



## BATTERY CARE

### Tips and tricks to keep your device going stronger, longer

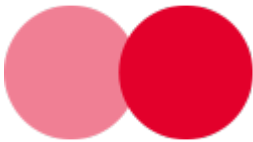
There are tons of myths about alkaline batteries, but here's what you actually need to know to ensure your RAYOVAC® batteries are providing the performance we stand behind.

#### Tips and tricks:



#### Never mix battery types (Alkaline, NiMH, Zinc Carbon)

When the lower-performance batteries are exhausted, the longer-lasting batteries will force discharge current through them, which can cause corrosion and hydrogen gas formation. No fun!



#### Never mix old & new batteries

If you mix old and new batteries, you'll only get the performance of the old, lower-performance battery. Plus, you'll risk the same issues as above: corrosion and hydrogen gas formation. Stick to new batteries only.



#### Remove batteries from any device that will be stored

Many devices don't turn off completely when not in use, so they still use a small amount of power. If a device is stored this way for an extended period of time, like months or years, the batteries can run out and corrode. Not what you want when you dig that old toy out of the closet!



### **Don't leave battery-powered devices switched on**

If your batteries have died, make sure you turn your device off and remove the old batteries. Even when the device won't work, it still uses a small amount of power that is left in the battery, which causes hydrogen gas to form inside the battery. This can cause corrosion in as little as two weeks. Turn that device off!



### **Don't immediately throw away batteries that have been in a cold environment**

Cold temperatures (below freezing) decrease battery power, so let your batteries warm up to normal temperature and try them again, before you decide to replace them. Let yourself warm up, too!



### **Store your batteries at room temperature**

Heat over 85°F can shorten battery life and power delivery, so store your batteries in a cool, dry place. Think closet, instead of garage.

## **BATTERY DISPOSAL**

### **Proper Alkaline Battery Disposal**

RAYOVAC® Alkaline batteries can be disposed of with normal household waste in most US states. Our batteries are composed primarily of common metals including steel, manganese compounds, and zinc.

For states where battery recycling is further regulated, RAYOVAC® participates in the Call2Recycle® program- the leading end-of-life battery recycling initiative in North America. RAYOVAC® helps support Call2Recycle's nearly 30,000 collection sites across the U.S. and Canada.

### **Our Commitment to Sustainable Production**

We produce nearly one billion alkaline batteries in Fennimore, Wisconsin each year. Over time, we have voluntarily adopted initiatives to reduce our environmental impact. Here are a few examples:

- Recycle over 90% of all production scrap
- Reduce water consumption over 50% since 2009
- Reduce electricity consumption in the manufacturing process by nearly 15% since 2009
- Reduce CO2 emission over 20% since 2009

We continue to look for innovative ways to produce reliable batteries while minimizing our environmental impact.

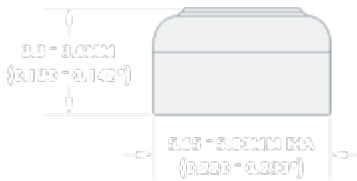
## BATTERY FACTS

### Tips To Meet Your Battery's Expected Life

- Keep track of your battery usage to determine the average time your battery should last. Since everyone's definition of a "day" is different, be sure to calculate your battery usage by hour for a more accurate estimate.
- Store Batteries at room temperature in a package or caddy.
- Do not carry batteries loose in your pocket or purse.

### Choosing The Right Battery For Your Hearing Aid

#### SIZE 10

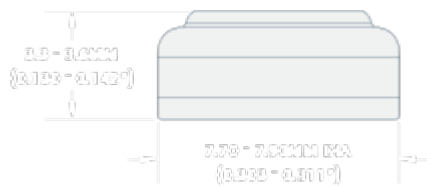


#### SIZE 13

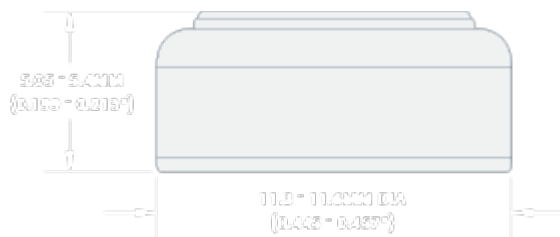


#### SIZE 312





SIZE 675



### How to Activate Your Hearing Aid Battery For Use



#### Remove The Battery Tab

Each hearing aid battery comes with a color coded tab that corresponds with the battery size. Before the battery can be placed in your hearing aid you will need to remove the tab by peeling gently.



### **Air Activation**

Remember to let your hearing aid battery sit un-tabbed for **ONE MINUTE** before placing it into your hearing aid. This step allows air to enter which is critical for use. The hearing aid battery is activated when the zinc within mixes with air from the environment.



### **Battery Placement**

After a minute has passed and your battery is properly activated, place your hearing aid battery into your hearing aid with the air holes facing up and lightly close the door.



## Enjoy Every Moment

You are now ready to enjoy your RAYOVAC® hearing aid battery featuring Clear Sound Technology! The improved cell design provides longer battery life while reducing those annoying early low battery tones\*. Giving you the reliability you deserve, the reliability of RAYOVAC®.

\*Compared to previous RAYOVAC® battery design. Based on ANSI Wireless Streaming test, Size 312

## Understanding Your Battery

There are many factors that affect how long a hearing aid battery lasts.



### Temperature

As temperature is reduced, hearing aid battery voltage is lowered, which can reduce battery life.



### Battery Size

As the physical size of the battery decreases the amount of space for the ingredients needed to power the battery also decreases. Therefore, the smaller batteries may have a shorter life.



### Degree of Hearing Loss

Increased amplification is required with hearing loss severity; this results in reduced battery life.



### **Altitude**

Increased altitude results in less oxygen in the air creating lowered voltage and reduced battery life.



### **Instrumental Differences**

Features in today's hearing aids such as wireless streaming and ear-to-ear communication-can reduce battery life 20-30% based on frequency of use



### **Noise**

The surrounding noise and volume setting of your hearing aid can both prematurely drain the battery.



### **Humidity**

Batteries can dry out or take on moisture depending on the humidity level. Both outcomes reduce battery life.



*we cannot mail to Post Office Boxes.*

## **PRODUCT DEVELOPMENT**

### **PROUDLY MADE IN THE USA\***

**with U.S. and global parts**

RAYOVAC® has been manufacturing hearing aid batteries in Portage, WI for over 50 years. Through continuous investments and improvements, RAYOVAC® is able to deliver new, innovative battery technology that features peak performance in all devices.

RAYOVAC® also focuses on environmental sustainability in manufacturing. As part of the commitment to providing environmentally-friendly products with market-leading performance, RAYOVAC® introduced the world's longest lasting mercury-free hearing aid battery in 2009. Hearing aid wearers do not have to sacrifice performance for going green when they choose RAYOVAC® batteries!

\*Excludes size 675



**YOUR BEST EXPERIENCE, START TO FINISH. GUARANTEED.\***

## TECHNOLOGY LEADERSHIP

### THE BEST GETS EVEN BETTER!

RAYOVAC®'s new Clear Sound Technology provides consistent, quality performance through the whole life of the battery. The new cell design provides more days of life for advanced device functionality and the reduction of those annoying early low battery tones\*. Users will experience the reliability they deserve, in any situation. All backed by RAYOVAC®'s long lasting guarantee!

\*Compared to previous RAYOVAC® battery design. Based on ANSI Wireless Streaming test, Size 312



## WORLD'S LEADING MANUFACTURER

### FIRST CLASS CUSTOMER CARE!

RAYOVAC® invests millions of dollars in research, development and manufacturing each year. Our dedicated team of experts around the globe is committed to advancing the power of hearing through continuous innovation in all segments of the business. RAYOVAC® is a world-class manufacturer with state of the art facilities and quality processes. Producing more hearing aid batteries than all other manufacturers combined, RAYOVAC® is uniquely capable of serving customers anywhere in the world within days of receiving an order.



### **EASY-TO-USE, PORTABLE DIAL PACKAGE**

Designed with the hearing aid wearer in mind, RAYOVAC®'s unique packaging is easy to use, secure, and portable. Our packaging features include:

1. Raised battery cell dials, make gripping and turning the dial effortless.
2. Plastic rear door that protects your batteries and securely holds them in place.
3. Longer tabs to make putting batteries in your device easy.
4. Perforated card allows you to tear off the bottom dial of batteries to make carrying spare batteries discrete and easy!



### **HEARING AID BATTERY HISTORY**

RAYOVAC®, the #1 manufacturer of hearing aid batteries, has a long and proud history of innovations, which among others, includes the introduction of zinc air cells, new hearing aid battery references, pack sizes and innovative packaging designs.

However our relationship with the hearing industry stretches back much further with our first involvement nearly 80 years ago with the first wearable vacuum tube hearing aid in 1937.

Since then we have worked tirelessly with the industry to ensure that our products are developed to meet the changing needs of the consumer.

Our first production facility was opened in the USA in 1963 with a second hearing aid battery production facility opening in the UK in 1989 to serve the European market.

In addition to consistent hearing aid battery quality, RAYOVAC® supports its exceptional products with world-class programs, promotions and collateral materials.

In the future – as in the past and present – RAYOVAC® is committed to retaining its undisputed leadership position by continuing to provide the technology enhancements, packaging and shelf-life improvements and innovative programs that make RAYOVAC® the #1 Manufacturer of Hearing Aid Batteries.

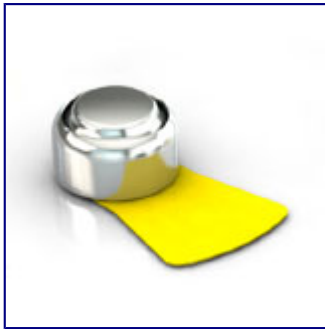
\*Based on World Wide Marketshare

### **A timeline of RAYOVAC®'s Hearing Innovation History**

- 1937 - RAYOVAC® filed a patent on March 6th 1937 with the first wearable vacuum tube hearing aid.
- 1949 - RAYOVAC® introduced the crown cell alkaline for hearing aids.
- 1964 - RAYOVAC® developed the dial pack for hearing aid batteries.
- 1977 - Zinc Air Hearing Aid Battery Cell Introduced.
- 1979 - The RAYOVAC® MicroPower Group was established.
- 1980 - The new and superior "Air 2000" premium hearing aid battery was launched.
- 1986 - 8-pack Dial Card Configuration introduced.
- 1995 - Size 5A introduced.
- 1996 - Launch of High Power.
- 1997 - 12 pack introduced.
- 1998 - 36 pack introduced.
- 1999 - Increased Capacity Over 12-18 Months.
- 2003 - High Rate and Long Life in One Design.
- 2004 - State of the art sealant.
- 2005 - World's Only 4-Year Freshness Date Code RAYOVAC® Advanced introduction.
- 2006 - Launch of RAYOVAC® ADVANCED – up to 17% More Power and 10% more mAh.
- 2006 - Launch of RAYOVAC® Cochlear.
- 2007 - Launch of RAYOVAC® Extreme Performance.
- 2009 - Launch of RAYOVAC® Mercury-Free.
- 2015 - RAYOVAC® introduced Clear Sound Technology.

## CROSS REFERENCE GUIDE

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SIZE 10

<b>BRAND</b>	<b>SIZE 10</b>
RAYOVAC	L10ZA
RAYOVAC PROLINE ADVANCED	10A
RAYOVAC COCHLEAR	
RAYOVAC EXTRA	10AP
AIRPOWER	IM10XCELL
XCELL	GPC10
AUDIBEL	A10
AVADA	B20PA
BELTONE	CV10H
CVS	DA10H DA10N
HEARING LIFE	10LUP
LISTEN UP CANADA	ME10Z
MIRACLE EAR	N10
NUEAR	P10
RENATA	10LC
SIEMENS	OI10
OCTICON	S10

STARKEY	PC10
STARKEY	SI10
STARKEY	U10
STARKEY ULTIMA	W10ZA
WALGREENS	A10

## CROSS REFERENCE GUIDE

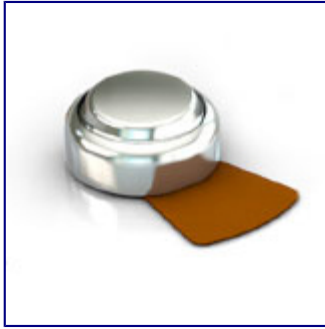
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• [SIZE 13](#)

<b>BRAND</b>	<b>SIZE 13</b>
RAYOVAC	L13ZA
RAYOVAC PROLINE ADVANCED	13A
RAYOVAC COCHLEAR	13AE
RAYOVAC EXTRA	13AP
AIRPOWER	IM13XCELL
XCELL	GPC13
AUDIBEL	A13
AVADA	B26PA
BELTONE	BZ13
BELTONE	CV13H
CVS	DA13H
	DA13N
HEARING LIFE	13LUP
LISTEN UP CANADA	ME8Z
MIRACLE EAR	N13
NUEAR	P13
RENATA	13LC
SIEMENS	OI13
OCTICON	S13
STARKEY	PC13
STARKEY	SI13
STARKEY	U13
STARKEY ULTIMA	W13ZA
WALGREENS	A13

## CROSS REFERENCE GUIDE



• [SIZE 312](#)

<b>BRAND</b>	<b>SIZE 312</b>
RAYOVAC	L312ZA
RAYOVAC PROLINE ADVANCED	312A
RAYOVAC COCHLEAR	
RAYOVAC EXTRA	312AE
AIRPOWER	312AP
XCELL	IM312XCELL
AUDIBEL	GPC312
AVADA	A312
BELTONE	B347PA
BELTONE	BZ312
CVS	CV312H
HEARING LIFE	HL312
LISTEN UP CANADA	312LUP
MIRACLE EAR	ME7Z
NUEAR	N312
RENATA	ZA312
SIEMENS	312LC
OCTICON	OI312
STARKEY	S312
STARKEY	PC312
STARKEY	SI312
STARKEY ULTIMA	U312
WALGREENS	W312ZA

## CROSS REFERENCE GUIDE



• [SIZE 675](#)

<b>BRAND</b>	<b>SIZE 675</b>
RAYOVAC	L675AE
RAYOVAC PROLINE ADVANCED	675A
RAYOVAC COCHLEAR	675CMF
RAYOVAC EXTRA	675AE
AIRPOWER	675AP
XCELL	IM675XCELL
AUDIBEL	GPC675
AVADA	A675
BELTONE	B900PA
BELTONE	BZ675
CVS	CV675H
HEARING LIFE	HL675
LISTEN UP CANADA	675LUP
MIRACLE EAR	ME9Z
NUEAR	N675
RENATA	ZA675
SIEMENS	675LC
OCTICON	675LC
STARKEY	S675
STARKEY	PC675
STARKEY	SI675
STARKEY ULTIMA	U675
WALGREENS	W675ZA



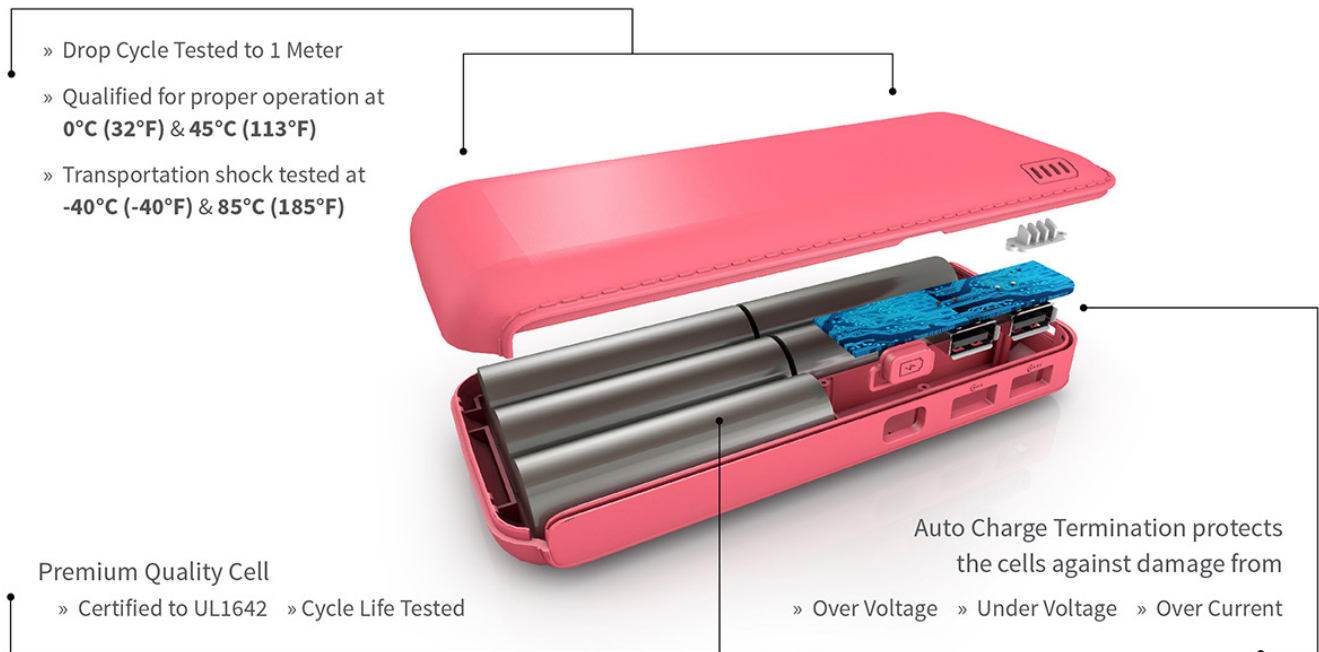
## **BATTERY EDUCATION**

### **The Importance Certification**

Our batteries are rigorously tested and sealed with industry certified standards. What does this mean for you? RAYOVAC® products are both safe and reliable.



In addition, the Auto Charge Termination technology in each portable charger protects against over voltage, under voltage, and over current, meaning you don't have to worry about damage to your devices while charging.



## FREQUENTLY ASKED QUESTIONS

- What is mAh?
  - It stands for milliampere hour. It indicates the battery's capacity. The higher the mAh, the more charging of devices you can do before you need to recharge the battery.
- What is Cycle life?
  - The number of times you can recharge the battery before it will no longer perform.
- What device will it charge?
  - Any device that can be charged by a cord that has a Standard USB end, which will plug into the portable charger.
- What is UL testing?

- Our batteries are rigorously tested and sealed with industry certified standards. What does this mean for you? RAYOVAC® products are both safe and reliable.
- How do I recharge the pack?
  - For optimal performance, recharge before use. Using the included cable, plug the Micro-USB end into your RAYOVAC® Portable Charger. Connect the opposite end into a USB power source (wall, car, or computer). Charging should start automatically. Most RAYOVAC® Portable Charger Models also have LEDs that will illuminate when charging is complete.
- When does my power pack need recharging? Do I have to wait for it to be empty?
  - The battery pack can be recharged at any time, no matter what the battery level is. The battery does not need to be empty prior to recharging.

## WARRANTY & GUARANTEE

### Portable Power Device Warranty

All Portable Charger Products have a One-Year Limited Warranty to the original purchaser from the date of the purchase, when used as directed, in accordance with the operating instructions and the system environment.



### Portable Charger Product One-Year Limited Warranty

- The One-Year Limited Warranty covers manufacturer defects. It excludes damage caused by accident, normal wear and tear, misuse, and/or modification of a Portable Charger Product.

THERE ARE NO OTHER EXPRESS WARRANTIES.

- Spectrum Brands, Inc. and Spectrum Brands Canada, Inc. (collectively "RAYOVAC®") are not liable for damages to your MP3 player, cell phone, or other devices arising from the use of this Portable Power Product. Please consult your device manual to ensure compatibility before use.
- RAYOVAC® is not liable for any and all incidental, special or consequential damages including lost profits and claims from third parties are excluded from this warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights and you may also have other rights which vary from state to state.

## Lights Education



### LUMENS

A measure of the total power of light emitted. The higher the number, the brighter the light.



### RUN TIME

The length of time the flashlight will run with the batteries provided.



### IMPACT RESISTANCE

The degree of which a device resists damage from dropping on a solid surface.



## BEAM DISTANCE

The distance the light travels. A measure of how far from the device the beam of light reaches.



## WATER RESISTANT

Water splashed against the device from any direction shall have no harmful effects.



## WATER PROOF/ SUBMERSIBLE

Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed in water under standardized conditions of pressure and time.

## FREQUENTLY ASKED QUESTIONS

- What's the difference between LED and incandescent bulbs?



- What is an LED?
  - LED stands for Light Emitting Diode. It's not a bulb, so it doesn't use a filament. It's plastic with a phosphorus coating and metal conductor that produces light
- Part of my flashlight broke. Can I just send in that part and get it replaced?
  - Unfortunately, we cannot replace just a part of your flashlight. If you'd like to participate in the warranty, the entire flashlight must be returned to us.

- I really like the flashlight that I have, but it stopped working. Can I get the exact model as a replacement?
  - Product line improvements are always being made, so we cannot guarantee that we can replace your product with the exact same model. If we don't have that exact model, we'll match it as closely as we can with the current product.

## **WARRANTY & GUARANTEE**

### **FLASHLIGHT WARRANTY**

Lifetime Warranty: We will replace or refund, at our option, selected RAYOVAC® brand flashlight as indicated on the specific retail packaging. No packaging and/or receipt required. Return defective product to Spectrum Brands, Inc. (Sorry, C.O.D.'s not accepted). Warranty excludes damage caused by battery leakage, accidents, and misuse.

## **WARRANTY INFORMATION**

### **Photo Lithium Specialty Batteries**

We will replace or repair, at our option, any device damaged by a RAYOVAC® Photo Lithium battery if the device is sent, with batteries included, prepaid to the below address. Guarantee void if battery is recharged. This warranty is not available for any other specialty products.

## **COIN CELL SAFETY**

### **Coin Cell Safety Awareness and Packaging to Help Keep Your Family Safe**

Think our packaging is impossible to open? We did that on purpose. In 2014, we voluntarily introduced child-resistant packaging, because RAYOVAC® cares about you and your family's safety. In the US, approximately 3,500 people swallow button batteries every year, 65% are children 6 years and under\*. Safety is a priority here at RAYOVAC®.

## Facts and Hazards

# 500

### Approximately 500 cases/year

There are approximately 500 cases of Lithium Coin Cells being swallowed each year. What can you do to avoid accidental ingestion? Here are some tips on prevention:



### 62.5% of Ingestions are children under 6 years of age.\*\*

Keep lithium batteries out of children's reach. Keep coin cell batteries out of sight.



# 61.8%

### 61.8% of Ingested Batteries

were removed from a device.



# 29.8%

### 29.8% of Ingested Batteries

were left sitting loose or in the trash.



# 8.2%

## 8.2% of Ingested Batteries

were removed from the battery packaging.



### **WARNING**

The direct risk is tissue damage from battery corrosion reactions.



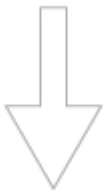
### **Act Fast**

Swallowing may lead to **SERIOUS INJURY** or **DEATH** in as little as **2 HOURS!**



### **Chemical Burns**

And severe damage to the esophagus can occur.



### **Know what devices in your home take lithium cell batteries**

and secure the battery compartments





## Weight Scales



## Digital Thermometers



## Keychain Remotes



## Watches



## Calculators



## Musical Greeting Cards



## Prevention starts at home

Keep out of reach of children, know which devices take lithium coin cell batteries and know the facts about lithium coin cell batteries!



**Precautions taken by Rayovac**



**Warnings on Packaging**



**Imprints on Lithium coin cells**



**Perforated Multi-Packs for Individual Seals**



**Tighter Blister Pack on Seals**



## Provide Safety Info on Lithium Battery Cell Safety



### FREQUENTLY ASKED QUESTIONS

- In what applications will the RAYOVAC® 9V Lithium battery last 10 years?
  - RAYOVAC®'s 9V Lithium battery will only last 10 years in ionization smoke alarms. However, RAYOVAC®'s 9V Lithium will extend the life of most high drain 9V lithium devices significantly more than a standard alkaline battery.
- The instruction manual with my smoke alarm specifies to replace only with an Ultralife lithium battery. Is the Rayovac 9V Lithium battery an acceptable replacement? If it is, how often should I replace it?
  - The RAYOVAC® 9V Lithium will work properly in any other smoke alarm requiring the Ultralife lithium battery. Under normal use conditions, the battery should power ionization smoke alarms for up to 10 years. Please note that smoke alarms should be replaced every 10 years, as they lose sensitivity over time due to age and dust.

Also note that many smoke alarms come with recommendations to replace the battery with a specific brand of 9V battery (oftentimes Alkaline or Zinc Carbon chemistries). The RAYOVAC® 9V Lithium is also an acceptable replacement battery in these devices and will power any ionization smoke alarm for up to 10 years.

- What are common 9V Battery Applications where I could use the 9V Lithium battery?
  - **Household** **Products**  
Digital scales, Garage door openers, Photographic flash units and light meters, Remote controls for RC hobbies, & Television/VCR/DVD/Stereo remote controls.
  - **Home and Personal Safety**  
Memory backup (e.g. clock radios, telephones, etc.), Smoke Alarms, Baby monitors, Emergency exit alarms, Carbon monoxide alarms, Flood alarms, Gas alarms, Home security devices, Electronic entry systems, Wireless security keypads, Door/window alarms, Glass break detectors, Motion sensors, Sound detectors, Passive infrared detectors, Pet containment systems, Panic buttons, Package tracking transmitters, Stun guns, & Personal defenders.
  - **Medical**  
Home healthcare equipment, ambulatory infusion pumps, Blood pressure monitors, Blood analyzers, Biofeedback systems, Bone growth simulators, Wireless patient monitors, Digital thermometers, External pacemakers/programmers, Galvanic stimulators, Muscle stimulators,

Heart/Holter monitors, Pediatric scales, TENS units, Pulse oximeters, & Telemetry systems.

- **Wireless**

**Communication**

Cargo container location beacons, Electronic toll collection systems, Military training targets, Laser tags, Remote infrared mice, Silo transducers, Vehicle/vessel tracking sensors, & Wireless remote controls.

- **Instrumentation**

Bar code scanners, Data recorders, Electronic parking meters, Digital gauges and scales, Force gauges, Voltmeters, Cable route tracers, Capacitance meters, Lux meters, Multimeters, Signal tracers, Metal/stud detectors, Gas flow correctors, Industrial valve actuators, Radar Detectors, Anti-static strap testers, Wireless switches, Microfilm cassettes, Radiosonde weather balloons, Utilities load controllers, Point-of-purchase merchandisers, Profilometers, Video head testers, & Noise cancellation equipment.

- **Marine/Aviation**

Marine compasses, Scuba-diving computers, Noise canceling headphones, Air samplers, Depth finders, Digital barometers, Global positioning systems, Marine smoke alarms, & Weather measurement instruments

- **Music/Audio**

Musical effects devices, Wireless microphones, Fuzz boxes, Wah-Wah pedals, Wireless preamps, Guitar pickups, Wireless transceivers, Wireless tuners, Portable music equipment, & Metronomes

- Will old 9V lithium batteries leak if left in the product instead of discarded?
  - As a general rule, batteries, including lithium, should not be left in a product once the battery is discharged. The 9 V lithium batteries from RAYOVAC® are hermetically sealed and the chance of leakage is quite small.
- What is the recommended storage temperature range for the R9VL and UP9VL 9V lithium batteries?
  - The specified storage temperature range for RAYOVAC® 9V Lithium batteries is -40° C to 60° C. However, all batteries do best when stored in a cool (not cold) dry location.
- What is an ionization smoke alarm?
  - An Ionization smoke alarm uses an ionization chamber, which is an air-filled space between two electrodes, and permits a small, constant current between the electrodes. Any smoke that enters the chamber absorbs the alpha particles, which reduces the ionization and interrupts this current setting off the alarm.
- How do I know if I have an ionization smoke alarm?
  - To determine whether you have an ionization-type or photoelectric-type smoke alarm, look at the label on the back of the alarm. If it's an ionization type there will be a statement on the label similar to the following: "This device contains 0.9 microcurie of americium." If such a statement is not on the label then you have a photoelectric alarm.
- What areas require a 10 year smoke alarm battery?
  - In the US, Oregon state law (ORS 497.297) requires a 10 year smoke alarm battery. Michigan state law (MCL 125.1504c) requires a 5 year smoke alarm battery which can be satisfied by some alkaline batteries but they recommend a Lithium 9V battery. Louisiana state law (R.S. 40:1573 and 1581) requires a 10 year sealed lithium battery smoke detector in one or two family dwellings sold or leased after January 1st, 2011. Many other towns, cities, and municipalities also require 10 year smoke alarm batteries. Please contact your local authorizes to learn more.
- How long do smoke alarms last and what are the installation, maintenance, testing and replacement requirements?

- **Installation**

The National Fire Protection Association recommends installing smoke alarms on every level of your home, including the basement, making sure that there is an alarm outside every separate sleeping area. New homes are required to have a smoke alarm in every sleeping room and all smoke alarms must be interconnected.

- **Maintenance**

Regular cleaning of smoke alarms can prevent false alarms caused by the buildup of dust or other contamination such as flies. Photoelectric (optical) type alarms are more susceptible to contamination due to possible interference with the light source and sensor. A vacuum cleaner can be used to clean both ionization and photoelectric alarms externally and internally.

- **Testing**

Test alarms at least monthly by pushing the test button.

- **Replacement**

Smoke alarms become less reliable with time, primarily due to aging of their electronic components, as well as from dust and contamination, making them susceptible to nuisance false alarms. Replace all smoke alarms, including alarms that use long-life 10 year non-replaceable batteries and hard-wired alarms, when they are 10 years old, or sooner if they do not respond properly when tested.

- What are the airline transportation guidelines I should be aware of with the 9V Lithium battery?
  - Following is advice from the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration's SafeTravel web site on flying with battery-powered devices:
    - Batteries pose little risk contained in the devices they power. Taking the battery out of the device does not enhance safety. To be safest, carry the device with you, not in your checked baggage. Do not remove the battery!
    - Carry your battery-powered devices or spare batteries in your carry-on baggage. In the passenger compartment, flight crews can better monitor safety conditions to prevent an incident, and can access fire extinguishers, if an incident does happen.
    - Finally, if you must carry a battery-powered device in your checked baggage, package it to prevent inadvertent activation. Cordless power tools, for instance, should be packed in a protective case, with a trigger lock engaged.

Many travelers like the convenience of readily available spare batteries. It's safe to travel with spare batteries, as long as you follow these simple spare battery tips:

- Pack spare batteries in carry-on baggage. In the passenger compartment, flight crews can better monitor safety conditions to prevent an incident, and can access fire extinguishers, if an incident does happen.
- Keep spare batteries in the original retail packaging, to prevent unintentional activation or short-circuiting.
- For loose batteries, place tape across the battery's contacts to isolate terminals. Isolating terminals prevents short-circuiting.
- If original packaging is not available, effectively insulate battery terminals by isolating spare batteries from contact with other batteries and metal. Place each battery in its own protective case, plastic bag, or package. Do not permit a loose battery to come in contact with metal objects, such as coins, keys, or jewelry.
- Use only chargers designed for your type of batteries. If unsure about compatibility, contact the product manufacturer.
- Take steps to prevent crushing, puncturing, or putting a high degree of pressure on the battery, as this can cause an internal short-circuit, resulting in overheating.

- Does RAYOVAC®'s 9V battery provide a safety feature which will prevent a short circuit from resulting in thermal runaway within a cell, and/or venting?
  - RAYOVAC®'s 9-volt battery is designed for safe operation under a wide range of usage and environmental conditions. A key design feature is the use of Safety Shutdown Separator.
 

RAYOVAC®'s 9-volt battery is constructed using a safety shutdown separator, which upon either an internal or external short circuit, or current overload condition, will prevent thermal runaway within the cell. The cell electrodes, consisting of a lithium anode and manganese dioxide cathode, are separated by a safety shutdown separator, which is a microporous tri-layer membrane with a single layer of polyethylene membrane between two layers of polypropylene membrane. When a cell is overloaded or short circuited, the polyethylene membrane layer melts upon reaching a temperature of 134° C, significantly reducing ion flow (i.e., current). The reduction in current permits the cell to accept a short circuit or overload condition and shutdown without venting. The safety shutdown is a non-reversible process; once the cell has shutdown it is no longer usable.
- I need to purchase at least a dozen 1.5 and 3 volt batteries for a home security system. The system manufacturer suggests we purchase the replacement batteries from him, at about \$8.50 ea., because of the long life afforded. I have decided to purchase the batteries at a local store. My question is, how much better, in terms of life expectancy, is the best battery offered compared to a lithium battery?
  - Lithium batteries will last longer than any other battery types, including alkaline and zinc carbon (lowest cost) batteries, in most high drain devices. For example, RAYOVAC®'s 9-volt lithium battery will last for 10 years in an ionization-type smoke alarm (the most common type), compared to about 3 to 5 years for an alkaline battery and just 1 year for a zinc carbon battery. In a photoelectric smoke alarm the lithium battery will last anywhere from 3 to 7 years vs. about a year for alkaline. Depending on the specific device, the same approximate ratio holds true for other security devices such as door/window transmitters, infrared motion detectors and glass break detectors. It is generally a good idea to follow the manufacturer's battery recommendations.
- Can lithium batteries be used in an intrinsically safe circuit? Would a current limiting device be needed?
  - Lithium batteries can be used in intrinsically safe circuits in some cases. A current limiting device may or may not be necessary depending on the device. The battery itself is usually not rated as being intrinsically safe but is tested as part of the entire device. One example where a RAYOVAC® 9-volt lithium battery is being used in an intrinsically safe device is a Personal Alert Safety System (PASS) carried by firefighters, sometimes called a "fireman down alarm."
- What can I expect for a self-discharge rate of your lithium-manganese dioxide batteries? Is the self-discharge mechanism in play when the battery is in use?
  - Lithium-manganese dioxide batteries do not exhibit an actual self-discharge mechanism due to the physical separation of the lithium anode and manganese-dioxide cathode. What does occur, however, is a very gradual degradation of the chemistry over time, which can be equated to self-discharge from a capacity loss perspective. In that regard, you can expect a capacity loss of approximately 1.5% per year for our batteries. This loss occurs both in storage and in use.

## FIRE SAFETY

### SMOKE DETECTOR 101

Protect yourself, your family, your pets and your home.

---

Test your smoke detector monthly.  
Replace your battery at least once per year.

---

**85%**

of Americans say they test their smoke detector, but **ONLY** **15%** do so six or more times per year.

**29%**

of respondents say they never test their smoke detectors.

---

### Seven Out of Ten

Americans say they change the battery immediately when the detector alerts to low battery.

---

**14%**

of Americans remove the battery/take the detector off the wall to quiet it and replace batteries later.

**1/2**

of home fire deaths happen between 11 p.m. and 7 a.m., when most people are asleep.

### HOW TO STAY SAFE

#### Use 9V Lithium Batteries

An increasing number of states and municipalities require 10 year lithium batteries - check with your

local authorities.

**Never use rechargeable batteries in your smoke detector.**

**Install smoke alarms:**

1. In every bedroom
2. Outside each separate sleeping area
3. On every level of the house, including the basement

SOURCE: U.S. FIRE ADMINISTRATION  
THIS SURVEY WAS CONDUCTED ONLINE WITHIN THE UNITED STATES BY HARRIS POLL ON BEHALF OF RAYOVAC® FROM MARCH 1-3, 2016 AMONG 2,096 ADULTS AGES 18 AND OLDER. THIS SURVEY IS NOT BASED ON PROBABILITY SAMPLE AND THEREFORE NO ESTIMATE OF THEORETICAL SAMPLING ERROR CAN BE CALCULATED.

**RAYOVAC® 9-Volt Lithium helps provide peace of mind and security for your family**

RAYOVAC® is committed to helping you keep your family safe! Take a moment to read this page and learn the batteries to use in your smoke detectors.

**What kind of RAYOVAC® battery should I be using in my smoke detector?**



**Best: RAYOVAC® 9V Lithium**

- This battery is the most powerful RAYOVAC® battery, so it will give you a long service life in your smoke detector. If you have a free-standing smoke detector, either ionization or photoelectric, you should use this battery, as these detectors depend solely on you replacing the battery to work properly. This battery will last up to 10 years in ionization smoke detectors and up to 7 years in photoelectric smoke detectors (both free-standing versions).
- People with hardwired smoke detectors should consider this battery to save time in replacing smoke alarm batteries. Many people use this battery for those hard-to-reach smoke detectors.
- We recommend you continue to test your smoke detector twice a year at minimum, to prevent the rare case of smoke detector or early battery failure. A great reminder is to test the smoke detector every time you change your clock for Daylight Savings Time.





**BETTER: RAYOVAC® 9V ALKALINE**

- This battery will last up to 5 years in an ionization smoke detector and up to 3 years in a photo electric alarm (both free standing versions).
- We recommend you continue to test your smoke detector at a minimum of twice a year in the rare case of either a smoke detector or early battery failure. A great reminder is to test them every time you change your clock for daylight savings.



**GOOD: RAYOVAC® 9V HEAVY DUTY**

- This is the standard battery that comes with many inexpensive smoke detectors. This is the least expensive option, and it also has the shortest service life, only lasting up to 2 years in an ionization smoke detector and only up to 1 year in a photoelectric smoke detector (both free-standing versions).
- This battery is ideal for families or businesses who change their smoke detector batteries once or twice a year.
- We recommend you test your smoke detector monthly to prevent rare cases of smoke detector or early battery failure.

Remember, never use a rechargeable battery in a smoke detector, as brands vary greatly in how quickly

they lose their charge (some lose it in just one month) and are not designed for usage in smoke detectors.

Also, remember when purchasing brands other than RAYOVAC® that performance may be lower than stated about the RAYOVAC® products above.

## **SPECIALTY BATTERY CARE**

### **Tips and tricks to keep your devices going**

Frankly, we find the myths surrounding batteries to be overwhelming! We've distilled all of that noise into the essential tips you need to ensure your RAYOVAC® batteries are properly performing.

#### **Tips and tricks:**



#### **Keep batteries out of reach of children**

Know which devices contain specialty batteries, and don't change batteries in front of children.



#### **Promptly remove non-functioning or weak batteries from devices**

By removing dead or weak batteries promptly, you will help protect your devices!



#### **Never mix old & new batteries in devices**

Mixing batteries can cause them to explode, damage your device or cause a fire.



**Do not leave battery powered devices switched “on” after the batteries are exhausted**

This can cause erosion in your device.



**Store batteries in a cool and dry place**

Extreme heat or even cold can shorten the longevity of the battery. Never Refrigerate.



**Remove batteries from any device that will be stored**

Many devices don't turn off completely when not in use, so they still use a small amount of power. If a device is stored this way for an extended period of time, like months or years, the batteries can run out and corrode. Not what you want when you dig that old toy out of the closet!



**Do not carry batteries loose in purses or pockets**

Doing so can cause burns, or cause the batteries to explode.

**PROPER BATTERY DISPOSAL**

**Taking Batteries Seriously**

RAYOVAC<sup>®</sup> participates in the state-approved Call2Recycle<sup>®</sup> program - the leading end-of-life battery recycling initiative in North America. RAYOVAC<sup>®</sup> helps support Call2Recycle's nearly 30,000 drop-off collection sites across the U.S. and Canada. Single-use batteries are only accepted by select locations.

## CROSS REFERENCE GUIDE

### Watch

#### 303/357

##### REPLACES

303/357 , 303, D303, SR44SW, SR44W, SR44P, SR44, SP303, V303, 303-1, SB-A9, 280-08, A, SR1154SW, 357, D357, SP347, V357, SB-B9, J, SR1154PW, AG13, 1107SO, 1066A, S05, S15, SR07, BLR44, 228, 280-904, G13-A, 10L14, 10SL17, D76, MS76, MS76H, BS07, BSR44H, A76, 541, EPX76, S76E, GP57, GP76, GPA76, G13F, G13R, GS13, S76, 2013, 313, LR44, MGA-2200, 357A, SP76, LX S-76, 23-009, RS76, RS76-2, RW22, RW42, RW82, R357, SB-F9, 76-S, KA, T535B, V13GA, V76HS, V76PX, L1154, L1154F

#### 317

##### REPLACES

BULOVA 616, CITIZEN 280-58, DURACELL D317, IEC SR62, MAXELL SR516SW, PANASONIC SP317, SEIKO SB-AR, SONY SR516SW, TIMEX CA, TOSHIBA SR516SW, VARTA V317, DURACELL D317, GOLDPEAK 317, RAYOVAC 317, RENATA 317, CA, S52

#### 364/363

##### REPLACES

1175SO, 164, 280-34, 362, 364, 364BP, 531, 602, AG1, D 364, D364, GP364, L621, LR60, LR620, LR621, R 364/31, RW 320, S621S, SB-AG/DG, SG1, SP364, SR 60, SR 621 SW, SR60, SR60L, SR621, SR621SW, T, V364

#### 371/370

##### REPLACES

1188SO, SR69, SP370, 1171SO, SP371, SR920SW, SR920W, V371, V370, G64, LR920, AG6, 605, GP71, RW315, 30, SB-AN, D1T, D371, 537,SR69, GS6, SG6, S18, 280-31, 280-51, 620, Z

#### 373

##### REPLACES

S40, 617, 280-45, D373, SR916SW/SR916W, SP373, 41, SR916SW, TR916SW, SR1916W, TR916W, V373, HA, BULOVA 617, CITIZEN 280-45, DURACELL D373, IEC SR68, MAXELL SR916SW, PANASONIC SP373, SEIKO SB-AJ, SONY SR916SW, TIMEX WA, TOSHIBA SR916SW, VARTA V373

#### 376/377

##### REPLACES

376/377, 376, SP376, 377, D377, SR626SW, SP277, V377, SB-AW, 280-29, SR721SW, AG11, 1176SO, 117, 280-39, 280-72, 376, 377, 377A, 377BP, 43, 565, 606, 619, 626A, AG4, BA, CX626, CX66W, D377, G4, G4A, G4A177, GP376, GP377, L626, LR626, LR66, MA, R 377/37, RW 329, S32, S626S, SG4, SP377, SP379, SR66, SR626 , SR626SW/W, SR626W, TR626W, V376

#### 386/301

##### REPLACES

LR43, 386, D386, 386, 386(6), V386(548), V301, 301, 226, SB-B8, 280-41, H, D, SR1142PW (SR43), SR43W, 260, 280-01, L1142

#### 390/389

**REPLACES**

AG10, D189, D389, D390, G10, G10A,1159SO, 1168A, 189, 189-1, 280-15, 280-24, 389, 389A, 389BP, 390, 390A, 534, 554, 603, 615, 626, GP189, GP389, GP390, KA54, L1131, LR1130, LR54, R 389/17, R 390/11, RW 39, RW 49, RW49, RW89, S1131S, SG10, SP390, SR1130, SR1130SW, SR1130W, SR54, V389, V390, WL10

**392/384**

**REPLACES**

AG3, SR415W, SR41SW, 10 L 125/D 384, 10 L 125/D 392, 1134SO, 192, 384, 392, 392A, 392BP, 547, 736, 92A, D384, D384/392, D392, G3A, L736, LR41, LR736, R 384/10, R 392/2, S736S, SB-B1, SP384, SR41, SR736, SR736SW, SR736W, TR41SW, V36A, V384, V392, DURACELL 392, GP192, GP392

**393**

**REPLACES**

AG5, 309, F, WS6, SP393, SR48, SR54, SR754W, SR754SW, SR754S, V393, 255, SB-B3, S15, 255, D393, 16/15, SR48W, S320/GP93, 93, 193/G5/SG5, 09/393, 526/546, DR754W

**394**

**REPLACES**

94, S26, 280-17, D394, SR936SW, SR936W, RENATA 27, SEIKO SR936SW, SEIKO SR936W, SR936SW, V394, GP94

**A76**

**REPLACES**

SR44, 1107SO, 1066A, AG13, S05, S15, BLR44, S15, 228, AG13, 280-08, 280-904, G13-A, 10L14, 10SL17, D357, D76, MS76, MS76H, BS07, BSR44H, A76, 541, EPX76, S76E, GP57, GP76, GPA76, G13F, G13R, GS13, KS76, 2013, 313, LR44, SR44P, SR07, MGA-2200, 357A, SP76, SR44, LX S-76, A76, 23-009, RS76, RS76-2, RW22, RW42, RW82, 228, R357, SB-F9, 76-S, KA, T535B, SR44W, SR44SW, V13GA, V76HS, V76PX, L1154, A01, PX76A, LR44, 357, A200/GP76A, KA76, KA, LR1154, L1154F

**Coin Cell**

**1025**

**REPLACES**

DL1025, BR1025, KL1025, L1025, ECR1025, KCR1025, E-CR1025, KECR1025, 5033LC

**1220**

**REPLACES**

DL1220, ECR1220, BR1220, 280-208, DL1220B, BR1220-1W, CR1220-1W, KCR1220, LM1220, 5012LC, SB-T13, L04, PA, CR1220

**1225**

**REPLACES**

CR 1225, CR1225, DL1225, EBR1225, BR1225, V1225, AWI L09 BR1225/BE, CR1225, HIMA TN 440000020, 1754 L28BBB, GUARDPLC 1200, 1745 BAT, 1754 BAT

**KECR1616**

**REPLACES**

KECR1616, ECR1616, CR1616, 280-209, DL1616, BR1616, 280-209, DL1616B, CR1616-1W, LM1616, KCR1616, 5021LC, L11, L28, DL 1616

**KECR1620**

**REPLACES**

KECR1620, ECR1620, DL1620, CR1620, BR1620, 280-208, DL1620B, BR1620-1W, CR1620-1W, KCR1620, LM1620, 5009LC, L08

**KECR1632**

**REPLACES**

KECR1632, ECR1632, DL1632, CR1632, BR1632, LK1632, L1632, KCR1632, KL1632

**KECR2016**

**REPLACES**

KECR2016, ECR2016, DL2016, CR2016, SB-T11, FA, 280-205, BR2016, 280-202/4/6, 5000LC

**KECR2025**

**REPLACES**

KECR2025, ECR2025, DL2025, CR2025, SB-T14, 280-205, BR2025, 280-205, 5003LC

**KECR2032**

**REPLACES**

KECR2032, ECR2032, DL2032, CR2032, SB-T51, BR2032, CR2332, BR2332, 2032, EA2032C, L14, L2032, LF1/2V

**KECR2450**

**REPLACES**

KECR2450, CR2450-1, CR2450N, DL2450, ECR2450, 5029LC

**Professional**

**1/2 AA**

**REPLACES**

XL-050F, TL-2150, TL-4902, TL-5101, TL-5112, TL-5151, TL-5902, LS-3, LS-14250, LS14250, SL-350, SL-750, ER3V, ER4V, ER3, ER3S, 1770-XZ, 3B26, 418-0076, 60-0576-100, 6135-99-770-2535, 6ES5-980-0MA11, 742-0011, 922-1262, ER4, T04/41, T04/51, TL-5112, TL-5151S, TL-2151, VL1/2AA

**1/3 N**

**REPLACES**

2L76, K58L, 7K67, 1/3, 1/3N, DL1/3N, CR1/3N, CR1-3N, RAYOVAC 867, CR11108, 5018LC

**544**

**REPLACES**

476A, 4AG13, 4G13, 4LR44, 544, L544, A544, 544A, K28, KS28, L1325, PX28, PX28A, PX28L, V28PX, V4034PX, 28, 28A, 28L, 2CR1/3N, 4LR44P, 4LR44, 1414A, 1406LC, 4LR44, 2CR11108

**J**

**REPLACES**

J/539, J539, 539, 1412AP, 7K67, 7K 67, 867, KJ, 4LR61, 4018, EN539

**KE23A**

**REPLACES**

KE23A, A23, 23A, 23GA, E23A, GP-23A, GP23A, K23A, L1028, LR23A, LRV08, MN21, MS21, V23, V23GA, VR22, 1811A, VA23GA

**KE825**

**REPLACES**

MN21, MN2500, MX2500, LR61, K4A, 25A, LR8D425, GP25A, 4061, X91, QUAD A, QUADRUPLE A, AAAA

**KE810**

**REPLACES**

KE810, 910A, LR1, MN9100, 810, AM5, KN, LR1SG, LR1G, 4001, N 30

**RL2CR5**

**REPLACES**

RL2CR5, DL245, EL2CR5, KL2CR5, 2CR5, 2CR5M

**RL123A**

**REPLACES**

RL123A, DL123A, EL123AP, K123LA, CR123A, CR123 , 123A, 3V 123, EL123A , EL123APBP, K113A, CR17345, VL123A, SF123

**RL223**

**REPLACES**

RL223, DL223A, EL223AP, K223LA, CR17-33, 223A

**RLCR2**

**REPLACES**

RLCR2, DL2CR2, ELCR2P, KCR2, CR2, CLCR2, ERCR2

**RLCRV3**

**REPLACES**

RLCRV3, DL2CRV3, ELCRV3, KCRV3, LB-01E, GES-LCCRV3, CRV3, CR-V3A/1B

**Lithium**

**R9VL**

**REPLACES**

**DAMAGED DEVICE GUARANTEE**

As long as the batteries have not expired, we will replace, repair or refund, at our option, any device damaged by our Rayovac Batteries if sent with the batteries to:

RAYOVAC®  
507  
DeForest, WI 53532

Consumer  
Stokely

Services  
Drive

If you have a receipt of purchase for this item, we ask that you send this as well. In the event that the

item cannot be repaired, this will help us establish the value of the item. If not, we will do market research to determine the current value of your device. Please separate the battery from the device and place in a plastic bag for shipping purposes (if possible). The shipping of alkaline batteries is permitted by both the US postal service as well as private carriers such as FEDEX or UPS. We ask, as do the carriers, that any leaking batteries be contained in a plastic bag or bags in order to prevent the fluid from seeping through the packaging.

If the repair or replacement is covered under warranty, you will receive no additional correspondence. Your repaired unit, refund, or a comparable replacement of equal value and function will be shipped to you within 2-3 weeks. Additional delay may be unavoidable on occasion if a replacement item is temporarily out of stock.

## **RECHARGEABLE BATTERY CARE**

### **Tips and tricks to keep your devices going**

RAYOVAC® NiMH Rechargeable batteries are reusable and renewable, making them a smart choice for the environmentally conscious consumer since they can be reused hundreds of times.

If there is no recycling collection site near you, NiMH rechargeable batteries can be disposed with household trash. Don't dispose of batteries by incineration, due to the risk of explosion.

### **Tips and Tricks**



### **Keep batteries out of reach of children**

Know which devices contain specialty batteries, and don't change batteries in front of children.



### **Promptly remove dead or weak batteries from devices**

By removing dead or weak batteries promptly, you will help protect your devices!





### **Never Mix Old & New batteries in devices**

Mixing batteries can cause them to explode, damage your device or cause a fire.



### **Do not leave battery powered devices switched "on" after the batteries are exhausted**

This can cause erosion in your device.



### **Store batteries in a cool and dry place**

Extreme heat or even cold can shorten the longevity of the battery. Never Refrigerate.



### **Remove batteries from any device that will be stored**



### **Do not carry batteries loose in purses or pockets**

Doing so can cause burns, or cause batteries to explode.

## **PROPER BATTERY DISPOSAL**

RAYOVAC® NiMH Rechargeable batteries are reusable and renewable, making them a smart choice for the environmentally conscious consumer. Since they can be reused hundreds of times, they produce far less waste.



If there is no recycling collection site near you, NiMH rechargeable batteries can be disposed with household trash. Don't dispose of batteries by incineration due to the risk of explosion.

## **PERFORMANCE GUARANTEE**

### **Batteries That Do What They Say They'll Do, Plain and Simple**

Rechargeables you can depend on. Not completely satisfied in the performance of our rechargeable batteries? You'll get your money back.



RAYOVAC  
P.O.  
Middleton, WI 53562-0992

Rechargeables

Money  
Box

Back

Guarantee  
620992

Include a 3" x 5" card with your name, address, the reason for returning, and your signature.\*

## FREQUENTLY ASKED QUESTIONS

- What is mAh?
  - mAh stands for milliampere hour and indicates the battery's capacity. The higher the mAh, the more charging of devices you can do before you need to recharge the battery.
- What is Cycle Life?
  - Cycle Life is the number of times you can recharge the battery before it will no longer perform.
- Are RAYOVAC® NiMH batteries available in all sizes?
  - RAYOVAC® Recharge Batteries are available in AA & AAA sizes. RAYOVAC® Recharge Plus Batteries are available in AA, AAA, C, D, & 9V sizes. All five sizes can be charged with the RAYOVAC® Universal Charger. RAYOVAC® Value Charger and Smart Charger will charge both AA and AAA rechargeable cells.
- Why shouldn't you mix old batteries with new ones?
  - The performance of a battery-operated product is limited by the weakest of all the batteries in the device. One old or weak battery can cause poor product performance, even if all the others are new or fully charged.
- Can RAYOVAC® Rechargeable batteries be used in any device that takes alkaline batteries?
  - Yes, you can use the comparable NiMH battery size in any device that uses alkaline batteries. For example, if you typically use AA alkaline batteries, you can also use AA NiMH.
- How many times can RAYOVAC® Rechargeable NiMH batteries be recharged?

- They can be recharged hundreds of times! That's why using RAYOVAC® Rechargeable batteries may result in significant cost savings over alkaline batteries.
- Do RAYOVAC® Recharge and Recharge Plus need to be charged right out of the package before using?
  - No. New Recharge and Recharge Plus batteries are charged and ready to use, right out of the package!
- My batteries get warm during charging. Is this okay
  - Yes. The batteries will get warm during charging but will cool quickly after recharging. This is a normal occurrence and no cause for concern.
- Do RAYOVAC® Rechargeable batteries need to be charged in a special charger?
  - No, RAYOVAC® Rechargeable batteries will charge in any charger that can charge NiMH batteries, even a charger that you already own.
- Do RAYOVAC® Rechargeable Batteries need to be charged in a RAYOVAC® brand charger?
  - No, all RAYOVAC® Rechargeable Batteries can be charged in any charger. However, we recommend using RAYOVAC® chargers.
- Do RAYOVAC® batteries have to be fully drained before recharging because they have "memory"
  - No. There are absolutely no memory problems with RAYOVAC® Rechargeable batteries. They can be recharged after a few hours of use or when convenient, with no effect on performance or battery life.

#### **DAMAGED DEVICE GUARANTEE**

As long as the batteries have not expired, we will replace, repair or refund, at our option, any device damaged by our Rayovac Batteries if sent with the batteries to:

If you have a receipt of purchase for this item, we ask that you send this as well. In the event that the item cannot be repaired, this will help us establish the value of the item. If not, we will do market research to determine the current value of your device. Please separate the battery from the device and place in a plastic bag for shipping purposes (if possible). The shipping of alkaline batteries is permitted by both the US postal service as well as private carriers such as FEDEX or UPS. We ask, as do the carriers, that any leaking batteries be contained in a plastic bag or bags in order to prevent the fluid from seeping through the packaging.

If the repair or replacement is covered under warranty, you will receive no additional correspondence. Your repaired unit, refund, or a comparable replacement of equal value and function will be shipped to you within 2-3 weeks. Additional delay may be unavoidable on occasion if a replacement item is temporarily out of stock.