SAFETY DATA SHEET

VRLA - VARTA AGM, OPTIMA, REMCO, LIFELINE, DISCOVER EV, DEKA ETX and DEKA INTIMIDATOR – Jan 2018

SECTION 1 : IDENTIFICATION

GHS PRODUCT IDENTIFIER: VRLA (VALVE REGULATED LEAD ACID) BATTERY (Non-Spillable) **Product Use:** Rechargeable Electrical Storage	**Distributor:** Ryde Batteries Wholesale Pty Ltd **A.B.N. :** 47 003 949 531 **Primary Addresses:** Unit G, 10-16 South Street, Rydalmere, NSW, 2116
General Info: 1300 133 980 (M-F, 8AM-5PM)	**EMERGENCY TELEPHONE NUMBER:** Chemwatch 1800 039 008 (Australia)
Recommended use of the chemical and restrictions on use Electric Storage Battery	

UN NUMBER :	**UN2800**	**CAS NUMBER :**	**See Section 3**
HAZCHEM Code :	**2X**	**POISONS SCHEDULE No. :**	**6**
DANGEROUS GOODS CLASS :	**Class 8**	**PACKAGING GROUP :**	**III**
Transport :	The product is a non-spillable battery (special provision 238) and exempted from all DG (ADG, IATA and IMDG) provisions if protected from short circuit. **Contact Ryde Batteries Wholesale Pty Ltd for more information.**		

SECTION 2 : HAZARD IDENTIFICATION

GHS classification of the substance/mixture

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling ofChemicals (GHS) including Work, Health and Safety regulations, Australia Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Acute Toxicity - Inhalation: Category 4
Acute Toxicity - Oral: Category 4
Carcinogenicity category 1B
Eye Damage/Irritation: Category 1
Germ Cell Mutagenicity: Category 2
Hazardous to the Aquatic Environment - Acute Hazard: Category 1
Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1
Skin Corrosion/Irritation: Category 1A
STOT Repeated Exposure: Category 1
STOT Single Exposure: Category 1
Toxic to Reproduction: Category 1A

SECTION 2 : HAZARD IDENTIFICATION continued

Signal Word(s)

DANGER

Hazard Statement(s)

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H332 Harmful if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Pictogram(s)

Corrosion,Exclamation mark,Health hazard,Environment

Precautionary statement – Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

SECTION 2 : HAZARD IDENTIFICATION continued

Precautionary statement – Response

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove victim to fresh air & keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P310 Immediately call a POISON CENTER or doctor/physician.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.

Precautionary statement – Storage

P405 Store locked up.

Precautionary statement – Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

IMPORTANT NOTES

The classification is derived from chemicals within the battery. Exposure to battery contents is not anticipated during normal storage, handling or maintenance of the battery. Accordingly, the hazards identified refer to the possible release of battery contents.

Other Information

No hazards occur during the normal operation of the Lead Acid Battery as it is described in the instructions for use that are provided with the Battery. Lead-acid Batteries have three significant characteristics.
They contain an electrolyte which contains diluted sulphuric acid. Sulphuric acid may cause severe chemical burns.
- During the charging process or during the operation they might develop hydrogen gas and oxygen, which under certaincircumstances may result in an explosive mixture.
- They can contain a considerable amount of energy, which may be a source of high electrical current and a severe electrical shock in the event of a short circuit.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Name	CAS	Proportion
Lead and lead compounds		65-75 %
Sulphuric acid	7664-93-9	18-25 %
Ingredients determined not to be hazardous.		Balance

SECTION 4: FIRST AID MEASURES

EYES: **Sulfuric acid -** Flush eyes with large amounts of cool water for at least 15 minutes. Seek immediate medical attention.
Lead Compounds – Flush eyes with large amounts of cool water for at least 15 minutes. Seek immediate medical attention.

SKIN: Flush affected area(s) with large amounts of water using deluge emergency shower, if available, shower for at least 15 minutes. Remove contaminated clothing. If symptoms persist, seek medical attention.

INGESTION: **Sulfuric acid -** If swallowed, give large amounts of water or milk, then consult a medical practioner . Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death.
Lead Compounds – Seek immediate medical attention.

INHALATION: **Sulfuric acid -** If breathing difficulties develop, remove person to fresh air. Seek medical practitioner if symptoms persist.
Lead Compounds – Remove from exposure; gargle, wash nose and eyes and seek medical attention.

FIRST AID FACILITIES
Eye wash fountain, safety shower and normal washroom facilities.

ADVICE TO DOCTOR
Treat symptomatically.

OTHER INFORMATION
For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (131 126)

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT: NOT APPLICABLE
FLAMMABLE LIMITS: 4% (Hydrogen Gas)
SUITABLE EXTINGUISHING MEDIA: Class ABC extinguisher, carbon dioxide, foam, water spray.
UNSUITABLE EXTINGUISHING MEDIA: Do not use water jet.
SPECIAL FIREFIGHTING PROCEDURES & PROTECTIVE EQUIPMENT: Use appropriate media for surrounding fire. Do not use carbon dioxide directly on cells. Avoid breathing vapours. Use full protective equipment (bunker gear) and self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Batteries evolve flammable hydrogen gas during charging and may increase fire risk in poorly ventilated areas near sparks, excessive heat or open flames.

SPECIFIC HAZARDS IN CASE OF FIRE: Thermal shock may cause battery case to crack open. Containers may explode when heated.

ADDITIONAL INFORMATION: Firefighting water runoff and dilution water may be toxic and corrosive and may cause adverse environmental impacts.

HAZARDS FROM COMBUSTION PRODUCTS
Under fire conditions this product may emit toxic and/or irritating fumes and gases including acid mists and vapors, oxides of lead and sulphur and toxic fumes from burning the plastic case. Can release an explosive hydrogen/oxygen gas mixture.
SPECIFIC HAZARDS ARISING FROM THE CHEMICAL
Hydrogen and oxygen gases are produced during normal battery operation and charging. These gases escape through the battery vents and may form an explosive atmosphere around the battery if ventilation is poor. Sulphuric acid is an oxidizer and can ignite combustibles upon contact. Battery casing may burn if exposed to fire.
Hazchem Code: 2R

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Avoid Contact with Skin. Neutralize any spilled electrolyte with neutralizing agents, such as soda ash, sodium bicarbonate, or very dilute sodium hydroxide solutions.

ENVIRONMENTAL PRECAUTIONS: Prevent spilled material from entering sewers and waterways.

SPILL CONTAINMENT & CLEANUP METHODS/MATERIALS: Add neutralizer/absorbent to spill area. Sweep or shovel spilled material and absorbent and place in approved container. Dispose of any non-recyclable materials in accordance with local, state or federal regulations.

TREAT AS HAZARDOUS WASTE

ADDITIONAL INFORMATION: Lead acid batteries and their plastic cases are recyclable. Contact your Federal representative for recycling information.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING AND STORAGE:

- Do not place anything on the battery tops.
- Do not cover batteries with aluminium coated sarking.
- If battery case is broken, avoid contact with internal components.
- Keep vent caps on and cover terminals to prevent short circuits.
- Keep away from combustible materials, organic chemicals, reducing substances, metals, strong oxidizers & water.
- Protect containers from physical damage to avoid leaks and spills.
- Use banding or stretch wrap to secure items for shipping.
- Place cardboard between layers of stacked batteries to avoid damage and short circuits.
- Do not allow conductive material to touch the battery terminals. A dangerous short-circuit may occur and cause battery failure and fire.
- There is risk of electric shock from charging equipment & strings of series-connected batteries, whether or not being charged.
- Shut off power to chargers whenever not in use and before detachment of any circuit connections.
- Batteries being charged will generate & release flammable hydrogen gas. Ventilate charging space.
- Wear face & eye protection when near charging batteries.
- Follow recommended maximum charging currents & operating temperature range.
- Do not overcharge beyond recommended upper charging voltage limit.
- Ensure a high level of personal hygiene is maintained when using this product, that is, always wash hands after handling, and before eating, drinking, smoking or using the toilet facilities.
- Female personnel planning pregnancy should be made aware of potential risks.
- Batteries must be kept in an upright position. Whenever feasible, store on shipping pallet or rack.
- Do not stack loaded pallets or racks on top of other batteries.
- Store batteries in cool, well-ventilated location.
- Keep a supply of neutralizing agent in or near the storage area for emergency use.
- Avoid storage in areas exposed to heat or sun.
- Discharged batteries electrolyte will freeze when stored below -6°C.
- Fully charged batteries may be stored at temperatures as low as -28.8°C.
- Ensure that storage conditions comply with the applicable local, State and National regulations.
- For information on the design of the storeroom, refer to AS 3780-2008:2008
- Storage Temperatures

    Minimum: -28°C for fully charged batteries, -6°C for completely discharged batteries.

    Maximum: 26°C for low shelf discharge but up to 38°C is safe.

OTHER PRECAUTIONS

Keep away from combustible materials, organic chemicals, reducing substances, metals, strong oxidizers and water.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

No exposure standards have been established for this material. However, the available exposure limits for ingredients are listed below:

Sulphuric acid

TWA: 1 mg/m³ STEL: 3 mg/m³ Lead, inorganic dusts & fumes (as Pb) TWA: 0.15 mg/m³

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal 8 hour working day, for a 5 day week.

STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal 8 hour workday.

Biological Limit Values

Blood lead level should not be more than:

(i) for females not of reproductive capacity and males: 50 microg/dL (2.42 micromol/L); or

(ii) for females of reproductive capacity: 20 microg/dL (0.97 micromol/L); or

(iii) for females who are pregnant or breastfeeding: 15 microg/dL (0.72 micromol/L)

Source: Model Work Health and Safety Regulations, Australia

Appropriate Engineering Controls

None required, when used as intended. Where exposure to battery content is possible: This substance is hazardous and used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone.

If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn.

Respiratory Protection

None required, when used as intended. Where exposure to battery content is possible, an approved respirator with a replaceable vapor/ mist filter should be used if engineering controls are not effective in controlling airborne exposure. Refer to relevant regulations for further information concerning respiratory protective requirements.

Reference should be made to Australian Standards **AS/ NZS 1715** and **AS/NZS 1716** in order to make any necessary changes for individual circumstances.

Eye Protection

None required, when used as intended. Where exposure to battery content is possible, safety glasses with full face shield should be used. Eye protection devices should conform to relevant regulations. Eye protection should conform with Australian/New Zealand Standard **AS/NZS 1337**

Hand Protection

Wear gloves of acid resistant gloves such as rubber, neoprene, vinyl coated or PVC. Final choice of appropriate gloves will vary according to individual circumstances. i. e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations. Reference should be made to AS/NZS 2161.1

Wear safety boots.

Body Protection, Suitable protective workwear, e.g. acid-resisting clothing, cotton overalls buttoned at neck and wrist is recommended.

Chemical resistant apron is recommended for spill clean up.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Properties	Description	Properties	Description
Form	Article - Battery	Appearance	Battery with plate made of lead and lead compounds and containing liquid (Electrolyte, diluted sulphuric acid) Dilute sulphuric acid: transparent liquid
Odour	Not available	Decomposition Temperature	Not available
Melting Point	327 °C (lead) -40 °C (dilute sulphuric acid)	Freezing Point	-56.4°C (dilute sulphuric acid)
Boiling Point	1740°C (lead) 110°C (dilute sulphuric acid)	Solubility in Water	Not available
Specific Gravity	1.310 (dilute sulphuric acid)	pH	Not available
Vapour Pressure	3.17 kPa(for 30% dilute sulphuric acid at 25 °C) 0.1 kPa (for lead at 25 °C)	Vapour Density (Air=1)	Not available
Evaporation Rate	Not available	Odour Threshold	Not available
Viscosity	Not available	Partition Coefficient: n-octanol/water	Not available
Density	11.2 g/cm³ (Lead)	Flash Point	Not available
Flammability	Non-flammable	Auto-Ignition Temperature	Not available
Flammable Limits - Lower	4.1 % (Hydrogen Gas)	Flammable Limits - Upper	74.2% (Hydrogen Gas)

SECTION 10: STABILITY AND REACTIVITY

STABILITY: This product is stable under normal conditions at ambient temperature.

INCOMPATIBILITY (MATERIAL TO AVOID): Strong bases, combustible organic materials, reducing agents, finely divided metals, strong oxidizers, and water.

HAZARDOUS DECOMPOSITION BYPRODUCTS: Thermal decomposition will produce sulphur dioxide, sulphur trioxide, carbon monoxide, Sulfuric acid mist, and hydrogen.

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Overcharging, sources of ignition

SECTION 11: TOXICOLOGICAL INFORMATION

No toxicity data available for this product. Batteries are sealed articles. Exposure to lead, acid and lead contaminated acid is not anticipated during normal storage, handling and intended use or maintenance of the battery.

ACUTE TOXICITY (Test Results Basis and Comments):
Sulfuric acid: LD50, Rat: 2140 mg/kg
LC50, Guinea pig: 510 mg/m³
Lead: No data available for elemental lead

SUBCHRONIC/CHRONIC TOXICITY (Test Results and Comments):
Repeated exposure to lead and lead compounds in the workplace may result in nervous system toxicity. Some toxicologists report abnormal conduction velocities in persons with blood lead levels of 50 µg/100 ml or higher. Heavy lead exposure may result in central nervous system damage, encephalopathy, and damage to the blood-forming (hematopoietic) tissues.

Ingestion
Ingestion unlikely due to form of product. Ingestion of battery contents: Harmful if swallowed. Will cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach.
Inhalation
Unlikely due to form of product. Inhalation of battery contents: Harmful if inhaled. Inhalation of mist or vapor will result in respiratory irritation and possible harmful corrosive effects including burns, lesions of the nasal septum, pulmonary edema, and scarring of tissue.
Skin
Exposure to the battery contents: causes severe skin burns. Corrosive to the skin. Skin contact can cause redness, itching, irritation,
severe pain and chemical burns with resultant tissue destruction.
Eye
Exposure to the battery contents: causes eye damage. Eye contact will cause stinging, blurring, tearing, severe pain and possible burns, necrosis, permanent damage and blindness.
Respiratory sensitisation
Not expected to be a respiratory sensitiser.
Skin Sensitisation
Not expected to be a skin sensitiser.
Germ cell mutagenicity
Unlikely for intact battery due to form of product. Exposure to the battery contents: suspected of causing genetic defects. Classified as suspected to induce heritable mutations.
Carcinogenicity
Unlikely for intact battery due to form of product. Exposure to the battery contents: may cause cancer. Classified as a Known or presumed human carcinogen.

Strong inorganic acid mists containing sulfuric acid are listed as a Group 1: Carcinogenic to humans according to International

SECTION 11: TOXICOLOGICAL INFORMATION continued

Agency for Research on Cancer (IARC).
Lead compounds, inorganic is listed as a Group 2A: Probably carcinogenic to humans according to International Agency for Research on Cancer (IARC).
Lead is listed as a Group 2B: Possibly carcinogenic to humans according to International Agency for Research on Cancer (IARC).

Reproductive Toxicity
Unlikely for intact battery due to form of product. Exposure to the battery contents: may damage fertility or the unborn child.
Classified as a Known or presumed human reproductive or developmental toxicant.

STOT-single exposure
Unlikely for intact battery due to form of product. Exposure to the battery contents: causes damage to organs.

STOT-repeated exposure
Unlikely for intact battery due to form of product. Exposure to the battery contents: causes damage to organs through prolonged or repeated exposure.

Aspiration Hazard
Not expected to be an aspiration hazard.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
Effects unlikely for intact battery. Contents of the battery: Very toxic to aquatic life with long lasting effects.

Persistence and degradability
Lead may occur as sorbed ions or surface coatings on sediment mineral particles or may be carried in colloidal particles in surface water.

Mobility
Most lead is strongly retained in soil, resulting in little mobility. Lead may be immobilized by ion exchange with hydrous oxides or clays or by chelation with humic or fulvic acids in the soil.

Bioaccumulative Potential
Lead (when in the dissolved phase)is bioaccumulated by plants and animals, both aquatic and terrestrial.

Other Adverse Effects
Not available

Environmental Protection
Do not discharge this material into waterways, drains and sewers.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of as hazardous waste. If battery is leaking, place battery in a heavy-duty plastic bag. Wear acid resistant boots, face shield, acid resistant apron, and acid resistant gloves.

The lead, plastic and electrolyte (sulphuric acid) in used lead acid batteries can be recycled. Wet storage batteries are recyclable and should be turned over to a licensed battery recycler.
Do not incinerate. Battery recycling personnel should carefully follow established employer protocols when processing batteries and battery components.
Do not flush contaminated electrolyte into the sewer.
The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations.
Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations.

Sulfuric acid: Neutralise, collect residue in a container labelled as containing hazardous waste. Dispose off as a hazardous waste. If uncertain, call the Federal representative.

RCRA HAZARD CLASS: D001 and D008

SECTION 14: TRANSPORT INFORMATION

Name: Battery, Wet, Non-Spillable, Electric Storage
UN Number : 2800
Dangerous Goods Class : 8
Packing Group : III
Hazchem Code : 2X

Road and Rail Transport (ADG Code):
Class 8 Dangerous Goods are incompatible in a placard load with any of the following:
- Class 1: Explosives
- Division 4.3: Dangerous when wet Substances
- Division 5.1: Oxidising substances
- Division 5.2: Organic peroxides
- Class 6, Toxic or Infectious Substances, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids

Class 7: Radioactive materials unless specifically exempted and are incompatible with food and food packaging in any quantity.

Marine Transport (IMO/IMDG):
Proper Shipping Name: BATTERIES, WET, NON-SPILLABLE electric storage (Lead)(MARINE POLLUTANT)
EMS : F-A,S-B
Special Provisions: 29, 238

Air Transport (ICAO/IATA):
Packaging Instructions (passenger & cargo): 872
Packaging Instructions (cargo only): 872
Hazard Label: Corrosive
Special Provisions: A48, A67, A164, A183

Note: The product is a non-spillable battery (special provision 238)and exempted from all DG (ADG, IATA and IMDG) provisions if protected from short circuit.

Contact Ryde Batteries Wholesale Pty Ltd for more information.

SECTION 15: REGULATORY INFORMATION

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.
Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)(exempted).

Poisons Schedule Number: S6 under “Standard for Uniform Scheduling of Drugs and Poison”

SECTION 16: OTHER INFORMATION

PREPARATION INFORMATION:
Prepared by Technical Officer, Ryde Batteries Wholesale Pty Ltd August 2016.
Revised by Technical Officer, Ryde Batteries Wholesale Pty Ltd June 2017.

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