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

### 1.1. Product identifier

AXEP408WL

**Further trade names**

Type: 3,2 V; 1200 mAh; 3,84 Wh

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

**Use of the substance/mixture**

batteries and accumulators

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

| | | |
|---|---|---|
| **Company name:** | RP-Technik GmbH | |
| **Street:** | Hermann-Staudinger-Str. 10-16 | |
| **Place:** | D-63110 Rodgau | |
| **Telephone:** | +49 (6106) 660 28 - 0 | +49 (6106) 660 28 - 40 |
| **E-mail:** | info@rp-group.com | |
| **Contact person:** | Francisco Goerke | |
| **E-mail:** | product@rp-group.com | |

### 1.4. Emergency telephone number:

+49 (6106) 660 28 - 0 (24 h.)

**Further Information**

This battery pack is an article according to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 453/2010, and is not subject to the REACH regulation. The information contained in this safety data sheet contains valuable and critical information for the safe and proper use of the product. This SDS should be kept and made available to employees and other users of the product.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Regulation (EC) No 1272/2008**

Acute Tox. 4; H302
Skin Corr. 1A; H314
Eye Dam. 1; H318
Skin Sens. 1; H317
Carc. 2; H351
STOT RE 1; H372
STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

**Additional advice on labelling**

Labelling according to Regulation (EC) No. 1272/2008 [CLP]: not applicable / not relevant
The product is: article (batteries and accumulators)

### 2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
Risk of explosion by shock, friction, fire or other sources of ignition. (Formation of: Gases/vapours, toxic) Do not open container by force. To avoid risks to man and the environment, comply with the instructions for use.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

**Chemical characterization**

The product is: article (batteries and accumulators)

**Relevant ingredients**

| CAS No | Chemical name | Quantity |
|---|---|---|
| 21324-40-3 | Lithium hexafluorophosphate(1-) | 15 - 22 % |
| 244-334-7 | — | — |
| — | Acute Tox. 3, Skin Corr. 1A, Eye Dam. 1, STOT RE 1; H301 H314 H318 H372 | — |
| 7440-50-8 | Copper | 10 - 15 % |
| 231-159-6 | — | — |
| — | Aquatic Acute 1, Aquatic Chronic 3; H400 H412 | — |
| 7440-02-0 | Nickel | 0,5 - 1 % |
| 231-111-4 | 028-002-00-7 | — |
| — | Carc. 2, Skin Sens. 1, STOT RE 1; H351 H317 H372 | — |

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

| CAS No | EC No | Chemical name | Quantity |
|---|---|---|---|
| 21324-40-3 | 244-334-7 | Lithium hexafluorophosphate(1-) | 15 - 22 % |
| — | **Specific Conc. Limits, M-factors and ATE** | — | — |
| — | oral: ATE = 100 mg/kg | — | — |

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General information**

In all cases of doubt, or when symptoms persist, seek medical attention. The following notes refer to direct contact with the contents of the battery or accumulator.

**After inhalation**

Provide fresh air. If breathing difficulties or respiratory arrest occur, initiate artificial respiration. Seek medical advice/medical assistance.

**After contact with skin**

Wash with plenty of water/soap. Remove contaminated clothing and wash before reuse. Medical treatment necessary.

**After contact with eyes**

In case of contact with eyes, immediately rinse with running water for 10 to 15 minutes with eyelids held open and consult an ophthalmologist. Remove contact lenses if possible. Continue rinsing.

**After ingestion**

Immediately rinse mouth and drink plenty of water. Induce vomiting if the affected person is conscious. Immediately seek medical advice/medical assistance.

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

No information available.

### 4.3. Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media**

Carbon dioxide (CO2), water spray. Adapt firefighting measures to the surrounding area.
Co-ordinate fire-fighting measures to the fire surroundings.

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

Danger of bursting container. (Electrolyte: Highly flammable). In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO2), toxic metal oxide smoke, corrosive. Pyrolysis products, toxic, containing fluorine.

### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Full protective suit.

**Additional information**

Knock down gases/vapours/mists with water spray. Use water spray to protect persons and to cool containers in the danger area. Collect contaminated extinguishing water separately. Do not allow to enter drains or watercourses.

## SECTION 6: Accidental release measures

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

**General advice**

Do not inhale gas/smoke/vapour/aerosol. Avoid contact with skin, eyes and clothing. Bring persons to safety. Ensure adequate ventilation. Remove all ignition sources. Use personal protective equipment.

**For non-emergency personnel**

Wear personal protective equipment (see Section 8).

**For emergency responders**

Wear personal protection equipment (refer to section 8).

### 6.2. Environmental precautions

Avoid release into the environment.

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

**For containment**

Eliminate leakage if safely possible. Batteries and accumulators: explosive due to impact, friction, fire or other ignition sources.

**For cleaning up**

Collect mechanically. Treat collected material according to the disposal section. Electrolyte: Absorb with liquid-binding material (sand, diatomite, acid binder, universal binder). Treat collected material according to the disposal section.

**Other information**

Use non-sparking tools.

### 6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Advice on safe handling**

Handle with care - avoid bumps, friction and impact. Do not open container forcibly. Do not inhale gas/smoke/vapour/aerosol. Avoid contact with skin, eyes and clothing.

**Advice on protection against fire and explosion**



Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take measures to prevent electrostatic charging.

**Advice on general occupational hygiene**

Remove contaminated clothing and wash before reuse. Wash hands before breaks and at the end of work. Do not eat, drink, smoke or sniff at the workplace.

**Further information on handling**

Comply with instructions for use to avoid risks to humans and the environment.

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

**Requirements for storage rooms and vessels**

Store in a cool and dry place. Ensure adequate ventilation and point extraction at critical points. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Hints on joint storage**

Do not store together with: Do not store together with: metals (including alloys), acids, alkalis (lyes), halogenated hydrocarbons, strong oxidising agents.

**Further information on storage conditions**

Keep away from heat. (Temperature > 70 °C) Protect from direct sunlight. Protect from moisture.

### 7.3. Specific end use(s)

batteries and accumulators

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational exposure limits**

| CAS No | Substance | ppm | mg/m³ | fib/cm³ | Category | Origin |
|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminium metal (Respirable Fraction) | - | 1 | — | TWA (8 h) | — |
| 7440-50-8 | Copper, fume | - | 0.2 | — | TWA (8 h) | — |
| - | Fluorides, inorganic | - | 2.5 | — | TWA (8 h) | — |
| 7782-42-5 | Graphite (all forms except fibres) (Respirable Fraction) | - | 2 | — | TWA (8 h) | — |
| - | Iron salts (as Fe) | - | 1 | — | TWA (8 h) | — |
| - | — | - | 2 | — | STEL (15 min) | — |
| 7440-02-0 | Nickel | - | 0.5 | — | TWA (8 h) | — |

**Biological limit values**

| CAS No | Substance | Parameter | Value | Test material | Sampling time |
|---|---|---|---|---|---|
| 7440-02-0 | Nickel | Ni | 3 µg/L | Urine | After several consecutive working shifts |

### 8.2. Exposure controls

**Appropriate engineering controls**

Ensure adequate ventilation and point extraction at critical points.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

When exposed (electrolyte): Wear safety goggles/face shield.

**Hand protection**



When exposed (electrolyte): Wear suitable protective gloves (EN ISO 374). Only chemical-resistant gloves with CE marking including four-digit test number may be used. Selection of gloves should be made specific to the workplace depending on concentration and quantity of hazardous substances.

**Skin protection**

Wear suitable protective clothing during work.

**Respiratory protection**

When exposed (electrolyte): Wear respiratory protection in case of inadequate ventilation.

**Thermal hazards**

Flame-retardant clothing. Wear antistatic footwear and work clothing.

**Environmental exposure controls**

Avoid release into the environment.

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| Physical state: | solid |
| Colour: | No information available. |
| Odour: | odourless |
| Odour threshold: | not applicable |
| Melting point/freezing point: | not determined |
| Boiling point or initial boiling point and boiling range: | not determined |
| Flammability: | Electrolyte: Highly flammable |
| Lower explosion limits: | not determined |
| Upper explosion limits: | not determined |
| Flash point: | not applicable |
| Auto-ignition temperature: | not determined |
| Decomposition temperature: | not determined |
| pH-Value: | not applicable |
| Viscosity / kinematic: | not applicable |
| Water solubility: | practically insoluble |
| Solubility in other solvents | not determined |
| Partition coefficient n-octanol/water: | not determined |
| Vapour pressure: | not determined |
| Density: | not determined |
| Relative vapour density: | not determined |
| Particle characteristics: | not determined |

### 9.2. Other information

No information available.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

Heat / In case of fire: Danger of bursting container.

### 10.4. Conditions to avoid

Heat (Temperature > 70 °C). Impact, friction, shock. Direct sunlight. Moisture.

### 10.5. Incompatible materials

Metals (including alloys), acids, alkalis (lyes), halogenated hydrocarbons, strong oxidising agents.

### 10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide, Carbon dioxide (CO2), toxic metal oxide smoke, corrosive. Pyrolysis products, toxic, containing fluorine.

## SECTION 11: Toxicological information

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

**Acute toxicity**

Harmful if swallowed. (Electrolyte: Lithium hexafluorophosphate(1-), oral ATE = 100 mg/kg)

**ATEmix calculated**

ATE (oral) 100 mg/kg; ATE (dermal) not determined; ATE (inhalation vapour) not determined; ATE (inhalation dust/mist) not determined

| CAS No | Chemical name | | | | |
|---|---|---|---|---|---|
| — | **Exposure route** | **Dose** | **Species** | **Source** | **Method** |
| 21324-40-3 | Lithium hexafluorophosphate(1-) | | | | |
| — | oral | ATE 100 mg/kg | — | — | — |

**Irritation and corrosivity**

Causes severe skin burns and eye damage. Causes serious eye damage. (Electrolyte)

**Sensitising effects**

May cause an allergic skin reaction. (nickel)

**Carcinogenic/mutagenic/toxic effects for reproduction**

Suspected of causing cancer. (nickel)

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Causes damage to organs through prolonged or repeated exposure. (Lithium hexafluorophosphate(1-)). May cause damage to organs through prolonged or repeated exposure. (nickel). Electrolyte.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Information on likely routes of exposure**

Skin contact. Electrolyte: oral, skin contact, eye contact, inhalation.

### 11.2. Information on other hazards

**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

## SECTION 12: Ecological information

### 12.1. Toxicity

Copper: Aquatic Acute 1, Aquatic Chronic 3; H400 H412. The product itself is an article and not classified as ecotoxic under normal use.

### 12.2. Persistence and degradability

The product has not been tested.

### 12.3. Bioaccumulative potential

The product has not been tested.

### 12.4. Mobility in soil

The product has not been tested.

### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, Annex XIII.

### 12.6. Endocrine disrupting properties

No information available.

### 12.7. Other adverse effects

No information available.

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Do not pierce or burn, even after use. Batteries and accumulators must be disposed of separately from household waste in accordance with applicable regulations.

**Contaminated packaging**

Dispose of waste according to applicable legislation.

## SECTION 14: Transport information

**Land transport (ADR/RID)**

**14.1. UN number or ID number:** UN 3481
**14.2. UN proper shipping name:** LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT
**14.3. Transport hazard class(es):** 9
**14.4. Packing group:** -




Hazard label: 9A

Classification code: M4
Special Provisions: 188 230 310 348 360 376 377 387 390 670
Limited quantity: 0
Excepted quantity: E0
Transport category: 2
Tunnel restriction code: E

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** UN 3481
**14.2. UN proper shipping name:** LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT
**14.3. Transport hazard class(es):** 9
**14.4. Packing group:** -




Hazard label: 9A

Classification code: M4
Special Provisions: 188 230 310 348 360 376 377 387 390 670
Limited quantity: 0
Excepted quantity: E0

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 3481
**14.2. UN proper shipping name:** LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT
**14.3. Transport hazard class(es):** 9
**14.4. Packing group:** -




Hazard label: 9A

Special Provisions: 188 230 310 348 360 376 377 384 387 390
Limited quantity: 0
Excepted quantity: E0
EmS: F-A, S-I

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** UN 3481
**14.2. UN proper shipping name:** LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT
**14.3. Transport hazard class(es):** 9
**14.4. Packing group:** -




Hazard label: 9A

Special Provisions: A48 A88 A99 A154 A164 A181 A185 A213 A22
Limited quantity Passenger: Forbidden
Passenger LQ: Forbidden
Excepted quantity: E0
IATA-packing instructions - Passenger: 967
IATA-max. quantity - Passenger: 35 kg
IATA-packing instructions - Cargo: 967
IATA-max. quantity - Cargo: 35 kg

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### 14.6. Special precautions for user

Protect against: Heat, condensation, humidity. Handle with care - avoid bumps, friction and impact.

### 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

**EU regulatory information**

Restrictions on use (REACH, annex XVII):
Entry 27, Entry 40, Entry 75
Information according to Directive 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)
Marketing and use of explosives precursors (Regulation (EU) 2019/1148):
This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

**Additional information**

There is no requirement for the product to be specially labelled according to EC directives or the corresponding national laws.

**National regulatory information**

Water hazard class (D): 2 - obviously hazardous to water

**Additional information**

Observe in addition any national regulations!

### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

### Abbreviations and acronyms

Water-react: Substance and mixture which, in contact with water, emits flammable gas
Flam. Sol: Flammable solid
Acute Tox: Acute toxicity
Skin Corr: Skin corrosion
Eye Dam: Eye damage
Skin Sens: Skin sensitisation
Carc: Carcinogenicity
STOT RE: Specific target organ toxicity - repeated exposure
Aquatic Acute: Acute aquatic hazard
Aquatic Chronic: Chronic aquatic hazard
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
M-Factor: Multiplication Factor
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
ADR: Accord européen sur le transport des marchandises dangereuses par Route
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
TI: Technical Instructions
DGR: Dangerous Goods Regulations
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
VOC: Volatile Organic Compounds
EG or EC: European Community
IE: Industrial Emissions
SVHC: Substance of Very High Concern

### Key literature references and sources for data

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations). (v.1.2, 2013)

### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

| Classification | Classification procedure |
|---|---|
| Acute Tox. 4; H302 | Calculation method |

| | |
|---|---|
| Skin Corr. 1A; H314 | Calculation method |
| Eye Dam. 1; H318 | Calculation method |
| Skin Sens. 1; H317 | Calculation method |
| Carc. 2; H351 | Calculation method |
| STOT RE 1; H372 | Calculation method |
| STOT RE 2; H373 | Calculation method |

**Relevant H and EUH statements (number and full text)**

| | |
|---|---|
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H351 | Suspected of causing cancer. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H412 | Harmful to aquatic life with long lasting effects. |

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*