RELi3ON®

R4000 DRY SERIES
SAFETY DATA SHEET (SDS)

R4Pb000
DRY SERIES

RELi3ON®

R4Pb000
DRY SERIES

SECTION 1 - COMPANY AND PRODUCT IDENTIFICATION

Product Name: Valve Regulated, Lead-Acid Battery (VRLA)
Product Use: Electric Storage Battery
CAS #: See section 3
Product use: UPS, EPS, Banks& Financial Markets, Hospitals, Testing Laboratories, & Golf Car
Distributed by: RELiON Battery, LLC
Address: 4868 Harrisburg Rd, Fort Mill, SC 29707 USA
Phone Number: 803-547-3522
Fax Number: 803-547-3526
Email: powerpros@relionbattery.com
Emergency Number: 803-547-3522
Revision Date: December 19, 2017

SECTION 2 – HAZARDS IDENTIFICATION

GHS classification
Physical hazards: Not classified
Health hazards: Not classified
Environmental: hazards Not classified
GHS label elements
Hazard Pictograms: No hazard pictogram is used.
Signal word: No signal word is used.
Hazard statement: Not applicable.
Precautionary statement
Prevention: Not applicable.
Response: Not applicable.
Storage: Not applicable.
Disposal: Not applicable.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No.	Percent
Inorganic Lead/Lead Compounds	7439-92-1	65%-75%
Tin	7440-31-5	<0.5%
Calcium	7440-70-2	<0.1%
Dilute Sulfuric Acid	7664-93-9	~20%
Fiberglass Separator	-	~ 5%
Case Material:ABS / PP	9003-56-9 / 9003-07-0	~ 5%

SECTION 4 – FIRST AID MEASURES

First aid procedures
Eye Contact: Rinse immediately with plenty of water for at least 15 mins. Contact a doctor if symptoms persist.
Skin Contact: If there is any unwell reaction, wash thoroughly with soap & water, flush with plenty of water. If irritation persists, seek medical advice.
Inhalation: If the battery is damaged or exposed, contact the internal components. Lead: Rapidly from the scene, rinse mouth, flush nose and lips. Get medical attention.
Ingestion: Rinse mouth out with water. Seek medical advice immediately.
Notes to Physician: Treat symptoms.

SECTION 5 – FIRE FIGHTING MEASURES

Flammable properties: Not available.
Extinguishing media
Suitable extinguishing media: Lead-acid batteries do not burn or are difficult to burn. Use dry powder, carbon dioxide, foam and water mist.
Unsuitable extinguishing media: Do not use water, full water jets on electrically powered circuits.
Firefighting equipment/instructions: Firefighters must wear fire resistant protective equipment and appropriate breathing apparatus. The staff must equip with filter mask (full mask) or isolated breathing apparatus. The staff must wear the clothes which can defense the fire and the toxic gas. Put out the fire in the upwind direction. Remove the container to the open space as soon as possible. Spray water on the containers in the fireplace to keep them cool until finish extinguishment.
Hazardous combustion products: Oxides of carbon. Metal oxides. Irritating fumes.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions: If the battery is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. The preferred response is to leave the area and allow the vapors to dissipate. Avoid skin and eyes contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerated. If leakage of the battery happens, liquid could be absorbed wit sand, earth or other inert substance and contaminated area should be ventilated meantime.
Environmental precautions: Do not allow product to reach sewage system or any water source. Inform respective authorities in case of seepage into water course or sewage system. Do not allow to enter sewers/ surface or ground water.
Methods for cleaning up: If battery casing is dismantled, small amounts of electrolyte may leak. Collect all released material in a plastic lined container. Dispose off according to the local law and rules. Avoid leached substances to get into the earth, canalization or waters.

SECTION 7 – HANDLING AND STORAGE

Handling: Always follow the warning information on the batteries and in the manuals of devices. Only use the recommended battery types. Keep batteries away from children. For devices to be used by children, the battery casing should be protected against unauthorized access. Unpacked batteries shall not lie about in bulk. In case of battery change always replace all batteries by new ones of identical type and brand. Do not swallow batteries. Do not throw batteries into water. Do not throw batteries into fire. Avoid deep discharge. Do not short-circuit batteries Use recommended charging time and current.
Storage: The battery is stored in a cool, dry and well-ventilated area. Batteries should be kept indoors to prevent inclement weather. In each layer of the battery cardboard to prevent damage and short circuit.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

COMPONENTS	TYPE	VALUE
Lead (CAS 7439-92-1)	TWA	0.05 mg/m^3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

COMPONENTS	TYPE	VALUE
Tin (CAS 7440-31-5)	PEL	2 mg/m^3
Sulphuric Acid (CAS7664-93-9)	PEL	1 mg/m^3

US. ACGIH Threshold Limit Values

COMPONENTS	TYPE	VALUE	FORM
Lead (CAS 7439-92-1)	TWA	0.05 mg/m^3	
Tin (CAS 7440-31-5)	TWA	2 mg/m^3	
Sulphuric Acid (CAS7664-93-9)	TWA	0.02 mg/m^3	Thoracic fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

COMPONENTS	TYPE	VALUE
Lead (CAS 7439-92-1)	TWA	0.05 mg/m^3
Tin (CAS 7440-31-5)	TWA	2 mg/m^3
Sulphuric Acid (CAS7664-93-9)	TWA	1 mg/m^3

Biological limit values

ACGIH Biological Exposure Indices

COMPONENTS	VALUE	DETERMINANT	SPECIMEN	SAMPLING TIME
Lead (CAS 7439-92-1)	300 ug/l	Lead	Blood	*

** - For sampling details, please see the source document.*

Appropriate engineering controls: Use in a well-ventilated area.
Eye / face protection: Use approved chemical work safety goggles or f ace shield, if handling a leaking or rupture battery.

Skin protection: When pouring electrolyte into the battery, wear hand-guarded rubber or plastic acid-resistant gloves up to the elbow.
Respiratory protection: None required under normal conditions. Use approved chemical work safety goggles or face shield, if handling a leaking or rupture battery.
General hygiene considerations: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Physical state: Solid
Form: Not available
Color: Not available
Odor: Not available
Odor threshold: Not available
PH: Not available
Vapor pressure: Not available
Melting point/Freezing point: 326 °C(CAS#7439-92-1)
Initial boiling point and boiling range: > 600 °C(CAS#7439-92-1)
Flash point: Not available
Evaporation rate: Not available
Flammability (solid, gas): Not available
Explosion Limits: Not available
Vapor density: Not available
Relative Density: 11.45(CAS#7439-92-1)
Solubility(water): 185 mg/L(CAS#7439-92-1)
Partition Coefficient: Not available
Auto-iginition Temperature: Not available
Decomposition Temperature: Not available
Specific gravity: Not available
Flammability limits in air, upper, %by volume: Not available
Flammability limits in air, lower, % by volume: Not available
VOC: Not available
Percent volatile: Not available
Other data
Viscosity: Not available
Upper/lower explosive limits: Not available
Surface tension: Not available

SECTION 10 – STABILITY AND REACTIVITY

Chemical stability: Material is stable under normal conditions.
Conditions to avoid: Incompatible materials. Avoid long-term overcharge. Avoid a variety of ignition sources.
Incompatible materials: Exposure to combustible materials and organic materials can cause fire and explosion. Strong reactivity with strong reducing agents, metals, sulfur trioxide gas, strong oxidizing agents and water. With the metal may produce toxic sulfur dioxide smoke and the release of flammable hydrogen.
Hazardous decomposition products: Oxides of carbon. Metal oxides. Irritating fumes.
Possibility of hazardous reactions: No dangerous reactions known.

SECTION 11 – TOXICOLOGICAL INFORMATION

Toxicokinetics, metabolism and distribution:
Non-human toxicological data: Not available
Information on toxicological effects:
Acute toxicity: Inorganic Lead/Lead Compounds (CAS#7439-92-1)
Conditions to avoid: Incompatible materials. Avoid long-term overcharge. Avoid a variety of ignition sources.
LD50(Oral, Rat): > 2000 mg/kg bw
LD50(Dermal, Rat): > 2000 mg/kg bw
LC50(Inhalation, Rat): > 5.05 mg/L 4h
Skin corrosion/Irritation: Not classified.
Serious eye damage/irritation: Not classified
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT- single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified

SECTION 12 – ECOLOGICAL INFORMATION

ACUTE TOXICITY		TIME	SPECIES	METHOD	EVALUATION	REMARKS
LC50	70 ug/L	96h	Fish	OECD 203	N/A	N/A
EC50	N/A	48h	Daphnia	OECD 202	N/A	N/A
EC50	N/A	72h	Algae	OECD 201	N/A	N/A

Persistence and degradability: Not available.
Bioaccumulative potential: Not available.
Mobility in soil: Not available.
Results of PBT&vPvB assessment: Not available.
Other adverse effects:
No known significant effects or critical hazards.

SECTION 13 – DISPOSAL CONSIDERATIONS

Disposal instructions: Dispose of contents/container in accordance with local/regional/national/international regulations.
Contaminated packaging: Lead-acid batteries can be fully recycled. Return the battery to the distributor, manufacturer, or lead factory for recycling.

SECTION 14 – TRANSPORT INFORMATION

DOT
Basic shipping requirements:
UN number: 2800
Proper shipping name: BATTERIES, WET, NON-SPILLABLE
Hazard class: 8
Packing group: -
Environmental hazards: No
IATA
According to special provision A67, the substance is not subject to IATA DGR.
UN number: Not regulated
UN proper shipping name: Not regulated
Transport hazard class(es): Not regulated
Packing group: Not regulated
Environmental hazards: No

IMDG
According to special provision 238, the substance is not subject to IMO IMDG code.
UN number: Not regulated
UN proper shipping name: Not regulated
Transport hazard class(es): Not regulated
Packing group: Not regulated
Environmental hazards: No

SECTION 15 – REGULATORY INFORMATION

US federal regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Lead (CAS 7439-92-1): Listed.
Sulphuric Acid (CAS 7664-93-9): Listed.

SARA 304 Emergency release notification
Sulphuric Acid (CAS 7664-93-9): 1000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Lead (CAS 7439-92-1):
Reproductive toxicity
Central nervous system
Kidney
Blood
Acute toxicity

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories:
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

CHEMICAL NAME	CAS NUMBER	REPORTABLE QUANTITY (POUNDS)	THRESHOLD PLANNING QUANTITY (POUNDS)
Sulphuric Acid	7664-93-9	1000	1000

SARA 311/312 Hazardous chemical: No

SARA 313 (TRI reporting)

CHEMICAL NAME	CAS NUMBER	% BY WT.
Lead	7439-92-1	65%-75%
Sulphuric Acid	7664-93-9	~20%

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Lead (CAS 7439-92-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Sulphuric Acid (CAS 7664-93-9)

Safe Drinking Water Act (SDWA): Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number: Sulphuric Acid (CAS 7664-93-9): 6552

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c)): Sulphuric Acid (CAS 7664-93-9): 20 %WV

DEA Exempt Chemical Mixtures Code Number:
Sulphuric Acid (CAS 7664-93-9): 6552

US state regulations

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Lead (CAS 7439-92-1): Listed: October 1, 1992

Sulphuric Acid (CAS 7664-93-9): Listed: March 14, 2003

US - California Proposition 65 - CRT: Listed date/ Developmental toxin

Lead (CAS 7439-92-1): Listed: February 27, 1987

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Lead (CAS 7439-92-1): Listed: February 27, 1987

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Lead (CAS 7439-92-1): Listed: February 27, 1987

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Lead (CAS 7439-92-1)
Tin (CAS 7440-31-5)
Sulphuric Acid (CAS 7664-93-9)

SECTION 16 – OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

HMIS® ratings:
Health: 0
Flammability: 1
Physical hazard: 0

NFPA ratings:
Health: 0
Flammability: 1
Physical hazard: 0

Disclaimer: The information in the sheet was written based on the best knowledge and experience currently available.

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