

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 03.10.2017

version 1

Revision: 03.10.2017

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

· **1.1 Product identifier**

· Trade name: MDCP-21

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

Relevant identified uses:

Feed stuffs

No uses advised against.

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

· **Manufacturer/Supplier:**

Head Office: Rotem Kimyevi Maddeler Sanayi ve Ticaret A.Ş.

Prof. Dr. Alaeddin Yavasca Sok. Marmara Apt. No:4 Kat:4 D:8 Macka

34357 Istanbul

Turkey

Office: +90 212 258 49 58

Plant: Çanakkale Yolu 12.Km Bandırma/Balıkesir Turkey

Phone: +90 266 727 20 21

Fax: +90 266 727 25 46

E-mail: info@rotem.com.tr

Only Representative/supplier:

ICL Fertilizers Europe C. V.

Fosfaatweg 48 1013 BM

P.O. Box 313, 1000 AH Amsterdam,

The Netherlands

Tel.: +31-(0)20-5815132

Fax: +31-(0)20-6868328

E-mail: richard.vandersluis@icl-group.com

· **1.4 Emergency telephone number:** In Europe call: +31-20-5815100 (24 hours a day, 365 days a year)

### SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· Classification according to Regulation (EC) No 1272/2008



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.

· **2.2 Label elements**

· Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

· Hazard pictograms



GHS05

· Signal word Danger

· Hazard-determining components of labelling:

Calcium bis(dihydrogenorthophosphate) monohydrate

(Contd. on page 2)

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 03.10.2017

version 1

Revision: 03.10.2017

Trade name: MDCP-21

(Contd. of page 1)

**Hazard statements**

H318 Causes serious eye damage.

**Precautionary statements**

P280

Wear eye protection / face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310

Immediately call a POISON CENTER/doctor.

**2.3 Other hazards**

**Results of PBT and vPvB assessment**

· **PBT:** Not applicable.


· **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

**3.2 Mixtures**

· **Description:** Mixture: consisting of the following components.

· **Components:**

CAS: 10031-30-8 EINECS: 231-837-1	Calcium bis(dihydrogenorthophosphate) monohydrate	 Eye Dam. 1, H318	50-80%
CAS: 7757-93-9 EINECS: 231-826-1	calcium hydrogenorthophosphate		20-50%

10031-30-8 Calcium bis(dihydrogenorthophosphate) monohydrate REACH registration number: 01-2119490065-39-0008

7757-93-9 calcium hydrogenorthophosphate dihydrate REACH registration number: 01-2119490064-41-0018

· **SVHC** None

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

**4.1 Description of first aid measures**

· **General information:** Do not leave affected persons unattended.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Rinse opened eye for several minutes under running water.

Seek immediate medical advice.

· **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** Irritating to eyes.

· **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:** Use fire extinguishing methods suitable to surrounding conditions.

· **For safety reasons unsuitable extinguishing agents:** None

(Contd. on page 3)

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 03.10.2017

version 1

Revision: 03.10.2017

Trade name: MDCP-21

(Contd. of page 2)

- **5.2 Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.  
Phosphorus oxides (e.g. P<sub>2</sub>O<sub>5</sub>)
- **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.  
Ensure adequate ventilation  
Use respiratory protective device against the effects of fumes/dust/aerosol.  
Wear protective clothing.
- **6.2 Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **6.3 Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Damp down dust with water spray.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Prevent formation of dust.  
Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:**  
The product is not flammable.  
No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**  
Store in dry conditions.  
Protect from humidity and water.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **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:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

(Contd. on page 4)

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 03.10.2017

version 1

Revision: 03.10.2017

Trade name: MDCP-21

(Contd. of page 3)

· **DNELs**

Monocalcium phosphate monohydrate, CAS 10031-30-8:

For workers:

Long-term-systemic effects (inhalation) DNEL: 4.07 mg/m<sup>3</sup>

For general population:

Long-term-systemic effects (inhalation) DNEL: 3.04 mg/m<sup>3</sup>

· **PNECs**

Monocalcium phosphate monohydrate, CAS 10031-30-8:

PNEC aqua (marine water): 0.005 mg/L

PNEC aqua (intermittent releases): 0.5 mg/L

PNEC aqua (freshwater): 0.05 mg/L

PNEC STP: 50 mg/L

· **Additional information:**

Ventilation must be sufficient to maintain TLV-TWA below 3 mg/m<sup>3</sup>, respirable particles, and 10 mg/m<sup>3</sup>, inhalable particles [ACGIH recommendation for Particles (Insoluble or poorly soluble). Not Otherwise Specified (PNOS)]

· **8.2 Exposure controls**

· **General protective and hygienic measures:**

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

Do not eat or drink while working.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

· **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Filter FFP1 or FFP2 (EN 140 or 149)

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

Butyl rubber, BR

Nitrile rubber, NBR

Fluorocarbon rubber (Viton)

Natural rubber, NR

Chloroprene rubber, CR

Neoprene gloves (0.5 mm)

· **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:**



Tightly sealed goggles (EN 166)

· **Body protection:**

Protective work clothing

Light weight protective clothing

(Contd. on page 5)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 03.10.2017

version 1

Revision: 03.10.2017

Trade name: MDCP-21

(Contd. of page 4)

· **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.

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

· **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 powder

Colour: White

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value:** 4.5-5.5

· **Change in condition**

Melting point/freezing point: >450 °C

Initial boiling point and boiling range: Not determined  
The substance decomposes before boiling

· **Flash point:** Not applicable  
This product is inorganic substance.

· **Flammability (solid, gas):** Product is not flammable.  
(based on molecular structure)

· **Ignition temperature:** Not applicable

· **Decomposition temperature:** Thermal decomposition on losing water.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product does not present an explosion hazard.  
(based on molecular structure)

· **Explosion limits:** None

· **Lower:** Not determined.

· **Upper:** Not determined.

· **Oxidising properties** None  
The substance does not contain any groups associated with oxidising properties.

· **Vapour pressure:** Not determined  
(melting point > 300 °C)

· **Relative density at 20 °C** 1 g/cm<sup>3</sup>

· **Vapour density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with water:** Partly soluble.

· **Partition coefficient: n-octanol/water:** Not applicable  
This substance is inorganic chemical.

· **Viscosity:** This product is solid. Viscosity is only relevant to liquids.

(Contd. on page 6)

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 03.10.2017

version 1

Revision: 03.10.2017

Trade name: MDCP-21

- **Organic solvents:** 0 %
- **9.2 Other information** No further relevant information available.

(Contd. of page 5)

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** Mixing with urea causes formation of very sticky urea phosphate.
- **10.2 Chemical stability** No decomposition if used and stored according to specifications.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Toxic fumes may be released if heated above the decomposition point.
- **10.4 Conditions to avoid**  
To avoid thermal decomposition do not overheat.  
Water
- **10.5 Incompatible materials:** Urea
- **10.6 Hazardous decomposition products:**  
Formation of toxic gases is possible during heating or in case of fire.  
Phosphorus oxides (e.g. P<sub>2</sub>O<sub>5</sub>)

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

#### 7758-23-8 Calcium bis(dihydrogenorthophosphate)

Oral	LD50	3986 mg/kg (rat) (EPA)
Dermal	LD50	>2000 mg/kg (rat) (EPA)
Inhalative	LC50/4 h	>2.6 mg/l (rat) (OECD 403, EC B.2, EPA) at maximal attainable concentration

· **Primary irritant effect:**

· **Effect Species Method**

#### 7758-23-8 Calcium bis(dihydrogenorthophosphate)

Irritation of skin	EPA	not irritating (rabbit)
Irritation of eyes	OECD 405, EC B.5	corrosive (rabbit)

#### 7558-80-7 sodium dihydrogenorthophosphate

Sensitisation	OECD 429, EC B.42	not sensitising (mouse)
---------------	-------------------	-------------------------

- **Skin corrosion/irritation:** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation:**  
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Toxicokinetics, metabolism and distribution**  
This product dissociates into calcium and phosphate ions, which are normal body and nutritional components.  
This substance is not considered to have bioaccumulative potential as it is highly soluble in water and phosphate levels in the body are regulated via homeostasis.
- **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

(Contd. on page 7)



## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 03.10.2017

version 1

Revision: 03.10.2017

Trade name: MDCP-21

(Contd. of page 6)

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity**  
None  
(acc. to tests OECD 471, EC B.13/14; OECD 476, EU B.17 - CAS: 7664-38-2 (orthophosphoric acid)  
OECD 473 - CAS: 65996-95-4 (triple superphosphate)  
OECD 476, EU B.17 - CAS: 12167-74-7 (pentacalcium hydroxide tris(orthophosphate).))
- **Carcinogenicity:**  
no data available  
(no carcinogenicity study needs to be performed as this substance is not genotoxic)
- **Toxicity for reproduction:**  
no classification is necessary  
Monocalcium phosphate monohydrate, CAS 10031-30-8:  
maternal / developmental toxicity: NOAEL: >410 mg/kg bw/day; rat, oral  
maternal / developmental toxicity: NOAEL: >217 mg/kg bw/day; rabbit, oral  
maternal / developmental toxicity: NOAEL: >465 mg/kg bw/day; mouse, oral
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**  
Based on available data, the classification criteria are not met.  
7785-88-8 Sodium aluminum phosphate  
Oral NOAEL >1038.77 mg/kg bw/day (dog) (90 days, subchronic)
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**  
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 aquatic species.

#### 66922-99-4 Tripotassium trihydrogen diphosphate dihydrate

LC50/96 h	>100 mg/L (fish <i>Oncorhynchus mykiss</i> ) (OECD 203, freshwater, semi-static)
EC50/48 h (static)	>100 mg/L ( <i>Daphnia magna</i> ) (OECD 202, freshwater)
EC50/72 h (static)	>100 mg/L (algae) (OECD 201, freshwater)
	NOEL: 100 mg/L

- **12.2 Persistence and degradability**  
The substance is inorganic; therefore no biodegradation tests are applicable.  
This product dissociates into Ca<sup>+2</sup> and phosphate ions, which cannot be further degraded.
- **Other information:**  
The product should not get in high quantities into waste water because it may act as a plant nutrient and cause eutrophication.
- **12.3 Bioaccumulative potential**  
Does not accumulate in organisms  
This substance is highly water soluble and dissociating.
- **12.4 Mobility in soil** Low potential for adsorption (based on substance properties).
- **Other information:**  
The 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:**  
7758-11-4 dipotassium hydrogenorthophosphate:  
EC50/3 h >1000 mg/L (activated sludge), (OECD 209, EPA)  
NOEC (3 h): 1000 mg/L

(Contd. on page 8)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 03.10.2017

version 1

Revision: 03.10.2017

Trade name: MDCP-21

(Contd. of page 7)

· **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.

· **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.  
Disposal must be made in accordance with Local Authority requirements.

· **European waste catalogue**

06 09 04	calcium-based reaction wastes other than those mentioned in 06 09 03
----------	--

· **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**

Not applicable

· **14.3 Transport hazard class(es)**

· **DOT, ADR, IMDG, IATA**

· **Class**

Void

· **14.4 Packing group**

Not applicable

· **14.5 Environmental hazards:**

None

· **Marine pollutant:**

No

· **14.6 Special precautions for user**

Not applicable.

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable

· **Transport/Additional information:**

Not dangerous according to the above specifications.

· **UN "Model Regulation":**

Void

**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**

The product is classified and labelled according to the CLP regulation.

(Contd. on page 9)



**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 03.10.2017

version 1

Revision: 03.10.2017

Trade name: MDCP-21

(Contd. of page 8)

· **Hazard pictograms**



GHS05

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

*Calcium bis(dihydrogenorthophosphate) monohydrate*

· **Hazard statements**

*H318 Causes serious eye damage.*

· **Precautionary statements**

*P280 Wear eye protection / face protection.*

*P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

*P310 Immediately call a POISON CENTER/doctor.*

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** *None of the ingredients is listed.*

· **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) :**

*Australia (AICS) : All components of the mixture are listed.*

*Canada (DSL) : All components of the mixture are listed.*

*United States (TSCA) : All components of the mixture are listed.*

*Japan (ENCS) : All components of the mixture are listed.*

*Korea (KECI) : All components of the mixture are listed.*

*Philippines (PICCS) : All components of the mixture are listed.*

*China (IECSC) : All components of the mixture are listed.*

*NTP (National Toxicology Program) : All components of the mixture are not listed*

*IARC (International Agency for Research on Cancer) : All components of the mixture are not listed*

· **15.2 Chemical safety assessment:** *A Chemical Safety Assessment has been carried out.*

## SECTION 16: Other information

· **Relevant phrases**

*H318 Causes serious eye damage.*

· **Department issuing SDS:** *Regulatory Affairs of ICL Fertilizers Products*

· **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)*

*IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)*

*ICAO: International Civil Aviation Organisation*

*ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)*

*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*

(Contd. on page 10)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 03.10.2017

version 1

Revision: 03.10.2017

**Trade name: MDCP-21**

(Contd. of page 9)

EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified 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  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

**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 Kimyevi Maddeler Sanayi ve Ticaret A.Ş. 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 Kimyevi Maddeler Sanayi ve Ticaret A.Ş. 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.