KOCH FERTILIZER CANADA, ULC

SAFETY DATA SHEET

1. Identification

Product identifier **Monoammonium Phosphate**

Other means of identification

SDS number KFC_NH4H2PO4_CA_EN

Synonyms Monoammonium dihydrogen phosphate, MAP

Recommended use Fertiliser.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name Koch Fertilizer Canada ULC

Address 1400 17th Street East
Brandon
MB
R7A 7C4
CA

Telephone 204-729-2900

E-mail kochmsds@kochind.com

Emergency phone number

For Chemical Emergency Call CHEMTREC day/night	
USA	1.800.424.9300
Emergency Assist Response	1.204.729.2999
To Request SDS	1.316.828.7672

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

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

Precautionary statements

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 None known.

Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
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

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 person to fresh air. Get medical attention if any discomfort continues.

Skin contact

Wash off with plenty of water. Get medical attention if irritation develops or persists.

Eye contact

Do not rub eye. Remove contact lenses, if present and easy to do. Flush thoroughly with water. If irritation occurs, get medical assistance.

Ingestion

Rinse mouth thoroughly if dust is ingested. Get medical attention if any discomfort occurs.

Most important symptoms/effects, acute and delayed

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.

Indication of immediate medical attention and special treatment needed

Treat symptomatically.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media

None known.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus, operated in positive pressure mode 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.

General fire hazards

The product is non-combustible.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid inhalation of dust and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. After removal flush contaminated area thoroughly with water.

Never return spills to original containers for re-use.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not allow to enter drains, sewers or watercourses.

7. Handling and storage

Precautions for safe handling

Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Use with adequate ventilation. Observe good industrial hygiene practices.

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 a cool, dry, well-ventilated place. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

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

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, such as personal protective equipment

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.
General hygiene considerations	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	4.5 (1% solution) 5.4 - 10 (5% solution)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not relevant
Flash point	Not relevant
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Vapour pressure	Not available.
Vapour density	Not relevant
Relative density	1.8 g/cm3

Solubility(ies)

Solubility (water)	99.5 - 100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

Other information

Bulk density	64 - 75 lb/ft³ 950 - 1050 kg/m3
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 likely routes of exposure

Inhalation	Dust may irritate respiratory system.
Skin contact	Dust may irritate skin.
Eye contact	Dust may irritate the eyes.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Symptoms related to the physical, chemical and toxicological characteristics	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.

Information on toxicological effects

Acute toxicity	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Large quantities: May cause effects on the calcium metabolism, resulting in cardiac disorders and impaired functions. However, ingestion is not likely to be a primary route of occupational exposure.

Components	Species	Test results
Ammonium sulfate (CAS 7783-20-2)		
Acute		
Inhalation		
LC50	Rat	> 1000 mg/m3, 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/m³, 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/m³
Oral		
LD50	Rat	> 2000 mg/kg

Skin corrosion/irritation	May cause irritation through mechanical abrasion.
Serious eye damage/eye irritation	May cause eye irritation.

Respiratory or skin sensitisation

Respiratory sensitisation	No data available.

Skin sensitisation	Not a skin sensitiser.
Germ cell mutagenicity	No data available.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	No data available.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	Not classified.
Chronic effects	Prolonged exposure may cause chronic effects.
Further information	No other specific acute or chronic health impact noted.

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	No data available.
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 instructions	Dispose in accordance with all applicable regulations. Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations. Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

TDG

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

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

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)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
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	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
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	04-May-2017
Revision date	-
Version No.	01
List of abbreviations	EC50: Effective Concentration, 50%. LD50: Lethal Dose, 50%.
References	EPA: Acquire database HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer

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