

SAFETY DATA SHEET

Creation Date : 11 April 2008
 Last Update : 13 January 2009

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Product name Lithium-ion Battery

The batteries referenced herein are exempt articles and are not subject to the OSHA hazard Communication standard requirement. This safety data sheet is provided as a service to our customers.

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY / UNDERTAKING

Identification of the substance/preparation

Product name Lithium-ion Battery
 Use of the substance/Preparation Battery
 Company/Undertaking identification
 Supplier Sealed Energy Systems
 72, HSIDC, Industrial Estate,
 Ambala Cantt – 133006 (India)

Emergency telephone number : +91 (0) 171-2699054

2. COMPOSITION / INFORMATION ON INGREDIENTS

The Lithium-ion battery is hermetically sealed ; among its components, the following ones could potentially be hazardous upon release.

Product name Lithium-ion battery

Hazardous components	CAS-No	EC-No.	Weight%	Classification
Ethylene carbonate	96-49-1	202-510-0	0-16%	Xi, R36/37/38
Diethyl carbonate	105-58-8	203-311-1	0-16%	Xi, R10, 36/37/38
Ethyl methyl carbonate	623-53-0		0-16%	Xi, R10,36/38
Copper	7440-50-8	231-159-6	4-15%	Not applicable
Lithium cobaltate	12190-79-3	235-362-0	25-40%	Carcinogenic Category 3 R40 Xn,R36/37-R43
LiPF6	21324-40-3	244-334-7	1-2%	T, R22-24-34

For the full text of the R phrases mentioned in this Section, see Section 15.

3. HAZARDS IDENTIFICATIONS

Classification Carcinogenic Category 3R40, Xn ,sensitizing R43

Most important hazards Limited evidence of carcinogenic effect.
 Possible risks of Irreversible effects. May cause sensitization by skin contact.

Further Information The Lithium-ion is a sealed battery which is not hazardous when used according to recommendation.
 Under normal conditions of use, the integrity of the battery casing and security vent are maintained, the ingredients are not expected to pose a significant risk to man or the environment .
 The classification above is based on the contents being considered as a preparation in accordance with Directive 1999/EC

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4. FIRST AID MEASURES

General advice

Show this safety data sheet to the doctor in attendance.

The information below refers to exposure to the ingredients.

Inhalation

Immediate medical attention is required. Move to Fresh Air .if symptoms persists, call a physician.

Skin contact

Immediate medical attention is required. Wash off immediately with plenty of water for at least 15 mins
Remove and wash contaminated clothing before re-use. If skin irritation persists, call a physician.

Eye contact

Immediate medical attention is required. Remove contact lenses.
Rinse immediately with plenty of water for at least 15 minutes.

Ingestion

Immediate medical attention is required. Gently wipe or rinse the inside of the mouth with water. Give small amounts of water or drinks. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Call a physician or poison control center immediately.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Foam dry powder, carbon dioxide (CO₂), sand .

Extinguishing media which must not be used for safety reasons

Water, water spray

Specific hazards

Risk of receptacle bursting

Special Protective equipment for firefighters

In the event of fire, wear self contain breathing apparatus. Wear personal protective equipment.

Hazardous decomposition products

Lithium compounds , carbon oxides , hydrogen fluoride

6. ACCIDENTAL RELEASE MEASURES

The information below refers to the exposure to the ingredients.

Personal precautions

Use personal protective equipment. Avoid contact with skin & eyes.

Environmental precautions

Prevent further leakage or spillage if safe to do so.
Do not allow material to contaminate ground water system.
To avoid risks to man and the environments, comply with the instructions for use.

Methods for cleaning up

Pick up and transfer to properly labelled containers.
Dispose of in accordance with local regulations.

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7. HANDLING AND STORAGE**Handling****Technical measures / Precautions**

No special technical protective measures required.

Safe handling advice

Avoid contact with skin and eyes.

Use personal protective equipment.

Follow the instruction for use issued by the producer.

Storage**Technical measures / Storage conditions**

Keep in a dry, cool and well – ventilated place, preferably in the temperature range of +5 to +25°C at 65% (+5%) relative humidity.

Keep away from heat and source of ignition.

Keep away from water.

Ensure battery terminals are protected during storage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Occupational exposure controls****Engineering measures**

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Not required under normal use.

The information below refers to exposure to the ingredients.

Respiratory protection

Effective dust mask.

Hand protection

Neoprene gloves (EN 374).

Eye protection

Safety glasses with side –shields conforming to EN166

Skin and body protection

Boots, apron, long sleeved clothing.

Hygiene measures

General industrial hygiene practice.

Environmental Exposure controls

The information below refers to exposure to the ingredients

Prevent product from entering drains.

Do not allow material to contaminate ground water system.

9. PHYSICAL AND CHEMICAL PRPPERTIES**General Information**

Form battery (sealed unit) **Colour** not applicable **Odour** odourless

Important Health Safety and Environmental information

Not applicable

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10. STABILITY AND REACTIVITY**Stability**

Stable under normal conditions

Hazardous polymerizations

Hazardous polymerization does not occur.

Conditions to avoid

Keep away from heat and sources of ignition

Material to avoid

Exposure to moisture.

Hazardous decomposition products

Lithium compounds, carbon oxides, hydrogen fluoride

11. TOXICOLOGICAL INFORMATION

The information below refers to exposure to the ingredients.

Local effects

May cause eye/skin irritation. May cause irritation of respiratory tract.

Long term toxicity

No data available. Avoid repeated exposure.

Specific effects

May cause sensitization by inhalation and skin contact.
Limited evidence of a carcinogenic effect.

12. ECOLOGICAL INFORMATION

If used as directed, and if the integrity of the battery casing and security vent are maintained, the ingredients are not expected to pose a significant risk to the environment.

Mobility

No data available.

Persistence and degradability

Not readily biodegradable.

Ecotoxicity effects

No data available.

13. DISPOSAL CONSIDERATIONS**Waste from residues / unused products**

Dispose of in accordance with local regulations. It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations. Should not be released into the environment.

Contaminated packaging

Not applicable.

Further information

EWC waste disposal No : 200133 – batteries and accumulators included in 16.06.01, 16.06.02 or 16.06.03 and unsorted batteries and accumulators containing these batteries.

Never incinerate Li-Ion batteries.

Never dispose Li-Ion batteries as landfill.

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14. TRANSPORT INFORMATION

UN – No 3480

ADR/RID

Class	9	Packing group	II	ADR/RID- Labels	9
Proper shipping name		Lithium – Ion batteries, UN 3480			

IMO

Class		Packing group	II	IMO – Labels	9
Proper shipping name		Lithium – Ion batteries, UN 3480			

IATA – DGR

Class		Packing group	II	ICAO – Labels	9
Proper shipping name		Lithium – Ion batteries, UN3480			

SES declares that UN Manual of Tests and Criteria, Part III, sub – section 38.3 is met.

In airfreight, Sealed Lithium – ion batteries are considered as “Lithium – Ion Batteries – Not Restricted”, when they meet the requirements of Packing Instruction 965 section II (UN3480)

In Seafreight, sealed Lithium – ion batteries are considered as “Lithium –ion Batteries – Not Restricted”, when they meet the requirements of IMDG of IMO Dangerous Goods Regulations (UN3480).

In other cases (mainly for large cells (>20Wh) or packs (100Wh)), they are considered as Class 9 (see Packing Instruction 965 section 1 for airfreight).

15. REGULATORY INFORMATION

Symbol T – Toxic
 Xn – Nocif
 Xi – Irritant

R-phrases R10 –Flammable
 R22 - Harmful if swallowed
 R24-Toxic in contact with skin
 R34 –Cause burns
 R36/37 – Irritating to eyes and reparatory system
 R36/38 – Irritating to eyes and skin
 R36/37/38 – Irritating to eyes, skin and reparatory system
 R40 – Limited evidence of a carcinogenic effect
 R43 – May cause sensitization by skin contact

16. OTHER INFORMATION

S – Phrases S16 – Keep away from sources of ignition. No smoking
 S22-Do not Breathe Dust
 S23-Do not breathe gas
 R26-In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S36-wear suitable protective clothes
 S36/37-wear suitable protective clothing and gloves
 S36/37/39-wears suitable protective clothing, gloves and eye/face protection.
 S45- In case of accident or if you feel unwell, seek medical advice immediately
 (Show the label where possible)

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty of quality specification. The information relates only to the specific material designated and may not to be valid for such material used in combination with any other material or in any process, unless specified in the text.