



OJSC PhosAgro-Cherepovets

SAFETY DATA SHEET

Conforms to Regulation (EU) №1907/2006, № 453/2010

NPK 9:25:25, 10:26:26, 10:20:20, 15:15:15, 12:32:12, 12:30:12, 12:32:16, 13:19:19, 16:16:8, 8:24:24, 10:20:10, 13:13:21, 12:20:18, 6:20:30, 7:30:20, 8:20:30, 16:16:16

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name	NPK 9:25:25, 10:26:26, 10:20:20, 15:15:15, 12:32:12, 12:30:12, 12:32:16, 13:19:19, 16:16:8, 8:24:24, 10:20:10, 13:13:21, 12:20:18, 6:20:30, 7:30:20, 8:20:30, 16:16:16
Designation	Fertilizer

1.2 Relevant Identified uses of the substance or mixture and uses advised against

Identified uses	Surface spreading or incorporation at open field and /or forest fertilization. Fertilization of amenity (parks, public lawns, sport fields, golf courses)
	Surface spreading at home gardens
	Surface spreading or incorporation through pipes at open field. Fertilization of amenity (parks, public lawns, sport fields, golf courses)
	Indoor home fertilizer use
	Leaf spray at open field
	Greenhouse applications
	Fertigation at open field
	Blending of fertilizer and other compounds as compost and substrates and pesticides
	Packaging of fertilizer
	Dilution or suspension
	Loading / unloading
	Manufacturing of solid or liquid or suspension mineral fertilizers
	Adding micronutrients and/or additives (anti-caking, fillers, coatings, colouring agent ...) in solid or liquid fertilizers
Uses advised against	There are no restrictions for using

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier	OJSC PhosAgro-Cherepovets Russia, 162622, Severnoye Shosse str., 75, Cherepovets, Vologda Region Tel +7 (8202)5933-09, Fax +7 (8202)5550-34 E-mail: ammophos@phosagro.ru
Only Representative	PHOSINT LIMITED 21 Vasili Michailidi 3026 Limassol, Cyprus Postal Address; P.O. Box 54708, CY-3727 Limassol Cyprus Tel +357 – 25 – 508003, Fax +357 – 25 – 508004 E-mail: phosint@virtualoffice8.com

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1.4 Emergency Telephone Number

Manufacturer/supplier

Phone No. +7 (8202) 59-35-15 (24 hours), **+7(8202) 59-33-09** (8.30 – 17.30 Moscow time)

European emergency number: **112** (24 hours)

Directory of poison centres

http://www.who.int/gho/phe/chemical_safety/phe_poison_centres.xls

United Kingdom of Great Britain and Northern Ireland

Regional Medicines and Poisons Information Centre NI +44 892 0111 (24 hours)

Ireland

Poisons Information Centre of Ireland

+353 1 837 9964 (medical professionals) +353 1 809 2166 (public) (24 hours)

SECTION 2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

NPK does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 (CLP) and according to Directive No. 1999/45/EEC.

2.2 Label Elements

No signal words, hazard and precautionary statements.

2.3 Other Hazards

High dust concentrations of air-borne material may cause irritation of the nose and upper respiratory tract with symptoms such as sore throat and coughing. To avoid respiratory tract irritation inhalation exposure should be kept to a minimum, by observing good work practice and ensuring good ventilation around work areas.

When mixture is heated to decomposition temperature (above 155 °C), the toxic fumes of ammonia and oxides of nitrogen release to environment. If the rules of handling are violated, NPK may cause the pollution of the environment.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

According to the REACH Regulation the product is NOT a substance.

3.2 Mixtures

According to the REACH Regulation the product is a mixture of Ammonium Dihydrogenorthophosphate (MAP), Diammonium Hydrogenorthophosphate (DAP), Potassium Chloride, Diammonium Sulphate and conditioning additive containing Armeen XT.

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Substance name	Identifiers	Classification 67/548/EEC 1278/2008 (CLP)	REACH Registration No.	Weight % content						
				NPK 9:25:25, 10:26:26	NPK 10:20:20	NPK 15:15:15	NPK 12:32:12	NPK 13:19:19	NPK 8:24:24	NPK 16:16:8
Ammonium Dihydrogenorthophosphate	EC 231-764-5; CAS 7722-76-1	Not classified	01- 2119488166- 29-XXXX	8-10	3-16	7-9	13-17	7-10	29-37	7-9
Diammonium Hydrogenorthophosphate	EC 231-987-8; CAS 7783-28-0	Not classified	01- 2119490974- 22-XXXX	33-37	19-31	18-19	37-44	24-28	2-10	19-22
Potassium Chloride	EC 231-211-8; CAS 7447-40-7	Not classified	Unregistrable according article 2 and Annex V of REGULATION (EC) No 1907/2006	38-42	24-26	23-25	18-21	28-31	38-41	13-14
Diammonium Sulphate	EC 231-984-1; CAS 7783-20-2	Not classified	01- 2119455044- 46-XXXX	8-10	10-13	46-47	7-8	27-32	10-15	50-52
Armeen HT	EC 262-976-6; CAS 61788-45-2	Xn, Xi, R 37/38-41-48/22	01- 2119473799- 15-XXXX	< 0,004	< 0,004	< 0,004	< 0,004	< 0,004	< 0,004	< 0,004

Substance name	Identifiers	Classification 67/548/EEC 1278/2008 (CLP)	REACH Registration No.	Weight % content						
				NPK 12:30:12	NPK 12:32:16	NPK 12:20:18	NPK 16:16:16	NPK 13:13:21	NPK 10:20:10	NPK 6:20:30
Ammonium Dihydrogenorthophosphate	EC 231-764-5; CAS 7722-76-1	Not classified	01- 2119488166- 29-XXXX	41-43	22-26	8-12	7-10	7-10	10-12	26-28
Diammonium Hydrogenorthophosphate	EC 231-987-8; CAS 7783-28-0	Not classified	01- 2119490974- 22-XXXX	5-7	28-33	22-28	17-21	12-15	23-26	5-7
Potassium Chloride	EC 231-211-8; CAS 7447-40-7	Not classified	Unregistrable according article 2 and Annex V of REGULATION (EC) No 1907/2006	19-21	25-28	28-31	25-27	33-35	15-18	48-51
Diammonium Sulphate	EC 231-984-1; CAS 7783-20-2	Not classified	01- 2119455044- 46-XXXX	25-27	11-15	18-33	18-19	32-49	14-19	7-10
Armeen HT	EC 262-976-6; CAS 61788-45-2	Xn, Xi, R 37/38-41- 48/22	01- 2119473799- 15-XXXX	< 0,004	< 0,004	< 0,004	< 0,004	< 0,004	< 0,004	< 0,004

Substance name	Identifiers	Classification 67/548/EEC 1278/2008 (CLP)	REACH Registration No.	Weight % content						
				NPK 7:30:20	NPK 8:20:30					
Ammonium Dihydrogenorthophosphate	EC 231-764-5; CAS 7722-76-1	Not classified	01- 2119488166- 29-XXXX	37-43	7-9					

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Diammonium Hydrogenorthophosphate	EC 231-987-8; CAS 7783-28-0	Not classified	01-2119490974-22-XXXX	7-10	26-28					
Potassium Chloride	EC 231-211-8; CAS 7447-40-7	Not classified	Unregistrable according article 2 and Annex V of REGULATION (EC) No 1907/2006	28-37	48-51					
Diammonium Sulphate	EC 231-984-1; CAS 7783-20-2	Not classified	01-2119455044-46-XXXX	3-4	7-10					
Armeen HT	EC 262-976-6; CAS 61788-45-2	Xn, Xi, R 37/38-41-48/22	01-2119473799-15-XXXX	< 0,004	< 0,004					

SECTION 4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General information	Warning before intervention: When product is heated to decomposition temperature (above 155 °C), the toxic fumes of ammonia and oxides of nitrogen release to environment.
Inhalation	Provide an access to fresh air. If breathing is difficult, give an oxygen. Remove from source of exposure to dusts. Seek medical advice.
Skin contact	Wash skin thoroughly with water and mild soap. Remove contaminated clothing and shoes. Wash clothing before re-using.
Eye contact	Immediately rinse the eyes with clean water within 10-15 minutes. If symptoms persist, consult with a doctor.
Ingestion	Give water to drink. Do not induce vomiting, if a patient is in an unconsciousness. If necessary, try to find the professional medical care and bring a patient to the hospital.
Note to physician	Inhalation of fire and thermal decomposition gases, containing ammonia, can cause irritation and corrosive effects on the respiratory system. Some lung effects may be delayed.

4.2 Most Important Symptoms and Effects, both Acute and Delayed

Inhalation	Scratching in the throat, cough.
Eye contact	Can cause irritation of eyes due to dust.
Ingestion	Clinical picture of acute poisoning: general weakness, headache, nausea, vomiting, abdominal pain, diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

No specific data. Follow the instructions, given in Clause 4.1.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

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Any extinguishing media can be used: water, carbon dioxide, foam, dry powder.
Unsuitable Extinguishing Media: not available.

5.2 Special Hazards Arising from the Substance/Mixture

The product is not flammable.

When substance is heated to decomposition temperature (above 155 °C), toxic fumes of ammonia, oxides of nitrogen, phosphorus and sulphur release to environment.

Avoid breathing the fumes (toxic). Stand up-wind of the Fire.

5.3 Advice for Fire Fighters

Suitable respiratory equipment, Total impervious protective suits for the whole body protection, gloves, goggles and boots must be worn. Use a self-contained breathing apparatus if fumes are being entered.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

For emergency and non-emergency personal	Wear appropriate personal protection equipment (see section 8). Organize monitoring and control of the NPK dust concentration in the air of work zone. Keep away from incompatible products (see sections 7.2, 10.4). Keep public away from area.
For employees of Service on emergency situations and the others	

6.2 Environmental Precautions

Prevent entry to sewers and public waters.

6.3 Methods and material for containment and cleaning up

Localization	Remove unauthorized persons. Keep windward side. Block off the emergency zone. Large scale spills near water should be blocked by an earth mound to avoid pollution of water-bearing horizons, sources of water and other important water objects. Collect spilled NPK into suitable containers and send for use, processing or disposal as restricted by local/national regulations (see section 13).
After spillage and/or leakage	Sweep or shovel the dry product into suitable containers. Wash thoroughly after handling.
Cleaning	The affected area should be thoroughly washed and cleaned with water. Waste-water after washing and cleaning should be sent to sewage-treatment plant.

6.4 Reference to other sections

See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7. HANDLING AND STORAGE

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7.1 Precautions for Safe Handling:

To prevent fire	No special measures are required. The product is not flammable. Protect from heat.
To prevent dust generation	Ensure adequate ventilation and dust level control at the workplace. Avoid excessive generation of dust.
To protect the environment	Prevent from getting into water bodies. Take care to avoid the contamination of watercourses and drains and inform the appropriate authority in case of accidental contamination of watercourses.
Advice to general occupational hygiene	Use personal protective equipment (see section 8, 16.5). Avoid contact with skin and eyes. Wash hands and other exposed parts of body with mild soap and water before eat, drink or smoke and when leaving work. Do not breathe dust.

7.2 Conditions for Safe Storage, including any Incompatibilities

Technical measures and storage conditions	Packed or bulk NPK must be stored in closed storage spaces protected from atmospheric precipitation and humidity. In household: keep separately from foodstuffs, in places beyond the reach of children and pets. Store in dry, cool area.
Requirements for storage rooms	Storage facilities should be adequately ventilated. Amount of product in storage is not restricted.
Packaging materials	Plastics (PP, PE).
Incompatible products	Prevent contact with incompatible substances: alkalis and strong acid. Keep away from incompatible products (see section 10.5).

7.3 Specific end use(s)

Follow recommendations of agrochemical services about a dosage and application on different types of soils and crops.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Occupational Exposure Limit values	Occupational Exposure Limits : Not established (EH40, List of approved workplace exposure limits; GESTIS International Limit Values Database via: http://www.dguv.de/ifa/en/gestis/limit_values/index.jsp). Biological limit value: Not established (EH40, Biological Monitoring Guidance Values; GESTIS International Limit Values Database via: http://www.dguv.de/ifa/en/gestis/limit_values/index.jsp).
Monitoring procedure	BS EN 14042:2003 Title identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
No Observed Adverse Effect Level for	There is no high level adverse effect observed for inhalation and

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workers	dermal contact with the components. MAP, DAP: Long-term - systemic effects dermal DNEL 34,7 mg/kg bw/day (repeated dose toxicity); inhalation DNEL 6,1 mg/m ³ (repeated dose toxicity). Diammonium Sulphate: Long-term -systemic effects Dermal DNEL 42.667 mg/kg bw/day; Inhalation DNEL 11.167 mg/m ³
No Observed Adverse Effect Level for general population	There is no high level adverse effect observed for inhalation and dermal contact with the components.MAP, DAP: Long-term - systemic effects dermal DNEL 20,8 mg/kg bw/day (repeated dose toxicity); inhalation DNEL 1,8 mg/m ³ (repeated dose toxicity); Oral DNEL 2,1 mg/kg bw/day (repeated dose toxicity). Diammonium Sulphate: Long-term -systemic effects Dermal DNEL 12,8 mg/kg bw/day; Inhalation DNEL 1.667 mg/m ³ ; Oral DNEL 6,4 mg/kg bw/day
Predicted No Effect (PNEC)	MAP, DAP: aqua (freshwater): 1,7 mg/L aqua (marine water): 0,17 mg/L aqua (intermittent releases): 17 mg/L sewage treatment plant: 10 mg/L Diammonium Sulphate: PNEC soil: 62.6 mg/kg soil dw PNEC sewage treatment plant: 16,18 mg/L.

8.2 Exposure Controls

Appropriate Engineering Controls	Production area must be adequately ventilated (general combined air suction and air supply ventilation system). Personal protection equipment should be available on site. The source of running water and shower should be provided on site.
Personal Protection Equipment	See section 16.5. Eyes and face: Wear safety glasses. Hands: Use rubber gloves Body: Wear wool or cotton protective suits; impervious rubber shoes or leather boots. Respiratory Organs: Approved dust mask should be used if dust are generated when handling this material.
Environmental Exposure Controls	Arrange control / monitoring of dust emissions to environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Appearance	Solid granulate of various colors. Granules sized (ГОСТ 21560.1, MKXA № 1104-00209438-105, MKXA № 1104-00209438-104): under 1 mm maximum 3%; 1 – 6 mm minimum 95%;
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	under 6 mm 100%.
Odour	Odourless or weak odour
Odour threshold	Not applicable
pH (5 %-solution)	5.5 – 6.0
Melting Point/freezing point	155°C at 1013 hPa
Initial Boiling Point and Boiling Range	Boiling point could not be determined before decomposition
Evaporation Rate	Not applicable
Flammability	Non flammable
Upper/lower flammability or explosive limits	Non flammable
Vapour Pressure	0.00147 Pa at 20 °C
Vapour Density	Not applicable
Relative Density	1.62 – 1.81 at 20°C
Solubility(ies)	Water solubility >100 g/L at 20 °C
Partition Coefficient: n-octanol/water	Not applicable
Auto-ignition temperature	NPK does not contain groups that may react with oxygen and therefore will not auto-ignite at temperatures between room temperature and melting
Decomposition temperature	>155 °C at 1013 hPa
Viscosity	Not applicable
Explosive Properties	Non-explosive
Oxidizing Properties	No oxidizing properties

9.2 Other information

No information available.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	React with acids and alkalis
10.2 Chemical Stability	Stable under recommended conditions of using and storage
10.3 Possibility of Hazardous Reactions	No known hazardous reactions
10.4 Conditions to Avoid	Moisture, High temperature. Heating up to more than 155 °C (see subsection 5.2).
10.5 Incompatible Materials	Magnesium, Strong acids, Bases/Alkalis. Alkalis cause decomposition of substance followed by ammonia emission. Strong Acids cause NPK decomposition followed by phosphoric acid emission
10.6 Hazardous Decomposition Products	Does not decompose when used for intended uses. When heated to decomposition (above 155 °C), emits toxic fumes of ammonia and oxides of nitrogen. Alkalis action - ammonia gas

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

11.1.1 Substances

Not applicable

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11.1.2 Mixtures

Information for NPK is not applicable. Information on Toxicological Effects are given for constituents: Ammonium Dihydrogenorthophosphate (MAP), Diammonium hydrogenorthophosphate (DAP) and Diammonium Sulphate.

Acute toxicity	Not classified. Reason for no classification: Conclusive but not sufficient for classification.
oral	MAP, DAP: LD ₅₀ (oral): >2000 mg/kg bw rat (Sprague-Dawley) male/female <i>OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)</i> Diammonium Sulphate: LD ₅₀ (oral): 4250 mg/kg bw rat (Gassner) male/female <i>OECD Guideline 401 (Acute Oral Toxicity)</i>
inhalation	MAP, DAP: LC ₅₀ (inhalation): >5000 mg/m ³ air rat (CrI:WI(Han)) male/female <i>OECD Guideline 403 (Acute Inhalation Toxicity)</i> Diammonium Sulphate: LC ₅₀ (inhalation): 1000 mg/m ³ air rat
dermal	MAP, DAP: LD ₅₀ (dermal): >5000 mg/kg bw rat (Sprague-Dawley) male/female <i>OECD Guideline 402 (Acute Dermal Toxicity)</i> Diammonium Sulphate: LD ₅₀ (dermal): 2000 mg/kg bw rat and mouse male/female <i>OECD Guideline 434 (Acute Dermal Toxicity)</i>
Acute Toxicity, human information	This information is not available
Irritation	Not classified. Reason for no classification: Conclusive but not sufficient for classification.
skin	MAP, DAP, Diammonium Sulphate: not irritating - rabbit (Vienna White) <i>OECD Guideline 404 (Acute Dermal Irritation / Corrosion)</i>
Eye	MAP, DAP, Diammonium Sulphate: not irritating - rabbit (Vienna White) <i>OECD Guideline 405 (Acute Eye Irritation / Corrosion)</i>
Corrosivity	Not classified. Reason for no classification: Conclusive but not sufficient for classification.
Sensitization	Not classified. Reason for no classification: Conclusive but not sufficient for classification.
skin	MAP, DAP: not sensitizing - mouse (CBA) female <i>OECD Guideline 429 (Skin Sensitization: Local Lymph Node Assay)</i> Diammonium Sulphate: not sensitising - guinea pig (Pirbright-White) female <i>EPA 540/9-82-025</i>
respiratory system	This information is not available
Repeated dose toxicity	Not classified. Reason for no classification: Conclusive but not sufficient for classification.
oral	MAP, DAP: NOAEL: 250 mg/kg bw/day (subacute; rat) Diammonium Sulphate:

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	NOAEL: 256 mg/kg bw/day (chronic; rat)
inhalation	Diammonium Sulphate: NOAEC: 300 mg/m ³ (subacute; rat)
Carcinogenicity	In accordance with column 2 of REACH Annex X, no carcinogenicity study needs to be proposed as MAP, DAP, Diammonium Sulphate is not genotoxic
Mutagenicity	Not classified. Reason for no classification: Conclusive but not sufficient for classification.
bacterial reverse mutation assay (Ames test) (gene mutation)	For MAP, DAP, Diammonium Sulphate: Negative - S. typhimurium TA 1535, TA 1537, TA 98 and TA 100 (met.act.: with and without) E. coli WP2 uvr A (met. act.: with and without) <i>OECD Guideline 471 (Bacterial Reverse Mutation Assay)</i>
mouse lymphoma L5178Y cells (met. act.: with and without)	MAP, DAP: Negative for mouse lymphoma L5178Y cells (strain/cell type: Test system L5178Y/TK+/-3.7.2C); met. act.: with and without; cytotoxicity: no <i>OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)</i>
in vitro mammalian chromosome aberration test	MAP, DAP, Diammonium Sulphate: Negative. Chinese hamster Ovary (CHO) (met. act.: with and without) <i>OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)</i>
Reproductive toxicity	Not classified. Reason for no classification: Conclusive but not sufficient for classification.
fertility	MAP, DAP, Diammonium Sulphate: NOAEL (P and F): ≥1500 mg/kg bw/day (actual dose received) rat (Sprague-Dawley) male/female (combined repeated dose and reproduction / developmental screening) <i>OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)</i>
developmental toxicity	MAP, DAP: NOAEL (developmental toxicity): ≥1500 mg/kg bw/day (actual dose received) rat (Sprague-Dawley) <i>OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)</i> Diammonium Sulphate: mouse (ICR) - NOAEL (maternal toxicity): >2800 mg/kg bw/day (actual dose received); NOAEL (teratogenicity): >2800 mg/kg bw/day (actual dose received); NOAEL(embryo-/fetotoxicity): > 2800 mg/kg bw/day (actual dose received)
Health effects	Potential health effects/symptoms - see subsection 4.2.

11.2 Other information

No information available.

SECTION 12. ECOLOGICAL INFORMATION

Information for NPK is not applicable. Information on Toxicological Effects are given for constituents: Ammonium Dihydrogenorthophosphate (MAP), Diammonium hydrogenorthophosphate (DAP) and Diammonium Sulphate.

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12.1 Toxicity

Short-term toxicity to fish:	<p>MAP: LC₅₀ for freshwater fish (96 h): > 85,9 mg/L <i>Oncorhynchus mykiss</i> <i>OECD Guideline 203 (Fish, Acute Toxicity Test)</i></p> <p>DAP: LC₅₀ for freshwater fish (96 h): 1700 mg/L <i>Cirrhinus mrigala</i>/L. <i>Rohita</i> <i>Standard water and waste water analysis methods (APHA-1985)</i></p> <p>Diammonium Sulphate: LC₅₀ (96 h): 53 mg/L <i>Oncorhynchus mykiss</i> test mat. (meas. (not specified)) LC₅₀ (96 h): 57.2 mg/L <i>Prosopium williamsoni</i> test mat. (meas. (not specified))</p>
Long-term toxicity to fish	<p>MAP, DAP: No data. Chemical Safety Reports indicate that further assessment of toxicity to fish is not required. According to the mentioned data MAP (DAP) and other phosphates have minor toxicity.</p> <p>Diammonium Sulphate: EC₁₀ (30 d): 5.29 mg/L <i>Lepomis macrochirus</i> test mat. (meas. (not specified))</p>
Short-term toxicity to aquatic invertebrates	<p>MAP, DAP: EC₅₀/LC₅₀ for freshwater invertebrates: 1790mg/L <i>Daphnia carinata</i> (water flea) <i>Standard methods for the examination of water and wastewater. 14th ed., American Public Health Association, New York (1975)</i></p> <p>Diammonium Sulphate: EC₅₀ (48 h): 121.7 mg/L <i>Ceriodaphnia acanthine</i> test mat. (meas. (not specified)) based on mobility EC₅₀ (48 h): 169 mg/L test <i>Daphnia magna</i> mat. (meas. (not specified)) based on: mobility</p>
Long-term toxicity to aquatic invertebrates	<p>MAP, DAP: No data. Chemical Safety Reports indicate that further assessment of toxicity to fish is not required. According to the mentioned data MAP (DAP) and other phosphates have minor toxicity.</p> <p>Diammonium Sulphate: EC₁₀ (10 wk): 3.12 mg/L <i>Hyaella azteca</i> test mat. (Ammonium sulphate) (meas. (not specified)) based on: reproduction</p>
Algae and aquatic plants	<p>MAP, DAP: EC₅₀/LC₅₀ for freshwater algae: >100 mg/L EC₁₀/LC₁₀ or NOEC for freshwater algae: 100 mg/L <i>Pseudokirchnerella subcapitata</i> (reported as <i>Selenastrum capricornutum</i>) (algae) <i>OECD Guideline 201 (Algae, Growth Inhibition Test)</i></p> <p>Diammonium Sulphate: EC₅₀ (18 d): 2700 mg/L <i>Chlorella vulgaris</i> (algae) test mat. (nominal) based on: cell number EC₅₀ (5 d): ca. 1605 mg/L <i>Chlorella vulgaris</i> (algae) test mat. (nominal) based on: growth rate</p>
Sediment organisms	MAP, DAP:

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	No data. The study is considered not necessary, Chemical Safety Reports indicate that further assessment of toxicity to fish is not required. According to the mentioned data MAP (DAP) and other phosphates have minor toxicity. Diammonium Sulphate: EC ₁₀ (10 wk): 3.12 mg/L <i>Hyaella azteca</i> test mat. (Ammonium sulphate) (nominal) based on: reproduction EC ₁₀ (10 wk): 0.66 mg/L element (N) (nominal) based on: reproduction
Other aquatic organisms	No information available
Soil macro-organisms except arthropods	MAP, DAP: No data. The study is not considered necessary. The available data indicates that MAP and DAP have low toxicity level. Diammonium Sulphate: LC ₅₀ (14 d): ca. 201 mg/kg <i>Eisenia fetida</i> (annelids) soil dw test mat. (nominal) based on: mortality
Terrestrial arthropods	MAP, DAP: No data. The study is considered not necessary. The available data indicates that MAP and DAP have low toxicity level. Diammonium Sulphate: No information available
Terrestrial plants:	MAP, DAP: No data. The study is considered not necessary. The available data indicates that MAP and DAP have low toxicity level. Diammonium Sulphate: <i>Allium cepa</i> : LOEC (84 d): 1880 mg/kg soil dw test mat. (nominal) based on: growth <i>Allium cepa</i> : NOEC (84 d): 626 mg/kg soil dw test mat. (nominal) based on: growth <i>Avena sterilis</i> : LOEC (21 d): 5000 mg/l test mat. (nominal) based on: germination
Soil micro-organisms	MAP, DAP: No data. The study is considered not necessary. The available data indicates that MAP and DAP have low toxicity level. Diammonium Sulphate: No information available
Microbiological activity in sewage treatment systems: toxicity to aquatic micro-organisms	MAP, DAP: EC ₅₀ /LC ₅₀ for aquatic micro-organisms: >100 mg/L EC ₁₀ /LC ₁₀ or NOEC for aquatic micro-organisms: 100 mg/L Activated sludge of a predominantly domestic sewage <i>OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)</i> Diammonium Sulphate: No information available

12.2 Persistence and degradability

Abiotic degradation	Not applicable
Biotic degradation	MAP, DAP: In wastewater plant: During the anaerobic transformation of ammonium, one group of bacteria oxidizes ammonium to nitrite while another group oxidizes nitrite to nitrate. The average biodegradation value in wastewater plant at 20 °C is 52 g N/kg dissolved solid/day.

12.3 Bioaccumulative potential

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Constituents of mixtures has a low bioaccumulative potential. Due to the water solubility and the ionic nature, constituents of mixtures are not expected to be bioaccumulative.

12.4 Mobility in soil

Due to the water solubility and the ionic nature constituents of mixtures are not expected to be adsorbed by soil and volatilize from soil. In soil, nitrification and de-nitrification processes occur as well as in secondary wastewater treatment processes.

12.5 Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted since constituents of mixtures are inorganic.

12.6 Other adverse effects

Not mentioned

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

European Waste Code	06 10 99 - wastes not otherwise specified (wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture)
Product/packaging disposal	Depending on degree of contamination, use the fertilizers as raw material for liquid fertilizer, or send to an authorized disposal facility in accordance with local/national regulations. Utilize contaminated empty packages in a safe way and in accordance with local and national regulations.
Wastewater utilization – relevant information	See subsection 6.3.

SECTION 14. TRANSPORT INFORMATION

14.1 UN Number	None
14.2 UN proper shipping name	None
14.3 Transport hazard class(es)	Non hazardous
14.4 Packing group	Not applicable
14.5 Environmental hazards	No available data
14.6 Special precautions for user	See subsection 7.1
14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the BC Code)	Transport name of a bulk cargo - FERTILIZERS WITHOUT NITRATES ITRATES (non hazardous) The group on <i>BS Code IMO</i> – C. Klass of danger on <i>BS Code IMO</i> – None
14.8 Additional information	No specific information

SECTION 15. REGULATORY INFORMATION

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

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EU Regulations	Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation (EC) No. 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures. Regulation (EC) № 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilizers. COMMISSION REGULATION (EU) No 223/2012 of 14 March 2012 amending Regulation (EC) No 2003/2003 of the European Parliament and of the Council relating to fertilisers for the purposes of adapting Annexes I and IV thereto to technical progress
Other Documents	Guidance for the storage, handling and transportation of solid mineral fertilizers, EFMA, April 2007. Guidance for Safe and Secure Storage of Fertilizers on Farms, EFMA, 2009.

15.2 Chemical Safety Assessment

Chemical Safety Assessment (CSA) has been carried out for the following substances: Ammonium Dihydrogenorthophosphate, Diammonium Hydrogenorthophosphate, Diammonium Sulphate [CSRs, 2010]. Since the substances are not classified as hazardous CSA does not include exposure assessment/estimation and risk characterization in accordance with Art. 14 of EC Regulation REACH. Exposure scenarios are not required. No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16. OTHER INFORMATION

16.1 Indication of changes

This Safety Data Sheet has been developed for the first time in accordance with requirements of EC Regulations 1907/2006 (REACH), 1272/2008 (CLP) & 453/2010 on the basis of registration data (IUCLID 5 dossier and CSR).

The Safety Data Sheet (rev. 2, date of issue 01.07.2012) was revised in connection with the reorganization of OJSC Ammophos in the form of merging with the OJSC Cherepovetskiy Azot with the formation of OJSC PhosAgro-Cherepovets.

The Safety Data Sheet (rev. 2.1, date of issue 01.08.2013) was revised in connection with diversification of product range.

16.2 Abbreviations

BC Code – *Code of Safe Practice for Solid Bulk Cargoes (BS Code IMO)*

CMR – *Carcinogenicity, Mutagenicity and Toxicity for reproduction*

DAP – *Diammonium Hydrogenorthophosphate*

DNEL – *Derived no-effect level*

EC₁₀ – *Effective Concentration for 10% of the response under test*

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EC₅₀ – Effective Concentration (Median) for 50% of the response under test

EFMA – European Fertilizer Manufacturers' Association

LC₁₀ – Lethal Concentration for 10% of the population under test

LC₅₀ – Lethal Concentration (Median) for 50% of the population under test

LD₅₀ – Lethal Dose for 50% the population under test

MAP - Ammonium Dihydrogenorthophosphate

NOAEL – No Observed Adverse Effect Level

NOEC – No Observed Effect Concentration

NPK - nitrogen-phosphorus-potassium granulated fertilizer

OECD – Organization for Economic Cooperation & Development

PBT – Persistent, Bioaccumulative and Toxic

PE – polyethylene

PP – polypropylene

vPvB – very Persistent, very Bioaccumulative

16.3 References and Other Sources of Information:

1 Chemical Safety Report “Ammonium dihydrogenorthophosphate (MAP)” (Consortium FARM, Lead Registrant - Prayon)

2 Chemical Safety Report “Diammonium hydrogenorthophosphate (DAP)” (Consortium FARM, Lead Registrant - FERTIBERIA, S.A)

3 Chemical Safety Report “Diammonium sulphate (AS)” (Consortium FARM, Lead Registrant - BASF SE)

4 EFMA Recommendations

16.4 List of descriptions of identified uses to the expanded Safety Data Sheet:

Annex 1. Identified Uses of Ammonium Dihydrogenorthophosphate – pages 15-32;

Annex 2. Identified Uses of Diammonium Hydrogenorthophosphate – pages 33-43;

Annex 3. Identified Uses of Diammonium Sulphate – pages 44-63.

16.5 S-phrases (Annex IV of European Union Directive 67/548/EEC)

S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

Disclaimer:

This product is not classified as hazardous. It does not contain the hazardous components according to Directive 1999/45/EC. In this connection, the development of SDS is not required in the view of legislation in accordance with the requirements of Regulation No 1907/2006 (Clause 31.2) and Regulation No 453/2010. This Safety Data Sheet is issued by product supplier on voluntary basis to provide the customer by the sufficient information, allowing to undertake the necessary measures concerning the safety, health and environment protection.