

**Electrics Works Company** 

# Explanatory sheet about safety of products

1. Basic item

Product name Product code (Model No.) Manufacture Address Phone number E-mail Li- ion Battery Pack Refer to Table 1.and 2 Panasonic Corporation 1668, fujikata, Tsu, Mie, 514-8555, Japan +81-59-228-1141 pt-tr-001@ml.jp.panasonic.com

#### 2. Product information

Basic composition of the product

This product is a battery which consists of such main component as core battery pack assembled with some Lithium ion cells. And it consists of any combination of plastic casing, tube casing, protection circuit boards, safety devices and interface terminals.

No Product code (Medal No.)		Lat No. / Sorial No.	Product	Cell	Wh
NO.		Numbe		Number	Rating
1	EZ9L10	~210630	UR18650W2	1	6 Wh
2	EZ9L10	210701~	18650HB6	1	5.4Wh
2		~2103**		1	6 Wh
3		(Including 210909~210929)	0K18050W2	Ŧ	O WII
4	FY9I 10	210402~	18650HB6	1	5.4Wh
•	210210	(Excluding 210909~210929)		-	•••••
5	EY9L10 for Taiwan	210402~	18650HB6	1	5.0Wh
		(Excluding 210909~210929)		_	0.0001
6	EZ9L20	~2106****	UR18650W2	2	11 Wh
7	EZ9L20	21070000~	18650HB6	2	11 Wh
8	EY9L20	~2103****	UR18650W2	2	11 Wh
9	EY9L20	21040000~	18650HB6	2	11 Wh
10	EZ9L21	~210630	UR18650W2	2	11 Wh
11	EZ9L21	210701~	18650HB6	2	11 Wh
12	EY9L30 / EZ9L30	_	CGR26650A	3	27 Wh
13	EY9L31 / EZ9L31	_	CGR26650B	3	34 Wh
14	EY9L32 / EZ9L32	_	UR18650W2	3	17 Wh
15	EY9L40 / EZ9L40	_	CGR26650A	4	44 Wh
16	EY9L41 / EZ9L41	_	CGR26650B	4	45 Wh
17	EY9L42 / EZ9L42	_	CGR18650K	4	22 Wh
18	EY9L44 / EZ9L44	_	CGR18650KA	8	48 Wh
19	EY9L45 / EZ9L45	_	NCR18650E	8	61 Wh
20	EY9L46 / EZ9L46	_	UR18650W2	8	44 Wh
21	EY9L47 / EZ9L47	_	UR18650RX	4	29 Wh
22	EY9L48 / EZ9L48	_	UR18650NSX	8	72 Wh
23	EY9L50 / EZ9L50	_	CGR18650KA	10	60 Wh
24	EY9L51 / EZ9L51	_	NCR18650E	10	76 Wh
25	EY9L52 / EZ9L52	_	UR18650RX	5	36 Wh

Table 1

# Panasonic

Jan. 25, 2023 No. SDS-PT BA 202301 E

**Electrics Works Company** 

Table 2						
No	Product code (Medal No.)			Cell	Wh	
INO.	Product code (Model No.)	Lot No. / Serial No.	Number	Number	Rating	
26	EY9L53 / EZ9L53	—	NCR20650A	5	54 Wh	
27	EY9L54 / EZ9L54	—	UR18650NSX	10	90 Wh	
28	EY9L61 / EZ9L61	—	CGR26650B	6	67Wh	
29	EY9L62 / EZ9L62	—	NCR18650E	12	91 Wh	
30	EY9L82 / EZ9L82	—	UR18650W2	16	87 Wh	
31	EY9L84 / EZ9L84	_	NCR2070C	8	98 Wh	
32	EY9L64 / EZ9L64	_	UR18650RX	12	86Wh	
33	EY9L49 / EZ9L49	_	UR18650RX	8	58Wh	
34	EY9L49 for Korea	—	UR18650RX	8	57Wh	
35	EZFB30	~21040015	UR18650W2	6	33 Wh	
36	EZFB30	21040016~	18650HB6	6	32.4Wh	
37	EYFB30	~21070510	UR18650W2	6	33 Wh	
		(Including 21090024~21090433)				
38	EYFB30	21070511~ (Excluding 21000024~21000433)	18650HB6	6	32.4Wh	
39	EYFB31 / EZFB31	(Excluding 21050024 21050455)	CGR18650K	3	17 Wh	
40	EYFB32 / EZFB32		UR18650RX	6	22 Wh	
41	EYFB40		CGR18650KA	8	48 Wh	
42	EYFB41		UR18650RX	4	29 Wh	
43	EYFB42		NCR18650E	8	61 Wh	
44	EYFB50		UR18650NSX	10	90 Wh	
45	EYFB51		NCR20650A	5	54 Wh	
46	EYFB60		NCR18650E	12	91 Wh	
47	EY9L20 / EZ9L20		UR18650W2	2	11 Wh	
48	EYFB43		UR18650RX	8	58Wh	
49	EYFB43 for Korea	_	UR18650RX	8	57Wh	
50	EYFB61	_	UR18650RX	12	86Wh	
	EYFB61 for Korea					
51	for India	_	UR18650RX	12	85Wh	
52	EZ8L1020FA	_	UR18650RX	3	22Wh	

3. TRANSPORT INFORMATION

Regarding cautions under transportation, it is according to the related clause in the annexed or attached 'Safety data sheet for product of Lithium ion rechargeable battery cell'.

\*Note : Check the latest version of transportation regulation because it is frequently revised.

Hideki. Matsuoka

Hideki Matsuoka Manager Quality Assurance Section Power Tools Strategic Business Unit Energy Systems Business Division Electric Works Company Panasonic Corporation



## Explanatory sheet about safety of product for transportation (Safety Data Sheet for transportation)

1. Basic item

Product name:	Lithium ion rechargeable battery (including lithium polymer battery)
Product identification:	Refer to Table 1.
Manufacturer:	SANYO Electric Co., Ltd.,
	an affiliated company of Panasonic Energy Co., Ltd.
Address:	1-1 Matsushita-cho, Moriguchi City, Osaka 570-8511, Japan
Phone number:	+81-80-8932-7972
E-mail:	transport-sds@ml.jp.panasonic.com

- 2. Product information
  - The UN number of this product is 3480.
  - This product is "cell" may be accompanied by outer case or tube covering, protective device, input / output terminal, and the like.
  - The watt-hour rating of this product does not exceed 20 Wh.
  - SANYO guarantee that this product has passed the test of the UN Manual of Tests and Criteria Part III, sub-section 38.3.
  - SANYO manufacture this product under the quality management program required by UN Model Regulations 2.9.4 (e).
  - At the time of shipment from SANYO, the package of this product satisfies the following conditions.
    - Passed the 1.2 m drop test.
    - The net quantity of one package does not exceed 10 kg.
    - Marked and labeled according to requirement of the Packing Instruction 965 Section IB stated in ICAO's and IATA's dangerous goods regulations.
    - Products identified as damaged or defective for safety reasons are not included. Also, products recovered for disposal or recycling are not included.
- 3. Transportation guidelines
  - Guidelines for using packages shipped from SANYO are as follows.
  - In air transportation, it is necessary to ship by cargo aircraft at a state of charge not exceeding 30% of their rated design capacity with Class 9 Lithium Batteries Dangerous Goods Label according to requirement of the Packing Instruction 965 Section IB (or more stringent Packing Instruction) stated in ICAO's and IATA's dangerous goods regulations.
  - In ocean and ground transportation, it is necessary to ship according to UN Model Regulations and IMDG Code. But the package is not subject to the fully regulated requirements for Dangerous Goods (refer Special Provision 188 etc.).
- 4. Appendix

Cell's safety data sheet for product

, Inaba

Y. Inaba Senior Manager Department of Development strategy Corporate of Development strategy Cell Development Division SANYO Electric Co., Ltd. Panasonic Energy Co., Ltd.

Tabl	e 1		No. SDS-E	BAH-07698
N.	Contour Product combine	Clabel we duct and	Cell	Wh
NO.	Customer Product number	Global product code	number	rating
1	NCR18650E	BJ-A300004AA	1	7.6
2	UR18650W2	BJ-A000816AA	1	5.6
3	UR18650RX	BJ-A110035AA	1	7.1
4	UR18650NSX	BJ-A100563AA	1	8.9
5	NCR20650A	BJ-AK00005AA	1	11
6	NCR2070C	BJ-AM00026AA	1	13
			1	
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# Safety data sheet for product

- This product is an "article" used with the contents sealed. Therefore, issuing and providing SDS is not required by the GHS or any law based on GHS.
- This document has been prepared not to satisfy requirements such as GHS, but for the purpose of providing safety information to customers.
- Refer the other document issued by the shipper, when you want to know whether your current packaging and content comply with transport regulations.

#### 1. PRODUCT AND COMPANY IDENTIFICATION

- · Product name: Lithium ion rechargeable battery cell
- Product code: None
  - (All models SANYO manufactured including the cell branded as Panasonic.)
- · Company name: SANYO Electric Co., Ltd., an affiliated company of Panasonic Energy Co., Ltd.
- · Address: 1-1 Matsushita-cho, Moriguchi City, Osaka 570-8511, Japan
- Telephone number: +81-80-8932-7972
- Emergency telephone number: +81-6-6994-4933

#### 2. HAZARDS IDENTIFICATION

For the battery cell, chemical materials are stored in a hermetically sealed metal or metal laminated plastic case, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, there are no physical hazards such as ignition, explosion and chemical hazards due to leakage of battery contents.

However, if exposed to a fire, added mechanical shocks, decomposed, added electric stress by miss-use, the gas release vent will be operated. The battery cell case will be breached at the extreme, hazardous materials may be released.

Also, if it is heated strongly by surrounding fires or the like, there is a possibility that irritating or harmful gas may be generated.

· GHS classification: Not available

(This product is outside the scope of GHS system since it's considered as an "article".)

· Most important hazard and effects

Human health effects:

Inhalation: The steam of the electrolyte has an anesthesia action and stimulates a respiratory tract. Skin contact: The steam of the electrolyte stimulates a skin. The electrolyte skin contact causes a sore and stimulation on the skin.

Eye contact: The steam of the electrolyte stimulates eyes. The electrolyte eye contact causes a sore and stimulation on the eye. Especially, substance that causes a strong inflammation of the eyes is contained.

Environmental effects: Since a battery cell remains in the environment, do not throw out it into the environment.

· Specific hazards:

If the electrolyte contacts with water, it will generate detrimental hydrogen fluoride. Since the leaked electrolyte is inflammable liquid, do not bring close to fire.

#### 3. COMPOSITION / INFORMATION ON INGREDIENTS

- Substance or preparation: Preparation
  - Information about the chemical nature of product: a

Portion	Material name	CAS No.	Concentration range (wt %)
Positive electrode	Lithium transition metal oxidate $(Li[M]_m[O]_n b)$	12190-79-3 12031-65-1 12057-17-9 182442-95-1 207803-51-8	20~60
Positive electrode's base	Aluminum	7429-90-5	1~10
Negative electrode	Carbon	7782-42-5 7440-44-0	10~30
Negative electrode's base	Copper	7440-50-8	1~15
Electrolyte	Ethyl methyl carbonate Diethyl carbonate Ethylene carbonate Lithium hexafluorophosphate	623-53-0 105-58-8 96-49-1 21324-40-3	5~25
Outer case	Aluminum, iron, aluminum laminated plastic	7429-90-5 7439-89-6	1~30

a Not every product includes all of these materials.

b The letter M means transition metal and candidates of M are Co, Mn, Ni and Al. One compound includes one or more of these metals and one product includes one or more of the compounds. The letter m and n means the number of atoms.

### 4. FIRST-AID MEASURES

- Spilled internal cell materials
- Inhalation:

Make the victim blow his/her nose, gargle. Seek medical attention if necessary.

· Skin contact:

Remove contaminated clothes and shoes immediately. Wash extraneous matter or contact region with soap and plenty of water immediately.

· Eye contact:

Do not rub one's eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention immediately.

#### A battery cell and spilled internal cell materials

Ingestion:

Wash out mouth thoroughly. Do not make the victim vomit, unless instructed by medical personnel. Seek medical attention immediately.

#### 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media: Plenty of water, carbon dioxide gas, nitrogen gas, chemical powder fire extinguishing medium and fire foam.
- · Specific hazards: Corrosive gas may be emitted during fire.
- Specific methods of fire-fighting: When the battery burns with other combustibles simultaneously, take fireextinguishing method which correspond to the combustibles. Extinguish a fire from the windward as much as possible.
- Special protective equipment for firefighters: Refer to Section 8-EXPOSURE CONTROLS / PERSONAL PROTECTION (WHEN THE ELECTROLYTE LEAKS)

6. ACCIDENTAL RELEASE MEASURES

Spilled internal cell materials, such as electrolyte leaked from a battery cell, are carefully dealt with according to the followings.

• Precautions for human body:

Remove spilled materials with protective equipment (refer to Section 8-EXPOSURE CONTROLS / PERSONAL PROTECTION (WHEN THE ELECTROLYTE LEAKS)). Do not inhale the gas as much as possible. Moreover, avoid touching with as much as possible.

- · Environmental precautions: Do not throw out into the environment.
- Method of cleaning up: The spilled solids are put into a container. The leaked place is wiped off with dry cloth.
- · Prevention of secondary hazards: Avoid re-scattering. Do not bring the collected materials close to fire.

#### 7. HANDLING AND STORAGE

- · Handling suggestions
  - · Do not connect the positive terminal to the negative terminal with electrical wire or chain.
  - · Avoid polarity reverse connection when installing the battery to an instrument.
  - Do not wet the battery with water, seawater, drink or acid; or expose to strong oxidizer.
  - · Do not damage or remove the external tube.
  - · Keep the battery away from heat and fire.
  - Do not disassemble or reconstruct the battery; or solder the battery directly.
  - $\cdot$  Do not give a mechanical shock or deform.
  - Do not use unauthorized charger or other charging method. Terminate charging when the charging process doesn't end within specified time.
- · Storage
  - · Do not store the battery with metalware, water, seawater, strong acid or strong oxidizer.
  - Make the charge amount less than or equal to 50% then store at -20~40 degree C in a dry (humidity: 45~85%) place.

Since deterioration will be faster in the high temperature range than in the low temperature range, so do not keep it in the high temperature range beyond the period that is specified by the seller or owner.

• Use insulative and adequately strong packaging material to prevent short circuit between positive and negative terminal when the packaging breaks during normal handling. Do not use conductive or easy to break packaging material.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION (WHEN THE ELECTROLYTE LEAKS)

#### Control parameters

ACGIH has not been mentioned control parameter of electrolyte.

- · Personal protective equipment
  - Respiratory protection: Respirator with air cylinder, dust mask Hand protection: Protective gloves

Eye protection: Goggles or protective glasses designed to protect against liquid splashes Skin and body protection: Working clothes with long sleeve and long trousers

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### · Appearance

Physical state	: Solid
Form	: Cylindrical or Prismatic or Pouch (laminated)
Color	: Metallic color or black (without tube if it has tube)
Odor	: No odor
Density	: N/A
Boiling Point	: N/A
Melting Point	: N/A
Evaporation Rate	: N/A
Vapor Pressure	: N/A
Molecular Weight	: N/A
Solubility	: N/A
pH	: N/A
Viscosity	: N/A
Other Information	: N/A

#### 10. STABILITY AND REACTIVITY

- $\cdot$  Stability: Normally stable unless a strong shock is applied or heated strongly
- Possibility of hazardous reactions: Damage to the container may cause leakage of contents. Contents may leak or ignite due to temperature rise.
- Conditions to avoid: Crushing or deformation, use and storage at 80 degree C or higher or at high humidity. Usage at a voltage or a current outside the rating and external short circuit.
- Incompatible materials: Conductive material such as water or metal pieces. Oxidizing agent such as bleach.
- · Hazardous decomposition products: Irritating or harmful gases are released if a leakage or fire occurs.

#### **11. TOXICOLOGICAL INFORMATION**

#### Organic Electrolyte

- Acute toxicity:
  - LD<sub>50</sub>, oral Rat 2,000mg/kg or more
- · Irritating nature: Irritative to skin and eye

#### 12. ECOLOGICAL INFORMATION

· Persistence/degradability:

Since a battery cell and the internal materials remain in the environment, do not bury or throw out into the environment.

#### 13. DISPOSAL CONSIDERATIONS

· Recommended methods for safe and environmentally preferred disposal:

#### Product (waste from residues)

Specified collection or disposal of lithium ion battery is required by the law like as "battery control law" in several nations. Collection or recycle of the battery is mainly imposed on battery's manufacturer or importer in the nations recycle is required.

#### Contaminated packaging

Neither a container nor packing is contaminated during normal use. When internal materials leaked from a battery cell contaminates, dispose as industrial wastes subject to special control.

#### 14. TRANSPORT INFORMATION

In the case of transportation, avoid exposure to high temperature and prevent the formation of any condensation. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and wet by rain. The container must be handled carefully. Do not give shocks that result in a mark of hitting on a cell. Please refer to Section 7-HANDLING AND STORAGE also.

	LAND TANSPORT	SEA TRANSPORT	AIR TRANSPORT		
	(ADR)	(IMDG Code)	(IATA DGR/ICAO TI)		
UN Number <sup>a</sup>	3480	3480	3480		
Proper Shipping	LITHIUM ION	LITHIUM ION	LITHIUM ION		
Name <sup>a</sup>	BATTERIES	BATTERIES	BATTERIES		
	(including lithium ion	(including lithium ion	(including lithium ion		
	polymer batteries)	polymer batteries)	polymer batteries)		
Hazard Class	9	9	9		
Packing Group <sup>b</sup>	II	II	II		

The table mentioned below is applied to only the lithium ion rechargeable battery cell described in Section 1-PRODUCT AND COMPANY IDENTIFICATION.

<sup>a</sup> UN Number is 3481 in case of the battery is contained in equipment or packed with equipment, and Proper Shipping Name is "lithium ion batteries contained in equipment" or "lithium ion batteries packed with equipment".

UN Number is 3171 in case of the battery is contained in vehicle which is only powered by the battery, and Proper Shipping Name is "Battery-powered vehicle".

<sup>b</sup> Lithium ion rechargeable battery cell is not assigned to packing groups, and the packaging performance level is set out in the applicable packing instruction. Packing group II is often set out.

#### **15. REGULATORY INFORMATION**

- Regulations specifically applicable to the product: Wastes Disposal and Public Cleansing Law [Japan] Law for Promotion of Effective Utilization of resources [Japan] US Department of Transportation 49 Code of Federal Regulations [USA]
  - \* About overlapping regulations, please refer to Section 14-TRANSPORT INFOMATION.

#### **16. OTHER INFORMATION**

- · This safety data sheet is offered an agency who handles this product to handle it safely.
- The agency should utilize this safety data sheet effectively (put it up, educate person in charge) and take proper measures.
- The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.
- This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

#### Reference

Dangerous Goods Regulations – 64th Edition Effective 1 January 2023: International Air Transport Association (IATA)

IMDG Code – 2022 Edition: International Maritime Organization (IMO)

Agreement concerning the International Carriage of Dangerous Goods by Road – 2021(ADR): The United Nations Economic Commission for Europe (UNECE)

First edition:Apr. 28, 2010Prepared and approved by:Department of Development strategy<br/>Corporate of Development strategy<br/>Cell Development Division<br/>SANYO Electric Co., Ltd., an affiliated company of Panasonic Energy Co., Ltd.

# MATERIAL SAFETY DATA SHEET Model LG18650HB6 Lithium Ion Rechargeable Battery LG CHEMICAL LTD

# **1.** Chemical Product and Company Identification

## **Product Identification**

LG CHEM LG18650HB6 Lithium-Ion Battery

### Manufacturer

LG Chemical Ltd. Twin Tower Youido-Dong 120, Youngdeungpo-Ku Seoul, Korea

#### **Emergency Telephone Number**

82-2-3773-7618

# 2. Composition Information

Hazardous Ingredients	%	CAS Number
Aluminum Foil	2-10	7429-90-5
Metal Oxide (proprietary)	20-50	
Polyvinylidene Fluoride (PVDF)	<5	24937-79-9
Copper Foil	2-10	7440-50-8
Carbon (proprietary)	10-30	7440-44-0
Electrolyte (proprietary)	10-20	
Stainless steel, Nickel and inert materials	Remainder	N/A

\* Equivalent Lithium content: 0.45g, Electric Power Capacity: 5.48 Wh

# 3. Hazards Identification

# **Emergency Overview**

May explode in a fire, which could release hydrogen fluoride gas. Use extinguishing media suitable for materials burning in fire.

### Primary routes of entry

Skin contact	:	NO
Skin absorption	:	NO
Eye contact	:	NO
Inhalation	:	NO
Ingestion	:	NO

# Symptoms of exposure

<u>Skin contact</u> No effect under routine handling and use.

<u>Skin absorption</u> No effect under routine handling and use.

Eye contact No effect under routine handling and use.

<u>Inhalation</u> No effect under routine handling and use.

Reported as carcinogen Not applicable

# 4. First Aid Measures

### Inhalation

Not a health hazard.

### Eye contact

Not a health hazard.

### Skin contact

Not a health hazard.

### Ingestion

If swallowed, obtain medical attention immediately.

# IF EXPOSURE TO INTERNAL MATERIALS WITHIN CELL DUE TO DAMAGED OUTER CASING, THE FOLLOWING ACTIONS ARE RECOMMENDED;

### Inhalation

Leave area immediately and seek medical attention.

#### Eye contact

Rinse eyes with water for 15 minutes and seek medical attention.

#### Skin contact

Wash area thoroughly with soap and water and seek medical attention.

#### Ingestion

Drink milk/water and induce vomiting; seek medical attention.

# 5. Fire Fighting Measures

## **General Hazard**

Cell is not flammable. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

# **Extinguishing Media**

Use extinguishing media suitable for the materials that are burning.

### **Special Firefighting Instructions**

If possible, remove cell(s) from fire fighting area. If heated above 160°C, cell(s) may explode/vent.

### **Firefighting Equipment**

Use NIOSH/MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

# 6. Accidental Release Measures

# **On Land**

Place material into suitable containers and call local fire/police department.

### In Water

If possible, remove from water and call local fire/police department.

# 7. Handling and Storage

### Handling

No special protective clothing required for handling individual cells.

### Storage

Store in a cool, dry place.

# 8. Exposure Controls / Personal Protection

## **Engineering controls**

Keep away from heat and open flame. Store in a cool dry place.

### **Personal Protection**

<u>Respirator</u> Not required during normal operations. SCBA required in the event of a fire.

Eye/face protection Not required beyond safety practices of employer.

<u>Gloves</u> Not required for handling of cells.

<u>Foot protection</u> Steel toed shoes recommended for large container handling.

# 9. Physical and Chemical Properties

State	Solid
Odor	N/A
PH	N/A
Vapor pressure	N/A
Vapor density	N/A
Boiling point	N/A
Solubility in water	Insoluble
Specific gravity	N/A
Density	N/A

# **10.** Stability and Reactivity

### Reactivity

None

### Incompatibilities

None during normal operation. Avoid exposure to heat, open flame, and corrosives.

### **Hazardous Decomposition Products**

None during normal operating conditions. If cells are opened, hydrogen fluoride and carbon monoxide may be released.

### **Conditions To Avoid**

Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

# **11.** Toxicological Information

This product does not elicit toxicological properties during routine handling and use.

Sensitization	Teratogenicity	Reproductive toxicity	Acute toxicity
NO	NO	NO	NO

If the cells are opened through misuse or damage, discard immediately. Internal components of cell are irritants and sensitizers.

LG chem. Confirms that the below 5 chemicals are not used in cell.

1) FORMALDEHYDE (INCLUDING: FORMALDEHYDE - RELEASING PRESVATIVES)

2) BISPHENOL A (BPA) & BISPHENOL S (BPS)

#### 3) PARABENS

#### 4) PHTHALATES

5) TOXIC FLAME RETARDANT IN FOAM PRODUCTS

(including TDCPP or chlorinated tris; and TBB and TBPH in Firemaster 550)

# **12.** Ecological Information

Some materials within the cell are bioaccumulative. Under normal conditions, these materials are contained and pose no risk to persons or the surrounding environment.

# **13.** Disposal Considerations

California regulated debris

RCRA Waste Code : Nonregulated

Dispose of according to all federal, state, and local regulations.

# **14.** Transport Information

Lithium batteries are classified in Class 9 – Miscellaneous dangerous goods as:

- UN 3480, Lithium ion batteries
- UN 3481, Lithium ion batteries contained in equipment; or
- UN 3481, Lithium ion batteries packed with equipment.

With regard to transport of the product, the following regulations are cited and considered:

- The International Civil Aviation Organization (ICAO) Technical Instructions,
- The International Air Transport Association (IATA) Dangerous Goods Regulations
- The International Maritime Dangerous Goods (IMDG) Code,
- US Hazardous Materials Regulations 49 CFR(Code of Federal Regulations) Sections 173-185 Lithium batteries and cells,

- The UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria 38.3 Lithium batteries,

If those lithium-ion batteries are packed with or contained in an equipment, then it is the responsibility of the shipper to ensure that the consignment are packed in compliance to the latest edition of the IATA Dangerous Goods Regulations Section II of either Packing Instruction 966 or 967 in order for that consignment to be declared as NOT RESTRICTED (non-hazardous/non-Dangerous). If those lithium-ion batteries are packed with or contained in an equipment, UN No. is UN3481

Each cell or battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3;

# 15. Regulatory Information

OSHA hazard communication standard (29 CFR 1910.1200)

\_\_Hazardous \_\_\_\_Non-hazardous

# 16. Other Information

Hazardous Materials Information Label (HMIS) Health: 0 Flammability: 0 Physical Hazard: 0

NFPA Hazard Ratings Health: 0 Flammability: 0 Reactivity: 0 Unique Hazard:

# **Report Representative**

LG Chem.