SAFETY DATA SHEET

Issuing Date No data available **Revision Date** 24-Oct-2014 **Revision Number** 2

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

Product identifier

Product Name **PUR Replacement Filter Faucet RF3375**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Filter

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name Kaz USA, Inc.
Supplier Address One Vapor Trail
Hudson
NY
12534
US
Supplier Phone Number Phone:(479) 271-8078
Contact Phone(479) 271-8078
Supplier Email kbender@kaz.com
Emergency telephone number

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4

GHS Label elements, including precautionary statements

Emergency Overview

Signal word	**Warning**

Hazard Statements
Harmful if inhaled

Appearance Solid **Physical State** Solid **Odor** No data available

Precautionary Statements - Prevention
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage
None

Precautionary Statements - Disposal
None

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity
8% of the mixture consists of ingredient(s) of unknown toxicity

Other information

May be harmful if swallowed

Interactions with Other Chemicals
No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Chemical Name	CAS No.	Weight-%	Trade Secret
Supplier Trade Secret	Proprietary	5 - 10	*

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

General Advice Show this safety data sheet to the doctor in attendance.

Eye Contact Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Inhalation Remove to fresh air. If symptoms persist, call a physician.

Ingestion Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Coughing and/ or wheezing. Difficulty in breathing.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical
No information available.

Hazardous Combustion Products
Carbon oxides.

Explosion Data
Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge No.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with eyes. Ensure adequate ventilation. Avoid generation of dust. Do not breathe dust. Use personal protective equipment as required.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental Precautions

Environmental Precautions Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes. Do not breathe dust. Avoid generation of dust. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

Incompatible Products None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Supplier Trade Secret	TWA: 1 mg/m³ respirable fraction	-	

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Other Exposure Guidelines See section 15 for national exposure control parameters

Appropriate engineering controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection No special protective equipment required.

Skin and Body Protection No special protective equipment required.

Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Solid		
Appearance	Solid	**Odor**	No data available
Color	No information available	**Odor Threshold**	No information available

Property	Values	Remarks/ Method
pH	No data available	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	No information available	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Excessive heat.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Product does not present an acute toxicity hazard based on known or supplied information.
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Inhalation Specific test data for the substance or mixture is not available. Harmful by inhalation. (based on components).

Eye Contact Specific test data for the substance or mixture is not available.

Skin Contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Supplier Trade Secret	= 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 18.3 mg/L (Rat) 1 h

Information on toxicological effects

Symptoms Coughing and/ or wheezing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity Carcinogenic potential is unknown.

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Chronic Toxicity No known effect based on information supplied. Carcinogenic potential is unknown.

Target Organ Effects Respiratory system. Central Vascular System (CVS).

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
5,000.00 mg/kg
ATEmix (inhalation-dust/mist)
1.50 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Supplier Trade Secret	96h EC50: = 18 mg/L (Desmodesmus subspicatus)	96h LC50: = 1800 mg/L (Brachydanio rerio) 96h LC50: 3200 - 5600 mg/L (Oryzias latipes) 96h LC50: 1800 - 3200 mg/L (Poecilia reticulata)	EC50 3200 - 5600 mg/L 8 h EC50 = 1550 mg/L 16 h	48h EC50: 1000 - 1800 mg/L

Persistence and Degradability
No information available.

Bioaccumulation
No information available

Other adverse effects
No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging Dispose of contents/containers in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT NOT REGULATED
Proper Shipping Name NON REGULATED
Hazard Class N/A

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated
Proper Shipping Name NON REGULATED
Hazard Class N/A

IMDG/IMO Not regulated
Hazard Class N/A

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

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Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Supplier Trade Secret			X		

International Regulations

Mexico
National occupational exposure limits
Mexico - Occupational Exposure Limits - Carcinogens

Canada
WHMIS Hazard Class
D2B - Toxic materials

16. OTHER INFORMATION

NFPA	**Health Hazards** 1	**Flammability** 0	**Instability** 0	**Physical and Chemical Hazards** -
HMIS	**Health Hazards** 1	**Flammability** 0	**Physical Hazard** 0	**Personal Protection** X

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date 24-Oct-2014
Revision Note No information available

Disclaimer

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 a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

Energy Device Business Division
Automotive & Industrial Systems Company
Panasonic Corporation

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Tel +81-6-6991-1141
http://panasonic.net/ec/

This product is a consumer product which is used in a hermetically sealed state. So, it is not an object of the SDS system. This document is provided to customers as reference information for the safe handling of the product. The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Panasonic Corporation makes no warranty expressed or implied.

PRODUCT SAFETY DATA SHEET

1 Product and Company Identification

Name of Product : Manganese dioxide lithium battery
Name of Company : Panasonic Corporation, Automotive & Industrial Systems Company
Address : 1-1 Matsushita-cho, Moriguchi City, Osaka, 570-8511, Japan
Division : Energy Device Division
Department : Engineering Department
Telephone number : +81-6-6994-4537

2 Hazards Identification

GHS Classification : Not applicable

Hazard : Electrolyte and lithium metal are inflammable.
Risk of explosion by fire if batteries are disposed in fire or heated above 100 degrees C.
Stacking or jumbling batteries may cause external short circuits, heat generation, fire or explosion.

Toxicity : Vapor generated from burning batteries, may irritate eyes, skin and throat.

3 Composition/Information of Ingredients

Component	Material	CAS No.	Content
Positive electrode	Manganese dioxide	1313-13-9	12～50wt%
Negative electrode	Lithium metal	7439-93-2	0.5～6wt%
Electrolyte	1,2-dimethoxyethane	110-71-4	1.5～3.5wt%
	Lithium Perchlorate	7791-03-9	0.2～0.7wt%
	Organic electrolyte	-	2.5～ 7wt%
Others (Steel or Plastic parts)	Steel	7439-89-6, 7440-47-3	30～85wt%
	Polypropylene	9003-07-0	0.5～10wt%

Lithium content per cell

Model Number	Lithium content(g)	Model Number	Lithium content(g)	Model Number	Lithium content(g)	Model Number	Lithium content(g)
CR1025	0.008	CR1620	0.02	CR2330	0.08	CR2412	0.03
CR1216	0.008	CR1632	0.04	CR2354	0.17	CR2430	0.09
CR1220	0.01	CR2012	0.02			CR2450	0.18
CR1612	0.01	CR2016	0.03			CR2450A	0.17
CR1616	0.02	CR2025	0.05			CR2477	0.29
		CR2032	0.07			CR3032	0.15
		CR2050B	0.10				

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4 First Aid Measures

The product contains organic electrolyte. In case of electrolyte leakage from the battery, actions described below are required.

Eye contact	: Flush the eyes with plenty of clean water for at least 15 minutes immediately, without rubbing. Get immediate medical treatment. If appropriate procedures are not taken, this may cause eye injury.
Skin contact	: Wash the contact areas off immediately with plenty of water and soap. If appropriate procedures are not taken, this may cause sores on the skin.
Inhalation	: Remove to fresh air immediately. Get medical treatment immediately.

5 Fire Fighting Measures

Extinguishing method	: Since vapor, generated from burning batteries may make eyes, nose and throat irritates, be sure to extinguish the fire on the windward side. Wear the respiratory protection equipment in some cases.
Fire extinguishing agent	: Alcohol-resistant foam and dry sand are effective.

6 Accidental Release Measures (in case of electrolyte leakage from the battery)

- Take up with absorbent cloth, treat cloth as inflammable.
- Move the battery away from the fire.

7 Handling and Storage

- When packing the batteries, do not allow battery terminals to contact each other, or contact with other metals. Be sure to pack batteries by providing partitions in the packaging box, or in a separate plastic bag so that the single batteries are not mixed together.
- Use strong material for packaging boxes so that they will not be damaged by vibration, impact, dropping and stacking during their transportation.
- Do not recharge batteries. Do not deform batteries.
- Do not mix different type of batteries.
- Do not solder directly onto batteries.
- Do not let water penetrate into packaging boxes during their storage and transportation.
- Do not store the battery in places of the high temperature or under direct sunlight.
- Please also avoid the places of high humidity. Be sure not to expose the battery to condensation, rain or frozen condition.

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8 Exposure Controls and Personal Protection (in case of electrolyte leakage from the battery)

Acceptable concentration	: Not specified in ACGIH.
Facilities	: Provide appropriate ventilation system such as local ventilator in the storage place.
Protective clothing	: Self-Contained Breathing Apparatus for organic gases, safety goggle, and safety glove.

9 Physical and Chemical Properties

Appearance	: Coin shape
Voltage	: 3 volts

10 Stability and Reactivity

Since batteries utilize a chemical reaction they are actually considered a chemical product.
As such, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, the various usage conditions such as discharge, ambient temperature, etc. are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage.

11 Toxicological Information (in case of electrolyte leakage from the battery)

Acute toxicity	: Oral(rat) LD50 ＞ 2,000mg/kg (estimated)
Irritation	: Irritating to eye and skin.
Mutagenicity	: Not specified.
Chronic toxicity	: Not specified.

12 Ecological Information

In case the worn-out battery is disposed of on land, the battery case may corrode and leak electrolyte.

13 Disposal Considerations

When the battery is worn out, dispose of it under the ordinance of each local government.

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14 Transport Information

During the transportation of a large amount of batteries by ship, trailer or railway, do not leave them in the places of high temperatures and do not allow them to be exposed to condensation.

During the transportation do not allow packages to be dropped or damaged.

Proper shipping name : Lithium metal batteries

UN Number, UN Class : UN3090, Class9 (for the Air transport by PI968 Section IA or IB)

: Exemption (for the Marine transport and the Air transport by Section II of PI 968, 969 or 970)

Even though the cells are classified as lithium metal batteries (UN3090 or 3091), they are not subject to some requirements of Dangerous Goods Regulations because they meet the following:

1. for cells, the lithium content is not more than 0.3g;
2. each cell is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, PartⅢ, sub-section 38.3.
3. each cell is manufactured in ISO9001 certified factory.

Please refer to the following reference information about concrete ways of transportation. Actual content of packaging label and shipping documents varies by shipping companies. Make sure to confirm in advance with your shipping company.

Information of reference

	Reference	Packing Instruction(PI)/ Special provision(SP)	Note
Air transport	IATA (2)(5)	PI 968 SectionⅠA	Cells, Cargo Aircraft only; Net quantity per package Max. 35kg
		PI 968 SectionⅠB	Cells, Cargo Aircraft only; net quantity per package Max. 2.5kg
		PI 968 SectionⅡ	Cells, Cargo Aircraft only, not more than one package in any single consignment; net quantity per package Max. 2.5kg
		PI 969 SectionⅡ	Cells packed with equipment
		PI 970 SectionⅡ	Cells contained in equipment, button cell batteries
Marine transport	IMDG (3)	SP 188	

15 Regulatory Information

IATA Dangerous Goods Regulations
IMO International Maritime Dangerous Goods Code

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16 Other Information

This PSDS is provided to customers as reference information in order to handle batteries safely.
It is necessary for the customer to take appropriate measures depending on the actual situation such as the individual handling, based on this information.

In California only, packages that contain CR lithium coin cells and the Owners/Operating Instructions of products that contain CR lithium coin cells must include the following statement: "Perchlorate Material - special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate".
The effective date for this Perchlorate label is July 1, 2006 for non-consumer products and January 1, 2007 for consumer products.

References

(1) UN Recommendations on the Transportation of Dangerous Goods, Model Regulations
(2) IATA Dangerous Goods Regulations 57th Edition（2016）
(3) IMO International Maritime Dangerous Goods Code 2014 Edition
(4) UN Recommendations on the Transportation of Dangerous Goods, Manual of Tests and Criteria
(5) IATA Dangerous Goods Regulations 57th edition Effective 1 January 2016 ADDENDUM

(END)

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CR1612	0.01	CR2016	0.03			CR2450A	0.17
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- Do not mix different type of batteries.
- Do not solder directly onto batteries.
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Acceptable concentration	: Not specified in ACGIH.
Facilities	: Provide appropriate ventilation system such as local ventilator in the storage place.
Protective clothing	: Self-Contained Breathing Apparatus for organic gases, safety goggle, and safety glove.

9 Physical and Chemical Properties

Appearance	: Coin shape
Voltage	: 3 volts

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1. for cells, the lithium content is not more than 0.3g;
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	Reference	Packing Instruction(PI)/ Special provision(SP)	Note
Air transport	IATA (2)(5)	PI 968 SectionⅠA	Cells, Cargo Aircraft only; Net quantity per package Max. 35kg
		PI 968 SectionⅠB	Cells, Cargo Aircraft only; net quantity per package Max. 2.5kg
		PI 968 SectionⅡ	Cells, Cargo Aircraft only, not more than one package in any single consignment; net quantity per package Max. 2.5kg
		PI 969 SectionⅡ	Cells packed with equipment
		PI 970 SectionⅡ	Cells contained in equipment, button cell batteries
Marine transport	IMDG (3)	SP 188	

15 Regulatory Information

IATA Dangerous Goods Regulations
IMO International Maritime Dangerous Goods Code

Energy Device Business Division
Automotive & Industrial Systems Company
Panasonic Corporation

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Tel +81-6-6991-1141
http://panasonic.net/ec/

16 Other Information

This PSDS is provided to customers as reference information in order to handle batteries safely.
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In California only, packages that contain CR lithium coin cells and the Owners/Operating Instructions of products that contain CR lithium coin cells must include the following statement: "Perchlorate Material - special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate".
The effective date for this Perchlorate label is July 1, 2006 for non-consumer products and January 1, 2007 for consumer products.

References

(1) UN Recommendations on the Transportation of Dangerous Goods, Model Regulations
(2) IATA Dangerous Goods Regulations 57th Edition（2016）
(3) IMO International Maritime Dangerous Goods Code 2014 Edition
(4) UN Recommendations on the Transportation of Dangerous Goods, Manual of Tests and Criteria
(5) IATA Dangerous Goods Regulations 57th edition Effective 1 January 2016 ADDENDUM

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This product is a consumer product which is used in a hermetically sealed state. So, it is not an object of the SDS system. This document is provided to customers as reference information for the safe handling of the product. The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Panasonic Corporation makes no warranty expressed or implied.

PRODUCT SAFETY DATA SHEET

1 Product and Company Identification

Name of Product : Manganese dioxide lithium battery
Name of Company : Panasonic Corporation, Automotive & Industrial Systems Company
Address : 1-1 Matsushita-cho, Moriguchi City, Osaka, 570-8511, Japan
Division : Energy Device Division
Department : Engineering Department
Telephone number : +81-6-6994-4537

2 Hazards Identification

GHS Classification : Not applicable

Hazard : Electrolyte and lithium metal are inflammable.
Risk of explosion by fire if batteries are disposed in fire or heated above 100 degrees C.
Stacking or jumbling batteries may cause external short circuits, heat generation, fire or explosion.

Toxicity : Vapor generated from burning batteries, may irritate eyes, skin and throat.

3 Composition/Information of Ingredients

Component	Material	CAS No.	Content
Positive electrode	Manganese dioxide	1313-13-9	12～50wt%
Negative electrode	Lithium metal	7439-93-2	0.5～6wt%
Electrolyte	1,2-dimethoxyethane	110-71-4	1.5～3.5wt%
	Lithium Perchlorate	7791-03-9	0.2～0.7wt%
	Organic electrolyte	-	2.5～ 7wt%
Others (Steel or Plastic parts)	Steel	7439-89-6, 7440-47-3	30～85wt%
	Polypropylene	9003-07-0	0.5～10wt%

Lithium content per cell

Model Number	Lithium content(g)	Model Number	Lithium content(g)	Model Number	Lithium content(g)	Model Number	Lithium content(g)
CR1025	0.008	CR1620	0.02	CR2330	0.08	CR2412	0.03
CR1216	0.008	CR1632	0.04	CR2354	0.17	CR2430	0.09
CR1220	0.01	CR2012	0.02			CR2450	0.18
CR1612	0.01	CR2016	0.03			CR2450A	0.17
CR1616	0.02	CR2025	0.05			CR2477	0.29
		CR2032	0.07			CR3032	0.15
		CR2050B	0.10				

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4 First Aid Measures

The product contains organic electrolyte. In case of electrolyte leakage from the battery, actions described below are required.

Eye contact	: Flush the eyes with plenty of clean water for at least 15 minutes immediately, without rubbing. Get immediate medical treatment. If appropriate procedures are not taken, this may cause eye injury.
Skin contact	: Wash the contact areas off immediately with plenty of water and soap. If appropriate procedures are not taken, this may cause sores on the skin.
Inhalation	: Remove to fresh air immediately. Get medical treatment immediately.

5 Fire Fighting Measures

Extinguishing method	: Since vapor, generated from burning batteries may make eyes, nose and throat irritates, be sure to extinguish the fire on the windward side. Wear the respiratory protection equipment in some cases.
Fire extinguishing agent	: Alcohol-resistant foam and dry sand are effective.

6 Accidental Release Measures (in case of electrolyte leakage from the battery)

- Take up with absorbent cloth, treat cloth as inflammable.
- Move the battery away from the fire.

7 Handling and Storage

- When packing the batteries, do not allow battery terminals to contact each other, or contact with other metals. Be sure to pack batteries by providing partitions in the packaging box, or in a separate plastic bag so that the single batteries are not mixed together.
- Use strong material for packaging boxes so that they will not be damaged by vibration, impact, dropping and stacking during their transportation.
- Do not recharge batteries. Do not deform batteries.
- Do not mix different type of batteries.
- Do not solder directly onto batteries.
- Do not let water penetrate into packaging boxes during their storage and transportation.
- Do not store the battery in places of the high temperature or under direct sunlight.
- Please also avoid the places of high humidity. Be sure not to expose the battery to condensation, rain or frozen condition.

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8 Exposure Controls and Personal Protection (in case of electrolyte leakage from the battery)

Acceptable concentration	: Not specified in ACGIH.
Facilities	: Provide appropriate ventilation system such as local ventilator in the storage place.
Protective clothing	: Self-Contained Breathing Apparatus for organic gases, safety goggle, and safety glove.

9 Physical and Chemical Properties

Appearance	: Coin shape
Voltage	: 3 volts

10 Stability and Reactivity

Since batteries utilize a chemical reaction they are actually considered a chemical product.
As such, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, the various usage conditions such as discharge, ambient temperature, etc. are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage.

11 Toxicological Information (in case of electrolyte leakage from the battery)

Acute toxicity	: Oral(rat) LD50 ＞ 2,000mg/kg (estimated)
Irritation	: Irritating to eye and skin.
Mutagenicity	: Not specified.
Chronic toxicity	: Not specified.

12 Ecological Information

In case the worn-out battery is disposed of on land, the battery case may corrode and leak electrolyte.

13 Disposal Considerations

When the battery is worn out, dispose of it under the ordinance of each local government.

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14 Transport Information

During the transportation of a large amount of batteries by ship, trailer or railway, do not leave them in the places of high temperatures and do not allow them to be exposed to condensation.

During the transportation do not allow packages to be dropped or damaged.

Proper shipping name : Lithium metal batteries

UN Number, UN Class : UN3090, Class9 (for the Air transport by PI968 Section IA or IB)

: Exemption (for the Marine transport and the Air transport by Section II of PI 968, 969 or 970)

Even though the cells are classified as lithium metal batteries (UN3090 or 3091), they are not subject to some requirements of Dangerous Goods Regulations because they meet the following:

1. for cells, the lithium content is not more than 0.3g;
2. each cell is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, PartⅢ, sub-section 38.3.
3. each cell is manufactured in ISO9001 certified factory.

Please refer to the following reference information about concrete ways of transportation. Actual content of packaging label and shipping documents varies by shipping companies. Make sure to confirm in advance with your shipping company.

Information of reference

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