



Data Sheet No CSH00160

627069, 249683, 249695, 146534, 143564

279377, 143566, 152245, 147471, 147472

150661, 279389, 279390, 143568, 151308

149449, 627057, 145408, 521681, 145409

521693, 147475, 521700

174-786 174-774

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SAFE HANDLING OF PRODUCT**HEALTH AND SAFETY AT WORK ACT 1974**

We, as manufacturers and suppliers of batteries, wish to inform you that to comply with section 6 of the above act, safety precautions should be taken concerning our products. While the products are designed and constructed, so far as is reasonably practicable, to be safe and without risks to health when correctly used, the appropriate health and safety precautions must nevertheless be observed. Our recommendations in this respect are listed in this publication.

CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH REGULATIONS 1988

The above regulations apply from 1st October 1989. The information contained here is intended to allow the users of our product to assess the health hazards associated with them.

HAZARDS ASSOCIATED WITH MAINTENANCE FREE LEAD ACID BATTERIES**1) ELECTRICAL**

Sparks can be created by all sizes of batteries, causing a hazardous condition in an explosive atmosphere. Battery terminal voltages exceeding a safe value with respect to other battery terminals or conducting supporting structures should be suitably protected.

Excessive current can lead, during charge or discharge, to overheating of current conductors, thereby creating a hazard. Purchasers are recommended to seek the advice of experienced electricians where there is any doubt about the suitability of current conducting installations. Batteries must always be charged in accordance with the manufacturers instructions. If the purchaser is not the end user, it is the purchasers responsibility to ensure that the operating instructions are supplied with the battery to the end user.

2) MECHANICAL

Batteries must be installed and maintained in accordance with the manufacturers instructions. Maintenance free batteries are provided with re-sealable, one-way valves to permit the release of gases generated within the cells. The gases are potentially explosive and adequate ventilation must be provided. Where the purchaser of the battery is not the end user, it is the purchasers responsibility to ensure that the operating instructions are supplied with the battery to the end user.

3) THERMAL

Batteries must always be stored and operated within the manufacturers specified temperature limits. In cases where the purchaser is not the end user, it is the purchasers responsibility to ensure that the the operating instructions are supplied with the battery to the end user.



4) CHEMICAL

Chemicals contained within the batteries are potentially harmful. For this reason great care should be taken to prevent a breach of the sealed battery container. If the battery contents are released the material must be prevented from coming into contact with the body. Protective clothing should be worn when handling these chemicals. The disposal of batteries containing toxic chemicals should be delegated to a competent organisation, complying with the deposit of poisonous waste regulations 1972. The specific compounds which present a potential health hazard are listed here:-

a) **SULPHURIC ACID** is a constituent of the liquid electrolyte of the cell at concentrations of up to approximately 40% by weight. This substance is an irritant which can cause chemical burn damage to exposed skin. Where skin and clothing are contaminated with acid the affected area should be drenched as quickly as possible with copious quantities of clean water. In the case of acid in the eye, speed of action is vital. The person should be firmly held and the eyelid forced open. The eye should be irrigated for at least 15 minutes with clean water or boric saline solution. The patient should be required to roll his eye during this operation. A sterile pad should then be applied and bandaged. All cases of acid in the eye injuries should be referred to a doctor. Spillages of acid should be washed away with a copious excess of water.

b) **LEAD** is the main active material of the battery, occurring in a variety of chemical compositions. It is toxic if absorbed into the body. Skin contact, with the internal contents of the battery, should be avoided to prevent subsequent ingestion or inhalation of lead. If contamination does occur the affected area should be scrubbed thoroughly with soap, warm water and a brush.

c) **HYDROGEN** gas may be released by sealed lead acid batteries if they are charged at voltages exceeding the manufacturers recommended limits. This represents a potential hazard if the concentration of hydrogen in the air exceeds the explosive mixture threshold of 3.8% by volume. If, as a result of incorrect charging control, an explosive gas mixture is suspected, the area should be immediately evacuated. The charging supply should be shut down safely, and ventilation to the charging area increased. Sources of ignition such as naked flames or electrical sparks must be prevented, until the hydrogen gas has been dispersed.

GENERAL SAFETY PRACTICES

*** DO NOT CHARGE IN A SEALED CONTAINER**

*** DO NOT DISPOSE OF BATTERIES IN FIRE**

*** DO NOT SHORT CIRCUIT**

*** DO NOT CRUSH, PUNCTURE, OPEN, DISMANTLE OR OTHERWISE MECHANICALLY INTERFERE WITH BATTERIES**

*** DO NOT STORE AT TEMPERATURES IN EXCESS OF 60°C, THE OPTIMUM STORAGE TEMPERATURE FOR MAXIMUM LIFE IS +10°C TO +35°C**