



PRODUCT INFORMATION SHEET

PRODUCT NAME: NICKEL CAPACITOR

According to REACH regulation (EC 1907/2006, Art 31) and to OSHA regulation (29 CFR 1910.1200), Saft's Nickel Capacitors are **ARTICLES** and are not covered by legal requirements to generate and supply an SDS or an MSDS. An "article" is defined as a manufactured item, other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts, of a hazardous chemical and does not pose a physical hazard or health risk to employees.

This Product Information Sheet is provided solely as an information document for the purpose of assisting our customers.

1. IDENTIFICATION

1.1 Product – Nickel Capacitor

1.2 Supplier

SAFT AMERICA Inc.
711 Gil Harbin Industrial Blvd.
Valdosta, GA 31601
Information: Phone: 229-247-2331
Fax: 229-245-2810

1.3 Emergency Contact

For Chemical Emergency
Spill, Leak, Fire, Exposure or Accident
Call CHEMTREC - Day or Night
800-424-9300

2. HAZARD IDENTIFICATION

2.1 At cell level

Not chemically dangerous with normal use, where the electrode materials and the electrolyte are enclosed within the cell. In particular, the battery should not be opened or burned. Exposure to /Ingestion of the ingredients contained within could be harmful.

EYE CONTACT: Contents of an opened cell (electrolyte) within a battery can cause severe burns.

SKIN CONTACT: Electrolyte solution inside cells can cause severe burns

2.2 At module level

HIGH VOLTAGE: Always use the large capacitor and battery systems in a restricted access area. Only authorized people aware of high voltage hazards and trained to work on such systems should be allowed to enter in the area.

TEMPERATURE: Do not place the product on or near fires or other high-temperature locations (> 70°C).



3. COMPOSITION, INFORMATION OR INGREDIENTS

3.1 At cells and modules level

Component	Material	Formula	CAS Number
Positive Electrode	Nickel	Ni	7440-02-0
	Nickel Hydroxide	Ni(OH) ₂	12054-48-7
Negative Electrode	Nickel	Ni	7440-02-0
	Carbon	C	7440-44-0
Electrolyte	Potassium Hydroxide	KOH	1310-58-3

4. HANDLING AND STORAGE

STORAGE: Store in a dry place. Since short circuit can cause burn hazard, keep product in original packaging until ready for use.

HANDLING:

- Do not short (+) or (-) terminal with conductors/conductive materials.
- Do not install the polarity in reverse
- Do not cut or break open the capacitor
- Do not submit to excessive mechanical stress

CHARGING/DISCHARGING: Refer to Saft Instructions.

5. PHYSICAL AND CHEMICAL PROPERTIES

The Nickel Capacitor described by this Product Information Sheet is a manufactured “article” and does not expose the user to hazardous chemicals when used in accordance with manufacturer specifications.

Boiling Point – Not applicable
Vapor Pressure – Not applicable
Specific Gravity – Not applicable

Melting Point – Not applicable
Vapor Density – Not applicable
Physical shape and colour as supplied

6. STABILITY AND REACTIVITY – the capacitor is a manufactured product and is stable when handled and stored according to section 4

MATERIALS TO AVOID: Do not fill cells with acidic electrolyte such as that used for lead/acid batteries

CONDITIONS TO AVOID: Avoid exposing capacitor to fire or temperature over 85°C. Do not disassemble, crush or short-circuit the electrode connections or install with incorrect polarity. Avoid deformation/crushing of cells.



7. TOXICOLOGICAL INFORMATION

If the capacitor is mechanically, thermally or electrically abused to the point of compromising the enclosure, toxic and hazardous internal components may be exposed.

7.1 ACUTE TOXICITY (electrolyte)

Potassium hydroxide LD50/oral/rat: 365 mg/kg

7.2 HEALTH HAZARD

Skin contact with electrolyte can cause severe chemical burns.

Eye contact with electrolyte rapidly causes severe damage with risk of permanent eye damage.

Ingestion of electrolyte may cause severe injury with risk of permanent damage.

8. ECOLOGICAL INFORMATION

There is no ecological harm when capacitors are used correctly and recycled after use has ended.

Spilled/Released electrolyte: The sharp pH rise may cause harmful impact on fish, plankton and stationary organisms. Do not release electrolyte into water bodies, the electrolyte contained in the product can be toxic for aquatic organisms because of alkalinity.

9. DISPOSAL CONSIDERATIONS

Used capacitors should be collected separately from other waste and recycled. Saft nickel capacitors should be returned to Saft for recycling at the end of their useful life as universal wastes under RCRA. Contact Saft for recycling information.

Never incinerate.

Never dispose in landfills.

10. TRANSPORT INFORMATION

10.1 United States

Nickel capacitors being forwarded to others or being returned to Saft for repair should be shipped as Hazardous Material using the following description:

UN2795; Batteries, Wet, Filled with Alkali; Class 8; PG III

Spent supercapacitors being sent to Saft for recycling should be shipped as Universal Waste using the following description:

UN2795; Used Batteries, Wet, Filled with Alkali; Class 8; PG III

10.2 UNITED NATIONS

- UN N° : 2795

10.2 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	None	F-A, S-B	None	8	8	None	None	8



11. REGULATORY INFORMATION

Section 313 Supplier Notification – This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of Section 313 if the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372):

<u>CAS #</u>	<u>Chemical Name</u>	<u>Percent by Weight</u>
7440-02-0	Nickel	15% - 40%

A copy of this Product Information Sheet MSDS may be required to be filed with your local emergency planning commission, state emergency response commission, and local fire department in accordance with sections of the Emergency Planning and Community right-To-Know Act.

12. FIRST AID MEASURES (not anticipated under normal use)

For contact with electrolyte:

EYE CONTACT: Rinse immediately with plenty of water during at least 15-30 minutes, seek immediate medical attention.

SKIN CONTACT: Rinse immediately with plenty of water and seek medical attention if burns are severe.

INHALATION: Remove to fresh air, rinse mouth and nose with water and seek immediate medical attention/treatment.

INGESTION: If the injured is fully conscious, clear mouth with water and afterwards drink plenty of water. Do not induce vomiting. Send immediately to hospital for medical attention/treatment.

13. FIRE FIGHTING MEASURES (not anticipated under normal use)

EXTINGUISHING MEDIA:





Use Class D-Dry Chemical extinguisher or sand.

SPECIAL FIRE FIGHTING PROCEDURES:

Firefighters should use self-contained breathing apparatus to avoid breathing toxic fumes and wear protective clothing and equipment to prevent potential body contact with electrolyte solution or mixture of water and electrolyte solution.

14. EXPOSURE CONTROLS AND PERSONAL PROTECTION* (not necessary under normal use)

Handle an opened battery only in a well ventilated place.

	Respiratory protection	Fire fighters should wear self-contained breathing apparatus.
	Hand protection	Use polypropylene, polyethylene, rubber or Viton gloves when handling leaking or ruptured cells.
	Eye protection	In case of incident or after an abusive use, in case of a leak or cell opening, wear safety glasses with protected side shields or a mask covering the whole face when handling leaking or ruptured cells
	Other	In the event of leakage or ruptured cells, wear a rubber apron and protective clothes.

*AFNOR pictograms



15. ACCIDENTAL RELEASE MEASURES (not anticipated under normal use)

INDIVIDUAL PRECAUTIONS:

In case of fire, evacuate the area until after fumes have dissipated.

In case of electrolyte leakage, clean up the spill while avoiding contact with electrolyte.

In case of skin or eye contact, inhalation or ingestion, follow the measures described in Section 12.

ENVIRONMENTAL PRECAUTION: Avoid releases of internal components to soil, sewage, surface water and underground water.

WAYS OF CLEANING: While wearing protective glasses and gloves, use absorbent material (clay-based absorbent/kitty litter, sand, earth or vermiculite) to absorb any released electrolyte.

16. OTHER INFORMATION

This information has been compiled from sources considered to be dependable and is, to the best of our knowledge and belief, accurate and reliable as of the dated compiled. However, no representation, warranty (either expressed or implied) or guarantee is made to the accuracy, reliability or completeness of the information contained herein.

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