ITEM: 4PG96 - Emerg Light, 12W, 7-78In H, 11-5-8ln L
DELIVERY: 6411232803
SAFETY DATA SHEET (SDS)

This SDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET

G5 PORTALAC PE, PY, PXI AND PXL SERIES VALVE REGULATED LEAD ACID (VRLA) BATTERY, ABSORBED ELECTROLYTE (AGM)

SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME:
GS BATTERY USA INC., A SUBSIDIARY OF JAPAN STORAGE BATTERY CO. LTD.

ADDRESS:
1000 MAINSEL EXCHANGE WEST
SUITE 350
ALPHARETTA, GA 300022

EMERGENCY TELEPHONE NUMBER:
CHEMICAL: (800) 424-9300

TELEPHONE NUMBER FOR INFORMATION:
GS BATTERY USA INC. (678) 762-4818

DATE ISSUED: APRIL 1, 2002.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

COMPONENTS | CAS NUMBER | APPROX Wt% |
--- | --- | --- |
INORGANIC LEAD LEAD COMPOUNDS | 7439-92-1 | 65% - 75% |
TIN | 7440-31-5 | <5% |
CALCULUM | 7440-70-2 | <0.3% |
ELECTROLYTE: DILUTE SULFURIC ACID | 7664-93-9 | 14 - 20% |
CASE MATERIAL: ACRYLONITRILE BUTADIENE STYRENE | 9003-56-9 | 5 - 10% |

COMPONENTS | OSHA PEL (MICROGRAMS) | ACGIH TLV | IDOSH (MICROGRAMS) |
--- | --- | --- | --- |
INORGANIC LEAD LEAD COMPOUNDS | 150 | 10 |
TIN | 2000 | 2000 |
CALCULUM | N/A | N/A |
ELECTROLYTE: DILUTE SULFURIC ACID | 1000 | 1000 |
CASE MATERIAL: ACRYLONITRILE BUTADIENE STYRENE |

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

ELECTROLYTE (SULFURIC ACID, DILUTE):
- BOILING POINT: 203 DEG. F - 240 DEG. F
- SPECIFIC GRAVITY (H2O = 1): 1.220 TO 1.350
- VAPOR PRESSURE (MMHG): 10-17
- MELTING POINT: N/A
- VAPOR DENSITY (AIR = 1): GREATER THAN 1
- EVAPORATION RATE (BUTYL ACETATE = 1): LESS THAN 1
- SOLUBILITY IN WATER: 100%

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): N/A
- LEI: 4.1% (H2 GAS)
- UEL: 74.2% (HYDROGEN GAS)
- EXTINGUISHING MEDIA: CO2, FOAM, DRY CHEMICAL

SECTION V - REACTIVITY DATA

STABILITY: UNSTABLE (1)
STABLE (2)

CONDITIONS TO AVOID: PROLONGED OVERCHARGE ON HIGH CURRENT IGNITION SOURCES

INCOMPATIBILITY (MATERIALS TO AVOID):
- SULFURIC ACID:
  - CONTACT WITH COMBUSTIBLES AND ORGANIC MATERIALS MAY CAUSE FIRE AND EXPLOSION. ALSO REACTS VIOLENTLY WITH STRONG RELEASING AGENTS, METALS, SULFUR TIOXIDE GAS, STRONG OXIDIZERS, AND WATER. CONTACT WITH METALS MAY PRODUCE TOXIC SULFUR DIOXIDE FUMES AND MAY RELEASE FLAMMABLE HYDROGEN GAS.

LEAD COMPOUNDS:
- AVOID CONTACT WITH STRONG ACIDS, BASES, HALIDES, HALOGENATES, POTASSIUM NITRATE, PERMANGANATE, PEROXIDES, NITROGEN, HYDROGEN, AND REDUCING AGENTS.

Hazardous Decomposition OR BYPRODUCTS:
- SULFURIC ACID:
  - SULFUR TIOXIDE, CARBON MONOXIDE, SULFUR ACID MIST, SULFUR DIOXIDE, AND HYDROGEN SULFIDE.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:
- SULFURIC ACID: HARMFUL BY ALL ROUTES OF ENTRY.
- LEAD COMPOUNDS:
  - HAZARDOUS EXPOSURE CAN OCCUR ONLY WHEN PRODUCT IS HEATED, OXIDIZED, OR OTHERWISE PROCESS OR DAMAGED TO CREATE DUST, VAPOR OR FUME.

INHALATION:
- SULFURIC ACID:
  - BREATHING SULFURIC ACID VAPORS AND MISTS MAY CAUSE SEVERE RESPIRATORY.

LEAD COMPOUNDS:
- DUST OR FUMES MAY CAUSE IRRITATION OF UPPER RESPIRATORY TRACT OR LUNGS
- SKIN CONTACT:
  - SULFURIC ACID: SEVERE IRRITATION, BURNS AND ULCEATION.
  - LEAD COMPOUNDS: NOT ABSORBED THROUGH THE SKIN

INGESTION:
- SULFURIC ACID:
  - MAY CAUSE SEVERE IRRITATION OF THE MOUTH, THROAT, ESOPHAGUS, AND STOMACH.
  - MAY CAUSE ABDOMINAL PAIN, Nausea, Vomiting, Diarrhea, AND SEVERE CRAMPING.
  - INGESTION SHOULD BE TREATED BY A PHYSICIAN
- EYE CONTACT:
  - SULFURIC ACID:
    - SEVERE IRRITATION, BURNS, CORNEA DAMAGE, AND POSSIBLE BLINDNESS.
  - LEAD COMPOUNDS: MAY CAUSE EYE IRRITATION.
ACUTE HEALTH HAZARDS:
SULFURIC ACID: SEVERE SKIN IRRITATION, BURNS, DAMAGE TO CORNEA MAY CAUSE BLINDNESS, UPPER RESPIRATORY IRRITATION.
LEAD COMPOUNDS: MAY CAUSE ABDOMINAL PAIN, NAUSEA, HEADACHES, VOMITING, LOSS OF APPETITE, SEVERE CRAMPING, MUSCULAR ACHES AND WEAKNESS, AND DIFFICULTY SLEEPING.
CHRONIC HEALTH HAZARDS:
SULFURIC ACID: POSSIBLE SCarring OF THE CORNEA, INFLAMMATION OF THE NOSE, THROAT AND BRONCHIAL TUBES, POSSIBLE EROSION OF TOOTH ENAMEL.
LEAD COMPOUNDS: MAY CAUSE ANEMIA, DAMAGE TO KIDNEYS AND NEURAL SYSTEM, AND DAMAGE TO REPRODUCTIVE SYSTEM IN BOTH MALES AND FEMALES.
Carcinogenicity:
SULFURIC ACID: THE NATIONAL TOXICOLOGICAL PROGRAM (NTP) AND THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAVE CLASSIFIED STRONG INORGANIC ACID MIST CONTAINING SULFURIC ACID AS A CATEGORY I (CARCINOGEN), A SUBSTANCE THAT IS CARCINOGENIC TO HUMANS. THE ACIHR HAS CLASSIFIED STRONG INORGANIC ACID MIST CONTAINING SULFURIC ACID AS AN I2 CARCINOGEN (SUSPECTED HUMAN CARCINOGEN). THESE CLASSIFICATIONS DO NOT APPLY TO LIQUID FORMS OF SULFURIC ACID OR SULFURIC ACID SOLUTIONS CONTAINED WITHIN A BATTERY. INORGANIC ACID MIST SULFURIC ACID MIST IS NOT GENERATED UNDER NORMAL USE OF THIS PRODUCT. MISUSE OF THE PRODUCT, SUCH AS OVERCHARGING, MAY RESULT IN THE GENERATION OF SULFURIC ACID MIST.
Lead Compounds:
HUMAN STUDIES ARE INCONCLUSIVE REGARDING LEAD EXPOSURE AND AN INCREASED CANCER RISK. THE EPA AND THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAVE CATEGORIZED LEAD AND INORGANIC LEAD COMPOUNDS AS A B2 CLASSIFICATION (PROBABLE HUMAN CARCINOGEN) BASED ON SUFFICIENT ANIMAL EVIDENCE BUT INADEQUATE HUMAN EVIDENCE.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
INORGANIC LEAD AND ITS COMPOUNDS CAN AGGRAVATE CHRONIC FORMS OF KIDNEY, LIVER, AND NEUROLOGIC DISEASES. CONTACT OF BATTERY ELECTROLYTE (ACID) WITH THE SKIN MAY AGGRAVATE SKIN DISORDERS SUCH AS ECZEMA AND CONTACT DERMATITIS. OVEREXPOSURE TO SULFURIC ACID MIST MIST CASE LUNG DAMAGE AND AGGRAVATE PULMONARY CONDITIONS.
EMERGENCY AND FIRST AID PROCEDURES:
INHALATION:
SULFURIC ACID: REMOVE TO FRESH AIR IMMEDIATELY, IF BREATHING IS DIFFICULT, GIVE OXYGEN.
LEAD COMPOUNDS: REMOVE EXPOSURE, GARGLE, WASH NOSE AND LIPS, CONSULT PHYSICIAN.
INGESTION:
SULFURIC ACID: DO NOT INDUCE VOMITING, CONSULT A PHYSICIAN IMMEDIATELY.
LEAD COMPOUNDS: CONSULT A PHYSICIAN IMMEDIATELY.
EYES:
SULFURIC ACID: FLUSH IMMEDIATELY WITH WATER FOR 15 MINUTES, CONSULT A PHYSICIAN.
LEAD COMPOUNDS: FLUSH IMMEDIATELY WITH WATER FOR 15 MINUTES, CONSULT A PHYSICIAN.
SKIN:
SULFURIC ACID: FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES, REMOVE ANY CONTAMINATING CLOTHING, IF IRRITATION DEVELOPS SEEK MEDICAL ATTENTION.
LEAD COMPOUNDS: WASH WITH SOAP AND WATER.

-----SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE-----
STEPS TO BE TAKEN IN CASE MATERIAL IS Released OR SPILLED:
THERE IS NO RELEASE OF MATERIAL UNLESS THE BATTERY IS DAMAGED OR BATTERY IS MISUSED/RECHARGED. IF RELEASE OCCURS, STOP FLOW OF MATERIAL CONTAINING Battery. ALL SPILLS WITH DRY SAND, EARTH, OR Vermiculite. DO NOT USE COMBUSTIBLE MATERIALS. NEUTRALIZE SPILLED MATERIAL WITH SODA ASH, SODIUM BICARBONATE, LIME, ETC. WEAR ACID-RESISTANT CLOTHING, BOOTS, GLOVES, AND FACE SHIELD. DO NOT DISPOSE OF AS HAZARDOUS WASTE. DO NOT DISCHARGE UN-NEUTRALIZED ACID TO SEWER.
WASTE DISPOSAL METHOD:
SPENT BATTERIES: SEND TO SECONDARY LEAD SMELTER FOR RECYCLING. FOLLOW APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS. NEUTRALIZE AS IN PRECEDING STEP. COLLECTION NEUTRALIZED MATERIAL IN SEALED CONTAINER AND HANDLE AS HAZARDOUS WASTE AS APPLICABLE.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
BATTERY: IN A COOL, DRY, WELL VENTILATED AREA THAT IS SEPARATED FROM INCOMPATIBLE MATERIALS AND ANY ACTIVITIES WHICH MAY GENERATE FLAMES, SPARKS, OR HEAT. KEEP ALL METALLIC ARTICLES THAT COULD CONTACT THE NEGATIVE AND POSITIVE TERMINALS ON A BATTERY AND CREATE A SHORT CIRCUIT CONDITION.

-----SECTION VIII - CONTROL MEASURES-----
RESPIRATORY PROTECTION (SPECIFY TYPE):

NONE REQUIRED UNDER NORMAL CONDITIONS. IF BATTERY IS OVERCHARGED AND CONCENTRATIONS OF SULFURIC ACID ARE KNOWN TO EXCEED PER USE THEROSH OR MSHA APPROVED RESPIRATORY PROTECTION.
ENGINEERING CONTROLS:
STORE AND HANDLE BATTERIES IN A WELL VENTILATED AREA IF MECHANICAL VENTILATION IS USED, COMPONENTS MUST BE ACID RESISTANT.
PROTECTIVE GLOVES:
NONE REQUIRED UNDER NORMAL CONDITIONS. IF BATTERY CASE IS DAMAGED USE RUBBER OR PLASTIC GLOVES WITH ELBOW LENGTH GAUNTLET.
EYE PROTECTION:
NONE REQUIRED UNDER NORMAL CONDITIONS. IF HANDLING DAMAGED OR BROKEN BATTERIES USE CHEMICAL SPLASH GOGGLES OR FACE SHIELD.
OTHER PROTECTIVE CLOTHING OR EQUIPMENT:
NONE REQUIRED UNDER NORMAL CONDITIONS. IN CASE OF DAMAGED OR BROKEN BATTERY USE AN ACID RESISTANT APRON. UNDER SEVERE EXPOSURE OR EMERGENCY CONDITIONS WEAR ACID RESISTANT CLOTHING.
WORK HYGIENE PRACTICES:
HANDLE BATTERIES CAREFULLY TO AVOID DAMAGING THE CASE. DO NOT ALLOW METALLIC ARTICLES TO CONTACT THE BATTERY TERMINALS DURING HANDLING. AVOID CONTACT WITH THE INTERNAL COMPONENTS OF THE BATTERY.

-----SECTION IX - REGULATORY INFORMATION-----
NFPA HAZARD RATING FOR SULFURIC ACID:
HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 2
TRANSPORTATION:
U.S. DOT/AMJ/DATA SHIPPING INFORMATION:
PROPER SHIPPING NAME: BATTERIES, WET, NON SPILLABLE.
HAZARD CLASS: 8
ID NUMBER: UN4280
PACKING GROUP: 3
LABELS/PLACARD: CORROSIVE
GS BATTERY USA INC'S PORTAL AC SERIES VER BATTERIES HAVE BEEN TESTED AND MEET THE "NON-SPILLABLE" ELECTRIC STORAGE BATTERIES CRITERIA AS REQUIRED BY DOT CFR-49, 173, 159 (C), AND MOVING, AND INJAC DATA PACKAGING INSTRUCTIONS 806 AND 867. THESE BATTERIES ARE NON-REGULATED AS LONG AS THE FOLLOWING CRITERIA ARE MET:
1. THE BATTERIES MUST BE PROTECTED AGAINST SHORT CIRCUITS AND SECURITIZED.
2. THE BATTERIES AND THEIR OUTER PACKAGING MUST BE FLAMBNLY AND DURABLY MARKED "NON-SPILLABLE" OR "NONSPILLABLE BATTERY."
CONTACT YOUR GS BATTERY USA INC. REPRESENTATIVE FOR ADDITIONAL INFORMATION REGARDING THE CLASSIFICATION OF BATTERIES.
REGULATORY INFORMATION:
RCRA:
SPENT LEAD-ACID BATTERIES ARE NOT REGULATED AS HAZARDOUS WASTE BY THE EPA WHEN RECYCLED, HOWEVER STATE AND INTERNATIONAL REGULATIONS MAY VARY.
CERCLA (SUPERFUND) AND EPCRA:
(A) REPORTABLE QUANTITY (QR) FOR SPILLED 100% SULFURIC ACID UNDER CERCLA (SUPERFUND) AND EPCRA (EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT) IS 1,000 LBS. STATE AND LOCAL REPORTABLE QUANTITIES FOR SPILLED SULFURIC ACID MAY VARY.
(B) SULFURIC ACID IS A LISTED "EXTREMELY HAZARDOUS SUBSTANCE" UNDER EPCRA WITH A THRESHOLD PLANNING QUANTITY (TPQ) OF 1,000 LBS.
(C) EPCRA SECTION 302 NOTIFICATION IS REQUIRED IF 1,000 LBS. OR MORE OF SULFURIC ACID IS PRESENT AT ONE SITE. THE QUANTITY OF SULFURIC ACID WILL VARY BY BATTERY TYPE. CONTACT GS BATTERY USA INC, FOR ADDITIONAL INFORMATION.
(D) EPCRA SECTION 312 TIER 2 REPORTING IS REQUIRED FOR BATTERIES IF SULFURIC ACID IS PRESENT IN QUANTITIES OF 500 LBS. OR MORE AND/OR IF LEAD IS PRESENT IN QUANTITIES OF 10,000 LBS. OR MORE.
(E) SUPPLIER INFORMATION:
SUPPLIER FURNISHES TOXIC CHEMICALS WHICH MAY BE REPORTABLE UNDER EPCRA SECTION 313 TOXIC CHEMICAL RELEASE INFORMATION FORM/REPORT REQUIREMENTS. IF YOU ARE MANUFACTURING FACILITY UNDER EPCRA CODES 20 THROUGH 39, THE FOLLOWING INFORMATION IS PROVIDED TO YOU TO COMPLETE THE REQUIRED REPORTS:
(1) TOXIC CHEMICAL
<table>
<thead>
<tr>
<th>CAS NUMBER</th>
<th>APPROXIMATE % BY WT.</th>
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</thead>
<tbody>
<tr>
<td>LEAD</td>
<td>7439-92-1</td>
</tr>
<tr>
<td>SULFURIC ACID</td>
<td>7664-93-9</td>
</tr>
<tr>
<td>ARSENIC</td>
<td>7440-38-2</td>
</tr>
</tbody>
</table>

IF YOU DISTRIBUTE THIS PRODUCT TO OTHER MANUFACTURERS IN UK CODES 20 THROUGH 39, THIS INFORMATION MUST BE PROVIDED WITH THE FIRST SHIPMENT OF EACH CALENDAR YEAR. THE SECTION 313 SUPPLIER NOTIFICATION REQUIREMENT DOES NOT APPLY TO BATTERIES, WHICH ARE "CONSUMER PRODUCTS", NOT PRESENT IN ALL
BATTERY TYPES CONTACT GS BATTERY USA INC. FOR ADDITIONAL INFORMATION.

**TSCA:**
Ingredients in GS Battery USA Inc’s batteries are listed in the TSCA Registry as follows:

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>CAS NUMBER</th>
<th>TSCA STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELECTROLYTE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SULFURIC ACID (H2SO4)</td>
<td>7664-93-9</td>
<td>LISTED</td>
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<tr>
<td>INORGANIC LEAD COMPOUND:</td>
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<td></td>
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<tr>
<td>LEAD (Pb)</td>
<td>7439-92-1</td>
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</tr>
<tr>
<td>LEAD OXIDE (PbO)</td>
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</tr>
<tr>
<td>LEAD SULFATE (PbSO4)</td>
<td>7446-14-2</td>
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<tr>
<td>ARSENIC (As)</td>
<td>7440-38-2</td>
<td>LISTED</td>
</tr>
<tr>
<td>CALCIUM (Ca)</td>
<td>7440-79-2</td>
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</tr>
<tr>
<td>TIN (Sn)</td>
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