

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Name of the substance	Diammonium phosphate
Identification number	231-987-8 (EC number)
Registration number	01-2119490974-22-XXXX
Synonyms	Phosphoric acid, diammonium salt * Diammonium hydrogenorthophosphate * Diammonium hydrophosphate * DAP
SDS Number	KF_DAP_EU_EN
Issue date	26-July-2018
Version number	01
Revision date	-
Supersedes date	-

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Fertiliser.
Uses advised against	Use in accordance with supplier's recommendations.

1.3. Details of the supplier of the safety data sheet

Company name	Koch Fertilizer, LLC 4111 E 37th Street North PO Box 2219 Wichita, KS, 67201-2219 kochmsds@kochind.com 1-316-828-7672
Emergency	For Chemical Emergency Call CHEMTREC day or night 1.800.424.9300 Mexico - 1.800.681.9531 Outside USA/Canada 1.703.527.3887 (collect calls accepted)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

The product has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

This substance does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

Hazard summary Dust may cause eye, skin and respiratory tract irritation.

2.2. Label elements**Label according to Regulation (EC) No. 1272/2008 as amended**

Contains:	Diammonium phosphate
Hazard pictograms	None.
Signal word	None.
Hazard statements	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 label information None.

2.3. Other hazards Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Diammonium phosphate	100	7783-28-0 231-987-8	01-2119490974-22-XXXX	-	
Classification:	-				

List of abbreviations and symbols that may be used above

CLP: Regulation No. 1272/2008.

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.

SECTION 4: First aid measures

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

4.1. Description of 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 eyes. 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.

4.2. Most important symptoms and effects, both acute and delayed Symptoms can include irritation, redness, scratching of the cornea, and tearing.

4.3. Indication of any immediate medical attention and special treatment needed Treat symptomatically.

SECTION 5: Firefighting measures

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

5.1. Extinguishing media

Suitable extinguishing media Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media None known.

5.2. Special hazards arising from the substance or mixture The product is non-combustible. During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing should be worn when fighting chemical fires. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Special fire fighting procedures Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Avoid inhalation of dust and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.
For emergency responders Not available.

6.2. Environmental precautions Prevent further leakage or spillage if safe to do so. Do not allow to enter drains, sewers or watercourses.

6.3. Methods and material 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.

6.4. Reference to other sections Not available.

SECTION 7: Handling and storage

- 7.1. 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.
- 7.2. Conditions for safe storage, including any incompatibilities** Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store away from incompatible materials.
- 7.3. Specific end use(s)** Fertiliser.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Additional components	Type	Value	Form
Dust	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Inhalable dust.

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

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs)

General Population

Product	Value	Assessment factor	Notes
Diammonium phosphate - Koch Fertilizer (ex KNC) - KF_DAP_EU_EN (CAS 7783-28-0)			
Long-term, Systemic, Dermal	20.8 mg/kg bw/day	120	Repeated dose toxicity
Long-term, Systemic, Inhalation	1.8 mg/m ³	120	Repeated dose toxicity
Long-term, Systemic, Oral	2.1 mg/kg bw/day	120	Repeated dose toxicity

Workers

Product	Value	Assessment factor	Notes
Diammonium phosphate - Koch Fertilizer (ex KNC) - KF_DAP_EU_EN (CAS 7783-28-0)			
Long-term, Systemic, Dermal	34.7 mg/kg bw/day	72	Repeated dose toxicity
Long-term, Systemic, Inhalation	6.1 mg/m ³	72	Repeated dose toxicity

Predicted no effect concentrations (PNECs)

Product	Value	Assessment factor	Notes
Diammonium phosphate - Koch Fertilizer (ex KNC) - KF_DAP_EU_EN (CAS 7783-28-0)			
Freshwater	1.7 mg/l	1000	
Intermittent releases	17 mg/l	100	
Marine water	0.17 mg/l	10000	
STP	10 mg/l	10	

8.2. Exposure controls

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

General information Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the 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 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.

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.

Environmental exposure controls Not available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Granules. Granular.
Physical state	Solid.
Form	Solid.
Colour	Colourless., Off-white, White, Brown.
Odour	Not available.
Odour threshold	Not available.
pH	7.7 - 8.1 (25°C)
Melting point/freezing point	155 °C (311 °F)
Initial boiling point and boiling range	Not available.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	Not applicable.
Relative density	Not available.
Solubility(ies)	57.5% @ 10°C
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable.
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information

Density	1.62 g/cm ³
Explosivity	Not explosive.
Flammability	Not available.
Molecular formula	H ₉ N ₂ O ₄ P
Molecular weight	132.06 g/mol
Oxidation reduction potential	Not oxidizing.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	The product is stable under normal conditions of use, storage and transport.
10.3. Possibility of hazardous reactions	Hazardous polymerisation does not occur.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Bases. Metals. Oxidising material.
10.6. Hazardous decomposition products	Nitrogen oxides (NO _x). Phosphorus oxides. Ammonia.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

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	May irritate and cause stomach pain, vomiting and diarrhoea.
Symptoms	Symptoms can include irritation, redness, scratching of the cornea, and tearing.

11.1. Information on toxicological effects

Acute toxicity May irritate and cause stomach pain, vomiting, diarrhoea and nausea.

Product	Species	Test Results
Diammonium phosphate (CAS 7783-28-0)		
Acute		
Dermal		
LD50	Sprague-Dawley rat	> 5000 mg/kg, 24 Hours
Inhalation		
LC50	Rat	> 5 mg/l, 4 Hours
Oral		
LD50	Sprague-Dawley rat	> 2000 mg/kg
Skin corrosion/irritation	Dust may irritate skin.	
Serious eye damage/eye irritation	Dust may irritate the eyes.	
Respiratory sensitisation	No data available.	
Skin sensitisation	Not a skin sensitiser.	
Germ cell mutagenicity	No data available.	
Carcinogenicity	This product is not classified as a carcinogen.	
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 applicable.	
Mixture versus substance information	Not available.	
Other information	No other specific acute or chronic health impact noted.	

SECTION 12: Ecological information

12.1. Toxicity 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.

Product	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
12.2. Persistence and degradability	No data available.	
12.3. Bioaccumulative potential	No data available.	
Partition coefficient n-octanol/water (log Kow)	Not available.	
Bioconcentration factor (BCF)	Not available.	
12.4. Mobility in soil	This product is water soluble and may disperse in soil.	
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.	
12.6. Other adverse effects	No data available.	

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste 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.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

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

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Diammonium phosphate (CAS 7783-28-0)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

Other regulations

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 as amended. The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

National regulations

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

List of abbreviations

DNEL: Derived No-Effect Level.

PNEC: Predicted No-Effect Concentration.

PBT: Persistent, bioaccumulative and toxic.

vPvB: Very Persistent and very Bioaccumulative.

ECHA CHEM

References

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any H-statements not written out in full under Sections 2 to 15

None.

Training information

Follow training instructions when handling this material.

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.