

COSHH REGULATIONS 1988

Ever Ready Batteries are designed and manufactured, so far as is reasonably practicable, so as to be safe and without risk to health when properly used.

Supplied as sealed units they represent no chemical hazard in the sense of the Control of Substances Hazardous to Health (COSHH) Regulations.

Chemical hazard can however arise if batteries are misused or abused when leakage or, in extreme cases, fire or explosion may occur.

In order to avoid potential problems the Battery Safety Guidelines (copy attached) should be observed on storage, use and disposal.

Detailed Chemical Hazard information for each battery type is attached (Tables 1-7). The following is a summary of the more likely hazards in practice.

1. ZINC CARBON BATTERIES (Ever Ready Blue Range)

The main chemical hazard arises if the battery leaks or vents. The electrolyte is a concentrated solution of zinc chloride and ammonium chloride in water. The material is acidic, corrosive and will cause burns to skin. The electrolyte is also harmful if it enters the eyes. If the user comes into contact with the electrolyte then the part affected should be washed immediately with water. If the material enters the eye medical attention should be sought without delay.

The Cathode mix is corrosive and contains manganese dioxide which is toxic if ingested. Medical attention should be sought if ingestion is thought to have arisen.

2. ZINC CHLORIDE BATTERIES (Ever Ready Silver Seal Range)

The main chemical hazard arises if the battery leaks or vents. The electrolyte is a concentrated solution of zinc chloride in water. This material is acidic, corrosive and will cause burns to skin. The electrolyte is also harmful if it enters the eyes. If the user comes into contact with zinc chloride then the part affected should be washed immediately with water. If the material enters the eye medical attention should be sought without delay.

The cathode mix is corrosive and contains manganese dioxide which is toxic if ingested. Medical attention should be sought if ingestion is thought to have arisen.

3. ALKALINE MANGANESE BATTERIES (Ever Ready Energizer Range)

The main hazard arises if the battery leaks or vents. The electrolyte is strongly alkaline 34-38% w/w potassium hydroxide which is highly corrosive. It will cause burns to skin externally (or internally). Potassium hydroxide is exceedingly harmful if allowed to enter the eyes. Anyone coming into contact with potassium hydroxide should wash with copious amounts of water. Tissue damage is not usually apparent until several hours after exposure. If the material enters the eyes emergency hospital treatment should be sought without delay.

Alkaline manganese cells contain amalgamated zinc powder (1.5%Hg) and manganese dioxide. Both these substances are toxic by ingestion.

4. BUTTON CELLS

Any type of button cell is hazardous if swallowed. If this arises immediate medical attention should be sought. Surgical removal of the battery may be necessary.

The chemical hazard depends on the system type. If button cells are ingested even the nickel plated case material will dissolve in the stomach acid giving rise to toxic nickel salts. Most button cells contain 34-40% potassium hydroxide solution which is highly corrosive but present in small volume.

Mercuric oxide-zinc button cells are the most hazardous if ingested because they contain approximately 30% by cell weight of highly toxic mercuric oxide powder in the cathode. Other button cells also contain amalgamated zinc powder which may be harmful if ingested.

5. NICKEL-CADMIUM BATTERIES

These batteries contain 30% potassium hydroxide solution which is highly corrosive. Normally this material would only be expelled under overcharge conditions. These batteries also contain cadmium, cadmium hydroxide and nickel hydroxide all of which are toxic. If the user comes into contact with potassium hydroxide then the effected area should be washed with a copious supply of water. Potassium hydroxide is harmful if it enters the eyes.