



## EXPLODING BATTERIES CAUSE EYE INJURY

### DETAILS OF THE INCIDENT

First thing in the morning, in a mess room, a transformer was connected to a helmet mounted rechargeable head torch. During a tea break the head torch caught fire, setting light to the adjacent microwave power lead. As an operator picked up the helmet to extinguish the fire, the battery pack exploded and a piece of hot material was projected into a colleague's eye. The injured person required treatment in hospital for a scratched cornea and burns to his lower eye lid.



### KEY FINDINGS

The original transformer had been replaced with one brought from home for a TV box. It was rated at 5.99v, whereas the lithium batteries were 4.2v.

### HOW COULD THIS HAVE BEEN AVOIDED?

Only use original / recommended chargers with electrical equipment.

### KEY REVIEW POINTS

- Ensure electrical equipment is charged at a suitable location, on a hard surface away from fire hazards
- Ensure electrical equipment brought from home is authorised, well maintained and PAT tested as appropriate
- Regularly inspect electrical equipment for damage
- Consider how to minimise similar risks at home

### FIRE EXTINGUISHERS

ON DISCOVERING A FIRE, RAISE THE ALARM, DO NOT PUT YOURSELF AT RISK. ONLY TACKLE A FIRE IF IT IS SMALL AND YOU ARE SUITABLY TRAINED.



### Look after yourself and each other

Don't let anyone act unsafely, always stop unsafe practices.

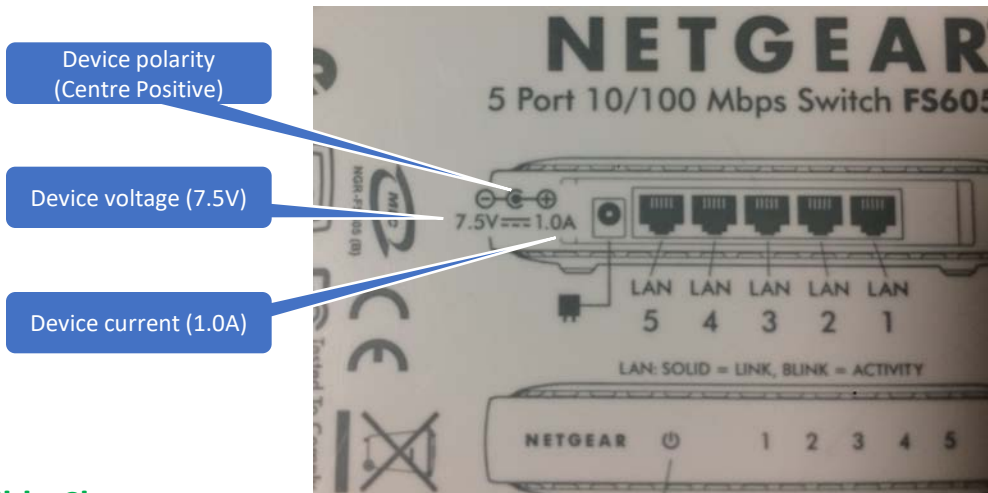
### Tools and Equipment

Use the right, well maintained, tools/equipment for the job. Never make do.

### Incident/Hazard alerts

Report all incidents/hazards immediately.

## Device



Device polarity  
(Centre Positive)

Device voltage (7.5V)

Device current (1.0A)

You need to check the following items:

1. Output voltage of the charger matches the voltage of the device.
2. The polarity of the charger plug matches the device polarity.
3. The charger output current (A or mA) is equal or greater than the device current requirements.

## Compatible Charger



Charger output  
current (1.0A)

Charger output  
voltage (7.5V)

Charger plug polarity  
(Centre Positive)

## Incompatible Charger



Charger plug polarity  
(Centre Positive)

Charger output  
voltage (12V)

Charger output  
current (2.0A)