C32614 C28664 C23084 C32613
C32620 C30675 C23139 C32617

C33868 C32618 C32619 C32622

8540

SAFETY DATA SHEET C33275

C33890, C33891

DLG POWER BATTERY CONFIDENTIAL PROPRIETARY C33892, C34127

C34128

Revision Number: 2

V# 091812

1. Identification

Product: Rechargeable Lithium-ion Cylindrical Battery

Manufactured for: Wahl Clipper Corp.

Address: 2900 N. Locust St. Sterling, IL 61081

Tel: 1-815-625-6525

Web site: www.wahl.com

2.HAZARDS IDENTIFICAION

Classification :
This chemical is not considered hazardous by the 2012 OSHAHazard Communication Standard (29 CFR 1910.1200)

No specific health hazards for normal use.

Routes of Entry

There is no hazard when the measures for handling and storage are followed.

Health Hazards

These chemicals are contained in a sealed can. Risk of exposure occurs only if the battery is mechanically or electrically abused. The most likely risk is acute exposure when a battery vents. Leaking material exposure to skin, eyes may cause irritation. Inhalation of fumes may cause respiratory irritation.

Sign/Symptoms of Exposure

Leaking can cause thermal and chemical burns upon contact with the skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Composition	Chemical Formula	CAS No.	Weight(%)
Cobalt lithium manganese nickel oxide	LiNixCoyMn1-x−yO2	182442-95-1	30-45w/w
Graphite	C	7782-42-5	15-25 w/w
Lithium hexaflurorphosphate	$LiPF_6$	21324-40-3	1-3 w/w
Poly (vinylidene fluoride) (PVDF)	$(C_2H_2F_2)_n$	24937-79-9	0.1 -4 w/w
Aluminum foil	Al	7429-90-5	2-8 w/w
Copper foil	Cu	7440-50-8	5 -10 w/w
Carbon black and others	C	1333-86-4	0.5-3w/w
Styrene, 1,3-butadiene polymer	$(C_{12}H_{14})_n$	9003-55-8	0.5-5 w/w
Carboxymethylcellulose sodium	$R(N)OCH_2COONA$	9004-32-4	0.5-2 w/w

4. FIRST AID MEASURES

General Information

The following first aid measures are required only in case of exposure to interior battery components after damage of the eternal battery casing. Undamaged, closed, cells do not represent a danger to the health.

Eyes

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin

Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.

Inhalation

Remove from exposure and move to fresh air immediately. Use oxygen if available.

Ingestion

Do not induce vomiting. Call a physician immediately.

5. FIRE-FIGHTING MEASURES

Flash Point: N/A.

Auto-Ignition Temperature: N/A.

Suitable **extinguishing Media**

Cold water and dry powder in large amount are applicable. Use metal fire extinction power or dry sand if only few cells are involved.

Special hazards arising form the chemical

May form hydrofluoric acid if electrolyte comes into contact with water. In case of fire, the formation of the following flue gases cannot be excluded: Hydrogen fluoride(HF), Carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective clothing.

Avoid contact with skin, eyes and clothing.

Avoid breathing fume and gas.

Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

Methods for cleaning up/taking up.

Take up mechanically and send for disposal.

7. HANDLING AND STORAGE

Handling

Advice on safe handling

Avoid short circuiting the cell. Avoid mechanical damage of the cell. Do not open or disassemble. Keep away from open flames, hot surfaces and sources of ignition.

Storage

Requirements for storage rooms and vessels
Storage at room temperature(approx.20°C) at approx.20~60% of the nominal capacity (OCV approx.3.6~3.9V/cell).

Keep in closed original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional advice on limit values
During normal charging and discharging there is no release of product.
Occupational exposure controls
No specific precaution necessary.
Protective and hygiene measures
When using do not eat, drink or smoke. Wash hands before breaks and after work.

Respiratory Protection

No specific precautions necessary.

Hand protection

No specific precautions necessary.

Eye protection

No specific precautions necessary.

Skin protection

No specific precautions necessary.

9. PHYSICAL AND CHEMICALPROPERTIES

Ingredient	Risk Code	Safety Description	Hazard	Exposure Controls/Personal Protection
Cobalt lithium manganese nickel oxide	R22;R43;R 50/53	S24;S37;S60;S61	Xn(Harmful) N(Dangerous for the environment)	0.1mg/m3(TWA)
Poly (vinylidene fluoride) (PVDF)		S22;S24/25		
Aluminum foil	R17,R15,R 36/38,R10 ,R67,R65, R62,R51/5 3,R48/20	S7/8, S43,S26,S62,S61,S36 /37,S33,S29,S16,S9	F(Highly Flammable) Xn(Harmful) Xi(Irritant)	Airborne Exposure Limits: -OSHA Permissible Exposure Limits(PELs): 15mg/m3(TWA) total dust and 5mg/m3(TWA)
Copper foil	R11, R36, R37,R38	S5,S26,S16,S61,S36 /37	F(Highly Flammable) N(Dangerous for Environment) Xn(harmful) Xi(Irritant)	Cooper Dust and Mists, as Cu: -OSHA Permissible Exposure Limit(PEL)-1mg/m3(TWA) Cooper Fume: -OSHA Permissible Exposure Limit(PEL)- 0.1mg/m3(TWA)
Carbon black and others	S22;S24/2 5		F(Highly Flammable)	Airborne Exposure Limits: -OSHA Permissible Exposure Limits(PELs):total particulate 15mg/m3

Appearance
Form: Solid
Color: Various
Odor: Odorless
Important health, safety and environmental information
Test method

pHValue	n.a.
Flash point	n.a.
Lower explosion limits	n.a.
Vapour pressure	n.a.
Density	n.a.
Water solubility	Insoluble
Ignition temperature	n.a.

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to Avoid

Heating over 90°C , fire, mechanical abuse and electrical abuse.

Incompatible materials

No materials to be especially mentioned.

Hazardous Decomposition Products

In case of open cells, there is the possibility of hydrofluoric acid and carbon monoxide release.

Possibility of Hazardous Reactions

Will not occur

11. TOXICOLOGICAL INFORMATION

Empirical data on effects on humans

If appropriately handled and if in accordance with the general hygienic rules, no damages to health have become known.

12. ECOLOGICAL INFORMATION

Further information
Ecological injuries are not known or expected under normal use. Do not flush into surface water or sanitary sewer system.

13. DISPOSAL CONSIDERATIONS

Appropriate Method of Disposal of Substance or Preparation
Dispose of the batteries in accordance with approved local, state, and federal requirements.
Consult state environmental agency.
Contaminated packaging
Disposal in accordance with local regulations.

14. TRANSPORT INFORMATION

With regards to transport, the following regulations are cited and considered:

- The International Civil Aviation Organization (ICAO) Technical Instructions, Packing Instruction 965, Section II (2013-2014 Edition)
- The International Air Transport Association (IATA) Dangerous Goods Regulations, Packing Instruction 965, Section II (57th Edition, 2016)
- US Hazardous Materials Regulations 49 CFR (Code of Federal Regulations) Sections 173-185 Lithium batteries and cells
- The article is not restricted to IMO IMDG Code per special provision 188.
- The UN Recommendations on the Transport of Dangerous Goods, the battery can be treated as non-dangerous goods per Special Provision 188.
- UN No. UN3480 spare battery/cell shipment mode
- The International Air Transport Association (IATA) Dangerous Goods Regulations, Packing Instruction 967, Section II (57th Edition, 2016) UN3481
- UN No. UN3481 battery/cell contained or packed with equipment.

15. REGULATORY INFORMATION

U.S. Regulations
National Inventory TSCA
All of the components are listed on the TSCA inventory.
SARA
To the best of our knowledge this product contains no toxic chemicals subject to the supplier notification requirements of Section 313 of the Superfund Amendments and Reauthorization Act (SARA/EPCRA) and the requirements of 40 CFR Part 372.

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:

Full text of R-phrases

Further Information

Data of section 4 to 8, as well as 10 to 12, do not necessarily refer to the use and the regular handling of the product (in this sense consult package leaflet and expert information) , but to release of major amounts in case of accidents and irregularities. The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge. This data does not constitute a guarantee for the characteristics of

the product(s) as defined by the legal warranty regulations."(n.a. = not applicable; n.d. = not determined)"

The data for the hazardous ingredients were taken respectively form the last version of the sub-contractor's safety data sheet.

R10	Flammable
R20/22	Harmful by inhalation and if swallowed
R22	Harmful if swallowed
R34	Cause burn
R40	Limited evidence of a carcinogenic effect
R43	May cause sensitization by skin contact
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation
R49	May case cancer by inhalation
R50	Very toxic to aquatic organisms
R53	May cause long-term adverse effects in the aquatic environment

PRODUCT SAFETY DATA SHEET

PRODUCT NAME: Energizer Battery **Type No.:** L91 (AA), L92 (AAA) **Volts:** 1.5

TRADE NAMES: ULTIMATE **Approximate Weight:** 7.6 g. (L92) – 15 g. (L91)

CHEMICAL SYSTEM: Lithium Iron Disulfide **Designed for Recharge:** No **Document Number:** 12003-A

Energizer has prepared copyrighted Product Safety Datasheets to provide information on the different Eveready/Energizer battery systems. Batteries are articles as defined under the GHS and exempt from GHS classification criteria (Section 1.3.2.1.1 of the GHS). The information and recommendations set forth herein are made in good faith, for information only, and are believed to be accurate as of the date of preparation. However, ENERGIZER BATTERY MANUFACTURING, INC. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM REFERENCE ON IT.

SECTION 1- MANUFACTURER INFORMATION

Energizer Battery Manufacturing, Inc.
25225 Detroit Rd.
Westlake, OH 44145

Telephone Number for Information:
800-383-7323 (USA / CANADA)

Date Prepared: March 2016

SECTION 2 – HAZARDS IDENTIFICATION

GHS classification: N/A

Signal Word: N/A

Hazard Classification: N/A

Under normal conditions of use, the battery is hermetically sealed.

Ingestion: Swallowing a battery can be harmful.
Inhalation: Contents of an open battery can cause respiratory irritation.
Skin Contact: Contents of an open battery can cause skin irritation.
Eye Contact: Contents of an open battery can cause severe irritation.

SECTION 3 - INGREDIENTS

IMPORTANT NOTE: The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

MATERIAL OR INGREDIENT	PEL (OSHA)	TLV (ACGIH)	%/wt.
Carbon Black (CAS# 1333-86-4)	3.5 mg/m^3 TWA	3.5 mg/m^3 TWA	0-4
1,2 Diemethoxyethane (CAS# 110-71-4)	None established	None established	2-4
1,3 Dioxolane (CAS# 646-06-0)	None established	20 ppm TWA	5-9
Graphite (CAS# 7782-42-5)	15 mg/m^3 TWA (total dust) 5 mg/m^3 TWA (respirable fraction)	2 mg/m^3 TWA (respirable fraction)	0-4
Iron Disulfide (CAS# 1309-36-0)	None established	None established	28-38
Lithium or Lithium Alloy	None established	None established	6.3-6.6 / AA 5.4-5.5 / AAA
Lithium Iodide	None established	None established	0.3-3

Non-Hazardous Components Steel (iron CAS# 65997-19-5) Plastic and Other	None established None established	None established None established	18-22 Balance

SECTION 4 – FIRST AID MEASURES

Ingestion: Do not induce vomiting or give food or drink. Seek medical attention immediately. CALL NATIONAL BATTERY INGESTION HOTLINE for advice and follow-up (202-625-3333) collect day or night.
Inhalation: Provide fresh air and seek medical attention.
Skin Contact: Remove contaminated clothing and wash skin with soap and water.
Eye Contact: Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

Note: Carbon black is listed as a possible carcinogen by International Agency for Research on Cancer (IARC).

SECTION 5- FIRE FIGHTING MEASURES

In case of fire where lithium batteries are present, flood area with water or smother with a Class D fire extinguishant appropriate for lithium metal, such as Lith-X. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Burning batteries will burn themselves out. Virtually all fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended. A smothering agent will extinguish burning lithium batteries.

Emergency Responders should wear self-contained breathing apparatus. Burning lithium-iron disulfide batteries produce toxic and corrosive lithium hydroxide fumes and sulfur dioxide gas.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

To cleanup leaking batteries:

Ventilation Requirements: Room ventilation may be required in areas where there are open or leaking batteries.
Respiratory Protection: Avoid exposure to electrolyte fumes from open or leaking batteries.
Eye Protection: Wear safety glasses with side shields if handling an open or leaking battery.
Gloves: Use neoprene or natural rubber gloves if handling an open or leaking battery.
Battery materials should be disposed of in a leak-proof container.

SECTION 7 - HANDLING AND STORAGE

Storage: Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life. In locations that handle large quantities of lithium batteries, such as warehouses, lithium batteries should be isolated from unnecessary combustibles.

Mechanical Containment: If potting or sealing the battery in an airtight or watertight container is required, consult your Energizer Battery Manufacturing, Inc. representative for precautionary suggestions. Do not obstruct safety release vents on batteries. Encapsulation of batteries will not allow cell venting and can cause high pressure rupture.

Handling: Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy, generate significant heat and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices. Damaging a lithium battery may result in an internal short circuit.
The contents of an open battery, including a vented battery, when exposed to water, may result in a fire and/or explosion.
Crushed or damaged batteries may result in a fire.
If soldering or welding to the battery is required, consult your Energizer representative for proper precautions to prevent seal damage or short circuit.

Charging: This battery is manufactured in a charged state. It is not designed for recharging. Recharging can cause battery leakage or, in some cases, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards.

Labeling: If the Energizer label or package warnings are not visible, it is important to provide a package and/or device label stating:

> WARNING: Battery can explode or leak and cause burns if installed backwards, disassembled, charged, or exposed to water, fire or high temperature.

Where accidental ingestion of small batteries is possible, the label should include:

> WARNING: (1) Keep away from small children. If swallowed, promptly see doctor; have doctor phone (202) 625-3333 collect. (2) Battery can explode or leak and cause burns if installed backwards, disassembled, charged, or exposed to water, fire or high temperature.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation Requirements: Not necessary under normal conditions. / **Respiratory Protection:** Not necessary under normal conditions.

Eye Protection: Not necessary under normal conditions. / **Gloves:** Not necessary under normal conditions.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.):	Solid object
Upper Explosive Limits:	Not applicable for an Article
Lower Explosive Limits	Not applicable for an Article
Odor	No odor
Vapor Pressure (mm Hg @ 25°C)	Not applicable for an Article
Odor Threshold	No odor
Vapor Density (Air = 1)	Not applicable for an Article
pH	Not applicable for an Article
Density (g/cm^3)	1.7 -2.0
Melting point/Freezing Point	Not applicable for an Article
Solubility in Water (% by weight)	Not applicable for an Article
Boiling Point @ 760 mm Hg (°C)	Not applicable for an Article
Flash Point	Not applicable for an Article
Evaporation Rate (Butyl Acetate = 1)	Not applicable for an Article
Flammability	Not applicable for an Article
Partition Coefficient	Not applicable for an Article
Auto-ignition Temperature	Not applicable for an Article
Decomposition Temperature	Not applicable for an Article
Viscosity	Not applicable for an Article

SECTION 10 – STABILITY AND REACTIVITY

Lithium iron disulfide batteries contain no sulfides or cyanides and they do not meet any other reactivity criteria including "reacts violently with water" and therefore do not meet any of the criteria established in 40 CFR 261.2 for reactivity.

SECTION 11 – TOXICOLOGICAL INFORMATION

Under normal conditions of use, lithium iron disulfide batteries are non-toxic.

SECTION 12 – ECOLOGICAL INFORMATION

Issues such as ecotoxicity, persistence and bioaccumulation are not applicable for articles.

SECTION 13 – DISPOSAL CONSIDERATIONS

Lithium iron disulfide batteries are not hazardous waste per the United States Resource Conservation and Recovery Act (RCRA) - 40 CFR Part 261 Subpart C. Dispose of in accordance with all applicable federal, state and local regulations.

SECTION 14 – TRANSPORT INFORMATION

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in "strong outer packaging" that prevents spillage of contents. All original packaging for Energizer lithium batteries are compliant with these regulatory concerns.

Energizer lithium-iron disulfide batteries are exempt from the classification as dangerous goods as they meet the requirements of the special provisions listed below. (Essentially, they are properly packaged and labeled, contain less than 1 gram of lithium and pass the tests defined in UN model regulation section 38.3).

Regulatory Body	Special Provisions
ADR	188, 230, 310, 636, 656
IMDG	188, 230, 310, 957
UN	UN 3090, UN 3091
US DOT	29, A54, A100, A101
IATA 57th Edition, ICAO	Packaging Instructions 968 – 970

Energizer is registered with CHEMTREC. In the event of an incident during transport call 1-800-424-9300 (North America) or 1-703-527-3887 (International).

A global lithium label chart is provided below to summarize the current global labeling requirements.

Label Summary Chart

Shipping Mode	Li content	Net quantity wt. of batteries per package	Battery Type			
AIR	0.3g to ≤1g/cell 0.3g to ≤2g/ battery	≤2.5 kg	L91, L92, L522	YES	YES	YES
	≤0.3g/cell	≤2.5kg	All Li Coin and 2L76	NO	YES	YES
	≤0.3g/cell	>2.5kg	All Li Coin and 2L76	YES	YES	YES
Land/ Sea only	All	All	All	NO	YES	YES

SECTION 15 - REGULATORY INFORMATION

Outside of the transportation requirements noted in Section 14, lithium iron disulfide batteries marketed by Energizer Battery Manufacturing, Inc. are not regulated.

SARA/TITLE III - As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right-To-Know Act.

SECTION 16 - OTHER INFORMATION

None.