



B.B. TECH(CHANGSHA) CO., LTD.

SAFETY DATA SHEET

Valve Regulated Lead-Acid Rechargeable battery

Date: 01. Jan. 2023

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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

Company: B.B. TECH(CHANGSHA) CO., LTD.

Address:

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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). May form explosive air/gas mixture during charging.
	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 contaminated clothing. Rinse skin with water/shower.

	P304/340 P305/351/338 P310	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 SPECIAL PROVISION 238. It is not restricted to IATA Dangerous Goods Regulation (DGR) 64th 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 BBT TECH. 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. Extinction 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

Land Transport	<p><u>Land Transport (ADR / RID)</u> UN No: UN2800 Classification ADR / RID: Class 8 Proper Shipping Name: BATTERIES, WET, NON-SPILLABLE and electric storage Packing Group ADR: not assigned Tunnel code: E ADR / RID: New and spent (used) batteries are exempt from all ADR / RID (special provision 598)</p>
Sea transport	<p><u>Sea transport (IMO/IMDG Code)</u> UN No: UN2800 Classification: Class 8 Proper Shipping Name: BATTERIES, WET, NON-SPILLABLE and electric storage EmS: F-A, S-B Non-Spillable batteries meet the requirements of Special Provision 238; they are exempt from all IMDG codes and are not subject to special regulation for sea transport</p>
Air Transport	<p><u>Air Transport (ICAO/IATA-DGR)</u> UN No: 2800 Classification: Class 8 Proper Shipping Name: BATTERIES, WET, NON-SPILLABLE and electric storage <u>Special Provision A48:</u> Packaging test are not considered necessary <u>Special Provision A67:</u> B.B. VRLA batteries meet the requirements of Packing Instruction 872. The battery has been prepared for transport so as to prevent: a) A short-circuit of the battery's terminals by packaging in a strong and sturdy carton box; AND/OR b) The battery has been fitted with an insulating cover (made from ABS) which prevents contact with the terminals. c) Unintentional activation is thus prevented The words "NOT RESTRICTED" and the Special Provision (SP) number must be indicated on all shipping documents <u>Special Provision: A164:</u> The battery has been prepared for transport so as to prevent: a) Short-circuit of the battery's terminals by packaging in a strong and sturdy carton box; AND/OR b) The battery has been fitted with a cover (made from ABS) which prevents contact with the terminals c) Unintentional activation is thus prevented</p>
All methods of transport	<p>DO NOT PLACE VRLA BATTERIES INSIDE SEALED OR GAS-TIGHT ENCLOSURES. VRLA Batteries emit hydrogen gas which is highly flammable and will form explosive mixtures in air from approximately 4% to 76%. This can be ignited by a spark at any voltage, naked flames or other sources of ignition.</p> <p>B.B. Batteries having met the related conditions are EXEMPT from hazardous goods regulations for the purpose of transportation by D.O.T., 49 CFR 173.159(f), 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.</p>

SECTION 15: REGULATORY INFORMATION

US federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

Hazardous Chemical Reporting Requirements apply when an Extremely Hazardous Substance is present at a facility in an amount equal to or exceeding 500 pounds or the Threshold Planning Quantity, whichever is lower per 40CFR370.10(a)(1)

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

CERCLA Hazardous Substance List (40 CFR 302.4)

Lead and lead compounds (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 1910.1001-1053)

Lead and lead compounds (CAS 7439-92-1) Reproductive toxicity
Central nervous system Kidney
Blood
Acute toxicity

Superfund Amendments and Reauthorization Act of 1986 (SARA):

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable Quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity lower value (pounds)	Threshold planning quantity lower value (pounds)
Sulphuric acid	7664-93-9	1000	1000		

SARA 311/312 Hazardous chemical Yes

Classified hazard Categories
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Carcinogenicity
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Lead and lead compounds	7439-92-1	
	60-75	
Sulphuric acid	7664-93-9	5-15

Other federal regulations:

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Lead and lead compounds (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. Massachusetts RTK - Substance List
 - Lead and lead compounds (CAS 7439-92-1)
 - Sulphuric acid (CAS 7664-93-9)
- US. New Jersey Worker and Community Right-to-Know Act
 - Lead and lead compounds (CAS 7439-92-1)
 - Sulphuric acid (CAS 7664-93-9)
- US. Pennsylvania Worker and Community Right-to-Know Law
 - Lead and lead compounds (CAS 7439-92-1)
 - Sulphuric acid (CAS 7664-93-9)
- US. Rhode Island RTK
 - Lead and lead compounds (CAS 7439-92-1)
 - Sulphuric acid (CAS 7664-93-9)

California Proposition 65:



WARNING: Cancer and Reproductive Harm. www.P65Warnings.ca.gov
or

PROPOSITION 65 WARNING: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Batteries also contain other chemicals known to the State of California to cause cancer.
WASH HANDS AFTER HANDLING.

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

- | | |
|---|-------------------------|
| Lead and lead compounds (CAS 7439-92-1) | Listed: October 1, 1992 |
| Acrylonitrile(CAS 107-13-1) | Listed: July 1, 1987 |
| 1,3-Butadiene(CAS 106-99-0) | Listed: April 1, 1988 |
| Sulphuric acid (CAS 7664-93-9) | Listed: March 14, 2003 |
| Styrene(CAS 100-42-5) | Listed: April 22, 2016 |

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

- | | |
|---|---------------------------|
| Lead and lead compounds (CAS 7439-92-1) | Listed: February 27, 1987 |
| 1,3-Butadiene(CAS 106-99-0) | Listed: April 16, 2004 |

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

- | | |
|---|---------------------------|
| Lead and lead compounds (CAS 7439-92-1) | Listed: February 27, 1987 |
| 1,3-Butadiene(CAS 106-99-0) | Listed: April 16, 2004 |

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

- | | |
|---|---------------------------|
| Lead and lead compounds (CAS 7439-92-1) | Listed: February 27, 1987 |
| 1,3-Butadiene(CAS 106-99-0) | Listed: April 16, 2004 |

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

- Lead and lead compounds (CAS 7439-92-1)
- Sulphuric acid (CAS 7664-93-9)

EU Regulation:

In accordance with EU2013/56/EU 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).