

SAFETY DATA SHEET
INDUSTRIAL NICKEL-CADMIUM BATTERY
 Voluntary SDS created on the basis of (EG) 1907/2006

1. IDENTIFICATION**1.1. Product****1.1.1. Product name**

Nickel-Cadmium Battery (Rechargeable, vented battery with alkaline electrolyte)

1.1.2. Trade name

LCE, LBEP, LC, LBP, MC, MBP, HC, HBP, PV, VN, VT1X M, VTX1 L
 LP, MP, LDP and others plastic / steel cells

1.1.3. Country of origin

Sweden / EU

1.2. Company

Supplier (Europe) Alcad Limited
 Address Norra Strandgatan 35 – Box 504 S-572 25 OSKARSHAMN – Sweden
 Phone/Fax +46 491 68 100 / +46 491 68 110

Supplier (US) Alcad Standby Batteries.
 Address 3 Powdered Metals Drive NORTH HAVEN, CT 06473, US
 Phone/Fax +1 203-985-2500/+1 203-985-2539

1.3. Emergency contact

See contacts in www.alcad.com

CHEMTREC for chemical emergency (Spill, Leak, Fire, Exposure or Accident): USA: 800-424-9300 (24H emergency contact)

2. HAZARDS

In normal use the electrode materials and the electrolyte are enclosed within the cell. Precaution is required during handling against the leaking of electrolyte from the cells and also during the filling or the emptying of the cells. See also the Safety Data Sheets for electrolyte.

The electrolyte:

- Harmful if swallowed.
- Causes severe burns.

3. COMPOSITION**3.1. Hazardous substances – Complete battery cell with electrolyte – Charged cell**

Name	Chemical	EINECS Number	CAS Number	Conc. wt-%	Symbol	Identification of danger	Risks (R-phrases)
Nickel oxyhydroxide	NiOOH			5-15			
Cadmium	Cd	231-152-8	7440-43-9	4-13	Carc Cat 2 Mut Cat 3 Repr Cat 3 T+ N	Very toxic. Dangerous to the environment	R45 - R26 - R48/23/25 - R62 - R63 -R68 - R50/53
Potassium hydroxide	KOH	215-181-3	1310-58-3	5-7	In electrolyte – see § 3.2		

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3.2. Hazardous substances- only electrolyte

Name	Chemical	EINECS Number	CAS Number	Conc. wt-%	Symbol	Identification of danger	Risks (R-phrases)
Potassium hydroxide	KOH	215-181-3	1310-58-3	18-30	C	Corrosive	R22 - R35
Lithium hydroxide	LiOH	215-183-4	1310-65-2	1-2,5	Not classified		

4. FIRST AID MEASURES

In contact with electrolyte.

4.1. Inhalation

- Fresh air.
- Rinse mouth and nose with water.
- Medical treatment.

4.2. Skin contact

- Rinse immediately with plenty of water.
- Medical treatment.

4.3. Eye contact

- Rinse immediately with plenty of water for at least 15-30 minutes.
- Immediate hospital treatment.

4.4. Ingestion

- If the injured is fully conscious: Plenty of water to drink.
- Do not induce vomiting.
- Immediately send to hospital for treatment.

5. FIRE-FIGHTING MEASURES**5.1. Extinguishing media**

- Use Class D-Dry chemical and/or sand.
- Do not use water.

5.2. Special exposure hazards

- If overheated by an external source or by internal shorting the cell may give off potassium hydroxide mist and/or hydrogen gas.
- In fire situations fumes containing cadmium and nickel compounds may develop; danger of acute damage to health by inhalation of fumes.

5.3. SPECIAL PROTECTIVE EQUIPMENT

- Use self-contained breathing apparatus and full fire-fighting protective clothing.

6. ACCIDENTAL RELEASE MEASURES

- Flush electrolyte spillage with plenty of water.
- Beware risk of slipping.

7. HANDLING AND STORAGE

- Batteries may be highly charged and are capable of high energy discharge.
- Handle cells with care to avoid shorting or misuse that will result in a rapid, uncontrolled electrical, chemical, or heat energy release.
- Do not transport activated batteries without vent caps in place.
- When removing battery from service, visually inspect for leakage prior to handling. If leakage has occurred follow Spill Management Procedures.
- Keep away from exposed flames, sparks, and other ignition sources.
- Handle and store cells filled with electrolyte always vertically with vents closed.
- Store in a dry, clean, cool location (0°C to +30°C /+32°F to +86°F) and well ventilated place on open shelves.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Under normal use, no special personnel protection is required.
- When handling leaking cells or when emptying/filling cells with electrolyte, use eye protective glasses, apron and gloves.

9. PHYSICAL PROPERTIES

- Physical shape and colour as supplied.

10. STABILITY AND REACTIVITY**10.1. Conditions to avoid**

- From health & safety point of view – avoid temperatures over 85 °C.
- Do not short-circuit the electrode connections.
- Avoid deformation/crushing of cells.

10.2. Material to avoid

- Do not fill cells with acidic electrolyte for e.g. lead/acid battery.

11. TOXICOLOGICAL INFORMATION**11.1. Acute toxicity****11.1.1. The electrolyte**

Potassium hydroxide	LD50 / oral / rat: 365 mg/kg
Lithium hydroxide	No data available

11.1.2. Fumes containing cadmium compounds:

Cadmium oxide	LD50 /oral / rat: 1,3 mg/m ³ (30 minutes)
Cadmium oxide	LD50 / oral / mouse: 0,7 mg/m ³ (30 minutes)

11.2. Health hazard

- Skin contact can cause severe injury.
- Eye contact rapidly causes severe damage. Risk of permanent damage.
- Ingestion usually results in severe injury. Risk of permanent injuries.

12. ECOLOGICAL INFORMATION

N/A for batteries.

Electrolyte: The sharp pH rise may cause impact on fish, plankton and stationary organism. If not neutralised, the product can be toxic for aquatic organisms because of alkalinity.

13. DISPOSAL CONSIDERATIONS

- As all battery systems, Ni-Cd cells must be collected separately from other waste and recycled - contact local Alcad dealer for information.
- Never incinerate Ni-Cd cells.
- Never dispose of Ni-Cd cells in landfills.

Europe: End-of-life management must be managed according to directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators and its transposition into each European Union's Member State national legislation. Check with Alcad or with your national or local environment authority for details.

Alcad has implemented a network of collection and recycling partners for waste industrial Ni-Cd batteries, please check www.alcad.com for details.

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14. TRANSPORT INFORMATION**14.1. United nations**

- UN N° : 2795

14.2. International conventions

- Air : IATA
- Sea : IMDG
- Land : ADR (road) or RID (rail) Batteries exempted according to special paragraph n° 598.

UN N°	NAME	RAIL & ROAD (ADR)				SEA (IMDG)					AIR (IATA)			
		CL	Code	Packing group	Labelling	CL	Risk	EmS	Packing group	Labelling	CL	Risk	Packing group	Labelling
2795	BATTERIES WET FILLED WITH ALKALI Electric storage	8	C 11	None	None	8	***	F-A, S-B	None	8	8	None	***	8

15. REGULATORY INFORMATION**15.1. Product marking (EU)**

Cd

15.2. Product marking (US)

Ni-Cd

‘ BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY’.

16. OTHER INFORMATION**16.1. Risk phrases**

- R22 Harmful if swallowed
- R26 Very toxic by inhalation
- R35 Causes severe burns
- R45 May cause cancer
- R62 Possible risk of impaired fertility
- R63 Possible risk to the unborn child
- R68 Possible risk of irreversible effects
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- R48/23/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed

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