



Revised: 7/31/07

## MATERIAL SAFETY DATA SHEET

Form # 853025

Supersedes: 5/4/06

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## I. PRODUCT IDENTIFICATION

Chemical/Trade Name (as used on label):Chemical Family/Classification:Industrial Nickel Cadmium Storage Battery w/Pocket Plate  
(VARTA T, TP and TSP range)

N/A

Manufacturer's Name/Address:EnerSys  
P.O. Box 14145  
2366 Bernville Rd  
Reading PA 19612-4145Telephone:For information and emergencies, contact EnerSys's  
Environmental, Health & Safety Dept. at (610) 208-1996.24-hour Emergency Response Contact:CHEMTREC DOMESTIC: 800-424-9300  
CHEMTREC INT'L: 703-527-3887

## II. HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

<u>Components</u>	<u>CAS Number</u>	<u>Approximate % by Wt. or Vol.</u>	<u>Air Exposure Limits (mg/m<sup>3</sup>)</u>		
			<u>OSHA</u>	<u>ACGIH</u>	<u>NIOSH</u>
Nickel (as Nickel and Nickel Hydroxide)	7440-02-0 1205-44-87	9-10	1.0	0.1	0.015
Cadmium (As Cadmium And Cadmium Hydroxide)	7440-43-9 21041-95-2	8-10	0.005	0.01	N/A
Iron (Fe)	7439-89-6	20-25	10.0	5.0	5.0
Stainless Steel (Fe, Ni, Cr)	N/A	7-15	N/A	N/A	N/A
Cobalt (as Cobalt Hydroxide)	7440-48-4	0.2	0.1	0.02	0.05
Potassium Hydroxide Solution (KOH)	1310-58-3	30-40	N/A	N/A	2.0
Lithium Hydroxide Solution (LiOH)	1310-66-3	<1	N/A	N/A	N/A

## III. PHYSICAL DATA

Electrolyte:Boiling Point: N/ASpecific Gravity (H<sub>2</sub>O = 1): 1.2 kg/lMelting Point: N/AVapor Pressure (mm Hg):Solubility in Water: Soluble in WaterVapor Density (AIR = 1):Evaporation Rate:% Volatile by Weight:

(Butyl acetate = 1)

Appearance and Odor:Manufactured article; no apparent odor. Electrolyte is a clear liquid with a sharp,  
penetrating, pungent odor.

## IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not ApplicableFlammable Limits: LEL = N/A

UEL = N/A

Extinguishing media: Dry chemical, CO<sub>2</sub>, water spray, or alcohol-resistant foam.



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Special Fire Fighting Procedures: Use full body protective clothing and full facepiece. Self-contained breathing apparatus in a positive pressure mode. Molted and overheated Cd and Ni produce fume, vapor or dust. Under these conditions, Ni or Cd is suspected carcinogen. KOH is highly caustic. Contact with eye and skin must be avoided. No heating or smoking during handling or inspection. Do not cause sparks.

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V. REACTIVITY DATA

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Stability: Stable X\_\_\_  
Unstable \_\_\_

Conditions to Avoid: Avoid shorting batteries such as contacting across terminals with any metal object. Avoid continuous temperatures over 190°F.

Hazardous Decomposition Products:

Nickel compounds, Cadmium compounds, and caustic liquid.

Incompatibility: (materials to avoid)

Do not fill cells with Lead Acid Battery electrolyte (Sulfuric Acid).

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VI. HEALTH HAZARD DATA

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Inhalation:

Fumes irritate nose and throat but fumes generated only if batteries are on charge (not a transportation condition).

Eye Contact:

Severe irritation. Possible corneal damage. Flush with water for 15 minutes.

Skin Contact:

Severe irritation and inflammation. Flush with water. Obtain medical attention.

Skin Absorption:

Severe irritation and inflammation. Flush with water. Obtain medical attention.

Ingestion:

Severe inflammation or internal tissues. Contact physician immediately.


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Inhalation:

Not applicable to batteries in transit but if on charge in confined poorly ventilated area and fumes irritating remove person to fresh air.

Eyes:

Hold eyelids open and flush with clean water for 15 minutes. Get medical help promptly.

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Skin:

Remove contaminated clothing and flush skin with water for 15 minutes. Do not attempt to neutralize with alkaline.

Ingestion:

Get medical help. Give patient copious amounts of water. Do not induce vomiting.

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VII. PRECAUTIONS FOR SAFE HANDLING AND USE

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Spill or Leak Procedures:

Clean up personnel should wear safety goggles, rubber gloves, rubber boots and rubber apron. Use weak acids, ex: boric acid, acetic acid.

Waste Disposal Methods:

Consult waste disposal business for proper disposition. Do not empty in common sewer systems.

Handling:

Rubber boots and rubber aprons, chemical goggles or full-face shield should be worn.

Storage:

Cells/Batteries to be stored in standard battery room conditions.

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VIII. CONTROL MEASURES

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Personal Protective Equipment: Rubber gloves, safety goggles, alkaline resistant protective clothing.

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IX. OTHER REGULATORY INFORMATION

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IATA

The international transportation of wet and moist charged (moist active) batteries is regulated by the International Air Transport Association (IATA). These regulations also classify these types of batteries as a hazardous material. The batteries must be packed according to IATA Packing Instruction 800. The shipping information is as follows:

Proper Shipping Name: Batteries, wet, filled with alkali  
Hazardous Class: 8  
UN Identification: UN2795  
Packing Group: III  
Label / Placard Required: Corrosive

IMDG

The international transportation of wet and moist charged (moist active) batteries is regulated by the International Maritime Dangerous Goods code (IMDG). These regulations also classify these types of batteries as a hazardous material. The batteries must be packed according to IMDG code pages 8120 and 8121. The shipping information is as follows:



Proper Shipping Name: Batteries, wet, filled with alkali  
 Hazardous Class: 8  
 UN Identification: UN2795  
 Packing Group: III  
 Label / Placard Required: Corrosive

Contact your EnerSys representative for additional informational regarding the classification of batteries.

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IX. OTHER REGULATORY INFORMATION (continued)

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RCRA: Spent nickel-cadmium batteries are regulated as universal waste by the EPA when recycled, however state and international regulations may vary.

CERCLA (Superfund) and EPCRA:

(a) EPCRA Section 312 Tier 2 reporting is required for batteries if potassium hydroxide, nickel and/or cadmium is present in quantities of 10,000 lbs. or more.

(b) Supplier Notification: This product contains toxic chemicals, which may be reportable under EPCRA Section 313 Toxic Chemical Release Inventory (Form R) requirements. If you are a manufacturing facility under SIC codes 20 through 39, the following information is provided to enable you to complete the required reports:

<u>Toxic Chemical</u>	<u>CAS Number</u>	<u>Approximate % by Wt.</u>
Nickel	7444-02-0	9-10
Cadmium	7440-43-9	8-10
Cobalt	7440-48-4	0.2

If you distribute this product to other manufacturers in SIC Codes 20 through 39, this information must be provided with the first shipment of each calendar year.

The Section 313 supplier notification requirement does not apply to batteries, which are "consumer products".

(c) TSCA

Ingredients in EnerSys's batteries are listed in the TSCA Registry as follows:

<u>Component</u>	<u>CAS Number</u>	<u>TSCA Status</u>
Nickel	7444-02-0	Listed
Cadmium	7440-43-9	Listed
Iron	7439-89-6	Listed
Potassium Hydroxide	1310-58-3	Listed
Cadmium Hydroxide	21041-95-2	Listed
Cobalt	7440-48-4	Listed

(d) CAA

EnerSys supports preventative actions concerning ozone depletion in the atmosphere due to emissions of CFC's and other ozone depleting chemicals (ODC's), defined by the USEPA as Class I substances. Pursuant to Section 611 of the Clean Air Act Amendments (CAAA) of 1990, finalized on January 19, 1993, EnerSys established a policy to eliminate the use of Class I ODC's prior to the May 15, 1993 deadline.