



## PRODUCT SAFETY DATA SHEET

### INDUSTRIAL NICKEL CADMIUM BATTERY

Voluntary SDS created on the basis of (EG) 1907/2006

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#### 1. IDENTIFICATION

**1.1 PRODUCT** NICKEL CADMIUM BATTERY (Rechargeable, vented battery with alkaline electrolyte)

Trade name SRM, SM, SRX, SPH, STH, MRX, MSX, NCX, VO and others plastic/steels cells

#### 1.2 SUPPLIER

Headquarter SAFT S.A.  
Address 12 rue Sadi Carnot – 93170 BAGNOLET – France  
Phone/Fax +33 (0) 1 49 93 19 18 /+33 (0) 1 49 93 19 50

Factory SAFT BORDEAUX  
Address 11 113 Bd A Daney, 33300 Bordeaux FRANCE  
Phone/Fax +33 5 57106400/ +33 5 56501070

**1.3 EMERGENCY CONTACT** see contacts in [www.saftbatteries.com](http://www.saftbatteries.com)

#### 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 CELLS WITH ELECTROLYTE – Cells charged

Name	Chemical	EINECS Number	CAS Number	Conc. wt-%	Symbol	Identification of danger	Risks (R-phrases)
Nickel oxohydroxide <sup>1</sup>	NiOOH			7 to 14			
Cadmium <sup>2</sup>	Cd	231-152-8	7440-43-9	8 to 14	Carc Cat 2; Mut Cat 3; Repr Cat 3; T+;N	Very toxic ; Dangerous to the environment	R45-26-48/23/25-62-63-68-50/53
Potassium hydroxide	KOH	215-181-3	1310-58-3	5 to 8	In electrolyte – see below		

<sup>1</sup> When charged cell, NiOOH in majority, when discharged, Ni(OH)<sub>2</sub> in majority

<sup>2</sup> When charged cell, Cd in majority, when discharged, Cd(OH)<sub>2</sub> in majority



### 3.2 HAZARDOUS SUBSTANCES – ELECTROLYTE ONLY

Name	Chemical	EINECS Number	CAS Number	Conc. wt-%	Symbol	Identification of danger	Risks (R-phrases)
Potassium hydroxide	KOH	215-181-3	1310-58-3	20 to 24	C	Corrosive	R22-35
Lithium hydroxide	Li OH	215-183-4	1310-65-2	0.3 to 0.8		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 during 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
- Immediate 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

- Handle and store cells filled with electrolyte always with vents upwards
- Store in a dry place.

## 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 protection glasses and protection 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

The electrolyte:

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

Fumes containing cadmium compounds:

Cadmium oxide	LD50/oral/rat: 1,3 mg/m <sup>3</sup> (30 minutes)
Cadmium oxide	LD50/oral/mouse: 0,7 mg/m <sup>3</sup> (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 Saft dealer for information
- Never incinerate Ni-Cd cells
- Never dispose of NiCd 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 Saft or with your national or local environment authority for details.

Saft has implemented a network of collection and recycling partners for waste industrial Ni-Cd batteries, please check [www.saftbatteries.com](http://www.saftbatteries.com) for details

## 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 acc 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)



### 15.2 PRODUCT MARKING (US)

Regulated marking includes the three pointed chasing arrows symbol, the abbreviation Ni-Cd, and the phrase 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
- R40 Limited evidence of a carcinogenic effect



R43	May cause sensitization by skin contact
R45	May cause cancer
R62	Possible risk of impaired fertility
R63	Possible risk to the unborn child
R68	Possible risk of irreversible effects
R20/22	Harmful by inhalation and if swallowed
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R48/23/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed

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