

SAFETY DATA SHEET

1. Identification

GHS product identifier	Diammonium Phosphate
SDS number	KFA_DAP_GHS_UN_EN
Version No.	01
Issue date	17-September-2015
Revision date	-
Supersedes date	-
Recommended use	Fertiliser.
Recommended Restrictions	Not available.
Synonym(s)	Phosphoric acid, diammonium salt * Diammonium hydrogenorthophosphate * Diammonium hydrophosphate * DAP
Manufacturer	Koch Fertilizer Asia Private Ltd 260 Orchard Road #11 The Heeren Singapore 238855
Telephone	+65-9727-7599 or +1.316.828.7672
e-mail	kochmsds@kochind.com For Chemical Emergency Call CHEMTREC day or night USA/Canada - 1.800.424.9300 Outside USA/Canada + 1-703-527-3887 (collect calls accepted)

2. Hazards identification

GHS classification	
Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
GHS label elements	
Signal word	None.
Hazard symbols	None.
Hazard statement	The substance 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.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Components	CAS No.	Percent
Diammonium phosphate	7783-28-0	100

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

First aid procedures

Inhalation	Move person to fresh air. Get medical attention if any discomfort continues.
Skin	Wash off with plenty of water. Get medical attention if irritation develops or persists.
Eye	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 and effects, both acute and delayed

Symptoms can include irritation, redness, scratching of the cornea, and tearing.

Notes to physician

Treat symptomatically.

General advice

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 The product is non-combustible. During fire, gases hazardous to health may be formed.

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.

Protection of fire-fighters Move container from fire area if it can be done without risk. In the event of fire, cool tanks with water spray.

6. Accidental release measures

Personal precautions Avoid inhalation of dust and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

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.

Methods for containment Stop the flow of material, if this is without risk. Collect and dispose of spillage as indicated in section 13 of the SDS.

Methods for cleaning up Collect spill using a vacuum cleaner with a HEPA filter. Flush area with plenty of water.

7. Handling and storage

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.

Storage Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store away from incompatible materials.

8. Exposure controls / personal protection

Control parameters

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Dust (CAS -)	TWA	3 mg/m ³	Respirable particles.
		10 mg/m ³	Inhalable particles.

Recommended monitoring procedures Follow standard monitoring procedures.

Engineering controls Provide adequate general and local exhaust ventilation. Observe occupational exposure limits and minimise the risk of inhalation of dust.

Personal protective equipment

Eye/face protection Risk of contact: Wear dust goggles.

Skin protection No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

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.

Hand protection Risk of contact: Wear protective gloves. Suitable gloves can be recommended by the glove supplier.

9. Physical and chemical properties

Appearance	Granules. Granular.
Physical state	Solid.
Colour	Colourless. Off-white. White. Brown.
Form	Solid.
Odour	Not available.
Odour threshold	Not available.
pH	7.7 - 8.1 (25°C)
Melting point/freezing point	155 °C (311 °F)
Boiling point	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Flammability limits in air, lower, % by volume	Not available.
Flammability limits in air, upper, % by volume	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	57.5% @ 50°F (10°C)
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Molecular weight	132.06 g/mol
Molecular formula	H9-N2-O4-P
Density	1.62 g/cm ³
Other data	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidising.

10. Stability and reactivity

Reactivity	Metals. Oxidizing materials.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	None known.
Incompatible materials	Bases. Metals. Oxidising material.
Hazardous decomposition products	Nitrogen oxides (NO _x). Phosphorus oxides. Ammonia.

11. Toxicological information

Toxicological data

Components	Species	Test results
Diammonium phosphate (CAS 7783-28-0)		
Acute		
<i>Dermal</i>		
LD50	Sprague-Dawley rat	> 5000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 5000 mg/m ³ , 4 hours
<i>Oral</i>		
LD50	Sprague-Dawley rat	> 2000 mg/kg
Routes of exposure	Ingestion. Inhalation. Skin. Eyes.	

Toxicological information	Occupational exposure to the substance or mixture may cause adverse effects.
Acute toxicity	May cause discomfort if swallowed.
Skin corrosion/irritation	May cause irritation through mechanical abrasion.
Serious eye damage/eye irritation	May cause eye irritation.
Respiratory sensitizer	No data available.
Skin sensitisation	Not a skin sensitiser.
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.
Local effects	May cause skin and eye irritation. When heated, the vapours/fumes given off may cause respiratory tract irritation.
Chronic effects	Prolonged exposure may cause chronic effects.
Symptoms	Symptoms can include irritation, redness, scratching of the cornea, and tearing.
Other information	No other specific acute or chronic health impact noted.

12. Ecological information

Ecotoxicological data

Components	Species		Test results
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

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.
Environmental effects	The product may cause risk of hazardous effects to the environment.
Persistence and degradability	No data available.
Bioaccumulation	No data available.
Mobility	No data available.
Other adverse effects	No data available.

13. Disposal considerations

Disposal methods	Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	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

ADR

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

International Inventories

Country(s) or region	Inventory name	On inventory (yes/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

Disclaimer

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet (SDS) and was prepared pursuant to Government regulation(s) that identify specific types of information to be provided. This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided herein with respect to any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product. Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product specifically should advise all of their employees, agents, contractors and customers who will use the product of this (M)SDS.

List of abbreviations

EC50: Effective Concentration, 50%.

LD50: Lethal Dose, 50%.