

20 May 2024

SmokeSight 10

Product Bulletin No.4

SmokeSight – AA Battery Leakage

AA battery leakage has been observed in a small number of cases over the last 1.5 years.

Symptoms

- Smoke alarm low battery warning causing chirp and possible white LED flash. Alarm model and battery position dictates the chirp and possible white LED flash, count and interval.
- All other wireless interconnected alarms chirp and white LED flash with the loss of an alarm from the network

Units affected

All units are potentially affected.

Safety Exposure

Nil fire safety risk if alerts are acted upon. Battery chemical exposure if batteries have leaked.

Problem

- AA Alkaline battery leaks from negative (flat face) of battery terminal which:
 - Corrodes smoke alarm, negative battery terminals
 - Damages smoke alarm circuitry if chemical falls onto the circuit board

The following images are from smoke alarms that all exhibited low battery warning chirps and white LED flash.

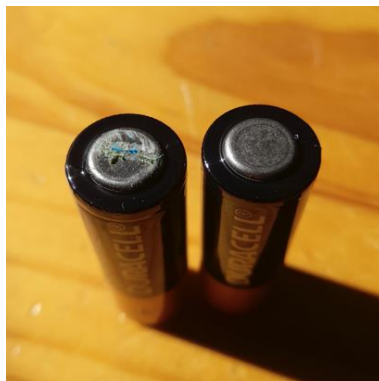
Early stage leaking.

Can appear as white dust or clear liquid on battery terminal or smoke alarm, battery terminal.



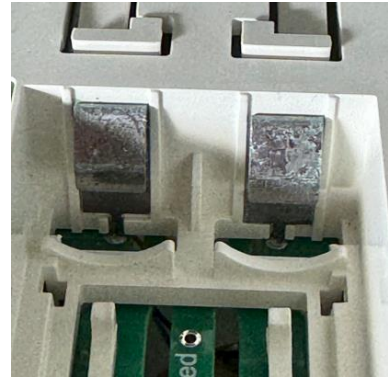
Mid stage leaking.

Can appear as blue and white dust or clear liquid on battery terminal or smoke alarm, battery terminal.



Late stage leaking.

As above only greater quantity of chemical and corrosion visible



Customer Action

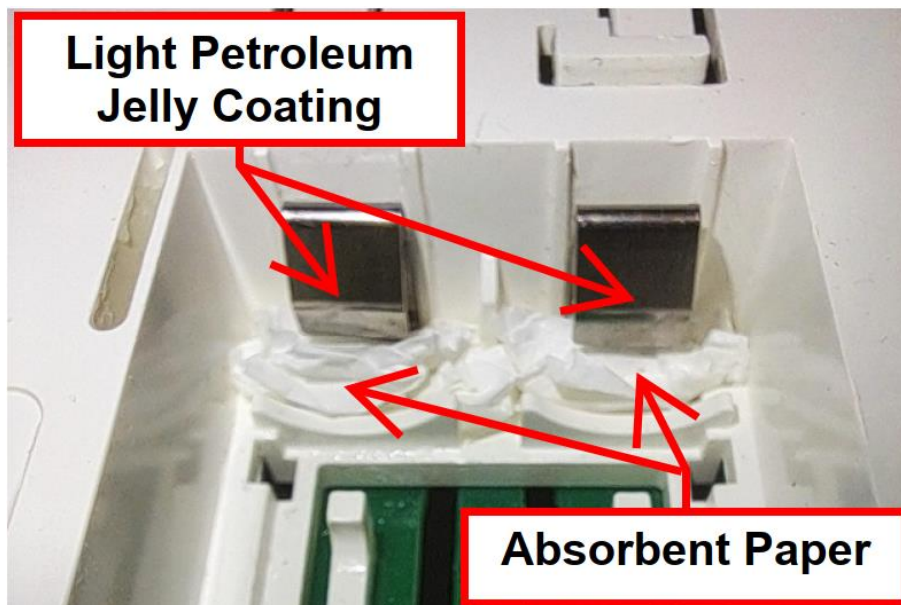
If symptoms have been experienced:

- Clean the smoke alarm battery terminals with a cloth moistened with a 1:3 vinegar:water solution then protect as below

Whether or not symptoms have been experienced, protect the smoke alarm:

- Battery terminal face by applying a light coating of petroleum jelly, and
- Circuit board by inserting a small square (5cm x 5cm) of absorbent paper (paper towel, tissue, cigarette paper) underneath the battery terminals

Normal warranty will be unaffected.



Detail

Over the last year, several smoke alarms at various customer locations have yielded nuisance chirping and in some cases been damaged due to chemical leakage of the AA alkaline batteries. These issues have occurred with leading brand batteries well in advance of the battery's stated operational life-span. Leakage has been observed on AA batteries fulfilling both the mains backup role and the option card, power supply roles.

No support has been forthcoming from battery suppliers. Despite months of research and in house battery testing, no method of predicting which batteries will leak has been determined. So Redbusbar investigated and trialled several options to protect the smoke alarm from possible leaking batteries.

Most batteries will not leak but the consequences of a leak are annoying and maybe costly. Protection against a possible leaking AA alkaline battery is simple and inexpensive. For these reasons we recommend the protection precautions outlined in this bulletin.