

NITROGEN PHOSPHORUS FERTILIZER N:P(S)+B+Zn / 12:40(10)+0.3+1**SECTION 1: IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY****1.1. Product identifier:****Product name:** Nitrogen phosphorus fertilizer with sulphur and micronutrients (boron and zinc)**Trade names:** N:P(S)+B +Zn / 12:40(10)+0.3+1**1.2. Relevant identified uses of the product and uses advised against****Relevant identified uses:**

Manufacture of solid/ liquid fertilizers; Formulations of fertilizers including blending, packaging, dilution, loading/unloading.

Uses advised against:

None

1.3. Details of the supplier of the safety data sheet**Supplier (manufacturer):** AB "LIFOSA"**Street address:** Juodkiškio 50,**Postcode/Place:** LT-57502, Kėdainiai**Telephone number:** +370 347 66483 (general); +370 347 66430 (SDS)**E-mail:** info@lifosa.com (general); reach@lifosa.com (SDS)**1.4. Emergency telephone number**

Country	Address	Phone	Language
Austria	Vergiftungsinformationszentrale, 1090 Wien	+43 (1) 406 4343	German, English
Belgium	Centre Antipoisons, 1120 Brüssel	+32 (70) 245 245	French, Flamish, English
Czechoslovakia	Poison Information Centre, 1280 Prag	+42 (02) 249 192 93	Czech, German, English
Germany	Beratungsstelle für Vergiftungserscheinungen, Berlin	+49 761 19240	German, English
Denmark	Giftinformationen, 2400 Copenhagen	+45 (35) 316 060	Danish, English
Spain	Servicio Nacional de Información Toxicológica, Madrid	+34 (91) 562 84 69	Spanish, English
France	Centre Anti-Poisons, 67091 Strasbourg	+33 (3) 883 737 37	French, German, English
Finland	Poison Information Centre, 00290 Helsinki	+358 (9) 471 977	Finnish, Swedish, English
Great Britain	National Poison Inform. Centre, London SE14 5ER	+44 (171) 635 9191	English
Greece	Poison Information Centre, 11527 Athen	+30 (1) 799 3777	Greek, English
Croatia	Poison Control Centre, 10000 Zagreb	+385 (1) 222 302	Croatian
Italy	Centro Antiveleni, 00161 Roma	+39 (6) 490 663	Italian, French, English
Netherlands	Nationaal Vergifteningen Informatie Centrum, Bilthoven	+31 (30) 274 88 88	Dutch, German, English
Norway	Giftinformasjonssentralen, 0034 Oslo	+47 (22) 591 300	Norwegian, English
Poland	National Poison Information Centre, 90950 Łódź	+48 (42) 657 99 0	Polish, German, English
Portugal	Centro de Informacao Antivenenos, 1749075 Lisboa	+351 (1) 795 01 43	Portuguese, French, English
Russia	Toxicology Information & Advisory Centre, Moscow	+7 (95) 928 1647	Russian (English)

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Sweden	Giftinformationscentralen, 17176 Stockholm	+46 (8) 736 0384	Swedish, English
Slovakia	Poison Information Centre, 83101 Bratislava	+00421 (17) 547 741 66	Slovak, German, English
Slovenia	Poison Control Center, 1000 Ljubljana	+386 (61) 302 457	English (German, French)
Turkey	National Poison Control Center, 06100 Ankara	+90 312 433 7001	Turkish, (English)
Hungary	Departement of Clinical Toxicology, Budapest VII	+36 (1) 215 215	Hungarian, German, English
Switzerland	Common notification authority for chemicals of FOEN - FOPH - SECO 3003 Berne	+41 (0)58 462 73 05	German, French
USA	American Association of Poison Control Centers	1-800-222-1222	Preferred language

SECTION 2: HAZARDS IDENTIFICATION**2.1. Classification of the product***Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]*

Not classified for health effects, for the environment and physical – chemical properties:

2.2. Label elements

Not applicable

2.3. Other hazards

Product does not meet CMR, vPvB and PBT criteria.

Note: for physical hazards see section 10**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS***3.1 Constituents:*

Components	CAS No. / EC No.	REACH Registration No.	Masse range, %	Classification according to Regulation (EC) No 1272/2008 (CLP)	Note
Ammonium dihydrogen orthophosphate	7722-76-1/ 231-764-5	01-2119488166-29-0006	65	-	-
Ammonium sulphate	7783-20-2/ 231-984-1	01-2119455044-46-0244	25	-	-
Sulphur	7704-34-9/ 231-722-6	01-2119487295-27-xxxx	5	Skin Irrit. 2, H315	1, 2
Diammonium hydrogenorthophosphate	7783-28-0/ 231-987-8	01-2119490974-22-0006	3	-	-
Zinc (from Zinc sulphate)	(7446-19-7/ 231-793-3)	(01-2119474684-27-xxxx)	1	(Eye Dam. 1, H318; Acute Tox. 4, H302; Aquatic Acute 1, H400; Aquatic Chronic 1, H410)	1, 2
Boron (from Boric acid)	(1303-86-2/ 215-125-8)	(01-211986683-25-xxxx)	0.3	(Repr. 1B; H360FD: C ≥ 5,5 %)	1, 2
Inorganic impurities	-	-	0.7	-	-

Note:

1 - For full text of H- phrases see Section 16.

2 - The amount of substance in the product does not affect the classification

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

4.1.1. First aid instructions

General notes: No adverse effects are expected during normal use of the product, however if any effects do appear the following recommendations apply.

Following inhalation: Assure fresh air breathing, if breathing is difficult, give oxygen. Seek medical advice.

Following skin contact: Wash skin thoroughly with soap and water. Remove contaminated clothing and shoes. Wash clothing before re-using.

Following eye contact: Immediately rinse with clean water for 10-15 minutes. Seek medical advice.

Following ingestion: Give water to drink, do not induce vomiting. Seek medical advice.

4.1.2. Recommendations:

In some cases medical attention is necessary. First aiders should be protected adequately (*see section 8*). Remove affected person from further exposure.

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

No adverse effects are expected during normal use of the product.

Potential health effects:

Inhalation: Respiratory tract irritation.

Eye contact: Eye irritation, tearing and redness.

In case of skin contact: In the case of prolonged contact: irritation.

Other toxicity effects: See Section 11 for toxicological information.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media:

Suitable extinguishing media: all extinguishing media can be used.

Unsuitable extinguishing media: none.

Special protective equipment for fire-fighters: Suitable respiratory equipment, total impervious protective suits, gloves and boots must be worn.

Other recommendations: Product is non-combustible. Select fire and explosion prevention measures according to the other used products.

5.2. Special hazards arising from the product

Special exposure hazards arising from the product itself, combustion products, and resulting gases: When heated to decomposition (*see 9 section*), emits toxic fumes. In the case of inclusion in an ambient fire hazardous gases can be released Nitrogen oxides, phosphorus oxide, sulphur oxides.

Hazardous combustion products: The product itself is not flammable.

5.3. Advice for fire-fighters

Open the doors and windows of the store to give maximum ventilation. Avoid breathing the fumes (toxic); stand up-wind of the fire. Wear self-contained breathing apparatus and special tightly sealed suit.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Avoid inhalation of dust, contact with skin and eyes. The personnel should also use protective equipment in compliance with current instructions for protective equipment. *See section 8*.

6.1.2. For emergency responders

Ventilate area of leak or spill. Wear impervious rubber safety shoes, Wear protective clothing and safety glasses, Keep public away from danger area.

6.2. Environmental precautions

No special environmental measures are necessary. Prevent entry to sewers and public waters.

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All containment for dry product is suitable.

6.3.2. For cleaning up

Avoid dust formation. Sweep or shovel the dry product into suitable containers. Wash thoroughly after handling.

6.4. Other information:

Note: see section 1 for emergency contact information, section 8 for personal protective equipment and section 13 for waste disposal.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling**7.1.1. Protective measures**

Workplace: If there is a chance that dusts may be released, provide adequate ventilation. Select ventilation measures according to the other used substances. Washing facility at the workplace required.

Equipment: Suction off dust at the point of exit. Consider emission limit values, a purification of waste gases if necessary. Containers for product and waste product must be marked clearly.

Advice on safer handling: Do not leave container open. Sufficient ventilation must be guaranteed for refilling, transfer, or open use. Fill only into clearly marked containers. Avoid rising dust.

Cleaning and maintenance: Avoid dust formation. Dust formation that cannot be avoided must be collected regularly. Use a tested industrial vacuum cleaner or suction device. Use of a blower for cleaning is not permitted. Alternative: clean damp.

7.1.2. Advice on general occupational hygiene

Eating, drinking and smoking should be avoided during handling. Apply good hygiene. Avoid contact with eyes and skin. Wash hands after handling and before eating and at the end of the working period. Ensure that personnel handling the product continuously use suitable personal protection equipment.

Note: For additional information see section 8.

7.2. Conditions for safe storage, including any incompatibilities**7.2.1. Technical measures and storage conditions**

Store in a dry, cool area. Protect from moisture, direct sunlight, overheating/heating up. *Note:* See section 10.5 for incompatible materials.

7.2.2. Packaging materials

Keep/store in original container. Product can be stored, packed into polyethylene, polypropylene package, big bags or other agreed package.

7.2.3. Requirements for storage rooms and vessels

Do not use any food containers - risk of mistake. Containers have to be marked clearly and permanently. Keep container tightly closed.

7.2.4. Conditions of collocated storage:

Storage class 10 - 13 (Other liquids and solids)

Only substances of the same storage class should be stored together.

Collocated storage with the following substances is prohibited:

- Pharmaceuticals, foods, and animal feeds including additives.
- Infectious, radioactive and explosive products.
- Strongly oxidizing substances of storage class 5.1A.

Under certain conditions the collocated storage with the following sub-stances is permitted:

- Gases.
 - Flammable liquids of storage class 3.
 - Other explosive substances of storage class 4.1A.
 - Pyrophoric substances.
 - Substances liberating flammable gases in contact with water.
 - Oxidizing substances of storage class 5.1B.
 - Ammonium nitrate and preparations containing ammonium nitrate.
 - Organic peroxides and self-reactive substances.
 - Combustible and non-combustible acutely toxic substances of storage classes 6.1A and 6.1B.
- The product should not be stored with substances with which hazardous chemical reactions are possible.

Note: See section 10 for stability and reactivity.

7.2.5. Further information on storage conditions

Store the product according with national or local regulations.

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No additional information. See section 1.2 for identified uses.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters****Exposure limits (Lithuania):****Workplace:**

IPRD (TLW-TWA) – 6 mg/m³ (Ammonium dihydrogen orthophosphate);

Derived toxicity parameters (DNEL) (Ammonium dihydrogen orthophosphate):

Exposure Pattern	For workers	For general Population
Long-term - systemic effects (Dermal)	34.7 mg/kg bw/day	20.8 mg/kg bw/day
Long-term - systemic effects (Inhalation)	6.1 mg/ml	1.8 mg/ml
Long-term – oral, systemic effects		2.1 mg/kg bw/day

Derived ecotoxicity parameters (PNEC) (Ammonium dihydrogen orthophosphate):

Exposure Pattern	Value
PNEC aqua (freshwater):	1.7 mg/l
PNEC freshwater sediments	-
PNEC aqua (marine water):	0.17 mg/l
PNEC aqua (intermittent releases):	17 mg/l
PNEC soil	-
PNEC STP	10 mg/l

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

Ensure adequate ventilation. Avoid generating dust. Hermetic pipelines and equipment must be ensured. Ensure that eyewash stations and safety showers are close to the workplace. Ensure adequate storage conditions. Avoid humid, heat and reacting chemical substances. Suitable personal protection equipment must be used.

Note: For additional information see section 7.

8.2.2. Personal protection equipment

Eye and face protection: Use protective glasses with side shields. Never use contact lenses in the area where the product is handled, since they can absorb dust and irritate the eyes.

Skin protection:

Body protection: Wear suitable protective clothing. At the ends of the work wash up with soap.

Hand protection: Use protective gloves.

Respiratory protection: During handling that generates dust, a breathing mask with filter P2 or P3 must be used. Wear fresh-air supplied breathing equipment in small spaces.

8.2.3. Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Note: for additional information see section 6.

8.2.4. Thermal hazards

Product is not combustible. There no special thermal hazards.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Appearance:	granules
Colour:	yellowish
Odour:	odourless
pH (20 °C):	6.5 (10 % solution)
Melting point/freezing point:	> 150 °C at 1013 hPa
Boiling point:	not applicable (could not be determined before decomposition)
Flash point:	not applicable as the product is inorganic
Flammability:	not flammable

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non explosive.

Vapour pressure:

0.00147 Pa at 20 °C

Bulk density (kg/m³):

~ 900

Water solubility:

>100 g/l, at 20 °C

Partition coefficient**n-Octanol/Water (log Pow):**

not applicable as the product is inorganic

Auto ignition temperature:

not applicable

Decomposition Temperature (°C):

not available

Explosive properties:

not explosive

Oxidizing properties:

not oxidizing

SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity**

Materials to avoid: see section 7.2

10.2. Chemical stability

The product is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Moisture. Extremely high temperatures. Also see section 7.2

10.5. Incompatible materials

Magnesium, alkalis and caustic substances, strong acids, copper and its alloys. See section 7.2

10.6. Hazardous decomposition products

When heated to decomposition (see 9 section), emits toxic fumes - Nitrous gases (nitric oxides), Phosphorus oxide, sulphur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects**

Relevant hazard class	Effect dose	Species	Method
Acute oral toxicity	LD50: > 2000 mg/kg bw	rat (Sprague-Dawley) male/female	OECD 425
Acute dermal toxicity	LD50: > 5000 mg/kg bw	rat (Sprague-Dawley) male/female	OECD 402
Acute inhalation toxicity	LC50 (4 h): > 5 mg/L air	rat (CrI:WI(Han)) male/female	OECD 403
Skin corrosion/irritation	Not irritating	rabbit (Vienna White)	OECD 404
Serious eye damage/irritation	Not irritating	Rabbit (Vienna White)	OECD 405
Respiratory or skin sensitization	Not sensitising	mouse (CBA) female	OECD 429
Repeated dose toxicity: Chronic toxicity: oral	NOAEL (systemic): 250 mg/kg bw/day	rat (Sprague-Dawley) male/female	OECD 422
Mutagenicity	Negative	S. typhimurium E. coli.	OECD 471
Carcinogenicity			
Reproductive toxicity	NOAEL: ≥1500 mg/kg/bw/day	Rat	OECD 422
STOT Single exposure	Not classified		
STOT Repeated exposure	Not classified		
Aspiration toxicity	Not classified		

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Aquatic toxicity	Effect dose	Species	Method/Test material
Acute fish toxicity	LC50 (96 h): > 85.9 mg/L	Oncorhynchus mykiss	OECD 203
Acute aquatic invertebrates toxicity	LC50 (72 h): 1790 mg/L	Daphnia carinata (water flea)	APHA-1975
Acute algae toxicity	EC50 (72 h): > 97.1 mg/L	Pseudokirchnerella subcapitata	OECD 201
Toxicity to STP microorganisms	EC50 (3 h): > 100 mg/L	Activated sludge	OECD 209

12.2. Persistence and degradability*Biotic degradation*

Readily biodegradation study does not need to be conducted since the product is inorganic (Annex VII REACH).

12.3. Bio accumulative potential

Simple inorganic salts with high aqueous solubility will exist in a dissociated form in an aqueous solution. Based on the available information, there is no indication of a bioaccumulation potential

12.4. Mobility in soil.

Water-soluble solid. Natural constituent in soils.

12.4. Results of PBT and vPvB assessment

Product does not meet the criteria for classification as PBT or vPvB.

12.5. Other information

According to the criteria of the European classification and labelling system, the product has not to be labelled as „dangerous for the environment“.

SECTION 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****13.1.1. Product / Packaging disposal: Waste codes / waste designations according to EWC**

Product: Keep out of sewers and waterways. Dispose in accordance with national and local environmental control regulations.

Packaging: Non-contaminated packages may be recycled.

13.1.2. Waste treatment options

Examine possibilities for re-utilisation. Product residues and unclean empty containers should be packaged, sealed, labelled, and disposed of or recycled according national and local regulations. Where large quantities are concerned, consult the supplier. For disposal within the EC, the appropriate code according to the European Waste List (EWL) should be used.

13.2. Additional information

Product can be further used without restrictions if not subsequently contaminated.

Note: see section 7 for safe handling and storage

SECTION 14: TRANSPORT INFORMATION

Not classified i.e. considered non-hazardous material according to UN Orange Book and international transport codes e.g. RID (rail), ADR (road) and IMDG (sea) (Directive 94/55/EC (Road Transport), Directive 96/49/EC (Rail Transport) and their amendments).

ADR: Non-hazardous for road transport.
RID: Non-hazardous for rail road transport.
IMDG: Non-hazardous for sea transport.
IATA: Non-hazardous for air transport.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the product***EU regulations:***

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

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 (with later amendments)

Commission regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (with later amendments).

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

National regulations (Lithuania):

LR Regulation of Minister of health and of social safety and health of Lithuanian Republic, Concerning Hygienic standards HN 23:2011 „Threshold limit values of professional exposure of chemical substances and common requirements for measuring and assessment of exposure“.

Rules of provision of employers with personal protective equipment.

Rules of packages and packages waste disposal (Approved by Minister of Environment of Lithuanian Republic in 27 of July 2002, Order No.: 348).

Rules of waste disposal (Approved by Minister of Environment of Lithuanian Republic in 30 of December 2003, Order No.: 722)

Other legislation, restrictions and prohibitions:

Directive 2008/68/EC of The European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods (ADR, RID, ADN).

International Maritime Dangerous Goods (IMDG Code).

Technical instructions for the Safe Transport of Dangerous Goods by (ICAO – TI).

15.2. Chemical Safety Assessment

Chemical Safety Assessment has been carried out in joint Chemical safety Report.

SECTION 16: OTHER INFORMATION

16.1. Indication of changes

Safety data sheet is prepared in 05/02/2019, according Commission regulation (EU) No 2015/830.

16.2. Abbreviations and acronyms

ADR/RID - Dangerous Good by Road/Dangerous Good by Rail

ADN(R) - Dangerous Good by Inland Waterways

bw - body weight

c.a. - approximately

CLP - Classification Labelling and Packaging

CAS - Chemicals abstract service (CAS number)

CMR - Carcinogenic, mutagenic and toxic for reproduction substances

DNEL - Derived No-effect level

EC50 - Half maximal effective concentration

EC - European Commission

ECHA - European Chemicals Agency

EINECS - European Inventory of Existing Commercial Substances (EC number)

EU - European Union

EWG - European waste catalogue

GHS - Globally Harmonised System of Classification and Labelling of Chemicals

IATA - International Air Transport Association

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IMDG - International Maritime Dangerous Good

IMSBC – International Maritime Solid Bulk Cargoes Code

IUCLID - International Uniform Chemical Information Database

LC50 - Lethal concentration, 50 %

LD50 - Median Lethal Dose

NOAEC - no observed adverse effect concentration

NOAEL - no observed adverse effect level

OECD - Organisation for Economic Co-operation and Development

PBT - Persistent, bio accumulative and toxic substances

PNEC - Predicted No-Effect Concentration

REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals

SDS - Safety data sheet

STP - Sewage treatment plants

STOT - Specific Target Organ Toxicity

TLW-TWA - Threshold limit value - Time weighted average (average exposure on the basis of an 8h/day)

UN - United Nations

vPvB - Very persistent and very bio accumulative products

w/w (v/v) - Weight by weight (volume/ volume percent)

16.3. Key literature references and sources for data

Ammonium dihydrogen phosphate – GESTIS substance database.

ECHA registered substances database.

Ammonium dihydrogen orthophosphate – IUCLID data set.

16.4. Relevant H- phrases

H315 – Causes skin irritation;

H318 – Causes serious eye damage;

H302 – Harmful if swallowed;

H400 – Very toxic to aquatic life;

H410 – Very toxic to aquatic life with long-lasting effects;

H360FD – May damage fertility. May damage the unborn child.

16.5. Training advice

It is recommended training appropriate for workers to ensure protection of human health and the environment.

Disclaimer: The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.