



SAFETY DATA SHEET

KOCH FERTILISER AUSTRALIA PTY LTD

1. Identification

Product identifier	Flutriafol-treated Ammonium Phosphate with Zinc + Urea Blend
Other means of identification	
Synonyms	Diammonium Phosphate 18-20-0 Flutriafol + Urea * GAIN+z Flutriafol + Urea * GAIN+zs Flutriafol + Urea * Koch MESZ Flutriafol + Urea * Mono Ammonium Phosphate 10-22-0 Flutriafol + Urea

Recommended use of the chemical and restrictions on use

Recommended use	Fertiliser.
Restrictions on use	None known.

Details of manufacturer or importer

Manufacturer

Company name	Koch Fertiliser Australia Pty Ltd
Address	Level 4 492 St Kilda Rd Melbourne 3004 Australia
Telephone	+011.65.6831.6563 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	Serious eye damage/eye irritation	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2

Label elements, including precautionary statements

Hazard symbol(s)



Exclamation mark Environment

Signal word

Warning

Hazard statement(s)

Causes serious eye irritation. Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention	Wash thoroughly after handling. Avoid release to the environment. Wear eye protection/face protection.
Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Collect spillage.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental information

None.

Other hazards which do not result in classification None known.

3. Composition/information on ingredients

Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Urea	57-13-6	10 - 90
Diammonium phosphate	7783-28-0	0 - 90
Monoammonium phosphate	7722-76-1	0 - 90
Ammonium sulfate	7783-20-2	0 - 20
Sulphur	7704-34-9	< 10
Zinc oxide	1314-13-2	< 5
Flutriafol	Proprietary	< 0.8

Composition comments All concentrations are in percent by weight. 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. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. 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 Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Dusts may irritate the respiratory tract, skin and eyes.

Medical attention and special treatment Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

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 Firefighters should wear full protective clothing including self contained breathing apparatus. Use water spray to cool unopened containers.

Hazchem code None.

General fire hazards No unusual fire or explosion hazards noted.

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. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. 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. This product is miscible in water. Prevent product from entering drains. 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. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid contact with eyes. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in 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

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m ³	Fume.
	TWA	5 mg/m ³	Fume.
		10 mg/m ³	Inhalable dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m ³	Respirable fraction.
	TWA	2 mg/m ³	Respirable fraction.

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	TWA	2 mg/m ³	Inhalable fraction.
		0.1 mg/m ³	Respirable fraction.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL (occupational exposure limit), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide eyewash station.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear suitable protective clothing.
Respiratory protection	Wear respirator with dust 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.

9. Physical and chemical properties**Appearance**

Physical state	Solid.
Form	Granular.
Colour	Light yellow to light blue.

Odour Not available.

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapour pressure Not available.

Vapour density Not available.

Relative density Not available.

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 Reacts violently with strong oxidants, nitrites, inorganic chlorides, chlorites and perchlorates causing fire and explosion hazard.

Chemical stability Normally stable. May gradually give off ammonia. The product is hygroscopic and will absorb water by contact with the moisture in the air.

Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Extreme temperatures. Moisture.
Incompatible materials	Acids. Strong oxidising agents. Strong reducing agents.
Hazardous decomposition products	During combustion: Ammonia. Biuret. Carbon oxides. Nitrogen oxides. Sulphur oxides.

11. Toxicological information

Information on possible routes of exposure

Inhalation	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
Skin contact	Dust or powder may irritate the skin.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to exposure Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Dusts may irritate the respiratory tract, skin and eyes.

Acute toxicity

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 phosphate (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
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
Sulphur (CAS 7704-34-9)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 hours
Inhalation		
LC50	Rat	> 5.43 g/m ³ , 4 hours
Oral		
LD50	Rat	> 2000 mg/kg
Urea (CAS 57-13-6)		
Acute		
Oral		
LD50	Rat	14300 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/irritation	Causes serious 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 classifiable as to carcinogenicity to humans.
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.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

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 phosphate (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
Sulphur (CAS 7704-34-9)			
Aquatic			
Crustacea	EC50	Daphnia magna	> 5 µg/l, 48 hours
Fish	LC50	Oncorhynchus mykiss	> 5 µg/l, 96 hours
Urea (CAS 57-13-6)			
Aquatic			
Algae	EC10	Algae	47 mg/l, 192 hours
Crustacea	LC50	Water flea (Daphnia magna)	> 10000 mg/l, 24 hours
Fish	LC50	Leuciscus idus	> 6810 mg/l, 96 hours
Zinc oxide (CAS 1314-13-2)			
Aquatic			
Crustacea	LC50	Water flea (Daphnia magna)	0.098 mg/l, 48 Hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Urea (CAS 57-13-6) -2.11

Mobility in soil The product is soluble in water.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal methods	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Residual waste	Dispose of in accordance with local 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.
Australia Medicines & Poisons Appendix A	Poisons schedule number not allocated.
Australia Medicines & Poisons Appendix B	Diammonium phosphate (CAS 7783-28-0) Urea (CAS 57-13-6)
Australia Medicines & Poisons Appendix D	Poisons schedule number not allocated.
Australia Medicines & Poisons Appendix E	Poisons schedule number not allocated.
Australia Medicines & Poisons Appendix F	Poisons schedule number not allocated.
Australia Medicines & Poisons Appendix G	Poisons schedule number not allocated.
Australia Medicines & Poisons Appendix H	Poisons schedule number not allocated.
Australia Medicines & Poisons Appendix I	Poisons schedule number not allocated.
Australia Medicines & Poisons Appendix J	Poisons schedule number not allocated.
Australia Medicines & Poisons Appendix K	Poisons schedule number not allocated.
Australia Medicines & Poisons Schedule 10	Poisons schedule number not allocated.
Australia Medicines & Poisons Schedule 2	Poisons schedule number not allocated.
Australia Medicines & Poisons Schedule 3	Poisons schedule number not allocated.
Australia Medicines & Poisons Schedule 4	Zinc oxide (CAS 1314-13-2)

Australia Medicines & Poisons Schedule 5

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 6

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 7

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 8

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 9

Poisons schedule number not allocated.

Australia National Pollutant Inventory (NPI): Threshold quantity

Zinc oxide (CAS 1314-13-2) 10 TONNES/YR Threshold Category: 1

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.

Sulphur (CAS 7704-34-9) 10000 - 99999 TONNES See the regulation for additional information.

Urea (CAS 57-13-6) 100000 - 999999 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)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*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

Issue date 26-May-2020

Revision date -

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