

SAFETY DATA SHEET



according to Regulation (EC) No. 1907/2006 (REACH)
MONOAMMONIUMPHOSPHATE

Date: 19.05.2009

Version: 2.0

replaces version: 1.0

Page: 1/7

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Substance/Preparation identification: MONOAMMONIUMPHOSPHATE

Molecular formula: $H_3N.H_3O_4P$

Chemical name:

EINECS name: Ammonium dihydrogenorthophosphate

IUPAC name: Azanium dihydroxy-oxido-oxo-phosphorane

PRE-REFERENCE NUMBER – 05-2114092026-53-0000

1.2 Use of the substance:

Fertilizer.

High-performance complex nitrogen-phosphoric fertilizer which is used in agriculture for growing serial, fruit, vegetable, small fruit crops and ornamental plants in protected and unprotected areas. Applied to various soils as basic, preplant and starter fertilizer and also for summer additional fertilization by spreading and in solution.

1.3 Company/Undertaking identification:

Manufacturer: CJSC Crimea TITAN

Address: Severnaya Promzona, Armyansk, AR Crimea, Ukraine, 96012

The person responsible for commercial introduction of the substance in the EU:

Irene Nasdala

«OSTCHEM Germany GmbH»

Hamburg, Erdmannstr. 10, Germany, 22765

tel. +49 40 5 300 300 (working time only)

fax: + 49 40 5 300 30 33

e-mail: nasdala@afkem.com

The person responsible for SDS:

Grendach Valentina Mikhailovna –HSE Director

Address: Severnaya Promzona, Armyansk, AR Crimea, Ukraine, 96012

Tel: +38 06567 3 72 11 (working time only)

E-mail: dir_ot@titanexport.com

1.4 Emergency Tel: +38 06567 3 74 44 (working time only)

+38 06567 3 75 35 (twenty-four-hour)

2 HAZARDS IDENTIFICATION

The product is classified as **non-hazardous** according to the Directives 67/548/EEC and 1999/45/EC. It is not included in the Annex 1 of Council Regulation No. (EU) 304/2003.

Potential health effects:

Low-hazardous substance. It won't produce acute intoxication.

Inhalation: large doses may cause dryness of the mouth and respiratory disorder.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

MONOAMMONIUMPHOSPHATE



Date: 19.05.2009

Version: 2.0

replaces version: 1.0

Page: 2/7

Eye contact: large doses may cause lachrymation (tears), heating and conjunctivitis.

Skin contact: single exposure won't produce irritation. Prolonged exposure in some instances may cause dermatitis to develop.

Digestive tract: prolonged exposure may cause nosia and vomiting.

3 COMPOSITION AND INFORMATION ON INGREDIENTS

3.1 Composition

Chemical name	EINECS No	Index No	CAS No	Mass fraction, %	Classification/ labeling (R-phrases)
Monoammoniumphosphate:	231-764-5	-	7722-76-1	80-82	-
Ammonium hexafluorosilicate	240-968-3	009-012-00-0	16919-19-0	5-6	1%≤C<10% Xn; R20/21/22
Ammonium sulphate	231-984-1	-	7783-20-2	3,5-4	-
Magnesium hydrogenorthophosphate	231-823-5	-	7757-86-0	3,5-4	-
Calcium sulfate	231-900-3	-	7778-18-9	2,5-3	-
Aluminium orthophosphate	232-056-9	-	7784-30-7	1,0-1,2	-
Silicon dioxide	231-545-4	-	7631-86-9	0,9-1,0	-

3.2 Classification

Substance is classified as non-hazardous.

4 FIRST AID MEASURES

General measures: provide rest, warm conditions, comfort position, fresh air availability.

Inhalation: take out to fresh air. If breathing is difficult, provide humid oxygen or carbogen; if not breathing, give artificial respiration.

Eye contact: flush eyes with plenty of water with ajar eyelids until irritation symptoms disappear. If irritation persists, get medical attention.

Skin contact: remove contaminated clothing, shoes and outfit. Flush the contaminated skin with running water until the skin is clean.

Digestive tract: flush the oral cavity free of the substance, provide plenty of drinking, induce vomiting, and give charcoal, saline purge. Get medical attention. Data on acute intoxications has not been reported.

5 FIRE FIGHTING MEASURES

Flame- and explosionproof. Hazardous thermal decomposition products – ammonia, phosphorus oxides. Use extinguishing media appropriate for surrounding fire.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)
MONOAMMONIUMPHOSPHATE



Date: 19.05.2009

Version: 2.0

replaces version: 1.0

Page: 3/7

6 ACCIDENTAL RELEASE MEASURES

If spilled: collect in dry form for reuse.

7 HANDLING AND STORAGE

7.1 Handling

Production facilities must be equipped with aspiration hoods in the area of potential dust release. Running water must be supplied to the production facilities and auxiliary areas. When handling loads, follow specific safety rules and instructions. If spilled: collect in dry form into the lockable labeled container in such a way that there is no spilling out.

7.2 Storage

Store in manufacturer's package in cool and dry area where it is safe from contamination and exposure to atmospheric precipitations (rain, snow) and subsoil waters.

7.3. Special use – not applicable.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Permissible exposure limits:

Atmospheric air: TLV = 2/0,2 (pez.) mg/m³.

Workplace air:

Component name	CAS №	Форма воздействия	Public health standard	Allowable inhalation concentration	Control method
Monoammoniumphosphate:	7722-76-1	aerosol, fibrogene	TLV, one-time	6,0 mg/m ³	PM (by P ₂ O ₅)
Ammonium hexafluorosilicate	16919-19-0	mixture of vapours and aerosol	TLV, one-time	0,2 mg/m ³ (by F)	GCM, PM
Ammonium sulphate	7783-20-2	aerosol	TLV, one-time	10,0 mg/m ³	GM
Magnesium hydrogenorthophosphate	7757-86-0	aerosol	TLV, one-time	10,0 mg/m ³	GM
Calcium sulfate	7778-18-9	aerosol	TLV, one-time	2,0 mg/m ³	GM
Aluminium orthophosphate	7784-30-7	aerosol, fibrogene	TWA	6,0 mg/m ³	GM
Silicon dioxide	7631-86-9	aerosol	TLV, one-time	1,0-4,0 mg/m ³	PM

PM – photometric method

GM - gravimetric method

GCM - gas chromatographic method

8.2 Exposure controls

8.2.1 Permissible exposure limits:

Running drinkable water must be supplied to the production facilities. Storage of foodstuff and eating in the substance processing area are forbidden.

8.2.1.1. Respiratory protection

Use dust respirator according to the EN149 equipped with the dust recovery filter according to the EN 143.

SAFETY DATA SHEET



according to Regulation (EC) No. 1907/2006 (REACH)
MONOAMMONIUMPHOSPHATE

Date: 19.05.2009

Version: 2.0

replaces version: 1.0

Page: 4/7

8.2.1.2. Hands protection

Wear PVC or neoprene gloves according to the EN374.

8.2.1.3. Eye protection

Wear dust-proof glasses according to the EN166.

8.2.1.4. Skin protection

Use protective clothing.

8.2.2 Environmental effects controls

The product won't produce toxic compounds in air and wastewaters in the presence of other substances or agents.
 The substance half-life – 30-7 days.

Standard for water bodies for domestic and general water consumption: not set.

Water: TLV = 0,5 mg/l (on the basis of NH_4^+); for sea waters – 2,9 mg/l (по NH_4^+).

8.2.3 Substance consumptive use measures

When following the section 8.2.1 recommendations, additional measures are not required.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information

Appearance	granulated substance
Physical state	solid
Color	light-gray
Odor	faint ammoniac

9.2 Important information on health, safety and environmental protection

pH	6,5 (1 : 10 water solution)
Boiling point/boiling range	will decompose at 210°C before reaching the boiling point
Flash point	incombustible
Flammability (in solid, gas phase)	non-flammable
Explosive properties	explosion-proof
Oxidizing properties	inert under normal storage and production conditions
Vapor pressure	rated value: 0,066 hPa at 125°C
Specific gravity	1,56 g/sm ³
Solubility	hardly soluble in ethanol; insoluble in acetone
Water solubility	22,7 g/100g (0°C); 38 g /100 g (20°C); 173,2 g /100 g (100°C).
Coefficient of n-octanol/water distribution	insoluble in n-octanol
Viscosity	not applicable
Vapor density	1,803 g/sm ³
Evaporation rate	not applicable

9.3 Additional information

Miscibility	non-miscible
Fat solubility	Insoluble
Melting point	above 150°C-190°C

SAFETY DATA SHEET



according to Regulation (EC) No. 1907/2006 (REACH)
MONOAMMONIUMPHOSPHATE

Date: 19.05.2009

Version: 2.0

replaces version: 1.0

Page: 5/7

10 STABILITY AND REACTIVITY

The product appears to be stable under normal use and storage conditions.

10.1 Conditions to avoid

Will react with alkalis, acids and decompose during storage and on heating above 150°C.

10.2 Incompatibilities (materials to avoid)

Alkalis, acids, methyleneimine, magnesium, sodium hypochlorite.

10.3 Hazardous decomposition products

On heating the toxic vapors are released: ammonia, phosphorus oxides

11 TOXICOLOGICAL INFORMATION

The product is safe if handled properly. Data on acute toxicity is unavailable.

Acute toxicity data:

oral, rat	LD ₅₀ = 5750 mg/kg
intraperitoneal, mouse	LD ₅₀ = 4000 mg/kg
cutaneous, rabbit	LD ₅₀ > 7940 mg/kg
	LC ₅₀ = not reachable.

Irritation data:

Single exposure: not irritating to the skin on single exposure. Prolonged exposure in some instances may cause dermatitis to develop.

Eye contact: prolonged exposure in large doses may cause lachrymation (tears), heating and conjunctivitis.

Sensibilizing action: sensibilizing (guinea pigs, single ear introduction of 200 mkg will produce this effect; it has been determined according to the Alekseeva-Petkevich method (skin tests, ПИГА, PCA, PCMI).

Embryotoxicity: not studied

Honadotoxicity: not studied

Teratogenicity: not studied

Mutagenic activity: not studied

Carcinogenic activity: not studied. IARC rating: data is unavailable.

12 ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Low-toxic to aquatic life.

Acute fish toxicity: LC₅₀ = 5000 мг/л (Salmo irideus (rainbow trout) – 24 hours).

Acute Daphnia magna toxicity: data unavailable

Algal toxicity (algal culture): data unavailable

Invertebrate toxicity: data unavailable

Model ecosystem effects: data unavailable

12.2 Mobility

Environmental transformation products: ammonia and phosphoric acid.

12.3 PERSISTENCE AND DEGRADABILITY

Biodegradation [BD = (BOD₅ : COD) · 100 %] : < 10 % (practically non-biodegradable)

Chemical oxygen demand: won't change COD of impoundments

Biological oxygen demand: won't change BOD of impoundments

The substance half-life - > 30-7 days (highly stable)

12.4 Bioaccumulation potential

Cumulation: weak

12.5. PBTs classification (persistent-bioaccumulative and toxic substances)

SAFETY DATA SHEET



according to Regulation (EC) No. 1907/2006 (REACH)

MONOAMMONIUMPHOSPHATE

Date: 19.05.2009

Version: 2.0

replaces version: 1.0

Page: 6/7

The substance doesn't appear to be persistent and bioaccumulative one.

12.6 Other negative effects

Substances which may cause destruction of the ozone layer: not available

Volatility: non-volatile

13 WASTE DISPOSAL

The product is safe for land disposal in sanitary or industrial cesspools. Waste disposal in strict correspondence with the state and local laws and regulations. Waste is non-hazardous according to the 2000/532/EC.

14 TRANSPORT INFORMATION

The product is transported by railway (RID), road (ADR), and sea (IMDG) transport.

The cargo is classified as non-hazardous in compliance with the international rules of carriage.

Obligatory mark «**Keep dry**».

15 REGULATORY INFORMATION

State standard GOST 12.1.007-76 SSBT. Hazardous substances. Classification and general safety requirements

State standard GOST 12.1.005-88 SSBT. General hygiene requirements for the workplace air.

Instructional guidelines MU No. 5072-89 dated 28.09.89 on photometrical determination of phosphoric anhydride authorized by the Ministry of Health of USSR.

Instructional guidelines No 5887-91 dated 10.09.91 Instructional guidelines on photometric determining of amorphous silicone dioxide approved by Ministry of Health of USSR.

Instructional guidelines No 4436-87 dated 18.11.87 Measuring concentrations of aerosols mainly of fibrogenic action approved by Ministry of Health of USSR.

Specification TU U 24.1-32785994-004:2007 Fertilizers «Ammophos» и «Hummoammophos»

Safety data card of hazardous factor dated 11.05.2005 No. 4130 B000014 Monobasic ammonium phosphate

MSDS for monoammonium phosphate 32785994.21.00131

Mineral ammophos fertilizer Hygiene and Toxicology Datasheet developed by the Institute of Ecohygiene and Toxicology named for L. I. Medved, Ministry of Health of Ukraine. 2008

Standard EN 374

Standard EN 149: 2001

Standard EN 166 1F (2002)

16 OTHER INFORMATION

16.1 Risk phrases:

R-phrases – unavailable

Safety phrases:

S-phrases – unavailable

Symbols designation and risks (R-phrases) specified in an item 3:

Symbol «Xn» - Hazardous substances;

R20 – Hazardous if inhaled;

R21 – Hazardous when contacts skin;

R22 - Toxic if swallowed.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

MONOAMMONIUMPHOSPHATE



Date: 19.05.2009

Version: 2.0

replaces version: 1.0

Page: 7/7

16.2 Training advice

Read the SDS before using the product

16.3 Recommended use restrictions

On condition that regulatory requirements for production process, storage and transportation are observed the product won't produce negative effects on environment and humans' health.

Information contained in the Safety Data Sheet refers to this particular substance. It may be invalid in case this substance is used together with any other materials or any other production process. The user bears responsibility for assessment of applicability and completeness of this information for his particular applications.