SECTION 1: Product and Company Identification

Trade name:	**LiFePO4 Battery 12V/100Ah**
Product utilisation:	Battery for living quarters in caravan trailers and mobile homes.
Manufacturer/Supplier:	**Reimo Reisemobil-Center GmbH** D-63329 Egelsbach, Boschring 10, Germany Ph.: +49 (0) 6103 4005-21 oder -22 Fax: +49 (0) 6150 8662 177 E-mail: service@reimo.com Internet: www.reimo.com
Person in charge:	Technical advice, ph.: +49 (0) 6103-4005-28 Fax: +49 (0) 6150 8662 177
Emergency telephone code:	+49 (0) 6201 989 956 (Mr. Volker Müller)

SECTION 2: Hazards Identification

2.1 Classification and labelling according to Regulation (EC) No 1272/2008 (Directive 1272/2008/EC)

None.

2.2 Information pertaining to particular dangers to man and the environment:

No harmful effects on human health or on the environment are to be expected, if the product is used as specified and as long as the housing of the battery is tight.

Though, the product contains harmful ingredients, which are hermetically and impermeably sealed and will stay sealed upon foreseeable extraneous causes.

According to the UN 38.3 Manual of Tests and Criteria ST/SG/AC.10/11/Rev. 6, Amend 1, the product is tested for impermeability, for consistency against low pressure up to 116 hPa, for mechanical compression up to 13 kN, for temperature stability between -42°C to +72°C, for vibration stability between 7 Hz and 200 Hz, for shock stability up to 150 G (gavitational acceleration), for short circuit stability (0.1 Ω at 57°C +/- 4°C), for electrical excess charge at 22V, etc. (Test Report No. SZABB191226002-01 of Shenzhen Anbotek Compliance Laboratory Limited of 10 January, 2020).

There are considerable hazards for human health and for the environment (refer to SECTION 4, 11 and 12), if the ingredients are set free by fire, by exceptional extraneous causes, by targeted breakup of the housing (refer also to SECTION 7) or whatsoever.

Ion batteries are hazardous waste, and are to be disposed specifically (refer to SECTION 13).

Combustible, may explode when burning or overheating.

SECTION 3: Composition / Information on Ingredients

3.1 Characterization:	Lithium ion battery on the basis of phosphoric acid, iron(2+) lithium salt (1:1:1) with copper and graphite as main components, electrolytes and two different polymers for the housings of the cells (polypropylene) and the battery (ABS rubber, refer also to SECTION 3.2). The battery consists of 20 cells. The ingredients are hermetically and impermeably sealed.

3.2 Ingredients:

Substance	CAS No.	EINECS No.	Characterization	Mass%
Phosphoric acid, iron(2+) lithium salt (1:1:1)[*)]	15365-14-7	604-917-2	Mixed phosphate	22.1 - 31
Synonyms: Lithium iron(II) phosphate; ferrous lithium phosphate; Triphylite				
Aluminium, foil	7429-90-5	231-072-3	Metal	18 - 19.5
Graphite, powder	7782-42-5	231-955-3	Crystalline Carbon	13.3 - 17.7
Phosphate(1-), hexa-fluoro-, lithium (1:1)	21324-40-3	244-334-7	Fluorinated lithium phosphate	8.9 - 13.3
Synonyms: Lithium hexafluorophosphate(1-); Phosphate(1-), hexafluoro-, lithium				
ABS rubber housing	not applicable	not applicable	Copolymer acrylnitril/buta-diene/styrene	11.8
Copper, foil	7440-50-8	231-159-6	Metal	6.2 - 11.5
Nickel plated sheet steel	not applicable	not applicable	with nickel coated steel	< 4.4
Polypropylene	9003-07-0	not existent	Polymer of propylene	< 4.4
Synonyms: 1-Propene, homopolymer; Propylene polymer				

[*)] Not classified according to ECHA Substance Information of 7 March, 2020 (most notifiers), https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/91911

This product does not contain substances of very high concern according to directive 1907/2006/EC, article 57.

3.3 Hazardous ingredients:

*Classification of the **pure** ingredients according to Directive 1272/2008/EC (GHS), table 3*

Common or chemical name:

Phosphate(1-), hexafluoro-, lithium (1:1):

Acute tox. (oral) 3 (Acute toxicity if ingested, Hazard Category 3): H301
Skin corrosion/irritation 1A, (Hazard Category 1A): H314
Eye Dam. 1, (Hazard Category 1): H318
STOT RE 1 [Specific organ toxicity (repeated exposure), Hazard Category 1]: H372

Signal word: "Danger"

H301: Toxic if swallowed.
H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage (not necessary for labelling)
H372: Causes damage to organs (bones, teeth) through prolonged or repeated exposure.

Classification according to ECHA Substance Information of 7 March, 2020,
https://echa.europa.eu/substance-information/-/substanceinfo/100.040.289

Nickel metall or nickel plated sheet steel are not classified.
The following classification (*Directive 1272/2008/EC (GHS), table 3)* **is only valid for nickel powder** (e. g. if the nickel is welded or grinded, refer to SECTION 8.2, Remarks)**:**

Carc. 2 (Carcinogenicity, Category 2)

Signal word: „Danger“

H351: Suspected of causing cancer.

STOT RE 1 [Specific target organ toxicity - (repeated exposure), Category 1]
H372: Causes damage to organs through prolonged or repeated exposure.

Skin Sens. 1 (Skin Sensitization, Category 1)
H317: May cause an allergic skin reaction.

Aqu. chron. 3 (Chronic aquatic toxicity, Category 3)
H412: Harmful to aquatic life with long lasting effects (only if particle size < 1 mm).

SECTION 4: First Aid Measures

General information: As long as the housing of the battery is tight no first aid measures are necessary.

If the housing of the battery is damaged and ingredients are leaking the following first aid measures are appropriate:

Inhalation of aerosols or vapours: Move the affected person into fresh air. If symptoms persist give oxygen or artificial respiration and seek medical attention.

Skin: Wash skin with plenty of water and soap. Change contaminated clothing. If symptoms persist seek medical attention.

Eyes: Rinse with plenty of water for at least 15 minutes. If symptoms persist seek medical attention.

Ingestion: If the patient is conscious have him rinse his mouth with water, spit it out and then have him drink water or milk. In case of persisting symptoms put him in a recovery position and - if the patient is conscious - let him vomit. Seek medical attention.

Information for doctor: None

SECTION 5: Fire Fighting Measures

General information: Most parts of the product are combustible including the housing (see also „Special hazards“ below).

Extinguishing agents:	Carbon dioxide, foam, dry chemical. Use water spray only if the housing is tight and the battery is not loaded to prevent short circuit.
Not suitable extinguishing agents for safety reasons:	Water jet. Water in general, if the housing is damaged or the battery is loaded and is not protected against short circuit.
Special hazards:	In case of burning the battery might explode! In case of exposure above 80°C or in case of damage of the housing, the battery may leak or spout vaporized electrolytes or their decomposed products, such as very toxic fluorides and hydrofluoric acid, hydrocarbons, carbon monoxide and phosphorous oxides. The electrolytes are partly inflammable and may cause serious eye damage and severe skin burns by contact or by aerosols, and severe irritation of the respiratory tract by inhaling aerosols or by inhaling vapours specially when the product is burning.
Special protective equipment for fire-fighters:	Use self-contained breathing apparatus and protection clothes.
Further notice:	In case of fire in the surroundings immediately remove battery to a safe place or at least try to cool the battery, but take care of the possibility of a short circuit by water.

SECTION 6: Accidental Measures after Release of Ingredients

General information:	Only if the battery is damaged and ingredients are set free or after a short circuit , accidental measures may be necessary.
Personal precaution:	Leave the endangered area immediately and warn co-workers. Ventilate the area until aerosols and vapours are gone before entering the area with protective clothing, chemical resistant gloves (refer to SECTION 8.3) and safety goggles with side shield. Otherwise use fine dust respirator (P3, identification colour: white) or a ventilated breathing hood.
Environmental precaution:	Do not let the ingredients enter surface water, groundwater or soil. Prevent large amounts of ingredients from entering the sewage system.
Methods for cleaning up:	Prevent generation of aerosols. Pack solid parts into container to be labelled. Take up liquids with liquid-adsorbent material (sand, clay, cat litter, etc.). Fill contaminated adsorbent material into container. Finally clean area with water and soap. Discharge contaminated material according to SECTION 13.

SECTION 7: Handling and Storage

Handling:	Under no circumstances, do not open the housing, do not throw the battery into fire, prevent the battery from heating-up and from direct sunlight, do not cause short circuit. If the battery becomes hot (< 80°C), remove it to a safe place or at least try to cool the battery, but take care of the possibility of a short circuit by water, if the battery is loaded. If the battery is heated above 80°C leave the endangered area immediately and warn co-workers (refer to SECTION 5, *„Special hazards", and SECTION 6, „Personal precaution"*). Prevent battery from exceeding vibrations.

Notes for prevention of fire and explosion: Prevent battery from heat above 80°C, and prevent short circuit.

Storage: Store the battery separated from other materials at a dry, cool and well ventilated place between -20°C and 30°C and between 45% and 85% humidity. The higher the temperature of storage the sooner the loading capacity will drop. Charge the battery every 6 months to the amount specified by the manufacturer, even if the battery was not used. Prevent short circuit by covering the electrical poles with plastics. Do not store together with inflammable substances. Keep loaded and used batteries separated. German VCI-class of storage: 11 (combustible solids, TRGS 510).

SECTION 8: Exposure Controls / Personal Protection

8.1 Technical protection: Opening of the housing of the battery should only be done by trained personnel. In this case use closed plant with exhaust. Otherwise use at least exhaust and monitor the occupational exposure limit. Avoid generation of aerosols.

8.2 Ingredients with occupational exposure limit values, if ingredients of the battery are set free:

General Limit for Dusts

- *CAS No.:*	Not applicable.
- *Exposure limit value:*	1.25 mg/m^3 alveolar dust or alveolar aerosols 10 mg/m^3 inhalable dust or aerosols
- *Short term limit value:*	2 (II)
- *Origin:*	AGW
- *BLV:*	Aluminium: 50 µg/g Creatinine in urine after long-term exposure and after working shift
- *Remarks:*	C (MAK-KOMMISSION, Germany)
- *Exposure limit value:*	0.3 mg/m^3 alveolar dust or alveolar aerosols, not obligatory
- *Short term limit value:*	2 (II)
- *Origin:*	Recommendation of the MAK-KOMMISSION, Germany
- *Note:*	Employment medical examination is to be initiated, if contact of phosphate(1-), hexafluoro-, lithium (1:1) with skin cannot be excluded (GESTIS). There are special exposure limit values for aerosols or dust of metallic nickel (0.006 mg/m^3, TRGS 900, refer also to SECTION 3), and of metallic aluminium (1.5 mg/m^3, MAK-Kommission of Germany, refer to GESTIS). This is only valid, if the metallic ingredients of nickel or aluminium are processed (e.g. welded or grinded) in a way that aerosols are generated.
- *Year:*	2020

Explanations:

- *AGW*	Exposure limit value (refer to TRGS 900, (Technical rules for hazardous substances), Germany, last revision: GMBl 2020, p. 199-200 [No. 9-10] of 13 March, 2020
- *BLV:*	Biological Limit Value (refer to TRGS 903, Germany, last revision of 13 March, GMBl 2020, p. 200 [Nr. 9-10])

- *Short term limit values:*	Exceeding factor X: Exposure may exceed the exposure limit value by the factor X for not longer than 15 minutes. 4 measurements at intervals of 1 hour. Exceeding factor =X=: Exposure must never exceed the exposure limit value by more than the factor X (instantaneous value). (I): Category I: substances for which the exposure limit value is based on local effects or sensitizing substances. (II): Category II: substances effective by resorption.
- *Remarks::*	H : Substances effective by resorption through skin S = Sensitizing substance Y, C (DFG): There is no teratogenic risk if the exposure limit value and the BLV are maintained.

8.3 Personal Protection:

The following protection measures apply, if ingredients of the battery are set free:

Respiratory protection:	Use respiratory protection apparatus or ventilated breathing hood.
Hand protection:	If contact with hands cannot be avoided use protection gloves tested according to DIN EN 374. Seek advice from manufacturers of protection gloves. If gloves cannot be used for safety reasons (e. g. while working at rotating machines) use skin-protective barrier cream. Consult the company medical officer for the type of barrier cream to be used. Comment: In contrary to the European ordinance 1907/2006/EC (REACH), it is not sufficient to specify only the protective glove material. The break-through-times are dependent not only on the material but also on the manufacturing technique. It is therefore essential to consult the manufacturers of protective gloves. For the ingredients of the battery the following materials should be appropriate: for short-time contact (few minutes) rubber or plastic is sufficient, for long-time contact use gloves of nitrile/latex rubber - NBR (0.35 mm).
Eye protection:	Safety glasses with side shield.
Skin protection:	Use chemical resistant protective clothing if contamination of clothing cannot be avoided. Change contaminated clothing immediately.
General protective measures:	Avoid contact with eyes and skin. Do not inhale aerosols or vapours.
Industrial hygiene:	Wash hands or skin after contact immediately. Do not eat, drink, smoke or take snuff at work.

SECTION 9: Physical and Chemical Properties

9.1 Appearance

Physical state:	Solid.
Colour:	Silver.
Odour:	None.

9.2 Relevant data for Safety and Health for the product:

Data which should be mentioned in this SECTION are not relevant for the product. Refer to SECTIONS 2, 6, 7, and 10 for safety-related information.

Nominal Voltage:	12 V
Loading capacity:	100 Ah

SECTION 10: Stability and Reactivity

Thermal decomposition:	Danger of explosion above 130°C.
Conditions to be avoided:	Heating above 70°C. Short circuit. Damage of the housing. Long-time storage under humid conditions.
Substances to be avoided:	Strong oxidizing agents (halogenes, nitriles, hydrogen peroxide, perchloric acid, aqua regia, etc.), strong acids, strong lyes.
Dangerous reactions:	Ingredients may form very toxic fluorides and hydrofluoric acid with strong acids.
Hazardous decomposition products:	Very toxic fluorides and hydrofluoric acid, hydrocarbons, carbon monoxide and phosphorous oxides.
Dangerous polymerisations:	None.

SECTION 11: Toxicological Information

11.1 Product

As long as the housing of the battery is tight and no ingredients are set free, no harmful effects on human health are to be expected.

The following information is valid for all ingredients:

Sensitization:	Intense and repeated skin contact with nickel metall or nickel plated sheet steel may result in sensitization.
Mutagenicity:	No mutagenic effects are known.
Cancer:	No carcinogenic effects are known. All ingredients are not mentioned as carcinogenic in the lists of ACGIH, NIOSH, IARC or TRGS 905.
Reproductive toxicity:	No toxic effects on reproduction are known.

Toxic effects after repeated exposure (subacute to chronic toxicity):

Refer to SECTION 11.2

Practical experience: There are no reports of symptoms of poisoning after handling the ingredients.

11.2 Toxicological information on the pure ingredients:

11.2.1 Phosphoric acid, iron(2+) lithium salt (1:1:1)

The toxicology of this substance is yet hardly investigated. There are no experimental animal data

(refer to MSDS of Sigma-Aldrich Inc.). In analogy to iron (III) phosphate no noteworthy hazards to the human health are to be exspected, because the substance is unsoluable and therefore is hardly resorbed in the body.

11.2.2 Graphite

Toxikokinetics, metabolism and distribution:

Resorption in the body is negligible.

Acute toxicity:

There are no LD_{50}-values of animal experiments. There were no deaths of rats after injection of suspensions of graphite (HSDB).

Practical experiences with occupational exposures of graphite (HSDB):

After inhalation:	Slight irritation of the respiratory tract.
After skin contact:	No symptoms.
After eye contact:	Physical irritation.
After ingestion:	No experiences.
Chronic toxicity:	Bronchitis and lung damage after repeated and prolonged inhalation.

11.2.3 Phosphate(1-), hexafluoro-, lithium (1:1)

Toxikokinetics, metabolism and distribution:

No information is available.

Acute toxicity:

LD_{50} (female rat, oral):	> 50 mg/kg (OECD guideline 423, Sigma-Aldrich)
After inhalation:	Severe irritation of the respiratory tract.
After skin contact:	Severe irritation up to chemical burn (test with artificial skin, Sigma-Aldrich).
After eye contact:	Severe irritation, risk of serious, irreversible eye damage (rabbit, OECD guideline 405).
After ingestion:	Toxic. Severe irritation of the oral cavity, of the oesophagus and the stomach.
Sensitization:	No sensitizing effects were found. In-vitro-test with mouse: negative (OECD guideline 429, Sigma-Aldrich).
Mutagenicity:	No mutagenic effects were found. Mutagenicity of germ cells: Ames-Test with salmonella typhimurium: negativ (Sigma-Aldrich).
Cancer:	Refer to SECTION 11.1.
Reproductive toxicity:	Refer to SECTION 11.1.
Chronic toxicity:	After repeated and prolonged exposure hazardous to bones and teeth.
Further information:	Fire or strong acids may set free fluorides and hydrofluoric acid, which cause severe health problems.

11.2.4 All other ingredients

The toxicities of the remaining ingredients are negligible in comparison to the substances mentioned in this SECTION, specially because nickel, aluminium and copper are not powdery.

SECTION 12: Ecological Information

12.1 Product:

The product as delivered causes no environmental hazards in normal use. If the product is disposed into the environment the housing will leak after a long period of time or after outside impact, and the ingredients will finally end up in the environment. On behalf of the ingredients the product must be classified as highly water polluting (WGK 3) according to AwSV (Germany). But as long as the battery is in good order and is used as intended it is not water polluting (WGK 0), but must not put into water because of electrical short cut, which might destroy the battery and the ingredients are set free.

*12.2 Information on the **pure** ingredients:*

12.2.1 Phosphoric acid, iron(2+) lithium salt (1:1:1)

Ecotoxic effects: Not biodegradable. On account of its sparing solubility in water no efficient ecotoxic effects are to be expected. Triphylin, Li(Fe, Mn)[PO_4], is a natural mineral, where the iron-II-ions of phosphoric acid, iron(2+) lithium salt (1:1:1) are partly replaced by manganese-II-ions.

Ecotoxic data: There are no experimental animal data.

Biodegradation: As a anorganic substance a potential of biodegradation is not expected.
Abiotic degradation: On a long term scale a transformation to lithium oxide and iron-III-phosphate is to be expected.

WGK (Water Pollution Category,Germany): 1 (slightly water polluting) (classification by analogy to trilithium phosphate and to iron phoshate (both WGK 1).

12.2.2 Aluminium

Ecotoxic effects: Not biodegradable. Aluminium is insoluble, but in acid soil (pH < 4.5) aluminium is slowly oxidised to soluble ions, which are toxic to water organisms.

Ecotoxic data of dissolved aluminium ions:

Fish toxicity:		LC_{50}: 0.12 - 5.2 mg/l, median value: 1.55mg/l (GESTIS)
Daphnia toxicity:	Daphnia magna:	toxic above 136 mg/l (Merck)
Algae toxicity:	Scenedesmus quadricauta:	toxic above 1.5 mg/l (Merck)

Further information:

WGK (Water Pollution Category,Germany): 0 (not water polluting) (BAnz. AT, idendification no.: 1443)

12.2.3 Graphite

Ecotoxic effects: Not biodegradable. As a natural substance no ecotoxic effects are to be expected.

Ecotoxic data: There are no experimental animal data.

WGK (Water Pollution Category,Germany): 0 (not water polluting) (BAnz. AT, idendification no.: 801)

12.2.4 Phosphate(1-), hexafluoro-, lithium (1:1)

Ecotoxic effects: No information is available.

Ecotoxic data (Sigma-Aldrich):

Daphnia toxicity:	Daphnia magna:	EC_{50}:	> 100 mg/l / 48 h (OECD guideline 202)
Bacterial toxicity:	Pseudomonas putida:	EC_{50}:	> 1,000 mg/l / 3 h (OECD guideline 209)
Algae toxicity:	Pseudokirchneriella subcap.:	EC_{50}:	> 100 mg/l / 76 h (OECD guideline 201)

Further information:

WGK (Water Pollution Category,Germany): 2 (notedly water polluting), (BAnz. AT, idendification no.: 9245)

12.2.5 Copper

Ecotoxic effects: Bioaccumulation is not to be expected. Metallic copper is mobilised below p_H 2.8 by oxidation to water soluble copper ions, which are very mobile in water but not in soil, because copper ions are strongly adsorbed by solids (HSDB).

Ecotoxic data (GESTIS, relevant for copper ions):

Fish toxicity:	LC_{50}:	0.0087 - 21 mg/l / 96 h; median value: 0.665 mg/l / 96 h (114 studies)
Crustacean toxicity:	LC_{50}:	0.000072 - 5.36 mg/l / 48h; median value: 0.044 mg/l / 96 h (135 studies)
Crustacean toxicity:	EC_{50}:	0.0016 - 0.34 mg/l / 48 h; median value: 0.02 mg/l / 96 h (75 studies)
Algae toxicity:	EC_{50}:	0.01 -0.91 mg/l / 72 h; median value: 0.57 mg/l / 72 h (9 studies)
Algae toxicity:	EC_{50}:	0.04 -9.2 mg/l / 96 h; median value: 7.9 mg/l / 96 h (3 studies)

WGK (Water Pollution Category,Germany): 0 (not water polluting) (BAnz. AT, idendification no.: 1443)

12.2.6 All other ingredients

The remaining ingredients are polymers, which are hardly biodegradable and hardly ecotoxic because of their insolubility.

For all the remaining ingredients:

WGK (Water Pollution Category,Germany): 0 (not water polluting) (BAnz. AT, idendification no.: 766)

Do not allow the product to enter water supplies, waste water or soil (refer to SECTION 12.1 and 13.1).

SECTION 13: Disposal Considerations

13.1 *Product:* For disposal the product has not to be supervised. But before disposal the battery must be pretreated and the ingredients must be partly recovered (BattGDV or Directive 2006/66EG). The battery may be returned to the supplier or must be left over for a disposal company. It is not allowed to dispose the battery either as household waste nor as hazardous waste. This applies also, if the housing of the battery is damaged or/and part of the ingredients together with contaminated adsorbent and filter materials are collected in a container.

Waste code: 16 06 05
Waste name: Other batteries and accumulators

13.2 Batteries with damaged housing or the ingredients:

Waste code: 16 06 06*
Waste name: Separately collected electrolyte from batteries and accumulators

* : Hazardous waste must be supervised.

13.3 *Packing materials :*

a) Packing materials made of plastics:
Waste code: 15 01 02
Waste name: Packing material*s* made of plastics

b) Packing materials made of metal:
Waste code: 15 01 04
Waste name: Packing material*s* made of metal

Waste codes numbers and names in accordance with the European Waste Register Ordinance.

SECTION 14: Transport Information

Transportation by land ADR/RID/GGVSE

ADR/RID/GGVSE Class:	9
UN No.:	3480
UN proper technical name:	Lithium Ion Batteries
Hazard label:	Class 9A Lithium Ion Batteries
Packaging group:	II
Packing instruction:	PI 910
Max. gross weight per package:	30 kg
Tunnel category:	E
Classification code:	M4 Lithium Battery
Limited quantity:	LQ: 0.0

The special instructions SV 310 and SV 376 for transport of batteries with damaged housing, the special instructions SV 310 and SV 377 for the transport of batteries for disposal, and packing instructions PI 908 bzw. 909 are to be complied with.

Shipping by air ICAO-TI und IATA-DGR 61 edition of 7 Nov., 2019:

ICAO-TI und IATA-Class:	9
UN/ID No.:	3480

IATA proper shipping name:	Lithium Ion Batteries
Marine Pollutant:	No
Hazard label:	Class 9A Lithium Battery
Packing instruction:	965 Part IA
Max. gross weight per package:	35 kg
Additional hazard label on outer case:	

Special instructions:	A88, A99, A154, A164, A182, A183, A185, A201, A206, A331

The transport with passenger aircrafts is for bidden. Batteries must not be damaged. The battery terminals must be protected against short circuit. The state of charge must not exeed 30% of each battery. The energy content (Wh) must be specified on the type plate. Note that the different airline companies request different terms for transportation (refer to Addendum 1 of IATA-DGR 61 edition 2019).

Shipping by sea IMDG Sea:

IMDG/GGVSee Class:	9
UN No.:	3480
Proper shipping name:	Lithium Ion Batteries
Hazard label (for packages):	Class 9A Lithium Ion Batteries
IMDG-Code:	38 - 16
EMS:	F-A, S-I
Packaging group:	II
Packing instruction:	PI 910
Max. gross weight per package:	30 kg
Marine Pollutant:	No

The special instructions SV 310 and SV 376 for transport of batteries with damaged housing and the special instructions SV 310 and SV 377 for the transport of batteries for disposal are to be complied with.

SECTION 15: Regulatory Information

Directive 1907/2006/EC of 18 Dec. 2006, last revision of 7 February, 2020
Ordinance (EC) No. 1272/2008 (GHS) of 16 Dec., 2008; last revision of 18 February, 2020

15.1.1 There are no safety reports according to 1907/2006/EC (REACH) available.

15.1.2 *Substances of very high concern (SVHC):*

This product does not contain substances of very high concern according to directive 1907/2006/EC, article 57a - 57f or annex XIV and XVII.

15.1.3 *Directive No. 850/2004/EC on (very) persistent organic pollutants and amending directive 79/117/EEC or directive 1907/2006/EC, article 57d + e or annex XIII:*

None of the ingredients are regulated.

15.1.4 Directive No. 1005/2009/EC on substances that deplete the ozone layer

None of the ingredients are regulated (Last supplementation: Directive No. 2019/2079/EC of 27 Nov., 2019)

All other relevant regulations are mentioned elsewhere in this Safety Data Sheet.

15.2 Classification and Labelling: None (refer to SECTION 2)

15.3 National Regulations, Germany:

15.3.1	*StörfallV:*	Annex I, No. 1.1.2: lower threshold: 50 t; upper threshold: 200 t [applies only to Phosphate(1-), hexafluoro-, lithium (1:1)]
15.3.2	*TA-Luft:*	Clause 5.2.1 Total dust including fine dusts: max. mass concentration: 20 mg/m^3 or max. mass flow: 0,20 kg/h (at a max. mass concentration of 150 mg/m^3).
15.3.3	*VCI Storage Class:*	11 (combustible solids, TRGS 510)
15.3.4	*AwSV:*	Batteries with damaged housing are WGK 3 (highly water polluting, German Water Pollution Category 3), batteries in good order are WGK 0 (not water polluting, German Water Pollution Category 0), as long as damaging can be excluded, e. g. by traffic of staplers.
15.3.5	*Volatile components:*	None, VOC: 0
15.4	*Further regulations and restrictions:*	Occupational restrictions: Take note of Directive 94/33/EC on the protection of young people at work.

SECTION 16: Other Information

Abbreviations:

ACGIH: American Conference of Governmental Industrial Hygienists
AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen vom 18 April 2017 (ordinance about facilities for handling with substances hazardous to water of 18 April 2017)
BAnz. AT: Liste der wassergefährdenden Stoffe, veröffentlicht im Bundesanzeiger AT vom 10.08.2017 (list of water polluting substances, published in Bundesanzeiger AT of 8 Aug. 2017, last revision of 18 February, 2020)
BOD: Biochemical oxygen demand
ChemIDplus: Database of the United States National Library of Medicine
COD: Chemical oxygen demand
DFG: Deutsche Forschungsgemeinschaft (German Society for Research)
GMBl: Gemeinsames Ministerialblatt: Publication of all ministeries of the Federal Republic of Germany Webb: gmbl-online.de
DNEL Derived No-Effect Level
DIN; DIN/ISO: German standard
DOC: Dissolved organic carbon
EN: European standard
EINECS: European Inventory of Existing Commercial Substances
GESTIS: Data base of Berufsgenossenschaftliches Institut für Arbeitsschutz, Germany
GMBl: Gemeinsames Ministerialblatt: Publication of all ministeries of the Federal Republic of Germany Webb: gmbl-online.de
IARC: International Agency for Research on Cancer (World Health Organisation)
IRT: Inhalation risk test

IUCLID: International Uniform ChemicaL Information Database
LC_{50}: Lethal Concentration for 50% of the tested animals
LD_{50}: Lethal Dose for 50% of the tested animals
LOEC: Lowest Observed Effect Concentration
MAK: Maximale Arbeitsplatzkonzentration (maximum concentration in the workplace, out of date)
Merck, Sigma-Aldrich, etc.: Actual MSDS of Merck, Darmstadt, Germany, Sigma-Aldrich, Germany, etc.
MITI: Ministry of International Trade and Industry, Japan
MSDS: Material Safety Data Sheet
NIOSH: National Institute for Occupational Safety and Health (USA)
NOAEL: No Observed Adverse Effect Level
NOEC: No Observed Effect Concentration
NOEL: No Observed Effect Level
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Adminstration (USA)
PNEC: Predicted No-Effect Concentration
RTECS: Register of Toxic Effects of Chemical Substances
TG: Test-Guideline
TOC: Total organic carbon
TOD: Theoretical oxygen demand
TRGS: Technische Regel für Gefahrstoffe (Technical rules for hazardous substances, Germany)
TRK: Technische Richtkonzentration (technical concentration in the workplace to comply with [for cancerogenic substances], out of date)
VCI: Verband der Chemischen Industrie e.V. (Chemical Industry Association, Germany)
VOC: Volatile organic carbons
WGK: Wassergefährdungsklasse (Water Pollution Category, Germany)

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