NPK 12-6-6 Granular

Issue Date: 06-Nov-17
Revision Date: 06-Nov-17
Revision Number: 1

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

1.1 Name of Product

NPK 12-6-6 Granular

1.2 Use of the Substance/Preparation

Fertiliser

1.3 Manufacturer/Distributor

Thomas Elliott (Fertilisers)
Selby Place
Stanley Industrial Estate
Skelmersdale
WN8 8EF
Tel: 01695 51875
Email: info@thomas-elliott.co.uk

1.4 Emergency Contact

Tel: 01695 51875 (Office Hours)

2. HAZARDS IDENTIFICATION

2.1 Classification

Classification according to Directive EC 1272/2008 Classification, Labelling and Packaging.

Physical hazards

Not Classified

Health hazards

None

Environmental hazards

Not Classified

2.2 Label elements

Pictogram

None

Signal Word

None

Hazard statements

None

Precautionary statements

P264 Wash contaminated skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face 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.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

PBT/vPvB Criteria
According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted since ammonium nitrate is inorganic.

Physical and Chemical Hazards
Fertilizers are basically harmless when handled correctly. However, the following points should be noted for fire, heating and detonation:
The fertilizer is not itself combustible but it can support combustion, even in the absence of air. On heating it melts and further heating can cause decomposition, releasing toxic fumes containing nitrogen oxides, ammonia and other gases depending on composition. It has high resistance to detonation. Heating under strong confinement can lead to explosive behaviour.

Health Hazards
Prolonged or repeated contact with skin may cause discomfort, ingestion of large quantities may give rise to gastro-intestinal disorders and inhalation of dust at high concentrations may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. There are no known long term effects.

Environmental Hazards
Heavy spillage of nitrate and phosphate may cause adverse environmental impact such as eutrophication in confined surface waters or nitrate contamination.

See Section 12 for further details.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Compound fertiliser containing 12% nitrogen, 6% phosphorous pentoxide, 6% potassium oxide

Ingredient	CAS/EINECS	Classification	% w/w
Ammonium Nitrate	6484-52-2 229-347-8	Oxid solid 3 H272 Eye irr 2 H319	<70%

The full text for all Hazard Statements are displayed in Section 16

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

Eye contact – Immediately rinse with clean water for 15 minutes. Seek medical attention if symptoms persist or develop.
Skin contact – Wash exposed areas of skin with soap and water following use. Wash all contaminated clothing before re-use.
Ingestion – wash out mouth with water and seek medical advice.
Inhalation – remove to fresh air.

4.2 Most important symptoms and effects, both acute and delayed

Eye Contact: Prolonged or repeated exposure may cause severe irritation. May cause severe eye irritation.
Skin Contact: Repeated and/or prolonged contact may cause irritation.
Ingestion: Based on components, product is considered to present little hazard by oral exposure.
Inhalation: Unlikely to cause harmful effects under normal handling and use.

4.3 Indication of immediate medical attention and special treatment needed

Inhalation of fire and thermal decomposition gases, containing oxides of nitrogen and ammonia, can cause irritation and corrosive effects on the respiratory system. Some lung effects may be delayed. Give oxygen, especially if there is blueness around the mouth.
Additional medical guidance is available to doctors from the National Poisons Information Service.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

If fertilizer is not directly involved in the fire:
Use the best means available to extinguish the fire.

If fertilizer is involved in the fire:
Use plenty of water

5.2 Special hazards arising from substance or mixture

Specific hazards:
Potential explosion hazard under fire conditions when severely confined and/or contaminated with incompatible materials (e.g. organic materials, halogenated compounds - see Section 10). Do not allow molten fertilizers to run into drains.

Hazardous thermal decomposition/combustion products:
Oxides of nitrogen, ammonia and depending on composition HCl etc.

5.3 Advice for firefighters

Special fire fighting procedures:
Open doors and windows of the store to give maximum ventilation. Avoid breathing the fumes (toxic); stand up-wind of the fire. Prevent any contamination of fertilizer by oils or other combustible materials.

Special protective equipment:
Use a self-contained breathing apparatus if fumes are being entered.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

Ensure adequate ventilation. Wear protective gloves and eye protection. Wash hands and exposed skin after handling.

6.2 Environmental precautions

Do not allow to enter drains or sewers. Inform the appropriate authority in case of accidental contamination of watercourses.

6.3 Methods and material for containment and cleaning up:

Any spillage of fertilizer should be cleaned up promptly, swept up and placed in a clean labelled open container for safe disposal, avoiding dusty conditions. Do not mix with sawdust and other combustible or organic substances. Dilute any contaminated or fine grained fertilizer with inert materials such as limestone/dolomite, mineral phosphate, gypsum, sand or dissolve in water.

7. HANDLING & STORAGE

7.1 Precautions for Safe Handling

Ensure good ventilation at workplace. Ensure good hygiene practices are observed. Do not eat, drink or smoke when handling this product. Do not breathe dust. Avoid contact with skin and eyes. Ensure workplace exposure limits are observed. Do not block stack pallets. Avoid excessive

generation of dust. Avoid contamination by combustible (e.g. diesel oil, grease, etc.) and/or other incompatible materials. Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up. When handling the product over long periods use appropriate personal protective equipment, e.g. gloves. Carefully clean all equipment prior to maintenance and repair.

7.2 Conditions for Safe Storage

Store in original containers, tightly closed in a secure, well ventilated, cool but frost-free, dry area. Store clear of foodstuffs and in a separate stack from herbicides. Store in compliance with national and local regulations. Locate away from the sources of heat or fire. Keep away from combustible materials and substances mentioned under Section10. In local stores, ensure that the fertilizer is not stored near hay, straw, grain, diesel oil, etc. When stored loose, take particular care to avoid mixing with other fertilizers. Ensure high standard of housekeeping in the storage area. Do not permit smoking and use of naked lights in the storage areas. Restrict stack size (according to local regulations) and keep at least 1m distance around the stacks of bagged products. Any building used for the storage should be dry and well ventilated. Where the nature of the bagged product and climatic conditions so require, store under conditions that will avoid product breakdown by thermal cycling (wide variation in temperature). The product should not be stored in direct sunlight to avoid physical breakdown due to thermal cycling.

Packaging materials

Plastic synthetic materials, steel and aluminium are suitable. Avoid use of copper and zinc.

7.3 Specific end use

Fertiliser

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Follow workplace regulatory exposure limits for all types of airborne dust (e.g. total dust, respirable dust). Nuisance dust: Inhalable dust 10 mg/m3, Respirable dust 4 mg/m3

Ammonium Nitrate (CAS 6484-52-2), Desired No Effect Level (DNEL)

Worker

Systemic long-term effects dermal:	21.3	mg/kg/day
Systemic long-term effects inhalative:	37.6	mg/m^3

General Population

Acute systemic effects oral:	12.8	mg/kg/day
Systemic long-term effects dermal:	12.8	mg/kg/day
Systemic long-term effects inhalative:	11.1	mg/m^3

Ammonium Nitrate (CAS 6484-52-2), Predicted No Effect Concentration (PNEC)

Fresh water	0.45	mg/L
Marine water	0.045	mg/m^3
Intermittent fresh water	4.5	mg/L

DAP Granular (CAS 7783-28-0), Desired No Effect Level (DNEL)

Worker

Systemic long-term effects inhalative:	6.1	mg/m^3

DAP Granular (CAS 7783-28-0), Predicted No Effect Concentration (PNEC)

Fresh water	1.7	mg/L

Potash (CAS 7447-40-7), Desired No Effect Level (DNEL)

Worker

Systemic long-term effects dermal:	580	mg/kg/day
Systemic long-term effects inhalative:	292	mg/m^3
Systemic short-term effects dermal:	580	mg/kg/day
Systemic short-term effects inhalative:	292	mg/m^3

Potash (CAS 7447-40-7), Predicted No Effect Concentration (PNEC)

Fresh water	0.047	mg/L
Marine water	0.047	mg/m^3

8.2 Exposure Controls:

Protective equipment

Gloves: wear protective gloves.
Eye/face protection: wear eye protection.
Engineering controls: all handling should only take place in well-ventilated areas.
Clothing: wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene measures: wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.
Respiratory protection: If dust concentration is high and/or ventilation is inadequate, use suitable dust mask or respirator with an appropriate filter (e.g. EN 143, 149, filters P1).

9.1 Information on basic physical and chemical properties:

Appearance	White, grey or brown granules or prills
Odour	Odourless
pH	Usually > 4.5
Boiling point	No boiling point, decomposes >210^oC
Melting point	160-170^oC depending on moisture content
Flash point	n/a
Flammability	Not flammable
Autoflammability	n/a
Explosivity	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.
Oxidising properties	Not classified as an oxidiser
Vapour Pressure	n/a
Relative density	n/a
Loose bulk density	Between 900-1,200kg/m^3
Solubility	Pure ammonium nitrate: 1,920g/L at 20^oC
Decomposition temperature	Starts to decompose above approx. 170^oC

9.2 Other Information:

None

10. STABILITY & REACTIVITY

10.1 Reactivity

Stable under recommended conditions of storage and use

10.2 Stability

Stable under recommended conditions

10.3 Possibility of hazardous reactions

Information not available

10.4 Conditions to Avoid

Heating above 170°C (decomposes to gases). Contamination by incompatible materials. Unnecessary exposure to the atmosphere. Sources of heat or fire close to the product. Welding or hot work on equipment or plant which may have contained fertilizer without first washing thoroughly to remove all fertilizer.

10.5 Incompatible materials

Combustible materials, reducing agents, acids, alkalis, sulphur, chlorates, chromates, nitrites, permanganates, metallic powders and substances containing metals such as copper, nickel, cobalt, zinc and their alloys.

10.6 Hazardous Decomposition Products

For fire situation, see section 5. When strongly heated, it melts and decomposes releasing toxic fumes (e.g. NOx, ammonia and other gases depending on composition). When in contact with alkaline material such as lime, may give off ammonia gas. See also Sections 2 and 9.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute toxicity – oral
Ammonium nitrate

LD50 oral rat:	> 2950 mg/kg (OECD 401)

Acute toxicity – dermal
Ammonium nitrate

LD50 dermal rat:	> 5000 mg/kg (OECD 402)

Acute toxicity – inhalation
Ammonium nitrate

LC50 inhalation rat (mg/l):	> 88.8 mg/m³ (no guideline followed)

Skin Irritation
No critical or specific hazard

Eye Irritation
Not classified as irritating

Skin sensitisation
Not sensitizing (OECD 429, with magnesium nitrate, nitric acid ammonium calcium salt, sodium nitrate)

Sub-acute toxicity

Oral 28-day NOAEL	≥1500 mg/kg/day (OECD 422 with potassium nitrate)
Oral 52-week NOAEL	256 mg/kg/day (OECD 453 with ammonium sulphate)
Inhalation 2-weeks NOAEL	≥185 mg/m³ (OECD 412)

Mutagenicity

Oral 28-day NOAEL	Negative (OECD 471, 473 with nitric acid ammonium calcium salt) Negative (OECD 476 with potassium nitrate)

Reproductive toxicity

Oral 28-day NOAEL	≥1500 mg/kg/day (OECD 422 with potassium nitrate)

Carcinogenicity

Oral 52-week NOAEL	negative (OECD 453 with ammonium sulphate)

Respiratory sensitisation

No specific test data are available.

Specific target organ toxicity - single exposure

STOT - single exposure

Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure

Not classified as a specific target organ toxicant after repeated exposure.

Ecotoxicity

The product is not expected to be toxic to aquatic organisms

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Ammonium Nitrate

EC50/48h (short-term)	490 mg/L (Daphnia magna) No guideline followed, with potassium nitrate
(long-term)	No data
EC50/10d	>1700 mg/L (algae) Seawater, no guideline followed, performed with potassium nitrate
LC50/48h (short-term)	447 mg/l (fish)
(long-term)	No data (fish)
EC50/3h	>1000 mg/L, inhibition of microbial activity NOEC 180mg/L (OECD 209, with sodium nitrate)

Not classified as hazardous. Provides nutrients essential to plant growth.

12.2 Persistence and degradability

Biodegradation: standard test is not applicable as the mixture is inorganic.

Hydrolysis: no hydrolysable group is present, will completely dissociate into ions.

12.3 Bioaccumulative potential

Octanol-water Partition Coefficient (Kow): not relevant as the mixture is inorganic, but considered to be low.

Bioconcentration Factor (BCF): low potential for bioaccumulation (based on main ingredient properties).

12.4 Mobility in soil

Low potential for adsorption (based on substance properties)

Very soluble in water. The NO3- ion is mobile. The NH4+ ion is adsorbed by soil.

12.5 Results of PBT and vPvB

According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted since ammonium nitrate is inorganic.

12.6 Other adverse data

Heavy spillage may cause adverse environmental impact such as eutrophication in confined surface waters.

13. DISPOSAL CONSIDERATIONS

Disposal route should not permit contamination of groundwater.

13.1 Waste treatment methods

Container

Containers should be cleaned by appropriate method and then re-used or disposed by landfill or incineration as appropriate, in accordance with local and national regulations. Do not remove label until container is thoroughly cleaned.

Methods of disposal

Depending on degree and nature of contamination dispose of by use as fertilizer on farm, as raw material for liquid fertilizer, or to an authorised waste facility. Do not empty into drains; dispose of this material and its container in a safe way and in accordance with all applicable local and national regulations. See chapters 06 03 and 06 10 of the list of wastes (Commission decision 2000/532/EC).

Package waste disposal

Empty the bag by shaking to remove as much as possible of its contents. If approved by local authorities, empty bags may be disposed of as non-hazardous material or returned for recycling.

14. TRANSPORT INFORMATION

14.1 UN-Number

ADR, IMDG, IATA Not applicable

14.2 UN proper shipping name

ADR, IMDG, IATA Not applicable

14.3 Transport hazard class(es)

ADR, IMDG, IATA Not applicable

14.4 Packaging Group

ADR, IMDG, IATA Not applicable

14.5 Environmental hazards

Not a marine pollutant

14.6 Special precautions for user

None

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific to this substance:

EC 2003/2003, 96/82 EC; Seveso Directive.

Other regulations

This substance is classified and labelled in accordance with regulation 1999/45/EC, 1272/2008, the statutory instrument No.716 2009 Chemicals (Hazard Information and Packaging) regulations and the EC Fertiliser Regulations 2003, 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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
Decision No 1348/2008/EC of the European Parliament & of the Council and Commission Regulation (EC) No. 552/2009.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII: Ammonium nitrate (CAS 6484-52-2).

15.2 Chemical Safety Assessment

In accordance with REACH Article 14, a Chemical Safety Assessment has been carried out for the main ingredient Ammonium Nitrate as a substance.

16. OTHER INFORMATION

Text of the hazard statements mentioned in Section 3:

H272 May intensify fire; oxidiser

H319: Causes serious eye irritation

Reason for revision

MSDS re-formatted in-line with regulation 453/2010 all sections affected.

Liability

The product label provides information on the use of the product: do not use otherwise, unless you have assessed any potential hazard involved and the safety measures required. Prepared by Thomas Elliott (Fertilisers), for Health and Safety purposes from the best knowledge available at the time of printing.