



LUVENA

SAFETY DATA SHEET
SUPERPHOSPHATE

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

1.1. Product identifier

Trade name: Powdery Superphosphate; Superphosphate 17 powdery, Superphosphate 18 powdery ,Granulated Superphosphate, Superphosphate 18 granulated, Superphosphate 19 granulated
Name: Superphosphate
Type of substance: multi constituent substance
CAS No.: 8011-76-5
EC No.: 232-379-5
IUPAC name: Superphosphate
Registration No.: 01-2119488967-11-xxxx

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

Identified use:
Formulation - Formulation of Superphosphates,
Use at industrial site - Industrial use of Superphosphates as pH regulator, flocculant, precipitant and neutralization agent
Use by professional worker - Professional use of Superphosphates as pH regulator, flocculant, precipitant and neutralization agent
Use by professional worker - Professional use of Superphosphates as granular fertilizer
Consumer use of Superphosphates as granular fertilizer
Use advised against: None

1.3. Details of the supplier of the safety data sheet

LUVENA S.A.
ul. Romana Maya 1
62-030 Luboń
+48 509 809 109
e-mail of the person responsible for preparation of this safety sheet : danuta.rybarczyk@luvena.pl

1.4. Emergency telephone number

Emergency telephone number: 112
POLAND Chemical Substances Office +48 42 2538 400/401 Open on working days from 08:00 to 16:00

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Eye Dam. 1 Serious eye damage, cat.1
H318 Causes serious eye damage

2.2. Label elements

Pictogram:



Warning: DANGER

Identification: CAS 8011-76-5 Superphosphate

Phrases describing the type of risk:

H318 Causes serious eye damage

Phrases indicating precautionary measures:

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.

P 310 Immediately call a POISON CENTER or doctor/a physician

2.3. Other risks

Pursuant to appendix XII to the Regulation of the European Parliament and Council (EC) No. 1907/2006, this substance is not evaluated as PBT and vPvB due to the fact that superphosphate is an inorganic substance.
Superphosphate is not endocrine disrupting substances.

SECTION 3: Composition / information on components**3.1. Substances****Superphosphate**

Concentration: 80-100 %

Type of substance: multi constituent substance

Identification numbers:

CAS No	EC No.	Index No.
8011-76-5	232-979-5	-

IUPAC name: Superphosphate

Chemical formula: not determined

ATE oral > 2000 mg/kg

ATE skin > 5000 mg/kg

ATE inhalation > 5 mg/l

Components:**Calcium sulphate**

Concentration: 31-65 %

Identification numbers:

CAS No	EC No.	Index No.
7778-18-9	231-900-3	-

IUPAC name: calcium sulphate

Chemical formula: CaSO₄**Calcium dihydrogen phosphate**

Concentration: 23-45 %

Identification numbers:

CAS No	EC No.	Index No.
7758-23-8	231-837-1	-

IUPAC name: Calcium dihydrogenphosphate

Chemical formula: Ca(H₂PO₄)₂**Impurities****Fluorapatite**

Concentration: 0.1-15 %

Identification numbers:

CAS No	EC No.	Index No.
1306-05-4	215-144-1	-

IUPAC name: Fluorapatite

Chemical formula: Ca₅F(PO₄)₃**Dicalcium phosphate**

Concentration: 0.1-15 %

Identification numbers:

CAS No	EC No.	Index No.
7757-93-9	231-826-1	-

IUPAC name: calcium hydrogen phosphate dihydrate

Chemical formula: CaHPO₄**Phosphoric Acid**

Concentration: 0.1-5 %

Identification numbers:

CAS No	EC No.	Index No.
7664-38-2	231-633-2	015-011-00-6

IUPAC name: phosphoric acid

Chemical formula: H₃PO₄**Naturally occurring substance**

Concentration: 0.1-10 %

Identification numbers:

CAS No	EC No.	Index No.
-	310-127-6	-

IUPAC name: -

Chemical formula: not determined

3.2. Mixtures

Not applicable

SECTION 4: First aid measures**4.1. Description of first aid measures****4.1.1. Inhalation.**

If undesirable symptoms occur (e.g. dizziness, sleepiness and irritation of respiratory system) take the injured person out of the contaminated environment to fresh air,

If the person does not breathe, apply artificial respiration and in case of breathing difficulties, supply oxygen and consult a physician.

Immediately consult a physician in case of intensive inhalation of the dust.

4.1.2. Skin contact Wash the contaminated skin with copious amount of water with soap for at least 15 minutes, removing thoroughly the contaminated clothes and shoes. Consult a physician in case the irritation lasts.

4.1.3. Eye contact

Immediately rinse eyes with copious amount of running water for at least 15 minutes, lifting the upper and lower eyelid from time to time. Remove contact lenses, if any, and are easy to remove. Continue rinsing. Immediately consult POISONING TREATMENT CENTER or a physician

4.1.4 Digestion

If the injured person feels unwell, consult a physician. Wash the mouth out with copious amount of water and give plenty of water to drink. Do not induce vomiting. Do not administer anything orally, if the injured person is unconscious. If the symptoms do not abate, provide medical assistance.

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

Severe effect: irritant to eyes

Long-term effect: not known

4.3. Indications of any immediate medical attention and special treatment needed

Inhalation of gases produced during fire and thermal decomposition, containing phosphorus and sulphur oxides, may have irritating and caustic effect on respiratory system. Effect on lungs may be delayed.

SECTION 5: Fire-fighting measures**5.1. Extinguishing media**

Fire in the environment should be extinguished with the use of extinguishing measures as appropriate for the burning materials.

5.2. Special hazards arising from the substance or mixture

During fire there may be produced hazardous gases or vapours: phosphorus and sulphur oxides

5.3. Advice for firefighters

No special measures necessary. In case of fire wear personal breathing apparatus and protective clothing. Avoid inhalation of vapours, stand on the leeward side. Ensure maximum ventilation - open windows and doors.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel:

Avoid dust-forming conditions and prevent wind dispersal. Provide adequate ventilation. Avoid contact with eyes, skin and clothing.

Wear appropriate personal protective equipment- protective clothing, protective gloves, eye protection.

For emergency responders:

Wear appropriate personal protective equipment- protective clothing, protective gloves, eye protection.

6.2. Environmental precautions

Avoid contamination of water, water intakes or sewers. In case of accidental pollution, notify appropriate authorities.

6.3. Methods and materials for containment and cleaning up

Collect the spilled material and place it with appropriate containers marked with the labels: for recycling or neutralisation. Wash off with copious amounts of water. Avoid dust clouds and spreading by the wind.

6.4. Reference to other sections

Personal protective measures - see section 8

Handling of waste - see section 13.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Avoid contact with eyes, skin and clothes. Avoid excessive generation of dust. Protect from moisture. Avoid contamination with flammable materials (e.g. diesel fuel, grease, etc.) and/or other incompatible materials - see 10.5. Carefully clean all equipment prior to maintenance and repair.

Do not eat, drink or smoke during handling the mixture. Wash yourself thoroughly after work.

7.2. Conditions for safe storage, including any incompatibilities

This fertilizer should be stored in unit packages or in bulk, provided it is secured against direct exposure to atmospheric conditions. Fertilizer in bulk may be stored in heaps formed on hardened, impermeable ground, after prior covering with water tight material or in roofed, permeable to air facilities.

Store the product away from alkalies, ammonium nitrate.

7.3. Specific end use(s)

Recommendations on constituent substances relating to identified uses have been identified in the following exposure scenarios:

Exposure scenario	Use
ES2 Superphosphate	Formulation of Superphosphates
ES3 Superphosphate	Use at industrial site
ES4 Superphosphate	Consumer use of Superphosphates as granular fertilizer
ES5 Superphosphate	Use by professional worker - Professional use of Superphosphates as granular fertilizer

SECTION 8: Exposure control / personal protection**8.1. Control parameters**

Total dust TLV **10 mg/m³**

Methods of exposure assessment:

PN-Z-04008-7:2002 PN-Z-04008-7:2002/AZ1:2004 Sampling: dust and chemical air pollution. Dosimetric and stationary method

PN-91/Z-04030.05 Concentration of total dust Range: (0.15 - 25.0) mg/m³ Filtration and weighing method

PN-91/Z-04030.06 Concentration of respirable dust Range: (0.15 - 16.6) mg/m³ Filtration and weighing method

Acceptable exposure limits:

Biological limit values (DSB): none

Acceptable exposure limits DNEL:

Ways of exposure	Highest acceptable level of human exposure DNEL	
	Worker	Society in general
Oral	-	-
Skin · Systemic, long-term	4,2 mg/kg of body mass/day	2,08 mg/kg of body mass/day
Inhalation Systemic effects - Long-term	2,9 mg/m ³	-

Predicted No-Effect Concentration (PNEC):-

8.2. Exposure control**8.2.1 Appropriate engineering controls**

Avoid high dustiness. Provide adequate ventilation as required. Moreover, following the good industrial practice during storage and handling of the mixture one may use the equipment for eyes rinsing and safety shower.

Occupational hygiene: wash hands, forearms and face thoroughly after working with the substance and before eating, smoking and using the toilet

8.2.2 Individual protection measures, such as personal protective equipment

Respiratory protection: Use respiratory protection (dust mask or respirator with suitable filters, e.g. EN 143, 149, Filter P2, P3) in case of insufficient ventilation and excessive dusting. Wear protective gloves (e.g. plastic, rubber, leather) when in prolonged contact with the product.

Eye or face protection: In case of excessive dusting and exposure above the permissible level, goggles or face shield are required. In other cases, the wearing of safety goggles is recommended.

Skin protection: Wear work clothing.

Protection against thermal hazards: Not required.

8.2.3 Environmental exposure controls

Dispose the water used for rinsing according to the local and national regulations.

SECTION 9 : Physical and chemical proprieties**9.1. Information on basic physical and chemical proprieties**

Physical state	solid
Colour	grey-brown
Odour	light
Melting / freezing point	Does not reach melting point, decomposition >100°C (on the basis of the main components)
Boiling point or initial boiling point and boiling range	Does not reach boiling point, decomposition
Flammability	Non-combustible substance (on the basis of the composition)
Lower and upper explosion limit	The substance does not contain any chemically unstable and high-energy explosive groups
Flash point	Do not apply to solids
Auto-ignition temperature	None of the constituents in the substance does contain groups that will react with oxygen in the air
Decomposition temperature	decomposition >100°C
pH	2,5-3,5(10% solution)
Kinematic viscosity	Do not apply
Solubility	partially soluble in water, may create water slurries
Partition coefficient n-octanol/water (log value)	Not applicable, mixture of inorganic compounds
Vapour pressure	Detail information for Superphosphate: 8.4x10 ⁻⁷ Pa t= 20°C (OECD 104, EC A.4)
Density and/or relative density	1000-1100 kg/m ³
Relative vapour density	Do not apply to solids
Particle characteristics	Powdery form about 5.43 % is < 10 µm.

9.2. Other information

9.2.1 Information with regard to physical hazard classes : The product is not considered to be explosive, has no oxidizing properties and does not contain organic peroxides. It is not self-reactive or self-heating, and is not self-igniting. The product is not classified as corrosive to metals. The product is not flammable. Risks related to the physico-chemical properties of the product are not expected

9.2.2 Other safety characteristics:none

SECTION 10: Stability and reactivity**10.1. Reactivity**

Product stable under recommended storage and handling conditions (see Section 7).

10.2. Chemical stability

Product stable under recommended storage and handling conditions (see Section 7).

10.3. Possible dangerous reactions

Dangerous reactions may occur during heating - decomposition products, see item 10.6

10.4. Conditions to avoid

Unnecessary exposure to the atmosphere.

Strong heat (decomposes).

Contamination by incompatible materials.

Closeness to sources of heat or fire.

Heating under confinement.
Welding or hot work on equipment or plant which may have contained fertilizer without first washing thoroughly to remove all fertilizer.

10.5. Incompatible materials

Alkalies, strong acids, copper and its alloys.

10.6. Hazardous decomposition products

Under normal storage and handling conditions no hazardous decomposition products should be produced. Production of poisonous gasses is possible during heating or in case of fire: e.g. phosphorous oxides (e.g. P₂O₅), sulphur oxides (SO_x), chloride, fluoride, hydrogen chloride

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity:

LD50 (oral) > 2000 mg/kg (OECD 425 test material : di-ammonium hydrogen phosphate)

LD50 (dermal) > 5000 mg/kg (OECD 402 test material : di-ammonium hydrogen phosphate)

LC50 (inhalation) > 5 mg/l (OECD 403 test material : di-ammonium hydrogen phosphate)

Skin corrosion/irritation: No effect

Serious eye damage/irritation: Causes serious eye damage

Respiratory or skin sensitisation: Not sensitising (OECD 429,EC.42 test material : diammonium hydrogen phosphate)

Other effects:

NOAEL oral 28 days: 250 mg/kg bw/day (OECD 422 test material : superphosphate concentrated TSP)

Germ cell mutagenicity:

Mutagenicity: negative (OECD 471 test material: TSP-concentrated superphosphate)

negative (OECD 473)

negative (OECD 476 test material: ammonium dihydrogen phosphate)

Carcinogenicity: No effect

Reproductive toxicity: Oral NOAEL 750 mg/kg bw/day (OECD 422 test material: TSP-concentrated superphosphate)

Toxic effects on target organs - single exposure: No effect

Toxic effects on target organs - repeated exposure: No effects

Aspiration hazard: No effects

Toxicological data of the components: not applicable substance

Information on likely routes of exposure:

Respiratory tract: probable exposure to dusts

Skin: probable exposure

Ingestion: no exposure

Symptoms related to physical, chemical and toxicological properties: No specific data available

Delayed, immediate and chronic effects of short- and long-term exposure:

Health effects Short-term exposure:

May cause eye irritation if it enters the eye. Symptoms of inhalation poisoning are not known. Not harmful if swallowed.

Health effects long-term exposure:

Prolonged contact with the preparation may cause slight skin irritation.

Effects of interactions: No specific data.

Information on the substance: -

11.2. Information on other hazard

11.2.1. Endocrine disrupting properties: no properties

11.2.2. Other information- no known

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity indicator

LC50 for freshwater fish: >100 mg/L

EC50/LC50 for freshwater invertebrates: 1790 mg/L

EC50/LC50 for freshwater algae: >100 mg/L

EC10/LC10 or NOEC for freshwater algae: 100 mg/L

12.2. Persistence and degradability

In aqueous solution, single superphosphate is completely dissociated into the calcium ion (Ca²⁺) and the sulphate and phosphate anion (SO₄²⁻, PO₄³⁻). Hydrolysis of the substance does not occur, and it is also not susceptible to photo degradation

Product should not be released to sewage in large quantities, as it may cause eutrophication of closed water regions.

12.3. Bioaccumulation potential

Due to the properties of inorganic compounds - the potential is low

12.4. Mobility in soil

Good solubility in water. Phosphates are transported in the soil for a short time and then are immobilized in the soil.

12.5. Results of PBT and vPvB assessment

Pursuant to Appendix XII to the Regulation of the European Parliament and of the Council (EC) No. 1907/2006, the substance is not evaluated as PBT and VPPvB due to the fact that superphosphate is an inorganic substance

12.6. Endocrine disrupting properties

Superphosphate is not a substance with endocrine disrupting properties

12.7. Other adverse effects

none

SECTION 13: Disposal considerations

13.1. Waste treatment methods

According to local and national regulations the waste is disposed by deposition or combustion. Prevent the substances from penetration to watercourses. Biodegradation control is possible under the process of waste water treatment.

Wastes and used packagings should be delivered to a company dealing with waste management.

Waste code number: 16 03 03 Inorganic wastes containing hazardous substances

Package waste code: 15 01 02 Plastic packages.

SECTION 14: Transport information

May be transported with the use of any means of transportation provided that the product is protected against weather conditions and goods displacement.

14.1. UN number or ID number

It is not classified as hazardous product according to ADR/RID regulations

14.2. UN proper shipping name

It is not classified as hazardous product according to ADR/RID regulations

14.3. Transport hazards class(es)

It is not classified as hazardous product according to ADR/RID regulations

14.4. Packaging group

It is not classified as hazardous product according to ADR/RID regulations

14.5. Environmental hazards

Not labelled as dangerous for the environment

14.6. Special precautions for user

None

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EC REACH Regulations

Official Journal of the EU 2007 L 136, corrigendum to Official Journal of the EU 2006 L 396 + corrigenda (Official Journal of the EU L 36 of 5.2.2009)+ Official Journal of the European Union L 118 of 12.5.2010 as amended

Corrigendum to the Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

EC Regulations - CLP

Official Journal of the European Union 2008 L 353 as amended	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
EC Regulations – export import	
Official Journal of the EU 2012 L 201	Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals
Other	Classification of dangerous goods according to ADR Agreement and RID Regulations

15.2. Chemical Safety Assessment

According to Article 14 of REACH there have been conducted Chemical Safety Assessment for this substance.

SECTION 16: Other information

MSDS prepared in the format of the card Commission Regulation (EU) 2020/878.

Training: Employees should be instructed within the scope of proper handling of the preparation. One should read the safety data sheet before use of the preparation.

Limitations of use: none.

Data sources: Legal regulations listed under item 15.1, Chemical Safety Report for superphosphate, IUCLID database

Change:

- update of card format in accordance with the Commission Regulation (EU) 2020/878
- updating of emergency numbers
- updating of data (section 1,3,6,7,8,9,10,11,12)
- updating of exposure scenarios
- updating of legislation

Classification:

Mixture classification according to CLP was made with the use of classification criteria for each exposure class contained in parts 2–5 of the appendix I of the CLP Regulation

All data contained herein are consistent with the present knowledge and our experience. Safety data sheet is a description of products as regards safety requirements. It is not the intention of our data to ensure product's properties.

Related documents:

Exposure scenario	Use
ES2 Superphosphate	Formulation of Superphosphates
ES3 Superphosphate	Use at industrial site
ES4 Superphosphate	Consumer use of Superphosphates as granular fertilizer
ES5 Superphosphate	Use by professional worker - Professional use of Superphosphates as granular fertilizer