

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

#### 1.1. Product identifier

Product form	: Substance
Trade name	: Monocalcium phosphate
Chemical name	: Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenoorthophosphate
EC-No.	: 914-172-8
REACH registration No	: 01-2119686864-19-0000
Type of product	: Mineral
Formula	: CaHPO <sub>4</sub> .Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> .H <sub>2</sub> O
Product group	: Raw material

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture	: Fertilisers Animal feed
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##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

TIMAB INDUSTRIES  
57 Boulevard Jules Verger  
35800 Dinard - France  
T +33 2 99 16 53 00 - F +33 2 99 16 51 60  
[contact@phosphea.com](mailto:contact@phosphea.com) - [www.phosphea.com](http://www.phosphea.com)

#### 1.4. Emergency telephone number

Country	Official advisory body	Address	Emergency number	Comment
	USA POISON CONTROL CENTER (24h/7d)		1-800-222-1222	
Americas	3E		+1-760-476-3962 (Access code : 333021)	(24/7)
Australia	NSW Poisons Information Centre The Children's Hospital at Westmead	Locked Bag 4001 NSW 2145 Westmead	13 11 26	
Europe/Middle-East/Africa	3E		+1-760-476-3961 (Access code : 333021)	(24/7)
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD Msida	+356 2545 6504	
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	

# Monocalcium phosphate

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category 1 H318

Full text of H statements : see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H318 - Causes serious eye damage.

Precautionary statements (CLP) :

P280 - Wear protective gloves/protective clothing/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 or doctor/physician.

#### 2.3. Other hazards

Other hazards not contributing to the classification : None under normal conditions.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Substance type :

Multi-constituent

Name :

Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

EC-No. :

914-172-8

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate	(EC-No.) 914-172-8 (REACH-no) 01-2119686864-19-0000	100	Eye Dam. 1, H318

Full text of H-statements: see section 16

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general :

If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation :

Move the affected person away from the contaminated area and into the fresh air. If not breathing, give artificial respiration. If irritation persists, consult a doctor.

First-aid measures after skin contact :

Remove all contaminated clothing and footwear. Rinse with plenty of water. If case of redness or irritation, call a doctor.

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First-aid measures after eye contact	: Wash immediately with plenty water (during 20 minutes), also under eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist immediately, even if there are no immediate symptoms. If possible show him this sheet. Failing this, show him the packaging or label.
First-aid measures after ingestion	: If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting without medical advice. If swallowed, seek medical advice immediately and show this container or label.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after eye contact	: Serious damage to eyes.
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### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: water, carbon dioxide (CO <sub>2</sub> ), powder and foam. Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: None known.

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: On combustion or on thermal decomposition (pyrolysis) releases : Phosphorus oxides. Toxic fumes may be released.
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### 5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Contain the extinguishing fluids by bunding.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Complete protective clothing. EN 469. Self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

No additional information available

### 6.3. Methods and material for containment and cleaning up

For containment	: Collect spillage.
Methods for cleaning up	: Clean up immediately by sweeping or vacuum. Minimise generation of dust. Collect up the product and place it in a spare container suitably labelled.
Other information	: Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Do not breathe dust. Use personal protective equipment as required. Avoid contact with eyes. Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Special rules on packaging : Keep only in original container. Store in a closed container.

#### 7.3. Specific end use(s)

(see section(s) : 1.2. Relevant identified uses of the substance or mixture and uses advised against).

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

###### France - Occupational Exposure Limits

VME [mg/m <sup>3</sup> ]	10 mg/m <sup>3</sup> (Particles not otherwise classified)
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###### USA - ACGIH - Occupational Exposure Limits

ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> Inhalable fraction
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##### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

###### France - Occupational Exposure Limits

VME [mg/m <sup>3</sup> ]	10 mg/m <sup>3</sup> (Particles not otherwise classified)
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###### USA - ACGIH - Occupational Exposure Limits

ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> Inhalable fraction
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##### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

###### DNEL/DMEL (Workers)

Long-term - systemic effects, inhalation	4,07 mg/m <sup>3</sup>
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###### DNEL/DMEL (General population)

Long-term - systemic effects, inhalation	3,04 mg/m <sup>3</sup>
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###### PNEC (STP)

PNEC sewage treatment plant	50 mg/l
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DNEL : 4,07 mg/m<sup>3</sup>

PNEC : 50 mg/l

#### 8.2. Exposure controls

##### Appropriate engineering controls:

Ensure good ventilation of the work station. Local exhaust and general ventilation must be adequate to meet exposure standards.

##### Personal protective equipment:

Gloves. Safety glasses. Protective clothing.

##### Hand protection:

Neoprene protective gloves. Protective gloves made of PVC. Butyl-rubber protective gloves. Nitrile rubber gloves

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### Eye protection:

Safety glasses with side guards should be worn to prevent injury from airborne particles and/or other eye contact with this product. EN 166

### Skin and body protection:

Protective clothing

### Personal protective equipment symbol(s):



### Environmental exposure controls:

Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems. Assure that emissions are compliant with all applicable air pollution control regulations. Comply with applicable regulations.

### Other information:

See Heading 7 : 7.1. Precautions for safe handling.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granulate.
Colour	: light cream.
Odour	: Odourless.
Odour threshold	: Not established
pH	: 4
pH solution	: 10 %
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: > 109 °C
Freezing point	: No data available
Boiling point	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not determined
Flammability (solid, gas)	: Not applicable
Vapour pressure	: Not applicable
Relative vapour density at 20 °C	: No data available
Relative density	: 0,9 – 1,1
Solubility	: Water: 6 – 6,5 g/l
Partition coefficient n-octanol/water (Log Pow)	: Not specifically applicable
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

### 10.3. Possibility of hazardous reactions

On exposure to high temperature, may decompose, releasing toxic gases.

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

None to our knowledge.

### 10.6. Hazardous decomposition products

On combustion or on thermal decomposition (pyrolysis) releases : Phosphorus oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)  
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)  
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

#### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	> 2,6 mg/l/4h

#### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	> 2,6 mg/l/4h

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)  
pH: 4  
Serious eye damage/irritation : Causes serious eye damage. ((OECD 405 method))  
pH: 4  
Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met (read-across))  
Carcinogenicity : Not classified (Lack of data)  
Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)  
Additional information : NOAEL (oral, rat) : >= 500 mg/kg (read-across)  
STOT-single exposure : Not classified (Lack of data)  
STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)  
Aspiration hazard : Not classified (Technical impossibility to obtain the data)

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

#### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

LC50 fish 1	> 100 mg/l/96h (Oncorhynchus mykiss) (read-across)
EC50 Daphnia 1	> 100 mg/l/48h (Daphnia magna) (read-across)
ErC50 (algae)	> 100 mg/l/72h (Desmodesmus subspicatus) (read-across)

#### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

LC50 fish 1	> 100 mg/l/96h (Oncorhynchus mykiss) (read-across)
EC50 Daphnia 1	> 100 mg/l/48h (Daphnia magna) (read-across)
ErC50 (algae)	> 100 mg/l/72h (Desmodesmus subspicatus) (read-across)

#### 12.2. Persistence and degradability

#### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

Persistence and degradability	Not established.
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#### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

Persistence and degradability	Not established.
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#### 12.3. Bioaccumulative potential

#### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

Partition coefficient n-octanol/water (Log Pow)	Not specifically applicable
Bioaccumulative potential	Bioaccumulation unlikely.

#### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

Partition coefficient n-octanol/water (Log Pow)	Not specifically applicable
Bioaccumulative potential	Bioaccumulation unlikely.

#### 12.4. Mobility in soil

#### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

Mobility in soil	No data available
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#### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

Mobility in soil	No data available
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#### 12.5. Results of PBT and vPvB assessment

#### Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate

Results of PBT assessment	The product does not meet the PBT and vPvB classification criteria
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### Component

Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate ()

The product does not meet the PBT and vPvB classification criteria

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste)

: Disposal must be done according to official regulations.

Waste treatment methods

: Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not applicable	Not regulated	Not regulated	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not regulated	Not regulated	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not regulated	Not regulated	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not regulated	Not regulated	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Not applicable	Not regulated	Not regulated	Not applicable	Not applicable
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Not applicable

#### Transport by sea

Not regulated

#### Air transport

Not regulated

#### Inland waterway transport

Not applicable

#### Rail transport

Not applicable

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable



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### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate is not on the REACH Candidate List

Reaction mass of calcium bis(dihydrogenorthophosphate) and calcium hydrogenorthophosphate is not on the REACH Annex XIV List

Monocalcium phosphate is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Monocalcium phosphate is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

##### 15.1.2. National regulations

###### Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 9521)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

###### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting : The substance is not listed

giftige stoffen – Borstvoeding

NIET-limitatieve lijst van voor de voortplanting : The substance is not listed

giftige stoffen – Vruchtbaarheid

NIET-limitatieve lijst van voor de voortplanting : The substance is not listed

giftige stoffen – Ontwikkeling

###### Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

#### 15.2. Chemical safety assessment

No additional information available

### SECTION 16: Other information

#### Indication of changes:

This sheet was updated (refer to the date at the top of this page).

Data sources : Chemical safety report (CSR). IUCLID. HSDB (Hazardous Substances Data Bank).

#### Full text of H- and EUH-statements:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H318	Causes serious eye damage.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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### ANNEX TO THE SAFETY DATA SHEET

Identified Uses	Es N°	Short title	Page
Manufacture of substances	1		8
Formulation & (re)packing of substances and mixtures. Formulation into mixture	2		10
Formulation & (re)packing of substances and mixtures. Formulation into solid matrix	3		12
Use at industrial sites. Use as an intermediate	4		14
Widespread use by professional workers. Fertilizers	5		16
Consumer use. Fertilizers	6		18

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### 1. ES 1: Manufacture of substances

#### 1.1. Title section

##### Manufacture of substances

ES Ref.: ES 1  
ES Type: Worker  
Version: 2.0  
Revision date: 30/10/2019

Environment		
	Contributing scenario controlling environmental exposure	ERC1
Worker		
	Worker Contributing Scenario	PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9

Processes, tasks, activities covered	
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#### 1.2. Conditions of use affecting exposure

##### 1.2.1. Control of environmental exposure: Contributing scenario controlling environmental exposure (ERC1)

ERC1	Manufacture of the substance
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##### 1.2.2. Control of worker exposure: Worker Contributing Scenario (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9)

PROC1	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC2	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4	Chemical production where opportunity for exposure arises
PROC8a	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b	Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

##### Product (article) characteristics

Physical form of product	Solid
Concentration of substance in product	<= 100 %
Dustiness	Solid, medium dustiness

##### Amount used (or contained in articles), frequency and duration of use/exposure

Exposure duration	8 h/day
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##### Technical and organisational conditions and measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)	
Efficiency	30 %

##### Conditions and measures related to personal protection, hygiene and health evaluation

Handle in accordance with good industrial hygiene and safety practice	
Chemical resistant gloves (according to European standard NF EN 374 or equivalent). Wear gloves providing a minimum efficiency of (%):	80
Approved goggles or watertight goggles complying with NF EN 166	

##### Other conditions affecting workers exposure

Indoor use	
Maximum process temperature	<= 40 °C

#### 1.3. Exposure estimation and reference to its source

##### 1.3.1. Environmental release and exposure Contributing scenario controlling environmental exposure (ERC1)

###### Information for contributing exposure scenario

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed

##### 1.3.2. Worker exposure Worker Contributing Scenario (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9)

###### Information for contributing exposure scenario

Qualitative approach used to conclude safe use

#### 1.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

##### 1.4.1. Environment

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Guidance - Environment	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for environment.
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### 1.4.2. Health

Guidance - Health	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for workers.
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### 2. ES 2: Formulation & (re)packing of substances and mixtures. Formulation into mixture

#### 2.1. Title section

##### Formulation & (re)packing of substances and mixtures. Formulation into mixture

ES Ref.: ES 2  
ES Type: Worker  
Version: 2.0  
Revision date: 30/10/2019

Environment		
	Contributing scenario controlling environmental exposure	ERC2
Worker		
	Worker Contributing Scenario	PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC19

Processes, tasks, activities covered	
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#### 2.2. Conditions of use affecting exposure

##### 2.2.1. Control of environmental exposure: Contributing scenario controlling environmental exposure (ERC2)

ERC2	Formulation into mixture
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##### 2.2.2. Control of worker exposure: Worker Contributing Scenario (PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC19)

PROC1	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC2	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4	Chemical production where opportunity for exposure arises
PROC5	Mixing or blending in batch processes
PROC8a	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b	Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC14	Tabletting, compression, extrusion, pelettisation, granulation
PROC19	Manual activities involving hand contact

##### Product (article) characteristics

Physical form of product	Solid
Concentration of substance in product	<= 100 %
Dustiness	Solid, medium dustiness

##### Amount used (or contained in articles), frequency and duration of use/exposure

Exposure duration	8 h/day
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##### Technical and organisational conditions and measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)	
Efficiency	30 %

##### Conditions and measures related to personal protection, hygiene and health evaluation

Handle in accordance with good industrial hygiene and safety practice	
Chemical resistant gloves (according to European standard NF EN 374 or equivalent). Wear gloves providing a minimum efficiency of (%):	80
Approved goggles or watertight goggles complying with NF EN 166	

##### Other conditions affecting workers exposure

Indoor use	
Maximum process temperature	<= 40 °C

#### 2.3. Exposure estimation and reference to its source

##### 2.3.1. Environmental release and exposure Contributing scenario controlling environmental exposure (ERC2)

###### Information for contributing exposure scenario

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed

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### 2.3.2. Worker exposure Worker Contributing Scenario (PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC19)

#### Information for contributing exposure scenario

Qualitative approach used to conclude safe use

### 2.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

#### 2.4.1. Environment

Guidance - Environment	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for environment.
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#### 2.4.2. Health

Guidance - Health	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for workers.
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### 3. ES 3: Formulation & (re)packing of substances and mixtures. Formulation into solid matrix

#### 3.1. Title section

##### Formulation & (re)packing of substances and mixtures. Formulation into solid matrix

ES Ref.: ES 3  
ES Type: Worker  
Version: 2.0  
Revision date: 30/10/2019

Environment		
	Contributing scenario controlling environmental exposure	ERC3
Worker		
	Worker Contributing Scenario	PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC19

Processes, tasks, activities covered	
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#### 3.2. Conditions of use affecting exposure

##### 3.2.1. Control of environmental exposure: Contributing scenario controlling environmental exposure (ERC3)

ERC3	Formulation into solid matrix
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##### 3.2.2. Control of worker exposure: Worker Contributing Scenario (PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC19)

PROC1	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC2	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4	Chemical production where opportunity for exposure arises
PROC5	Mixing or blending in batch processes
PROC8a	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b	Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC14	Tabletting, compression, extrusion, pelettisation, granulation
PROC19	Manual activities involving hand contact

##### Product (article) characteristics

Physical form of product	Solid
Concentration of substance in product	<= 100 %
Dustiness	Solid, medium dustiness

##### Amount used (or contained in articles), frequency and duration of use/exposure

Exposure duration	8 h/day
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##### Technical and organisational conditions and measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)	
Efficiency	30 %

##### Conditions and measures related to personal protection, hygiene and health evaluation

Handle in accordance with good industrial hygiene and safety practice	
Chemical resistant gloves (according to European standard NF EN 374 or equivalent). Wear gloves providing a minimum efficiency of (%):	80
Approved goggles or watertight goggles complying with NF EN 166	

##### Other conditions affecting workers exposure

Indoor use	
Maximum process temperature	<= 40 °C

#### 3.3. Exposure estimation and reference to its source

##### 3.3.1. Environmental release and exposure Contributing scenario controlling environmental exposure (ERC3)

###### Information for contributing exposure scenario

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed

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### 3.3.2. Worker exposure Worker Contributing Scenario (PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC19)

#### Information for contributing exposure scenario

Qualitative approach used to conclude safe use

### 3.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

#### 3.4.1. Environment

Guidance - Environment	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for environment.
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#### 3.4.2. Health

Guidance - Health	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for workers.
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### 4. ES 4: Use at industrial sites. Use as an intermediate

#### 4.1. Title section

##### Use at industrial sites. Use as an intermediate

ES Ref.: ES 4  
ES Type: Worker  
Version: 2.0  
Revision date: 30/10/2019

Environment		
	Contributing scenario controlling environmental exposure	ERC6a
Worker		
	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions	PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC19, PROC26

Processes, tasks, activities covered	
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#### 4.2. Conditions of use affecting exposure

##### 4.2.1. Control of environmental exposure: Contributing scenario controlling environmental exposure (ERC6a)

ERC6a	Use of intermediate
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##### 4.2.2. Control of worker exposure: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC19, PROC26)

PROC1	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC2	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4	Chemical production where opportunity for exposure arises
PROC5	Mixing or blending in batch processes
PROC8a	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b	Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC19	Manual activities involving hand contact
PROC26	Handling of solid inorganic substances at ambient temperature

##### Product (article) characteristics

Physical form of product	Solid
Concentration of substance in product	<= 100 %
Dustiness	Solid, medium dustiness

##### Amount used (or contained in articles), frequency and duration of use/exposure

Exposure duration	8 h/day
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##### Technical and organisational conditions and measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)	
Efficiency	30 %

##### Conditions and measures related to personal protection, hygiene and health evaluation

Handle in accordance with good industrial hygiene and safety practice	
Chemical resistant gloves (according to European standard NF EN 374 or equivalent). Wear gloves providing a minimum efficiency of (%):	80
Approved goggles or watertight goggles complying with NF EN 166	

##### Other conditions affecting workers exposure

Indoor use	
Maximum process temperature	<= 40 °C

#### 4.3. Exposure estimation and reference to its source

##### 4.3.1. Environmental release and exposure Contributing scenario controlling environmental exposure (ERC6a)

###### Information for contributing exposure scenario

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed

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**4.3.2. Worker exposure Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC19, PROC26)**

### Information for contributing exposure scenario

Qualitative approach used to conclude safe use

## 4.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

### 4.4.1. Environment

Guidance - Environment	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for environment.
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### 4.4.2. Health

Guidance - Health	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for workers.
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# Monobicalcium phosphate

## Safety Data Sheet

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### 5. ES 5: Widespread use by professional workers. Fertilizers

#### 5.1. Title section

##### Widespread use by professional workers. Fertilizers

ES Ref.: ES 5  
ES Type: Worker  
Version: 2.0  
Revision date: 30/10/2019

Environment		
	Contributing scenario controlling environmental exposure	ERC8b, ERC8e
Worker		
	Worker Contributing Scenario	PROC5, PROC8a, PROC8b, PROC9, PROC11, PROC19, PROC26

Processes, tasks, activities covered	
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#### 5.2. Conditions of use affecting exposure

##### 5.2.1. Control of environmental exposure: Contributing scenario controlling environmental exposure (ERC8b, ERC8e)

ERC8b	Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC8e	Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)

##### 5.2.2. Control of worker exposure: Worker Contributing Scenario (PROC5, PROC8a, PROC8b, PROC9, PROC11, PROC19, PROC26)

PROC5	Mixing or blending in batch processes
PROC8a	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b	Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9	Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC11	Non-industrial spraying
PROC19	Manual activities involving hand contact
PROC26	Handling of solid inorganic substances at ambient temperature

##### Product (article) characteristics

Physical form of product	Solid
Concentration of substance in product	<= 100 %
Dustiness	Solid, medium dustiness

##### Amount used (or contained in articles), frequency and duration of use/exposure

Exposure duration	8 h/day
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##### Technical and organisational conditions and measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)	
Efficiency	30 %

##### Conditions and measures related to personal protection, hygiene and health evaluation

Handle in accordance with good industrial hygiene and safety practice	
Chemical resistant gloves (according to European standard NF EN 374 or equivalent). Wear gloves providing a minimum efficiency of (%):	80
Approved goggles or watertight goggles complying with NF EN 166	

##### Other conditions affecting workers exposure

Indoor use	
Maximum process temperature	<= 40 °C

#### 5.3. Exposure estimation and reference to its source

##### 5.3.1. Environmental release and exposure Contributing scenario controlling environmental exposure (ERC8b, ERC8e)

###### Information for contributing exposure scenario

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed

##### 5.3.2. Worker exposure Worker Contributing Scenario (PROC5, PROC8a, PROC8b, PROC9, PROC11, PROC19, PROC26)

###### Information for contributing exposure scenario

Qualitative approach used to conclude safe use

#### 5.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

##### 5.4.1. Environment

Guidance - Environment	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for environment.
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### 5.4.2. Health

Guidance - Health	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for workers.
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# Monobicalcium phosphate

## Safety Data Sheet

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### 6. ES 6: Consumer use. Fertilizers

#### 6.1. Title section

##### Consumer use. Fertilizers

ES Ref.: ES 6  
ES Type: Consumer

Environment		
	Contributing scenario controlling environmental exposure	ERC8b, ERC8e
Consumer		
	Contributing scenario consumer end-use	PC12

Processes, tasks, activities covered

#### 6.2. Conditions of use affecting exposure

##### 6.2.1. Control of environmental exposure: Contributing scenario controlling environmental exposure (ERC8b, ERC8e)

ERC8b	Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC8e	Widespread use of reactive processing aid (no inclusion into or onto article, outdoor)

##### 6.2.2. Control of consumer exposure: Contributing scenario consumer end-use (PC12)

PC12	Fertilizers
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##### Product (article) characteristics

Physical form of product	Solid
Concentration of substance in product	<= 100 %
Dustiness	Solid, medium dustiness

##### Amount used (or contained in articles), frequency and duration of use/exposure

Amount per use	<= 1000 g
Avoid carrying out operation for more than 1 hour	
1 time a day	

##### Other conditions affecting consumer exposure

Exposed skin surface assumed:	<= 857.5 cm <sup>2</sup>
Indoor use	

### 6.3. Exposure estimation and reference to its source

#### 6.3.1. Environmental release and exposure Contributing scenario controlling environmental exposure (ERC8b, ERC8e)

##### Information for contributing exposure scenario

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed

#### 6.3.2. Consumer exposure Contributing scenario consumer end-use (PC12)

##### Information for contributing exposure scenario

Qualitative approach used to conclude safe use

### 6.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

#### 6.4.1. Environment

Guidance - Environment	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for environment.
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#### 6.4.2. Health

Guidance - Health	No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for consumers
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