



SAFETY DATA SHEET

KOCH FERTILISER AUSTRALIA PTY LTD

1. Identification

Product identifier Flutriafol-treated Monoammonium Phosphate

Other means of identification

Synonyms MAP, Monoammonium dihydrogen phosphate, Ammonium dihydrogenorthophosphate

Product code KFAu_Flu_MAP_AU_EN

Recommended use of the chemical and restrictions on use

Recommended use Fertiliser.

Restrictions on use Not available.

Details of manufacturer or importer

Manufacturer

Company name Koch Fertiliser Australia Pty Ltd

Address
Level 17
357 Collins St
Melbourne, Victoria, 3000
Australia

Telephone +011 61 3 9452 8200 or
+1.316.828.7672

e-mail kochmsds@kochind.com

Emergency telephone number Chemtrec: +001 703-527-3887
(Please reverse charges)

2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

Label elements, including precautionary statements

Hazard symbol(s) None.

Signal word None.

Hazard statement(s) The mixture does not meet the criteria for classification.

Precautionary statement(s)

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Other hazards which do not result in classification None known.

Supplemental information None.

3. Composition/information on ingredients

Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Monoammonium phosphate	7722-76-1	> 80
Ammonium magnesium orthophosphate (Struvite)	7785-21-9	< 10

Ammonium sulfate	7783-20-2	< 10
Diammonium hydrogenorthophosphate	7783-28-0	< 10
Flutriafol	76674-21-0	< 0.3

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.

4. First-aid measures

Description of necessary first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Personal protection for first-aid responders Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Symptoms caused by exposure Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing.
Skin contact: Mild skin irritation.
Dust may irritate throat and respiratory system and cause coughing.

Medical attention and special treatment Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire fighters Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk.

Hazchem Code None.

General fire hazards The product is non-combustible.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.

For emergency responders Avoid inhalation and contact with skin and eyes. Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

Methods and materials for containment and cleaning up Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling	Minimise dust generation and accumulation. Avoid inhalation of dust and contact with skin and eyes. Provide appropriate exhaust ventilation at places where dust is formed. Practice good housekeeping.
Conditions for safe storage, including any incompatibilities	This product when stored in a confined, unventilated space/hold can give off ammonia or other odors and lead to the depletion of oxygen within this space and other confined spaces. Keep container tightly closed. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see section 10 of the SDS).

8. Exposure controls and personal protection

Control parameters	Follow standard monitoring procedures.
Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	
Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Observe occupational exposure limits and minimise the risk of inhalation of dust.
Individual protection measures, for example personal protective equipment (PPE)	
Eye/face protection	Risk of contact: Wear dust goggles.
Skin protection	
Hand protection	Risk of contact: Wear protective gloves. Suitable gloves can be recommended by the glove supplier.
Other	Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Wear air supplied respiratory protection if exposure concentrations are unknown. In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practices.

9. Physical and chemical properties

Appearance	Granules.
Physical state	Solid.
Form	Granules.
Colour	Grey. Brown.
Odour	Slight acidic.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not relevant
Flash point	Not relevant
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not relevant
Flammability limit - upper (%)	Not relevant
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapour pressure	Not available.

Vapour density	2.57 (Air = 1)
Relative density	1.8 g/cm ³
Solubility(ies)	
Solubility (water)	Soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other physical and chemical parameters	
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions. Decomposes at high temperatures giving ammonia and polyphosphoric acid.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Avoid dust formation. High temperatures.
Incompatible materials	Strong oxidising agents. Strong acids. Strong bases. Magnesium.
Hazardous decomposition products	Phosphorus oxides. Nitrogen Oxides. Ammonia.

11. Toxicological information

Information on possible routes of exposure

Inhalation	Dust may irritate respiratory system.
Skin contact	Dust or powder may irritate the skin.
Eye contact	Dust may irritate the eyes.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Symptoms related to exposure Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing. Skin contact: Mild skin irritation. Dust may irritate throat and respiratory system and cause coughing.

Acute toxicity Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Components	Species	Test results
Ammonium sulfate (CAS 7783-20-2)		
Acute		
Inhalation		
LC50	Rat	> 1000 mg/m ³ , 8 hours
Oral		
LD50	Rat	2840 mg/kg
Diammonium hydrogenorthophosphate (CAS 7783-28-0)		
Acute		
Dermal		
LD50	Sprague-Dawley rat	> 5000 mg/kg
Inhalation		
LC50	Rat	> 5000 mg/m ³ , 4 hours
Oral		
LD50	Sprague-Dawley rat	> 2000 mg/kg

Components	Species	Test results
Flutriafol (CAS 76674-21-0)		
Acute		
Dermal		
LD50	Rabbit	>= 1000 mg/kg
Oral		
LD50	Rat	1140 mg/kg
Monoammonium phosphate (CAS 7722-76-1)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg
Inhalation		
LD50	Rat	> 5000 mg/m ³
Oral		
LD50	Rat	> 2000 mg/kg
Skin corrosion/irritation	May cause irritation through mechanical abrasion.	
Serious eye damage/irritation	May cause eye irritation.	
Respiratory or skin sensitisation		
Respiratory sensitisation	Not a respiratory sensitiser.	
Skin sensitisation	This product is not expected to cause skin sensitisation.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not available.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
12. Ecological information		
Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
Components	Species	Test results
Ammonium sulfate (CAS 7783-20-2)		
Fish	LC50	Salmo gairdneri
		173 mg/l, 96 hours
Aquatic		
Algae	EC50	Chlorella vulgaris
		2700 mg/l, 18 days
Crustacea	EC50	Water flea (Daphnia magna)
		> 100 mg/l, 96 hours
Diammonium hydrogenorthophosphate (CAS 7783-28-0)		
Aquatic		
Algae	EC50	Selenastrum capricornutum
		> 97.1 mg/l, 72 hours
Crustacea	LC50	Daphnia
		1790 mg/l, 96 hours
Fish	LC50	Carp, hawk fish (Cirrhinus mrigala)
		1700 mg/l, 96 hours
Persistence and degradability		
Bioaccumulative potential	The product is not expected to bioaccumulate.	
Mobility in soil	This product is water soluble and may disperse in soil.	
Other adverse effects	Fertilisers, particularly those containing nitrogen and/or phosphorus, can stimulate weed and algal growth in static surface waters. Nitrogen fertilisers may contain or form nitrate which can contaminate surface and ground-water. High nitrate concentrations may render the water unsuitable for human and livestock consumption.	

13. Disposal considerations

Disposal methods	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Residual waste	Dispose in accordance with applicable regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

ADG

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

Safety, health and environmental regulations

National regulations This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals (23/12/2011).

Australia Medicines & Poisons Appendix B

AMMONIUM PHOSPHATE (CAS 7783-28-0)

Australia Medicines & Poisons Schedule 6

FLUTRIAFOL (CAS 76674-21-0)

High Volume Industrial Chemicals (HVIC)

Ammonium sulfate (CAS 7783-20-2)

1000 - 9999 TONNES See the regulation for additional information.

Monoammonium phosphate (CAS 7722-76-1)

1000 - 9999 TONNES See the regulation for additional information.

Importation of Ozone Depleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Not listed.

Prohibited Carcinogenic Substances

Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Restricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

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