



SAFETY DATA SHEET
MINERAL FERTILIZERS LUBOFOS CORN

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

1.1. Product identifier

Product name: Lubofos Corn

Mineral fertilizer is a mixture containing inorganic substances such as ammonium sulphate, superphosphate, disodium tetraborate, zinc oxide, potassium chloride

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

Sector: Agriculture

Identified use: use an industrial site, professional use of fertilizers

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

Repr.1B Reproductive toxicity, Hazard Category 1B

H360 FD May damage fertility. May damage the unborn child

2.2. Label elements

Pictogram:



Signal Word: DANGER

Identifier: contains superphosphate, disodium tetraborate pentahydrate

Hazard Statement

H318 Causes serious eye damage

H360 FD May damage fertility. May damage the unborn child

Precautionary Statement:

P201 Obtain special instructions before use.

PP280 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

Mixtures of inorganic compounds, therefore it is not assessed as PBT and vPvB.

The ingredients are not endocrine disrupting substances.

SECTION 3: Composition / information on components

3.1. Substances

Not applicable - mixture safety data sheet

3.2. Mixtures

The mixture contains the following dangerous components:

Superphosphate

Concentration: 15-18 %

Type of substance: multi constituent substance

Identification numbers:

CAS No	EC No.	Index No.
8011-76-5	232-379-5	-

IUPAC name: Superphosphate

Chemical formula: not determined

Registration No.: 01-2119488967-11-xxxx

Classification according to the Regulation CE No. 1272/2008 (CLP) *refers to 100% of the substance:*

Eye Dam. 1 Serious eye damage, cat. 1

H318 Causes serious eye damage

ATE oral > 2000 mg/kg

ATE skin > 5000 mg/kg

ATE inhalation > 5 mg/l

Borax Pentahydrate Etibor-48

Concentration: 0,5-0,7 %

Identification numbers:

CAS No	EC No.	Index No.
1330-43-4	215-540-4	005-011-02-9

Chemical name: Sodium tetraborate pentahydrate

Registration No.: 01-2119490790-32-xxxx

Classification according to the Regulation CE No. 1272/2008 (CLP) *refers to 100% of the substance:**Reproductiveness cat. 1B Adverse effect on reproductiveness cat.1B**H360 FD May have adverse effect on fertility or may cause harm to the unborn child**Supplier's supplementary classification: Serious damage to eyes/ eyes irritation, cat.2**H319 Causes serious eye irritation.**Note: Substance of Very High Concern SVHC**ATE dermal > 2000 mg/kg***Zinc oxide**

Concentration: < 0,25 %

Identification numbers::

No CAS	No WE	Index No
1314-13-2	215-222-5	030-013-00-7

Chemical name: zinc oxide

Registration No.:01-2119463881-32-xxxx

Classification according to the Regulation CE No. 1272/2008 (CLP) *refers to 100% of the substance:**Aquatic Acute 1 Hazardous to the aquatic environment — Acute Hazard, cat.1**H400 Very toxic to aquatic life**Aquatic Chronic1 Hazardous to the aquatic environment — Chronic Hazard, Cat.1**H410 Very toxic to aquatic life with long lasting effects**M-factor:1*

ATE oral > 2000 mg/kg

ATE skin > 5000 mg/kg

ATE inhalation > 5 mg/l

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

Acute effect: irritating to the eyes

Long term effects: May damage fertility or the unborn child

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 formation 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 annexed to this safety data sheet:

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

SECTION 8: Exposure control / personal protection

The operational conditions and risk management measures as well as the risk assessment related to the component have been determined in the exposure scenarios.

8.1. Control parameters

Total dust TLV 10 mg/m³

Zinc oxide as Zn

NDS : 5 mg/m³

NDSCh: 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

PN-87/Z-04100/02 Air purity protection –Tests for zinc and its compounds.Determination of zinc oxide at work places by nephelometric method with diantipirilmethylmethanehydrochloride.

PN-87/Z-04100/03. Air purity protection. Tests for zinc and its compounds. Determination of zinc and zinc oxide at work stations with atomic-absorption spectroscopy

Acceptable exposure limits:

Biological limit values (DSB):none

Derived No-Effect Levels DNEL for SSP

Routes of exposure	Derived No-Effect Levels DNEL	
	Worker	General population
INHALATION Systemic Effects Long-term	2.9 mg/m ³	-
DERMAL Systemic Effects Long-term	4.2 mg/kg/b./day	2.08 mg/kg body weight/day

Derived No-Effect Levels DNEL for disodium tetraborate pentahydrate:

Routes of exposure	Derived No-Effect Levels DNEL	
	Worker	General population
ORAL Systemic Effects Acute/short term	-	1,15 mg/kg body weight/day
ORAL Systemic Effects Long-term	-	1,15 mg/kg body weight/day
DERMAL Systemic Effects Long-term	458.2 mg/kg masy ciała/dzień	231,8 mg/kg body weight/day
INHALATION Systemic Effects Long-term	9,8 mg/m ³	4,93 mg/m ³

Derived No-Effect Levels DNEL for zinc oxide:

Routes of exposure	Derived No-Effect Levels DNEL	
	Worker	General population
ORAL Systemic Effects Long-term	-	0,83 mg/kg body weight/day
DERMAL Systemic Effects Long-term	83 mg/kg masy ciała/dzień	83 mg/kg body weight/day
INHALATION Systemic Effects Long-term	5 mg/m ³	2,5 mg/m ³
INHALATION Local Effects Long-term	0,5 mg/m ³	-

PNEC (Predicted No Effect Concentration)

Data for disodium tetraborate pentahydrate:

Element (environment)	PNEC
Fresh and marine water	2,9 mg /l
Water intermittent release	13.7 mg/l
Soil	5.7 mg/kg of dry soil
Waste water treatment plant	10 mg /l

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

Avoid high dust. Use adequate ventilation as needed. In addition, as part of good industrial practice, eye rinses and a safety shower may be used during storage and use of the mixture.

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

Eye or face protection: In case of excessive dusting and exposure above the permissible level, the wearing of safety glasses or a face shield is required. In other cases, it is recommended to wear safety glasses.

Skin protection: Use workwear.

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 body in the form of pellets
Colour	Grey-brown
Odour	No odour
Melting / freezing point	No data
Boiling point or initial boiling point and boiling range	No data
Flammability	Non-flammable mixture (on the basis of the composition and components)
Lower and upper explosion limit	Do not apply to solids
Flash point	Do not apply to solids
Auto-ignition temperature	Do not apply to solids
Decomposition temperature	Do not apply
pH	4,5-5,5 (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	900-1100 kg/m ³
Relative vapour density	Do not apply to solids
Particle characteristics	product in the form of granules

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

Heating, contact with alkalis

10.5. Incompatible materials

Alkalies, ammonium nitrate

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**

The mixture was not tested. Due to the ingredients contained, the preparation is dangerous for human health.

Acute toxicity :

- ATE mix oral > 2000 mg/kg
- ATE mix skin > 2000 mg/kg
- ATE mix inhalation > 5 mg/l

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

Germ cell mutagenicity: based on available data, the classification criteria are not met

Carcinogenicity: based on available data, the classification criteria are not met

Reproductive toxicity: may damage fertility. May damage the unborn child

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

Aspiration hazard: based on available data, the classification criteria are not met

Toxicological data of the ingredientsData for superphosphate:

Acute toxicity:

- LD50 (orally) > 2000 mg/kg (OECD 425 test material: diammonium phosphate)
- LD50 (skin) > 5000 mg/kg (OECD 402 test material : diammonium phosphate)
- LC50 (inhalation) > 5 mg/l (OECD 403 test material: diammonium phosphate)

Data for disodium tetraborate pentahydrate

Acute toxicity: LD50 (skin) rabbit > 2000 mg/kg (FIFRA 40 CFR 163)

Serious eye damage/irritation: - Causes serious eye irritation.

reproductive toxicity: may damage fertility. May damage the unborn child

Data for zinc oxide

Acute toxicity:

- LD50 oral rat > 2000 mg/kg
- LD50 skin rat > 5000 mg/kg
- LD50 inhalation rat > 5,7 mg/l

Information on likely routes of exposure

Inhalation: probable similar exposure to dust

Skin: likely exposure

Ingestion: no exposure

Symptoms related to the physical, chemical and toxicological characteristics

No detailed data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Health effects of short-term exposure: May cause eye irritation if it gets into the eye. There are no known symptoms of inhalation poisoning. Not harmful if swallowed. Health effects long-term exposure: Long-term contact with the preparation may cause slight skin irritation.

Interactive effects not known

Absence of specific data- substances:

The following applies to zinc compounds in general: only slightly absorbed via the gastrointestinal tract. Astringent effect on mucous membranes. Poisoning by metal vapors after inhalation of large amounts.

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

Data for superphosphate

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

Data for disodium tetraborate pentahydrate

LC50 – fish [1] 74 mg/l Limanda limanda

LC50 – fish [2] 79,7 mg/l Pimephales promelas

EC50 72 godz. – glony [1] 66 mg/l Phaeodactylum tricornutum

EC50 72 godz. – glony [2] 54 mg/l Phaeodactylum tricornutum

NOEC chronic– fish 6,4 mg/l Danio rerio (Brachydanio rerio) 34 days

Data for zinc oxide

Fish toxicity 0.169 mg/l (ASTM E729-88, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Read-across, zinc ion)

NOEC for chronic toxicity to algae 0.0299 mg/l

12.2. Persistence and degradability

Nitrogen undergoes natural nitrification or denitrification cycle, producing nitrogen or nitrogen oxides.

Phosphates are transformed into calcium, iron and aluminium phosphates, or combine with the organic matter of the soil. Potassium is absorbed by clay soils or exists in ionic form in soil solutions.

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

Data for Zinc Oxide: Partition coefficient n-octanol/water (Log Pow) 1.53

12.4. Mobility in soil

Good solubility in water. Ammonium ion is absorbed by soil particles. Phosphates are transported in the soil for a short time and then are immobilized in the soil. Potassium ion is absorbed by clay soils. In soils light potassium may be washed out.

12.5. Results of PBT and vPvB assessment

Mixtures of inorganic compounds, therefore it is not assessed as PBT and vPvB.

12.6. Endocrine disrupting properties

The ingredients do not have 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

No chemical safety assessment has been carried out for the mixture.

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: Annex XVII of Regulation (EC) No. 1907/2006 (REACH): Reference number 30 Substances classified as reproductive toxicant, category 1A or 1B, in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and listed in Appendix 5 or Appendix 6 as appropriate

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

Change:

- updated of the safety data sheet format

- Section 1.4 - update of emergency number
- change of classification related to the change in the classification of boron compounds
- update of data on hazardous ingredients (section 3, section 4, section 6, section 7, section 8, section 9, section 11, section 12)

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 and mixture classification criteria contained in parts 3-4 of the appendix I of the CLP Regulation (assessment method: Mixtures classification, in case there is data available for all components or only for some of the components)

Classifications according to 67/548/EEC Directive was made according to calculation method

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
ES3 Superphosphate	Use at industrial site
ES5 Superphosphate	Use by professional worker - Professional use of Superphosphates as granular fertilizer