

Hazard Control Technologies, Inc.



Overview

Fire Suppression for Hybrid and Electric Vehicles

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Overview

By 2020, Germany expects to have one million hybrid and electric cars on the road. Worldwide, the increased number of these vehicles is staggering. The automotive industry is trying to build lighter cars that run on efficient batteries. Nickel-metal hydride batteries are being replaced by lighter, more powerful lithium-ion batteries. At the same time, steel is being replaced with lighter alloys, such as aluminum, magnesium and titanium. This trend is creating new challenges for first responders who are faced with the hazards associated with these high tech vehicles.

As an industry leader, the German automotive industry and the German firefighting community are leading the way in fire testing and providing solutions to the hazards associated with hybrid and electric cars.

Chronology of Events Leading to F-500 EA as the Agent of Choice for Lithium-ion Battery Fires

2008, January	Hazard Control Technologies Europe provides Bosch Industries with F-500 Encapsulator Agent to conduct fire testing on lithium-ion batteries.
2009, March	Bosch concludes fire testing of water, foam, powder and F-500 EA on lithium-ion and nickel-metal hydride batteries, as well as other production parts.
2009, March	Hazard Control Technologies Europe was invited to Bosch HQ in Stuttgart, Germany. F-500 EA was chosen as a product of choice by Bosch for extinguishing lithium-ion batteries. Bosch becomes HCT's official reference customer.
2009, July	Bosch communicates their findings at VDA (Verband der Automobilindustrie). The VDA association nationally and internationally promotes the interests of the German automotive industry. (www.vda.de/de/verband/ausschuesse/Brandschutz)
2010, August	Bosch will not share their internal test report with HCTE, however their findings are shared with the Baden-Wurttemberg State Fire School.
2011, January	Shortly after receiving the test results from Bosch, Baden-Wurttemberg Fire School publishes an Application Guideline on the Potential Dangers Involving Vehicles with Lithium-ion Batteries on their website. The Application Guideline specifically references the use of F-500 Encapsulator Agent to mitigate this hazard.

2011, March	An article appears in BrandSchultz Magazine discussing the use of F-500 Encapsulator Agent for high-voltage cars.
2012, March	Another article appears in BrandSchultz Fire Fighter Magazine reporting how in addition to lithium-ion batteries, F-500 Encapsulator Agent can mitigate other special risks, including magnesium, titanium, rubber tires and multiple fuels, such as gasoline, diesel, ethanol and ethanol-blended fuels. The ecological advantage was mentioned. All companies named in the article gave their authorization prior the article being published.
2012, October	DEKRA issues a press release announcing their testing and releases their final report.
2012, October	DEKRA confirms their recommendation of F-500 Encapsulator Agent in an Opinion Letter.
2013, February	Article in BrandSchutz Fire Fighting Magazine condenses the DEKRA testing report.
2013, March	Another article in BrandSchutz magazine for firefighters describes an incident at the Barcelona Formula 1 Grand Prix that prompted the Hockenheim Circuit to test and accept F-500 EA as their only firefighting agent, replacing all foam.
2013, April	DEKRA Automotive GmbH, Daimler AG, and Deutsche ACCUmotive GmbH & Co. KG present the DEKRA Report findings in Detroit, MI at the SAE International Conference. The report receives much attention from NFPA and the US Automotive Industry.
2015, October	General Motors invites HCT to GM to test F-500 EA on lithium-ion battery hazard.
2016, January	General Motors specifies F-500 Encapsulator Agent for GM's Lithium-ion Battery Abuse Lab.
2016, January	Tesla specifies F-500 EA for battery charging area.
2016, February	Jaguar in UK invites HCTE GmbH to perform F-500 EA testing on lithium-ion batteries at Jaguar's facility.
2016, February	Jaguar standardizes on F-500 EA for lithium-ion battery protection.
2016, September	Tesla installs F-500 EA system for battery charging area.