

Safety data sheet

according to 1907/2006/EC, Article 31
2-800-26-011-EU version 9.1

Printing date 23.02.2017

Revision: 23.02.2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name:** MAP

· **Synonyms**

Nova MAP

Ammonium dihydrogen phosphate;

Phosphoric acid, monoammonium salt;

Monoammonium phosphate

· **Article number:** 9750120101, 9750010000, 9750000000

· **CAS Number:**

7722-76-1

· **EC number:**

231-764-5

· **Index number:** None

· **Registration number** 01-2119488166-29

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

Relevant identified uses:

Binder

Fertiliser

Fire retarding agent

Laboratory chemicals

Food additives

Feed additives

Flux

Intermediate

Processing aid

Additive for cosmetic or pharmaceutical preparations

~~No uses advised against~~

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Rotem Amfert Negev Ltd.

ICL Specialty Fertilizers

Mishor Rotem, Mobile Post Arava 86800

ISRAEL

Telefon: +972-8-6598877

Fax: +972-8-6598987

E-mail: Tal.Bugatos@icl-group.com

Only Representative/Supplier:

ICL Italy S.r.l. Milano

Via Monteverdi 11, 20131, Milano,

Italy

Telefon: +39-02-20487221

Fax: +39-02-2049449

E-mail: info@pec.pmchemicals.it

· **1.4 Emergency telephone number:**

In Europe call: +31-205-815100 (24 hours a day, 365 days a year)

In Israel call: +972-8-6504777 (24 hours a day, 365 days a year)

+972-8-6504915

Safety data sheet

according to 1907/2006/EC, Article 31
2-800-26-011-EU version 9.1

Printing date 23.02.2017

Revision: 23.02.2017

Trade name: MAP

(Contd. of page 1)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008** The substance is not classified according to the CLP regulation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**
7722-76-1 Ammonium dihydrogenorthophosphate
- **EC number:** 231-764-5
- **SVHC** None

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Generally the product does not irritate the skin.
Rinse with warm water.
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.
NOTE: Never give an unconscious person anything to drink.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
The product is not flammable.
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** None
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Nitrogen oxides (NOx)

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31
2-800-26-011-EU version 9.1

Printing date 23.02.2017

Revision: 23.02.2017

Trade name: MAP

(Contd. of page 2)

Ammonia

Phosphorus oxides (e.g. P₂O₅)

· **5.3 Advice for firefighters**

· **Protective equipment:**

Wear fully protective suit.

Mount respiratory protective device.

· **Additional information** Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Avoid formation of dust.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective clothing.

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:** Pick up mechanically.

· **6.4 Reference to other sections** See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of dust.

· **Information about fire - and explosion protection:**

No special measures required.

The product is not flammable.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Requirements to be met by storerooms and receptacles:**

Store in dry conditions.

Protect from heat and direct sunlight.

· **Information about storage in one common storage facility:**

Do not store together with alkalis (caustic solutions).

Store away from oxidising agents.

Do not store together with acids.

Incompatible with copper and its alloys

· **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:** Not required.

· **DNELs**

For workers:

Long-term-systemic effects (inhalation) DNEL: 6.1 mg/m³

Long-term-systemic effects (dermal) DNEL: 34.7 mg/kg bw/day

Long-term-systemic effects (dermal) DNEL: 10.4 mg/kg bw/day

For general population:

Long-term-systemic effects (inhalation) DNEL: 1.8 mg/m³

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31
2-800-26-011-EU version 9.1

Printing date 23.02.2017

Revision: 23.02.2017

Trade name: MAP

(Contd. of page 3)

Long-term-systemic effects (dermal) DNEL: 20.8 mg/kg bw/day

Long-term-systemic effects (oral) DNEL: 2.1 mg/kg bw/day

· **PNECs**

PNEC aqua (freshwater): 1.7 mg/L

PNEC aqua (marine water): 0.17 mg/L

PNEC aqua (intermittent releases): 17 mg/L

PNEC STP: 10 mg/L

· **8.2 Exposure controls**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not eat or drink while working.

· **Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.

· **Protection of hands:**



Protective gloves

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed. (EN 374)

· **Eye protection:**



Safety glasses

· **Body protection:** Light weight protective clothing

· **Limitation and supervision of exposure into the environment**

Based on all data available this product is not considered to pose a risk to the environment.

· **Risk management measures**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Crystalline

Colour: White

· **Odour:** Odourless

· **pH-value (10 g/l) at 20 °C:** 4,3-4,5

· **Change in condition**

Melting point/Melting range: 197 °C (1013 hPa; DSC)

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31
2-800-26-011-EU version 9.1

Printing date 23.02.2017

Revision: 23.02.2017

Trade name: MAP

(Contd. of page 4)

Boiling point/Boiling range:	Not applicable The substance decomposes before boiling
· Flash point:	Not applicable. This product is inorganic substance.
· Flammability (solid, gaseous):	Product is not flammable. (based on molecular structure)
· Ignition temperature:	Not applicable
· Decomposition temperature:	>197 °C (1013 hPa; DSC)
· Self-igniting:	Product is not selfigniting. (based on molecular structure)
· Danger of explosion:	Product does not present an explosion hazard. (based on molecular structure)
· Explosion limits:	None
· Oxidising properties	None The substance does not contain any groups associated with oxidising properties.
· Vapour pressure at 20 °C:	0,00147 Pa
· Bulk density at 20 °C:	1100 kg/m ³
· Relative density at 20 °C	1,81 g/cm ³
· Evaporation rate	Not determined. This product is an inorganic solid
· Solubility in / Miscibility with water at 25 °C:	370 g/l
· Partition coefficient (n-octanol/water):	Not applicable This substance is inorganic chemical.
· Viscosity:	Not applicable This product is solid. Viscosity is only relevant to liquids.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No decomposition if used according to specifications.
- **10.2 Chemical stability** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with strong acids.
Reacts with alkalis releasing ammonia.
Reacts with oxidising agents.
- **10.4 Conditions to avoid** To avoid thermal decomposition do not overheat.
- **10.5 Incompatible materials:**
Alkalis
Mineral acids
Incompatible with copper and its alloys
Sodium hypochlorite
- **10.6 Hazardous decomposition products:**
Formation of toxic gases is possible during heating or in case of fire.
Nitrogen oxides
Ammonia

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31
2-800-26-011-EU version 9.1

Printing date 23.02.2017

Revision: 23.02.2017

Trade name: MAP

(Contd. of page 5)

Phosphorus oxides (e.g. P₂O₅)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification:

no classification is necessary

Oral	LD50	>2000 mg/kg (rat) (OECD 425)
Dermal	LD50	>5000 mg/kg (rat) (OECD 402)

7783-28-0 diammonium hydrogenorthophosphate

Inhalative	LC50/4 h	>5,0 mg/l (rat) (OECD 403, B.2, EPA)
------------	----------	--------------------------------------

Primary irritant effect:

Effect	Species	Method
Irritation of skin	equiv. to OECD 404	none (rabbit)
Irritation of eyes	equiv. to OECD 405	none (rabbit)

7783-28-0 diammonium hydrogenorthophosphate

Sensitisation	OECD 429, EC B42 EPA	none (mouse)
---------------	----------------------	--------------

Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

The substance is not subject to classification according to the latest version of the EU lists.

Toxicokinetics, metabolism and distribution

This product dissociates into NH₄⁺ and phosphate ions.

For risk assessment purposes oral absorption is considered to be 50-100%, inhalation absorption 100% and dermal absorption 50-100%.

Repeated dose toxicity

No reliable study with this product is present.

This study is conducted on an analogous substance. (read-across)

no classification is necessary

7783-28-0 diammonium hydrogenorthophosphate

Oral	NOAEL	250 mg/kg bw/day (rat) (OECD 422, subacute)
------	-------	---

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Mutagenicity:

None

according to OECD 471 and OECD 473 for 7783-28-0 diammonium hydrogenorthophosphate and OECD 476 for 7722-76-1 ammonium dihydrogenorthophosphate

Carcinogenicity:

no data available

(no carcinogenicity study needs to be performed as this substance is not genotoxic)

Toxicity for reproduction:

no classification is necessary

For 7783-28-0 diammonium hydrogenorthophosphate (DAP):

reproductive toxicity: NOAEL > 1500 mg/kg bw/day; rat, oral (OECD 422)

developmental toxicity: NOAEL > 1500 mg/kg bw/day; rat, oral (OECD 422)

EU

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31
2-800-26-011-EU version 9.1

Printing date 23.02.2017

Revision: 23.02.2017

Trade name: MAP

(Contd. of page 6)

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

7783-28-0 diammonium hydrogenorthophosphate

EC50/72 h (static)	>100 mg/L (algae) (OECD 201, freshwater)
	NOEC > 100 mg/L

7722-76-1 Ammonium dihydrogenorthophosphate

LC50/96 h (static)	>85,9 mg/L (fish <i>Oncorhynchus mykiss</i>) (OECD 203, freshwater)
--------------------	--

8011-76-5 Superphosphate (SSP)

LC50/72 h	1790 mg/L (<i>Daphnia carinata</i>) (freshwater)
-----------	--

· **12.2 Persistence and degradability** The substance is inorganic; therefore no biodegradation tests are applicable.

· **12.3 Bioaccumulative potential**

Does not accumulate in organisms

This substance is highly water soluble and dissociating.

· **12.4 Mobility in soil**

This substance is highly water soluble and dissociating.

Low potential for adsorption (based on substance properties).

· **Other information:**

Product should not get in high quantities into waste water because it may act as a plant nutrient and cause eutrophication.

· **Behaviour in sewage processing plants:**

Type of test	Effective concentration	Method	Assessment
--------------	-------------------------	--------	------------

7783-28-0 diammonium hydrogenorthophosphate

EC50/3 h (static)	100 mg/L (activated sludge) (OCDE 209, C.11, ISO 8192)
	NOEC (3h) > 100 mg/L, freshwater

· **Remark:**

No reliable study with this product is present.

This study is conducted on an analogous substance. (read-across)

Inorganic phosphates are not considered to be toxic to sewage treatment plant microorganisms.

· **General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** No assessment is required for inorganic substances.

· **vPvB:** No assessment is required for inorganic substances.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

This product is used as fertiliser. However, large spills can kill vegetation. Prevent large quantities from entering waterways. If uncontaminated, sweep up or collect, and reuse as product. If contaminated with other materials, collect in suitable containers.

Can be reused without reprocessing.

Can be disposed of with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

Disposal must be made in accordance with Local Authority requirements.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

2-800-26-011-EU version 9.1

Printing date 23.02.2017

Revision: 23.02.2017

Trade name: MAP

(Contd. of page 7)

- **Uncleaned packaging:**
- **Recommendation:**
Packaging may be reused or recycled after cleaning.
Disposal must be made in accordance with Local Authority requirements.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number** None
- **14.2 UN proper shipping name** None
- **14.3 Transport hazard class(es)** None
- **DOT, ADR, IMDG, IATA**
- **Class** None
- **14.4 Packing group** Not applicable
- **14.5 Environmental hazards:** None
- **Marine pollutant:** No
- **14.6 Special precautions for user** None
- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
Directive 2000/60 EC (phosphates)
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **National regulations:**
- **Additional classification according to Decree on Hazardous Materials, Annex II:** None
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57** None
- **Registration status (Chemical Inventories listing) :**
United States (TSCA) : listed
Canada (DSL) : listed
Australia (AICS) : listed
Japan (ENCS) : listed
Korea (KECI) : listed
Philippines (PICCS) : listed
China (IECSC) : listed
NTP (National Toxicology Program) : Substance is not listed
IARC (International Agency for Research on Cancer) : Substance is not listed
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

- **Department issuing MSDS:** Regulatory Affairs of ICL Fertilizers Products

(Contd. on page 9)

Safety data sheet

according to 1907/2006/EC, Article 31
2-800-26-011-EU version 9.1

Printing date 23.02.2017

Revision: 23.02.2017

Trade name: MAP

(Contd. of page 8)

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
NOAEL: No Observable Adverse Effect Level
NOEC: No-Observed Effect Concentration
OECD: Organisation for Economic Co-operation and Development

· **Sources**

REACH Dossier, 2010

REACH CSR, 2010

* **Data compared to the previous version altered** ·

The sections where alterations took place are marked with an asterisk in the left border

· **Disclaimer**

Although the information and recommendations set forth herein (hereinafter ""information"") are presented in good faith and believed to be correct as of the date hereof, Rotem Amfert Negev Ltd. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its safety and suitability for their purposes prior to use. In no event will Rotem Amfert Negev Ltd. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information.

NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE, ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH THE INFORMATION REFERS.