of the potassium may be leached.

12.3 Bio-accumulation

The product does not show any bio-accumulation phenomena.

12.4 Ecotoxicity

Low toxicity to aquatic life.

13. DISPOSAL CONSIDERATIONS

Depending on the degree of contamination, dispose of by use on farm, by spreading thinly on open ground or to an authorised waste facility. Take care to avoid the contamination of watercourses and drains. Inform the appropriate water authority in the event of accidental watercourse contamination.

14. TRANSPORT INFORMATION

14.1 UN classification

Classified as non-hazardous.

Avoid transport with other materials where there is undue risk of contamination. Ensure that the transport is clean before loading the product.

15. REGULATORY INFORMATION

15.1 EC Directives

76/116/EEC (Relating to fertilisers)

15.2 National Regulations

The Fertilisers Regulations 1991 and subsequent amendments

Product Supplied by:

16. OTHER INFORMATION

This safety data sheet provides health and safety information. The product is to be used in applications consistent with best farming practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of the FMA's knowledge correct as at the date of publication.

Neither the FMA nor the Manufacturer, UKASTA or Supplier accepts liability for any loss or damage (other than that arising from death or personal injury caused by negligence if proved) resulting from reliance on this information. Further information on individual products covered by this safety data sheet may be obtained from the

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PSDS GROUP 5 PRODUCT

FMA PRODUCT SAFETY DATA SHEET - GROUP 5

0. INTRODUCTION

This Product Safety Data Sheet applies exclusively to products manufactured or marketed by members of the Fertiliser Manufacturers Association. It does not apply to any other product of similar name or nature. The products covered will be clearly identified by the name of the marketer and/or manufacturer on the associated labels and/or documents. Qualifying product will be marked as follows:



1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

1.1 Identification of the Product

Products in Group 5 are solid compound fertilisers (NPK, NP, NK) with not more than 70% ammonium nitrate which are capable of self sustaining decomposition ("cigar-burning").

1.2 Company

See details below

2. COMPOSITION/INFORMATION ON INGREDIENTS

These products may contain some or all of the following ingredients in addition to the ammonium nitrate. Ammonium sulphate, mono and di-ammonium phosphate, normal (single) superphosphate, triple superphosphate, phosphate rock, potassium chloride (muriate of potash), potassium sulphate, calcium nitrate, inert fillers such as sand or limestone, and coating materials, such as oil, amine, clay or talc., secondary nutrients and/or micro-nutrients.

3. HAZARDS IDENTIFICATION

3.1 Human Health

Products are of a low toxicity but prolonged skin or eye contact may cause some irritation.

Ingestion: Small quantities are unlikely to cause toxic effects.

Large quantities may give rise to gastro-intestinal disorders and in extreme cases (particularly in children) formation of methaemoglobin ("blue baby" syndrome) and cyanosis (indicated by blueness around the mouth) may occur. No adverse long term effects are known.

Inhalation: Low toxicity dust but high concentration of air-borne material may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. Generally regarded as a nuisance dust with no specific official Occupational Exposure Limit (OEL). Recommend a total inhalable dust standard for nuisance dust of 10 mg/m³ as an 8 hour Time Weighted Average. See HSE Guidance Notes EH 40 and HSG 173.

Molten material: Will cause burns and inhalation of decomposition gases (eg in a fire) may cause serious delayed lung effects.

3.2 Environment

As this fertiliser contains nitrate and phosphate, heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters or nitrate contamination. See Section 12.

4. FIRST AID MEASURES

Product

Skin contact: wash the affected area with soap and water

Eye contact: irrigate eyes with copious amounts of eyewash solution or water for at least 10 minutes. Obtain medical advice if symptoms persist.

Ingestion: **do not** induce vomiting. Give milk or water to drink. Obtain medical attention if more than small quantities have been swallowed.

Inhalation: remove from source of exposure to dust. Keep warm and at rest. Obtain medical advice if symptoms persist.

Fire and Thermal Decomposition Products

Skin contact: wash areas in contact with molten material. Wash copiously with cold water. Seek medical advice.

Inhalation: remove from source of exposure to fumes. Keep warm and at rest.

5. FIRE-FIGHTING MEASURES

When the fertiliser **is not** directly involved in the fire use the best means available to control the fire.

When the fertiliser **is** involved:-

1. Avoid breathing the fumes. Wherever possible wear an approved breathing mask when fighting a fire or when fumes are being emitted.
2. Call the fire brigade.
3. Use plenty of water.
4. Open doors and windows to give maximum ventilation.
5. **Do not** use chemical extinguishers or foams or attempt to smother the fire with steam or sand.
6. **Do not** allow molten fertiliser to run into drains.

If safe to do so prevent the contamination of the fertiliser by oil and other combustible materials. If water containing the fertiliser enters any drain or water course, inform the appropriate water authorities immediately.

Note also first aid precautions (4).

6. ACCIDENTAL RELEASE MEASURES

Clean up spillage promptly. Sweep up and place in a clean appropriately labelled container. Do not allow to mix with sawdust and other combustible or organic substances.

7. HANDLING AND STORAGE

7.1 Handling: Avoid excessive generation of dust. Avoid contamination by materials such as diesel oil, grease and other combustible materials. Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up.

7.2 *Storage:* The basic requirements are the avoidance of involvement in a fire and contamination. Locate away from sources of heat, fire or explosion. Keep away from combustible materials and chemical substances taking particular care on farms to ensure that it is not stored near hay, grain, diesel, etc. Ensure high standard of house-keeping in the storage areas. **Do not** permit smoking or the use of naked lights in the storage area. Buildings used for storage should be dry and well ventilated, stacks therein should be at least 1 metre from walls, eaves and beams. Further storage guidance is given in HSE Guidance IND(G)230L.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Occupational exposure limits

No specific official limits

ACGIH recommended value (1995-1996) for inhalable particulate: TLV/TWA 10mg/m³.

8.2 Precautionary and engineering measures

Avoid high dust concentration and provide ventilation where necessary.

8.3 Personal Protection

Wear suitable gloves when handling the product over long periods. Use suitable dust respirator if dust concentration is high.

After handling product, wash hands and observe good hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White grey or brown granules or prills unless deliberately coloured during manufacture.
Odour	Odourless.
pH water solution (100g/l)	Usually > 4.5.
Melting point	Depends on composition. May decompose before melting 160-170°C depending on moisture content
Boiling point	> 210°C (decomposes).
Explosive properties	Not explosive as per EEC test A14 (67/548/EEC). The fertilizer has a high resistance to detonation. This resistance is decreased by the presence of contaminants and/or high temperatures. Heating under strong confinement (e.g. in tubes or drains) may lead to a violent reaction or explosion especially if there is contamination by some of the substances mentioned under Section 10.3.
Bulk density	Normally between 900 – 1100 kg/m ³
Solubility in water	Soluble in water, extent depends on composition. Most formulations are hygroscopic.

10. STABILITY AND REACTIVITY

Stable under normal storage and handling conditions. Oxidising agent therefore can enhance the combustion of combustible materials. Capable of self-sustained decomposition, especially when the product is in bulk form. A moderate source of heat such as a buried light bulb can initiate decomposition which can continue even when the heat source is removed. Liberates ammonia when in contact with alkalies eg Caustic Soda, Soda Ash.

Not itself combustible. Melts and decomposes when heated strongly with molten material starting to form between 160 - 165°C. On decomposition gives off water vapour and toxic fumes which may contain oxides of nitrogen and ammonia. Decomposition is accelerated by a number of substances such as acids; carbonaceous materials; chromates; zinc, copper and their alloys; chlorates and reducing agents.

Has a high resistance to detonation. This resistance is decreased by a number of factors such as the presence of contaminants and/or high temperature. Heating under strong confinement (eg in tubes or drains) may lead to a violent reaction or explosion, especially if there is contamination by substances mentioned above.

Do not weld or apply heat to equipment or plant which may have contained the fertiliser without first washing thoroughly to remove **all** fertiliser.

11. TOXICOLOGICAL INFORMATION

11.1 General

See Section 3.1.

11.2 Toxicity Data

Product toxicity will depend on the composition.

Ammonium nitrate:

LD₅₀ (oral, rat) > 2000mg/kg

May cause methaemoglobinemia See Section 3.1.

Monoammonium phosphate:

LD₅₀ (oral, rat) > 2000mg/kg

Diammonium phosphate:

LD₅₀ (oral, rat) > 2000mg/kg

Potassium chloride or sulphate:

LD₅₀ (oral, rat) > 2000mg/kg

Calcium nitrate:

LD₅₀ (oral, rat) 2100mg/kg

12. ECOLOGICAL INFORMATION

12.1 Mobility

Very soluble in water. The nitrate ion is mobile. The ammonium ion is adsorbed by soil.

12.2 Persistence/Degradability

The nitrate ion mobile; the ammonium ion is adsorbed by soil particles. Phosphates, whether water or citrate soluble, are translocated in the soil over very short distances and are then immobilised. The dissolved potassium ion in the soil solution is adsorbed by clay minerals; where these are absent in light soils part of the potassium may be leached.

12.3 Bio-accumulation

The product does not show any bio-accumulation phenomena.

12.4 Ecotoxicity

Low toxicity to aquatic life.

13. DISPOSAL CONSIDERATIONS

Depending on the degree of contamination, dispose of by use on farm, by spreading thinly on open ground or to an authorised waste facility. Take care to avoid the contamination of watercourses and drains. Inform the appropriate water authority in the event of accidental watercourse contamination.

14. TRANSPORT INFORMATION

14.1 UN classification

Classified as miscellaneous dangerous substances.

UN No 2071 Class 9.

Avoid transport with other materials where there is undue risk of contamination. Ensure that the transport is clean before loading the product.

15. REGULATORY INFORMATION

15.1 EC Directives

76/116/EEC (Relating to fertilisers)

15.2 National Regulations

The Fertilisers Regulations 1991 and subsequent amendments.

Product Supplied By:

16. OTHER INFORMATION

This safety data sheet provides health and safety information. The product is to be used in applications consistent with best farming practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of the FMA's knowledge correct as at the date of publication.

~~Neither the FMA nor the Manufacturer, UKASTA or Supplier~~ accepts liability for any loss or damage (other than that arising from death or personal injury caused by negligence if proved) resulting from reliance on this information. Further information on individual

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PSDS GROUP 6 PRODUCT

FMA PRODUCT SAFETY DATA SHEET - GROUP 6

0. INTRODUCTION

This Product Safety Data Sheet applies exclusively to products manufactured or marketed by members of the Fertiliser Manufacturers Association. It does not apply to any other product of similar name or nature. The products covered will be clearly identified by the name of the marketer and/or manufacturer on the associated labels and/or documents. Qualifying product will be marked as follows:



1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

1.1 Identification of the Product

Products in Group 6 are the straight nitrogen products, urea and ammonium sulphate and will be identified as such.

1.2 Company

See details below

2. COMPOSITION/INFORMATION ON INGREDIENTS

These products may be essentially pure and will contain urea (Total nitrogen 46%) or ammonium sulphate (Total nitrogen 21%) as essential ingredients.

3. HAZARDS IDENTIFICATION

3.1 Human Health

Products are of a low toxicity but prolonged skin or eye contact may cause some irritation.

Ingestion: Small quantities are unlikely to cause toxic effect.

Large quantities may give rise to gastro-intestinal disorders.

Inhalation: Low toxicity dust but high concentration of air-borne material may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. Generally regarded as a nuisance dust with no specific official Occupational Exposure Limit (OEL). Recommend a total inhalable dust standard for nuisance dust of 10 mg/m³ as an 8 hour Time Weighted Average. See HSE Guidance Notes EH 40 and HSG 173.

Inhalation of decomposition gases (eg in a fire) may cause serious lung effects.

3.2 Environment

Urea and ammonium sulphate are nitrogen fertilisers. Heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters. See Section 12.

4. FIRST AID MEASURES

Product

Skin contact: wash the affected area with soap and water

Eye contact: irrigate eyes with copious amounts of eyewash solution or water for at least 10 minutes. Obtain medical advice if symptoms persist.

Ingestion: **do not** induce vomiting. Give milk or water to drink. Obtain medical attention if more than small quantities have been swallowed.

Inhalation: remove from source of exposure to dust. Keep warm and at rest. Obtain medical advice if symptoms persist.

Fire and Thermal Decomposition Products

Inhalation: remove from source of exposure to fumes. Keep warm and at rest.

5. FIRE-FIGHTING MEASURES

When the fertiliser is **not** directly involved in the fire use the best means available to control the fire.

When the fertiliser is involved:-

1. Avoid breathing the fumes. Wherever possible wear an approved breathing mask when fighting a fire or when fumes are being emitted.
2. Call the fire brigade.
3. Use plenty of water.
4. Open doors and windows to give maximum ventilation.
5. **Do not** allow molten fertiliser to run into drains.

If water containing the fertiliser enters any drain or water course, inform the appropriate water authorities immediately. Note also first aid precautions (4).

6. ACCIDENTAL RELEASE MEASURES

Clean up spillage promptly. Sweep up and place in a clean appropriately labelled container.

7. HANDLING AND STORAGE

7.1 Handling: Avoid excessive generation of dust. Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up.

7.2 Storage: The basic requirements are the avoidance of involvement in a fire and contamination. Locate away from sources of heat, fire or explosion. Keep away from combustible materials and chemical substances taking particular care on farms to ensure that it is not stored near hay, grain, diesel, etc. Ensure high standard of house-keeping in the storage areas. **Do not** permit smoking or the use of naked lights in the storage area. Buildings used for storage should be dry and well ventilated, stacks therein should be at least 1 metre from walls, eaves and beams. Further storage guidance is given in HSE Guidance IND(G)230L

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Occupational exposure limits

No specific official limits

ACGIH recommended value (1995-1996) for inhalable particulate: TLV/TWA 10mg/m³.

8.2 Precautionary and engineering measures

Avoid high dust concentration and provide ventilation where necessary.

8.3 Personal Protection

Wear suitable gloves when handling the product over long periods.

Use suitable dust respirator if dust concentration is high.

After handling product, wash hands and observe good hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid uniform prills, granules or crystals pale yellow/brown to white in colour unless deliberately coloured during manufacture.
Odour	Odourless.
pH water solution (100g/l)	Urea 9 - 10 Ammonium sulphate 4 – 6.
Melting point	Urea 133°C (Decomposes) Ammonium sulphate 235°C (Decomposes)
Bulk density	Urea 700-780kg/m ³ . Ammonium sulphate 1000 – 1100kg/m ³
Solubility in water	Urea 1080g/l at 20°C Ammonium sulphate 760g/l at 20°C

10. STABILITY AND REACTIVITY

Stable under normal storage and handling conditions. Urea reacts with sodium or calcium hypochlorite to form explosive nitrogen trichloride. Ammonium sulphate liberates ammonia when in contact with alkalies eg Caustic Soda, Soda Ash.

Do not weld or apply heat to equipment or plant which may have contained the fertiliser without first washing thoroughly to remove **all** fertiliser.

11. TOXICOLOGICAL INFORMATION

11.1 General

See Section 3.1.

11.2 Toxicity Data

Urea and ammonium sulphate
LD50 (oral, rat) > 2000mg/kg

Low potential for bio-accumulation.

12.4 Ecotoxicity

Urea: Has low intrinsic aquatic toxicity but will exert a substantial oxygen demand when significant quantities, as in a spillage, reach a watercourse and may cause damage to aquatic life.

Ammonium Sulphate: Harmful to aquatic organisms. Increases in pH above 7.5 will lead to an increased load of non-ionised ammonia which is markedly more toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Depending on the degree of contamination, dispose of by use on farm, by spreading thinly on open ground or to an authorised waste facility

14. TRANSPORT INFORMATION

14.1 UN classification

Not classified ie considered non-hazardous material according to UN Orange Book and international transport codes e.g. RID (rail), ADR (road) and IMDG (sea).

15. REGULATORY INFORMATION

15.1 EC Directives

76/116/EEC (Relating to fertilisers)

15.2 National Regulations

The Fertilisers Regulations 1991 and subsequent amendments.

16. OTHER INFORMATION

This safety data sheet provides health and safety information. The product is to be used in applications consistent with best farming practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of the FMA's knowledge correct as at the date of publication.

Neither the FMA nor the Manufacturer, UKASTA or Supplier accepts liability for any loss or damage (other than that arising from death or personal injury caused by negligence if proved) resulting from reliance on this information. Further information on individual products covered by this safety data sheet may be obtained from the Supplier or the Company whose name, address and telephone number will be found on the fertiliser container

Product Supplied By:

Data Sheet Compiled by:

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12.2 Persistence/Degradability

Substantially bio-degradable in water.

12.3 Bio-accumulation



PSDS GROUP 7 PRODUCT

FMA PRODUCT SAFETY DATA SHEET - GROUP 7

0. INTRODUCTION

This Product Safety Data Sheet applies exclusively to products manufactured or marketed by members of the Fertiliser Manufacturers Association. It does not apply to any other product of similar name or nature. The products covered will be clearly identified by the name of the marketer and/or manufacturer on the associated labels and/or documents. Qualifying product will be marked as follows:



1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

1.1 Identification of the Product

Products in Group 7 are solid compound fertilisers (NPK, NP, NK) Which are not based on ammonium nitrate.

1.2 Company

See details below

2. COMPOSITION/INFORMATION ON INGREDIENTS

These products may contain some or all of the following ingredients. Ammonium sulphate, urea, mono and di-ammonium phosphate, normal (single) superphosphate, triple superphosphate, phosphate rock, potassium chloride (muriate of potash), potassium sulphate, calcium nitrate, ureaformaldehyde, inert fillers such as sand or limestone, and coating materials, such as oil, amine, clay or talc, secondary nutrients and/or micro-nutrients.

3. HAZARDS IDENTIFICATION

3.1 Human Health

Products are of a low toxicity but prolonged skin or eye contact may cause some irritation.

Ingestion: Small quantities are unlikely to cause toxic effects.

Large quantities may give rise to gastro-intestinal disorders.

Inhalation: Low toxicity dust but high concentration of air-borne material may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. Generally regarded as a nuisance dust with no specific official Occupational Exposure Limit (OEL). Recommend a total inhalable dust standard for nuisance dust of 10 mg/m³ as an 8 hour Time Weighted Average. See HSE Guidance Notes EH 40 and HSG 173.

Molten material: Will cause burns and inhalation of decomposition gases (eg in a fire) may cause serious delayed lung effects.

3.2 Environment

As this fertiliser contains phosphate, heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters. See Section 12.

4. FIRST AID MEASURES

Product

Skin contact: wash the affected area with soap and water

Eye contact: irrigate eyes with copious amounts of eyewash solution or water for at least 10 minutes. Obtain medical advice if symptoms persist.

Ingestion: **do not** induce vomiting. Give milk or water to drink. Obtain medical attention if more than small quantities have been swallowed.

Inhalation: remove from source of exposure to dust. Keep warm and at rest. Obtain medical advice if symptoms persist.

Fire and Thermal Decomposition Products

Skin contact: wash areas in contact with molten material. Wash copiously with cold water. Seek medical advice.

Inhalation: remove from source of exposure to fumes. Keep warm and at rest.

5. FIRE-FIGHTING MEASURES

When the fertiliser **is not** directly involved in the fire use the best means available to control the fire.

When the fertiliser **is** involved:-

1. Avoid breathing the fumes. Wherever possible wear an approved breathing mask when fighting a fire or when fumes are being emitted.
2. Call the fire brigade.
3. Use plenty of water.
4. Open doors and windows to give maximum ventilation.
5. **Do not** allow molten fertiliser to run into drains.

If water containing the fertiliser enters any drain or water course, inform the appropriate water authorities immediately. Note also first aid precautions (4).

6. ACCIDENTAL RELEASE MEASURES

Clean up spillage promptly. Sweep up and place in a clean appropriately labelled container

7. HANDLING AND STORAGE

7.1 Handling: Avoid excessive generation of dust. Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up.

7.2 Storage: The basic requirements are the avoidance of involvement in a fire and contamination. Locate away from sources of heat, fire or explosion. Keep away from combustible materials and chemical substances taking particular care on farms to ensure that it is not stored near hay, grain, diesel, etc. Ensure high standard of house-keeping in the storage areas. **Do not** permit smoking or the use of naked lights in the storage area. Buildings used for storage should be dry and well ventilated, stacks therein should be at least 1 metre from walls, eaves and beams. Further storage guidance is given in HSE Guidance IND(G)230L.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Occupational exposure limits

No specific official limits

ACGIH recommended value (1995-1996) for inhalable particulate: TLV/TWA 10mg/m³.

8.2 Precautionary and engineering measures

Avoid high dust concentration and provide ventilation where necessary.

8.3 Personal Protection

Wear suitable gloves when handling the product over long periods. Use suitable dust respirator if dust concentration is high.

After handling product, wash hands and observe good hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White grey or brown granules or prills unless deliberately coloured during manufacture.
Odour	Odourless.
pH water solution (100g/l)	Usually > 4.5.
Bulk density	Normally between 900-1100kg/m ³ .
Solubility in water	Soluble in water, extent depends on composition

Most formulations are hygroscopic.

10. STABILITY AND REACTIVITY

Stable under normal storage and handling conditions. Liberates ammonia when in contact with alkalies eg Caustic Soda, Soda Ash.

Do not weld or apply heat to equipment or plant which may have contained the fertiliser without first washing thoroughly to remove all fertiliser.

11. TOXICOLOGICAL INFORMATION

11.1 General

See Section 3.1.

11.2 Toxicity Data

Product toxicity will depend on the composition.

Ammonium sulphate:

LD₅₀ (oral, rat) > 2000mg/kg

Monoammonium phosphate:

LD₅₀ (oral, rat) > 2000mg/kg

Diammonium phosphate:

LD₅₀ (oral, rat) > 2000mg/kg

Potassium chloride or sulphate:

LD₅₀ (oral, rat) > 2000mg/kg

Calcium nitrate:

LD₅₀ (oral, rat) 2100mg/kg

Product Supplied By:

very short distances and are then immobilised. The dissolved potassium ion in the soil solution is adsorbed by clay minerals; where these are absent in light soils part of the potassium may be leached.

12.3 Bio-accumulation

The product does not show any bio-accumulation phenomena.

12.4 Ecotoxicity

Low toxicity to aquatic life.

13. DISPOSAL CONSIDERATIONS

Depending on the degree of contamination, dispose of by use on farm, by spreading thinly on open ground or to an authorised waste facility. Take care to avoid the contamination of watercourses and drains. Inform the appropriate water authority in the event of accidental watercourse contamination.

14. TRANSPORT INFORMATION

14.1 UN classification

Classified as non-hazardous.

15. REGULATORY INFORMATION

15.1 EC Directives

76/116/EEC (Relating to fertilisers)

15.2 National Regulations

The Fertilisers Regulations 1991 and subsequent amendments.

16. OTHER INFORMATION

This safety data sheet provides health and safety information. The product is to be used in applications consistent with best farming practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of the FMA's knowledge correct as at the date of publication.

Neither the FMA nor the Manufacturer, UKASTA or Supplier accepts liability for any loss or damage (other than that arising from death or personal injury caused by negligence if proved) resulting from reliance on this information. Further information on individual products covered by this safety data sheet may be obtained from the Supplier or the Company whose name, address and telephone number will be found on the fertiliser container

Data Sheet Compiled by:

Fertiliser Manufacturers Association

Great North Road

Peterborough, PE8 6HJ

Tel: (01780) 781360 Fax: (01780) 781369

12. ECOLOGICAL INFORMATION

12.1 Mobility

Very soluble in water. The ammonium ion is adsorbed by soil.

12.2 Persistence/Degradability

The ammonium ion is adsorbed by soil particles. Phosphates, whether water or citrate soluble, are translocated in the soil over



PSDS GROUP 8 PRODUCT

FMA PRODUCT SAFETY DATA SHEET - GROUP 8

0. INTRODUCTION

This Product Safety Data Sheet applies exclusively to products manufactured or marketed by members of the Fertiliser Manufacturers Association. It does not apply to any other product of similar name or nature. The products covered will be clearly identified by the name of the marketer and/or manufacturer on the associated labels and/or documents. Qualifying product will be marked as follows:



1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

1.1 Identification of the Product

Products in Group 8 are solid fertilisers which do not contain nitrogen (PK, P, K).

1.2 Company

See details below

2. COMPOSITION/INFORMATION ON INGREDIENTS

These products may contain some or all of the following ingredients. Normal (single) superphosphate, triple superphosphate, phosphate rock, potassium chloride (muriate of potash), potassium sulphate, inert fillers such as sand or limestone, and coating materials, such as oil, amine, clay or talc., secondary nutrients and/or micro-nutrients.

3. HAZARDS IDENTIFICATION

3.1 Human Health

Products are of a low toxicity but prolonged skin or eye contact may cause some irritation.

Ingestion: Small quantities are unlikely to cause toxic effects.

Large quantities may give rise to gastro-intestinal disorders.

Inhalation: Low toxicity dust but high concentration of air-borne material may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. Generally regarded as a nuisance dust with no specific official Occupational Exposure Limit (OEL). Recommend a total inhalable dust standard for nuisance dust of 10 mg/m³ as an 8 hour Time Weighted Average. See HSE Guidance Notes EH 40 and HSG 173.

Molten material: Will cause burns and inhalation of decomposition gases (eg in a fire) may cause serious lung effects.

3.2 Environment

As this fertiliser contains phosphate, heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters. See Section 12.

4. FIRST AID MEASURES

Product

Skin contact: wash the affected area with soap and water

Eye contact: irrigate eyes with copious amounts of eyewash solution or water for at least 10 minutes. Obtain medical advice if symptoms persist.

Ingestion: **do not** induce vomiting. Give milk or water to drink. Obtain medical attention if more than small quantities have been swallowed.

Inhalation: remove from source of exposure to dust. Keep warm and at rest. Obtain medical advice if symptoms persist.

Fire and Thermal Decomposition Products

Skin contact: wash areas in contact with molten material. Wash copiously with cold water. Seek medical advice.

Inhalation: remove from source of exposure to fumes. Keep warm and at rest.

5. FIRE-FIGHTING MEASURES

When the fertiliser **is not** directly involved in the fire use the best means available to control the fire.

When the fertiliser **is** involved:-

1. Avoid breathing the fumes. Wherever possible wear an approved breathing mask when fighting a fire or when fumes are being emitted.
2. Call the fire brigade.
3. Use plenty of water.
4. Open doors and windows to give maximum ventilation.
5. **Do not** allow molten fertiliser to run into drains.

If water containing the fertiliser enters any drain or water course, inform the appropriate water authorities immediately. Note also first aid precautions (4).

6. ACCIDENTAL RELEASE MEASURES

Clean up spillage promptly. Sweep up and place in a clean appropriately labelled container

7. HANDLING AND STORAGE

7.1 Handling: Avoid excessive generation of dust. Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up.

7.2 Storage: The basic requirements are the avoidance of involvement in a fire and contamination. Locate away from sources of heat, fire or explosion. Keep away from combustible materials and chemical substances taking particular care on farms to ensure that it is not stored near hay, grain, diesel, etc. Ensure high standard of house-keeping in the storage areas. **Do not** permit smoking or the use of naked lights in the storage area. Buildings used for storage should be dry and well ventilated, stacks therein should be at least 1 metre from walls, eaves and beams. Further storage guidance is given in HSE Guidance IND(G)230L.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Occupational exposure limits

No specific official limits

ACGIH recommended value (1995-1996) for inhalable particulate:
TLV/TWA 10mg/m³.

8.2 Precautionary and engineering measures

Avoid high dust concentration and provide ventilation where necessary.

8.3 Personal Protection

Wear suitable gloves when handling the product over long periods.
Use suitable dust respirator if dust concentration is high.

After handling product, wash hands and observe good hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White grey or brown granules crystals or Powder.
Odour	Odourless.
pH water solution (100g/l)	Usually > 4.5.
Bulk density	Normally between 900-1100kg/m ³ .
Solubility in water	Partially soluble in water, extent depends on composition
	Most formulations are hygroscopic.

10. STABILITY AND REACTIVITY

Stable under normal storage and handling conditions. Liberates ammonia when in contact with alkalis eg Caustic Soda, Soda Ash.

Do not weld or apply heat to equipment or plant which may have contained the fertiliser without first washing thoroughly to remove all fertiliser.

11. TOXICOLOGICAL INFORMATION

11.1 General

See Section 3.1.

11.2 Toxicity Data

Product toxicity will depend on the composition.
Potassium chloride or sulphate:
LD₅₀ (oral, rat) > 2000mg/kg

Product Supplied By:

12. ECOLOGICAL INFORMATION

12.1 Mobility

Partially soluble in water.

12.2 Persistence/Degradability

Phosphates, whether water or citrate soluble, are translocated in the soil over very short distances and are then immobilised. The dissolved potassium ion in the soil solution is adsorbed by clay minerals; where these are absent in light soils part of the potassium may be leached.

12.3 Bio-accumulation

The product does not show any bio-accumulation phenomena.

12.4 Ecotoxicity

Low toxicity to aquatic life.

13. DISPOSAL CONSIDERATIONS

Depending on the degree of contamination, dispose of by use on farm, by spreading thinly on open ground or to an authorised waste facility. Take care to avoid the contamination of watercourses and drains. Inform the appropriate water authority in the event of accidental watercourse contamination.

14. TRANSPORT INFORMATION

14.1 UN classification

Classified as non-hazardous.

15. REGULATORY INFORMATION

15.1 EC Directives

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15.2 National Regulations

The Fertilisers Regulations 1991 and subsequent amendments.

16. OTHER INFORMATION

This safety data sheet provides health and safety information. The product is to be used in applications consistent with best farming practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of the FMA's knowledge correct as at the date of publication.

~~Neither the FMA nor the Manufacturer, UKASTA or Supplier accepts liability for any loss or damage (other than that arising from Data Sheet errors) caused by negligence if proved) resulting from reliance on this information. Further information on individual fertiliser manufacturers safety data sheets may be obtained from the Fertiliser Manufacturers Association, Suite North Road, Crompton, Peterborough, PE8 6JH~~

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