



EV-EXBOX

**Providing on site solutions for Lithium – ion battery fires and
EV / Hybrid car fires**



Tackling EV fires is exceptionally difficult for fire fighters



There are numerous hazards for the firefighters, the public and the environment to consider



Nothing has been designed into EV charging infrastructure including battery storage systems to help firefighters or to protect the environment



At **EV-EXBOX we think this is wrong**

EV- EXBOX VISION

We believe it is the responsibility of organisations installing charging points or operating EV facilities to ensure any fire can be suppressed as effectively and safely as possible

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The **EV-EXBOX** is designed to help the emergency services suppress EV fires quickly, stopping them from spreading and reducing their environmental impact

An EV fire is more than just a battery fire it is a multiple class fire involving lithium ion, rubber, plastics, metals, hydraulic fluids and oils, the **EV-EXBOX** covers them all

We understand that in the event of an EV related **fire only** **the emergency services** are qualified to tackle the fire safely





The **EV-EXBOX** is a fireproof cabinet containing an encapsulation agent that promotes rapid cooling when mixed with water. It is ideal for lithium-ion battery and multiple class fires

The **EV-EXBOX** provides a solution that :

- Ensures less water is needed to suppress an EV fire
- Promotes rapid cooling to stop thermal runaway
- Encapsulates fuel in hybrid EV vehicle fires
- Puts out both EV and non-EV fires quickly
- Suppresses smoke & particulates
- Does not contain PFA / PFOS
- Protects the environment
- Replaces the need for multiple foam products
- Has been proven highly effective since 1995
- Has a 10-year product shelf life

Effectiveness & Ease of Application

The **EV-EXBOX** encapsulation agent provides rapid cooling up to x20 more than water alone.

It encapsulates both poisonous particulates released from the battery and hydrocarbons in the event of a hybrid vehicle fire

At a 2-3% dilution rate with water the **EV-EXBOX** can hold enough concentrated encapsulation agent to generate up to 4000 litres of multiple class fire fighting liquid

No premixing or air is required, the encapsulation agent can be drawn directly into the firefighting hose through a standard eductor

The encapsulation agent is supplied in x5 20 litre containers so it can be handled easily



The effectiveness of the encapsulation agent was verified independently by *KIWA, MPA Dresden* and by the *Swiss Federal Laboratories for Materials Science and Technology*.

Installation Notification & Training

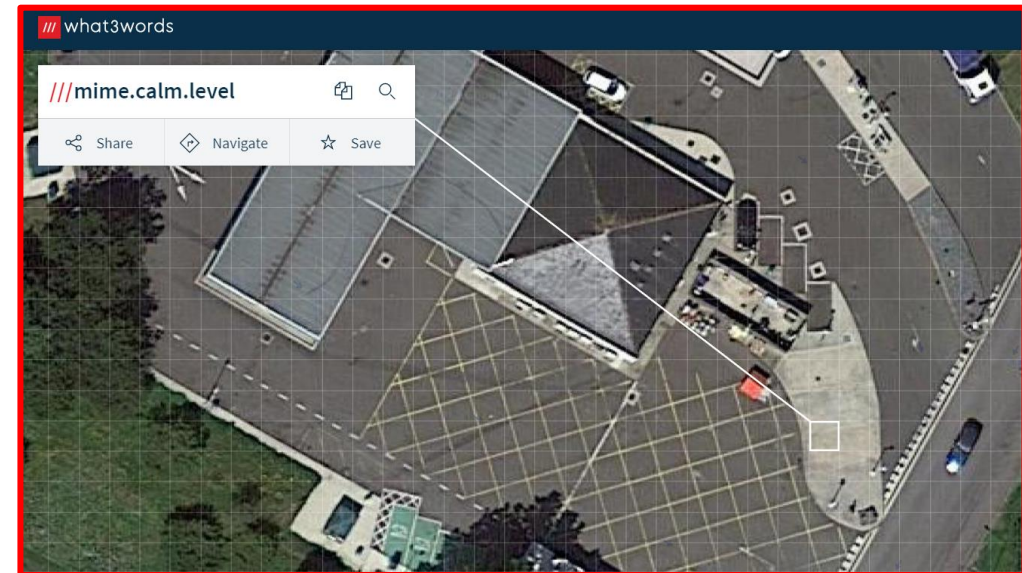
Each **EV-EXBOX** location is risk assessed in terms of proximity to potential fire, accessibility and safety

Once delivered on-site the **EV-EXBOX** team can provide a 20 min EV fire awareness training session for site staff

Using the “*What 3 Words App*” we can digitally share the location of an **EV-EXBOX** with the emergency services located to a 3m x 3m grid

We also provide a fixed plan to identify where there are multiple **EV-EXBOX** locations on a single site with multiple charging hubs

The **EV-EXBOX** team will also undertake a preliminary contaminated fire water risk assessment on each site to inform the site staff of the environmental risks an EV related fire will cause on site





EV-EXBOX

Installation Summary



Our standard **EV-EXBOX** solution includes:



Charging Area survey to identify ideal **EV-EXBOX** location and identification of fire water pollution risk on site



Supply & installation of **EV-EXBOX** and provision of geomapping details to the customer



Notification to local Emergency Response Services of installation **EV-EXBOX** and supply of geomapping details



20 min EV fire awareness session with local site staff where **EV-EXBOX** is installed



Preliminary environmental contaminated fire water risk survey where **EV-EXBOX** is installed



The encapsulation agent we utilize in the **EV-EXBOX** is already used by companies that understand the difficulties lithium-ion battery fires cause and how they need to be tackled

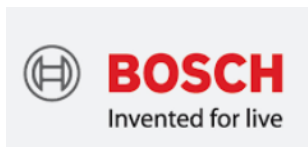
The encapsulation agent is already used by the fire services in Böblingen, Germany specifically for use on EV fires and at the Nürburgring for all classes of fire

Kiwa in the Netherlands and Fire Rover in the U.S.A have verified the encapsulation agent is the most effective product on the market today for tackling lithium-ion battery fires

Do not wait for an EV or Hybrid fire to happen to then decide what you could have done differently

The **EV-EXBOX** solution helps the emergency services to help protect **your assets and reputation**

Our encapsulation agent delivers the next step in treating multi class fires with a non PFOS / PFA product as an **alternative to environmentally harmful foam products**



For more information, please contact Graeme Warnell info@gwenvironmentalconsulting.com

Tel: +44 (0) 7766 107088



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Registered Company - 11968131
www.gwenvironmentalconsulting.com