



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

- **Product identifier**
- **Trade name:** Li-Ion Batteries POA 80, POA 84, PRA 84, PRA 84 G, PSA 81, PSA 82, AI E20, AI E21
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Article category** AC3 Electrical batteries and accumulators
- **Application of the substance / the mixture** Rechargeable Lithium Ion battery
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Hilti (New Zealand) Ltd.
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P.O. Box 112-030, Penrose
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New Zealand
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Fax: 0800 329 445
Email: servicenz@hilti.com
- **Informing department:**
anchor.hse@hilti.com
see section 16
- **Emergency telephone number:**
Schweizerisches Toxikologisches Informationszentrum - 24 h Service
Tel.: 0041 / 44 251 51 51 (international)
- Hilti (New Zealand) Ltd.
Phone: 0800 444 584
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2 Hazards identification

- **Classification of the substance or mixture**
In accordance with article 3 (3) of REACH, this / these item(s) are articles.
An article is not subject to the mandatory marking regulations applicable to dangerous substances.
The product is not classified according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Other hazards**
For the battery chemical materials are stored in a hermetically sealed metal case, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use there is no physical danger of ignition or explosion and chemical danger of hazardous materials leakage.
It may cause heat generation or electrolyte leakage if battery terminals contact with other metals. Elektrolyte is flammable. In case of electrolyte leakage move the battery from fire immediately.
- However if exposed to a fire, added mechanical shocks, decomposed, added electric stress by miss-use, the gas release vent will be operated. The battery case will be breaked at the extreme, hazardous materials may be released.
- Moreover, if heated strongly by a surrounding fire, acrid gas may be emitted.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
 - **Description:**
Lithium Ion rechargeable battery pack:
- | Name/type | no. of cells | energy capacity [Wh] |
|-----------|--------------|----------------------|
| POA 80 | 2 | 19,8 |
| POA 84 | 4 | 55 |
| PRA 84 | 4 | 33,0 |
| PRA 84 G | 4 | 44,0 |
| PSA 81 | 4 | 37 |

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| | | |
|--------|---|----|
| PSA 82 | 4 | 36 |
| AI E20 | 2 | 8 |
| AI E21 | 2 | 16 |

· **Dangerous components:**

This product contains a positive electrode (Lithium cobalt oxide), a negative electrode (graphite) and electrolyte (ethylene carbonate, diethyl carbonate and lithium hexafluorophosphate). The physical form of the product, however, precludes exposure to workers under normal conditions of use.

4 First aid measures

· **Description of first aid measures**

· **General information**

This product contains an organic electrolyte. If the electrolyte is leaking out of the battery pack, the following measures have to be taken.

· **After inhalation**

Take affected persons into the open air and position comfortably

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness bring patient into stable side position for transport.

· **After skin contact** Instantly wash with water and soap and rinse thoroughly. If skin irritation persists, call a physician.

· **After eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

· **After swallowing** Seek immediate medical advice.

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents**

CO₂, extinguishing powder or water jet. Fight larger fires with water jet.

Foam

· **For safety reasons unsuitable extinguishing agents** Water with full jet.

· **Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

· **Advice for firefighters**

· **Protective equipment:**

In the event of fire, wear self contained breathing apparatus

Wear full protective suit.

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

Keep people at a distance and stay on the windward side.

· **Environmental precautions:** Do not allow to enter the ground/soil.

· **Methods and material for containment and cleaning up:**

Absorb liquid components with liquid-binding material.

Collect mechanically.

· **Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

7 Handling and storage

· **Precautions for safe handling**

Do not soak in water or seawater.

Do not expose to strong oxidizers.

Do not give a strong mechanical shock or fling.

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- Never disassemble, modify or deform.
- Do not connect the positive terminal to the negative terminal with electrically conductive material.
- Use only the chargers / electric tools specified by Hilti to charge or discharge the battery.
- No special precautions necessary if used correctly.
- **Information about protection against explosions and fires:**
 - Do not throw into fire or expose to high temperatures (>85 °C).
 - Do not connect the positive terminal to the negative terminal with electrically conductive material.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
 - Avoid direct sunlight, high temperature, high humidity.
 - Store in a cool place (temperature: -20 °C ~ 35 °C, humidity: 45 - 85%)
- **Information about storage in one common storage facility:**
 - Do not store together with oxidizing and acidic materials.
 - Store away from water.
 - Do not store together with electrically conductive materials.
- **Further information about storage conditions:**
 - The accu-pack should be stored at 30 to 50% of the charging capacity.
 - Avoid storing in places where it is exposed to static electricity.
 - Protect from heat and direct sunlight.
- **Storage class**
 - As per VCI (1991) storage classification concept.
- 11
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
 - No technical measures are necessary during normal use. In case of leakage of substances contained within the cell, the information below may be useful.
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
 - The usual precautionary measures should be adhered to general rules for handling chemicals.
- **Breathing equipment:**
 - In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
- **Protection of hands:**



Protective gloves

- Only use chemical-protective gloves with CE-labelling of category III.
- EN 374
- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- **Material of gloves**
 - Nitrile rubber, NBR
 - Recommended thickness of the material: ≥ 0,12 mm
- **Penetration time of glove material**
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed safety glasses.

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· **Body protection:**

Protective work clothing.

9 Physical and chemical properties
· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

| | |
|------------------|----------------|
| Form: | plastic case |
| Colour: | Black |
| Odour: | Odourless |
| Odour threshold: | Not determined |

· **pH-value:** Not applicable· **Change in condition**

| | |
|------------------------------|----------------|
| Melting point/Melting range: | Not applicable |
| Boiling point/Boiling range: | Not applicable |

· **Flash point:** Not applicable· **Inflammability (solid, gaseous)** Not determined· **Ignition temperature:** Not determined· **Decomposition temperature:** Not determined· **Self-inflammability:** Product is not selfigniting.· **Danger of explosion:** Risk of explosion by shock, friction, fire or other sources of ignition.· **Critical values for explosion:**

| | |
|--------|----------------|
| Lower: | Not determined |
| Upper: | Not determined |

· **Vapour pressure:** Not applicable· **Density** Not determined· **Relative density** Not applicable· **Vapour density** Not applicable· **Evaporation rate** Not applicable· **Solubility in / Miscibility with**

Water: Insoluble

· **Partition coefficient (n-octanol/water):** Not applicable· **Viscosity:**

| | |
|------------|----------------|
| dynamic: | Not applicable |
| kinematic: | Not applicable |

· **Solvent content:**

Organic solvents: 0,0 %

· **Other information** No further relevant information available.
10 Stability and reactivity
· **Reactivity**· **Chemical stability**· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.· **Possibility of hazardous reactions** No dangerous reactions known· **Conditions to avoid** No further relevant information available.· **Incompatible materials:** Conductive materials, water, seawater, strong oxidizers and strong acids.· **Hazardous decomposition products:** Acrid or harmful gas is emitted during fire

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11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:**
This product contains an organic electrolyte. If the electrolyte is leaking out of the battery pack, the following effects are known when getting into contact:
Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effect known.
- **Additional toxicological information:**
The product is not subject to classification according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version.
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Do not allow battery packs to penetrate the soil.
The battery cell may corrode and electrolyte may leak.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
 - **Recommendation** Dispose of this battery pack according to national regulations or return the used battery pack to Hilti.
- | | |
|-----------------------------------|---|
| · European waste catalogue | |
| 16 06 05 | other batteries and accumulators |
| 20 01 34 | batteries and accumulators other than those mentioned in 20 01 33 |
- **Uncleaned packagings:**
 - **Recommendation:**
Disposal must be made according to official regulations.
Dispose of packaging according to regulations on the disposal of packagings.

14 Transport information

- | | |
|-------------------------------------|--|
| · UN-Number | UN3480 |
| · ADR, IMDG, IATA | |
| · UN proper shipping name | UN3480 LITHIUM ION BATTERIES |
| · ADR | LITHIUM ION BATTERIES |
| · IMDG, IATA | |
| · Transport hazard class(es) | |
| · ADR, IMDG, IATA | |
| · Class | 9 Miscellaneous dangerous substances and articles. |
| · Packing group | |
| · ADR, IMDG, IATA | II |

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Safety data sheet

according to HSNO CoP 8-1 / ISO 11014

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| | |
|--|--|
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Warning: Miscellaneous dangerous substances and articles. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | Lithium-ion batteries are tested in accordance with: UN manual of Tests and Criteria, Part III, subsection 38.3 |
| · ADR | |
| · Remarks: | They meet the requirements of special provision SP188. |
| · IMDG | |
| · Remarks: | They meet the requirements of special provision SP188. |
| · IATA | |
| · Remarks: | They meet the requirements of Packing Instruction PI 965 Section II (≤2 batteries) and PI 965 Section IB (>2 batteries). |
| · UN "Model Regulation": | UN3480, LITHIUM ION BATTERIES, 9, II |

15 Regulatory information

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

· **New Zealand Inventory of Chemicals**

None of the ingredients is listed.

· **National 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)
- Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment
- Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE)
- Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC

· **Other regulations, limitations and prohibitive regulations** None

· **Substances of very high concern (SVHC) according to REACH, Article 57** None

· **Chemical safety assessment:** not required.

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing data specification sheet:**

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· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)

· *** Data compared to the previous version altered.**