



B.B. BATTERY CO., LTD.

SAFETY DATA SHEET

Valve Regulated Lead-Acid Rechargeable battery

Date: July. 10, 2015

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product name: Valve Regulated Lead-Acid Rechargeable battery, Maintenance Free Battery
Company: B.B. BATTERY CO., LTD.
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Chemical family: This product is a wet lead acid storage battery. May also include gel absorbed electrolyte type lead acid battery types.

SECTION 2: HAZARDS IDENTIFICATION

GHS label elements :



Signal Word: Danger

Category	GHS Codes	Description
Health:	H302	Harmful if swallowed.
	H314	Causes severe skin burns and eye damage.
	H332	Harmful if inhaled.
	H360	May damage fertility or the unborn child.
	H373	May cause damage to organs through prolonged or repeated exposure.
	H220	Extremely flammable gas (hydrogen)
	H410	Very toxic to aquatic life with long lasting effects.
	P260	Do not breathe dust/fume/gas/mist/vapors/spray
	P301/330/331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
	P303/361/353	IF ON SKIN (or hair): Remove/Take off immediately all
STOT RE 2		
Acute Tox. 4		
Repr. 1A		
Skin Corr. 1A		
Flam. Gas 1		
Aquatic Chronic 1		
Aquatic Acute 1		

	P304/340 P305/351/338 P310	contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
Handling:	P210 P260 P264 P280 P403 P405 P391 P273 P501	Keep away from heat/sparks/open flames/hot surfaces. No smoking Do not breathe dust/fume/gas/mist/vapors/spray Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Store in well-ventilated area Store locked up. Collect spillage Avoid release to the environment Dispose of contents/container in accordance with local/regional/national/international regulation.

Note:

The battery has passed the vibration test, pressure differential test and leakage test at 55°C according to Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulation 18th SPECIAL PROVISION 238. It is not restricted to IATA Dangerous Goods Regulation (DGR) 56th according to special provision A67 and is not restricted to IMDG CODE according to special provision 238.

SECTION 3: INFORMATION ON INGREDIENTS

Product name: Valve Regulated Lead-Acid Rechargeable battery, Maintenance Free Battery

Ingredient	CAS No.	Concentration (% by Wt.)	Hazardous Label
Inorganic Lead/Lead Compounds	7439-92-1	~ 72%	T
Sulfuric Acid	7664-93-9	~ 20%	C
Fiberglass Separator	65997-17-3	~ 2%	/
Silicon Dioxide (Gel batteries only)	7631-86-9	~ 10% of acid Wt.	/
Container Plastic (ABS or PP)	9003-56-9 (ABS)	~ 5%	/
	9003-07-0 (PP)		/

Note:

Inorganic lead and electrolyte (water and sulfuric acid solution) are the primary components of every battery manufactured by BB Battery. Other ingredients may be present dependent upon battery type. ABS is the primary case material of telecom and commercial batteries.

SECTION 4: FIRST-AID MEASURES

Take proper precautions to ensure you own health and safety before attempting to rescue a victim and provide first aid.

Skin Contact:

Electrolyte: Flush with large amounts of water for at least 15 minutes; remove contaminated clothing completely, including shoes, and do not wear again until cleaned. If acid is splashed on shoes, remove and discard if they contain leather.
Lead compounds: Wash immediately with soap and water. Lead compounds are not readily absorbed through the skin.

Eye Contact:

Electrolyte and Lead compounds: Flush immediately with large amounts of water for at least 15 minutes; consult physician immediately.

Inhalation Exposure:

Electrolyte: To wrap in a blanket the patient immediately, when the inhalation of sulfuric acid mist or vapor, then transfer from the inhaled location to a place where fresh air can be obtained. To get medical advice / attention immediately.

Lead compounds: Remove from exposure, gargle, wash nose and lips; consult physician.

Oral Exposure:

Electrolyte: If swallowed this liquid, wash your mouth with plenty of water immediately then to drink plenty of water and obtain medical advice or attention. Do not induce vomiting when swallowed. In addition, not perform any action, such as neutralization process.

Lead compounds: Consult physician immediately.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: Not Applicable

Flammable Limits: LEL = 4.1% (hydrogen gas in air) ; UEL = 74.1%

Extinguishing Media:

Small fire : Foam halogen and/or nonflammable gas fire extinguisher

Big fire: Large quantities of sprinkled and/or atomized water. (In this case to prevent environmental damage, flush water has to treat appropriately.)

Particular hazards: Irritate , corrosive and/or toxicity gases may break out from the burning battery.

Proper fire fighting:

If possible, turn off their power first when batteries are on charge or remove ignition source and remove batteries from the fire place. Extinguish out the fire from where well air flow and windward. Exinction water has to treat appropriately for preventing environmental damage. Cool down enough the burnt batteries with plenty amount of water. Try to put out fire in early stage. In this case to use protectors written below.

Fire Fighting Procedures:

Use positive pressure, self-contained breathing apparatus. Beware of acid splatter during water application and wear acid-resistant clothing, gloves, face and eye protection. If batteries are on charge, shut off power to the charging equipment, but, note that strings of series connected batteries may still pose risk of electric shock even when charging equipment is shut down.

SECTION 6: ACCIDENTAL RELEASE MEASURES**Human body:**

Do not touch the spilled electrolyte, and walk around the spillage place. Keep out outsiders from the spillage place.

Environment:

Spilled electrolyte has to treat appropriately for preventing environmental damage, such as direct out flowing of the spilled electrolyte into the river, drain, etc..

Neutralization:

Neutralize spilled electrolyte with sodium bicarbonate, lime, etc. and flush with large quantities of water. In this case to use protectors properly.

SECTION 7: HANDLING AND STORAGE**Handling**

Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Avoid mechanical or electrical abuse and overcharge. More than a momentary short circuit will generally reduce the battery service life. Avoid reversing battery polarity within the battery assembly.

Storage:

Store in a cool, well-ventilated area. Keep away from ignition sources, heat and flame. Such batteries must be packed in inner packages in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Materials to Avoid: Strong oxidant, Combustible materials and Corrosives.

Charging:

There is a possible risk of electric shock from charging equipment and from 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 and release flammable hydrogen gas. Charging space should be ventilated. Keep battery vent caps in position. Prohibit smoking and avoid creation of flames and sparks nearby. Wear face and eye protection when near batteries being charged.

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Not applicable for Valve Regulated Lead Acid battery.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Not applicable for Valve Regulated Lead Acid battery.

Reference (component)

	Electrolyte (Sulfuric Acid)	Lead
Appearance	Clear	Silvery solid
Specific Gravity	1.280 - 1.380 (38 - 48 %)	11.3
Boiling Point	112 deg.C (38 %)	1740 deg.C
Melting Point	- 40 deg.C or below	327 deg.C
Solidifying Point	- 56.4 deg.C (34.6 %)	-
Vapor Pressure	3.17 kPa (30 %)	0.1 Pa or less (25 deg.C)

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable under normal temperatures and pressures.

Materials to Avoid: Strong oxidant, Corrosives.

Conditions to Avoid: Avoid exposure to heat and open flame, Avoid mechanical or electrical abuse and overcharge. Prevent short circuits. Prevent movement which could lead to short circuits.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: Sulfur oxides, Sulfuric acid mist, Metal oxides.

SECTION 11: TOXICOLOGICAL INFORMATION**Routes of Entry:**

Electrolyte: Harmful by all routes of entry. Under normal conditions of use, sulfuric acid vapors and mist are not generated. Sulfuric acid vapors and mist may be generated when product is overheated, oxidized, or otherwise processed or damaged.

Lead compounds: Under normal conditions of use, lead dust, vapors, and fumes are not generated.

Hazardous exposure can occur only when product is heated above the melting point, oxidized or otherwise processed or damaged to create dust, vapor, or fume.

Acute Toxicity:Inhalation LD₅₀:Electrolyte: LC₅₀ rat: 375 mg/m³; LC₅₀: guinea pig: 510 mg/m³

Elemental Lead: Acute Toxicity Point Estimate = 4500 ppmV (based on lead bullion)

Oral LD₅₀:

Electrolyte: rat: 2140 mg/kg

Elemental lead: Acute Toxicity Estimate (ATE) = 500 mg/kg body weight (based on lead bullion)

Correspond to section 3**SECTION 12: ECOLOGICAL INFORMATION****Environmental Fate:**

Lead is very persistent in soil and sediments. No data on environmental degradation. Mobility of metallic lead between ecological compartments is slow. Bioaccumulation of lead occurs in aquatic and terrestrial animals and plants but little bioaccumulation occurs through the food chain. Most studies include lead compounds and not elemental lead.

Environmental Toxicity: Aquatic Toxicity:

Sulfuric acid:

24-hr LC₅₀, freshwater fish (Brachydanio rerio): 82 mg/L

96 hr- LOEC, freshwater fish (Cyprinus carpio): 22 mg/L

Lead:

48 hr LC₅₀ (modeled for aquatic invertebrates): <1 mg/L, based on lead bullion**SECTION 13: DISPOSAL CONSIDERATIONS****Appropriate Method of Disposal of substance:**

Lead-acid batteries are completely recyclable. Return whole scrap batteries to distributor, manufacturer or lead smelter for recycling. For neutralized spills, place residue in acid-resistant containers with sorbent material, sand or earth and dispose of in accordance with local, state and federal regulations for acid and lead compounds. Contact local and/or state environmental officials regarding disposal information.

SECTION 14: TRANSPORT INFORMATION

We hereby certify that all B.B. Valve Regulated Lead-acid Rechargeable batteries conform to the UN2800 classification as "Batteries, wet, Non-Spillable, and electric storage" as a result of passing the Vibration and Pressure Differential Test described in D.O.T., 49 CFR 173.159(f), and IMO/IMDG, and ICAO/IATA packing instruction 872 and note A48, A67, A164 and A183. The batteries are not restricted to IMO/IMDG code according to special provision 238.

B.B. Batteries having met the related conditions are EXEMPT from hazardous goods regulations for the purpose of transportation by DOT, and IATA/ICAO, and therefore are unrestricted for transportation by any means. For all modes of transportation, each battery outer package is labeled "NON-SPILLABLE". All our Batteries are marked non-spillable.

SECTION 15: REGULATORY INFORMATION

EU Regulation:

In accordance with EU2006/66/EC Battery Directive, VRLA batteries should present crossed-out wheeled bin symbol of lead together with the ISO recycling symbol. Does not contain any mercury, Hg, (<0.0005%) or cadmium, Cd, (<0.002%).



SECTION 16: OTHER INFORMATION

Products such as Batteries are not in the scope of regulation which requires the publication of an EU Safety Data Sheet (91/155/EEC).