

1. Product and company identification

Product name POLYON® NPK + Micros
Other name POLYON® NPK + Micros 16-6-13 * POLYON® NPK + Micros 16-6-12 * POLYON® NPK + Micros 16-6-11 * POLYON® NPK + Micros 15-6-12 * POLYON® NPK + Micros 15-6-11 * POLYON® NPK + Micros 14-5-11 * NG POLYON® NPK + Micros 16-6-12
Product code KAS_POLYONNPK_MICROS_NZ_EN
Manufacturer/Supplier Koch Agronomic Services, LLC
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Emergency telephone number For Chemical Emergency
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 USA/Canada +1.800.424.9300
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Recommended use and Limitations on use

Recommended use Fertiliser.

2. Hazards identification

GHS classification

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 3
 Serious eye damage/eye irritation Category 2A
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3
 Hazardous to the aquatic environment, long-term hazard Category 3

Label elements

Symbols



Signal word

Warning

Hazard statement

Causes mild skin irritation. Causes serious eye irritation. Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention Wash thoroughly after handling. Avoid release to the environment. Wear eye protection/face protection. Observe good industrial hygiene practices.
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. If skin irritation occurs: Get medical advice/attention. Wash hands after handling.
Storage Store away from incompatible materials.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental information

None.

3. Composition/information on ingredients

Substance or mixture Mixture

Chemical property	CAS Number	Concentration (%)
Ammonium Dihydrogenorthophosphate	7722-76-1	5 - 10
Ammonium nitrate	6484-52-2	35 - 45
Copper Sulphate Pentahydrate	7758-99-8	< 0.4

	CAS Number	Concentration (%)
Diammonium phosphate	7783-28-0	< 4
Magnesium sulphate	7487-88-9	5 - 10
Non-hazardous ingredients	Proprietary	5 - 10
Polymer coating	Mixture	4 - 17
Potassium sulphate	7778-80-5	20 - 30
Zinc sulphate	7733-02-0	< 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

Inhalation Move to fresh air. Call a physician if symptoms develop or persist. Get medical attention if any discomfort continues.

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

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops or persists. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion Rinse mouth. Get medical attention if any discomfort continues. For advice, contact a Poisons Information Centre (Phone e.g. Australia 13 1126; New Zealand 0800 764 766) or a doctor (at once).

Potential delayed effects Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Skin contact: Mild skin irritation.
Dust may irritate throat and respiratory system and cause coughing.

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

Notes to physician Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media Water spray. Water fog. Foam. Carbon dioxide (CO₂).

Extinguishing media to avoid Do not use water jet as an extinguisher, as this will spread the fire.

HAZCHEM Code Number 1Z

Specific hazards during fire fighting Fire may produce irritating, corrosive and/or toxic gases. Heating may cause the release of ammonia vapors.

Special fire fighting procedures Use standard firefighting procedures and consider the hazards of other involved materials. Cool material exposed to heat with water spray and remove it if no risk is involved.

Protection of 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 should be worn when fighting chemical fires.

Hazards from combustion products None.

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 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. Avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing.

Environmental precautions Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases. Do not allow to enter drains, sewers or watercourses.

Spill cleanup methods

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Avoid dust formation. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). 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. After removal flush contaminated area thoroughly with water.

7. Handling and storage

Handling

Precautions	Avoid contact with eyes. Avoid release to the environment.
Safe handling advice	Avoid prolonged exposure. Observe good industrial hygiene practices. Use personal protection recommended in Section 8 of the SDS.
Prevention of fire and explosion	No specific recommendations.
Local and general ventilation	Provide adequate ventilation.

Storage

Suitable storage conditions	Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS).
Incompatible materials	For further information, please refer to section 10.
Safe packaging materials	Store in original tightly closed container.

8. Exposure controls/personal protection

Workplace exposure limits

ACGIH

Components	Type	Value	Form
Copper Sulphate Pentahydrate (CAS 7758-99-8)	TWA	1 mg/m ³	Dust and mist. (as Cu)
		0.1 mg/m ³	Fume. (as Cu)

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Copper Sulphate Pentahydrate (CAS 7758-99-8)	TWA	1 mg/m ³	Dust and mist.
		0.2 mg/m ³	Fume.

Biological limit values

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

Engineering controls

Good general ventilation (typically 10 air changes per hour) 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. Provide eyewash station. Provide adequate general and local exhaust ventilation.

Personal protective equipment

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.
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Skin protection	Normal work clothing (long sleeved shirts and long pants) is recommended.
Eye/face protection	Wear safety glasses with side shields (or goggles). Wear dust-resistant safety goggles where there is danger of eye contact.
Radioactive or thermal hazards	Follow standard monitoring procedures.

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. 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	Solid.
Colour	Green.

Odour Not available.

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Boiling point, initial boiling point, and boiling range Not available.

Flash point Not available.

Auto-ignition temperature Not available.

Flammability (solid, gas) Not available.

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure Not available.

Vapour density Not available.

Evaporation rate Not available.

Relative density Not available.

Density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not applicable.

Decomposition temperature > 210 °C (> 410 °F)

Other data

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.

Stability Material is stable under normal conditions. The product is stable under normal conditions of use, storage and transport.

Conditions to avoid Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials. Elevated temperatures.

Incompatible materials Strong acids. Strong oxidising agents. Reducing Agents. Combustible material.

Hazardous decomposition products Ammonia. Nitrogen oxides (NOx). Potassium oxides. Sulfur oxides (SOx.).

Possibility of hazardous reactions Hazardous polymerisation does not occur.

11. Toxicological information

Information on likely routes of exposure

Ingestion Ingestion may cause irritation and malaise.

Inhalation Dust may irritate respiratory system. Prolonged inhalation may be harmful.

Skin contact Causes mild skin irritation.

Eye contact Causes serious eye irritation.

Acute toxicity May cause discomfort if swallowed.

Components	Species	Test results
Ammonium Dihydrogenorthophosphate (CAS 7722-76-1)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg
Inhalation		
LD50	Rat	> 5000 mg/m ³
Oral		
LD50	Rat	> 2000 mg/kg
Ammonium nitrate (CAS 6484-52-2)		
Acute		
Inhalation		
LC50	Rat	> 88.8 mg/l, 4 Hours
Oral		
LD50	Rat	4500 mg/kg
Copper Sulphate Pentahydrate (CAS 7758-99-8)		
Acute		
Dermal		
LD50	Sprague-Dawley rat	> 2000 mg/kg, 24 hours
Oral		
LD50	Sprague-Dawley rat	841 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
Potassium sulphate (CAS 7778-80-5)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/day, 24 hours
Inhalation		
LC50	Sprague-Dawley rat	3.6 mg/m ³ , 4 hours
Oral		
LC50	Sprague-Dawley rat	> 2000 mg/kg
Zinc sulphate (CAS 7733-02-0)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	920 mg/kg 623 mg/kg
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.	
Symptoms	Severe eye irritation. 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.	
Skin corrosion/irritation	Causes mild skin irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation. Dust may irritate the eyes.	
Respiratory sensitizer	Based on available data, the classification criteria are not met.	
Skin sensitizer	Not a skin sensitiser.	
Germ cell mutagenicity	Based on available data, the classification criteria are not met.	
Toxic to reproduction	Based on available data, the classification criteria are not met.	

Specific target organ toxicity - single exposure	Inhalation of dusts may cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Not applicable.
Chronic effects	Prolonged exposure may cause chronic effects. Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.
Relevant negative data	Not available.
Other information	No other specific acute or chronic health impact noted.

12. Ecological information

Ecotoxicological data

Components		Species	Test results
Ammonium nitrate (CAS 6484-52-2)			
Aquatic			
Algae	EC50	Algae	> 1700 mg/l, 10 days
Crustacea	EC50	Daphnia magna	490 mg/l, 48 hours
Fish	LC50	Carp (Cyprinus carpio)	447 mg/l, 48 hours
Copper Sulphate Pentahydrate (CAS 7758-99-8)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Cyprinus carpio	2100 µg/l, 24 hours 1000 µg/l, 48 hours 810 µg/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
Magnesium sulphate (CAS 7487-88-9)			
Aquatic			
Crustacea	EC50	Tubificid worm (Tubifex tubifex)	149.6 - 191.36 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	2610 - 3080 mg/l, 96 hours
Potassium sulphate (CAS 7778-80-5)			
Aquatic			
Algae	EC50	Chlorella vulgaris	2700 mg/l, 18 days
Crustacea	LC50	Daphnia magna	720 mg/l, 48 hours
Fish	LC50	Lepomis macrochirus	2550 mg/l, 96 hours
		Pimephales promelas	680 mg/l, 96 hours
Zinc sulphate (CAS 7733-02-0)			
Aquatic			
Fish	LC50	Carp (Cyprinus carpio)	0.15 mg/l, 96 hours

Ecotoxicity	Harmful to aquatic life with long lasting effects.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulation	Not expected to bioconcentrate or bioaccumulate.
Partition coefficient n-octanol/water (log Kow)	Not applicable.
Bioconcentration factor (BCF)	Not available.
Mobility	No data available for this product.
Other hazardous effects	No data available.

13. Disposal considerations

Disposal methods/information	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.
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Special precautions Dispose in accordance with all applicable regulations.

14. Transport information

IATA

UN number UN2071
UN proper shipping name Ammonium nitrate based fertilizer
Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III
Environmental hazards No.
ERG Code 9L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN2071
UN proper shipping name AMMONIUM NITRATE BASED FERTILIZER
Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III
Environmental hazards
Marine pollutant No.
EmS F-H, S-Q
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable. This product is a solid. Therefore, bulk transport is governed by IMSBC code.

15. Regulatory information

Applicable regulations

New Zealand Inventory of Chemicals (NZIoC): Registration status

Ammonium Dihydrogenorthophosphate (CAS 7722-76-1)	HSNO Approved
Copper Sulphate Pentahydrate (CAS 7758-99-8)	HSNO Approved
Diammonium phosphate (CAS 7783-28-0)	HSNO Approved
Magnesium sulphate (CAS 7487-88-9)	May be used as a single component chemical under an appropriate group standard
Zinc sulphate (CAS 7733-02-0)	HSNO Approved

16. Other information

References HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity

Issued by
Not available.

Prepared by
Not available.

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