

The last line of defense between the contents and the environment

Lithium Battery-One Man Lift Portable Hazard Containment

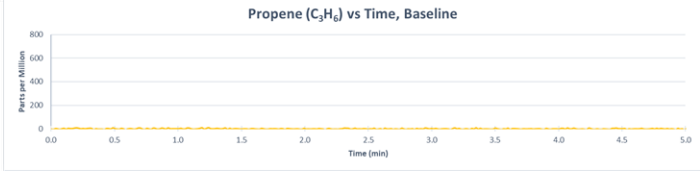
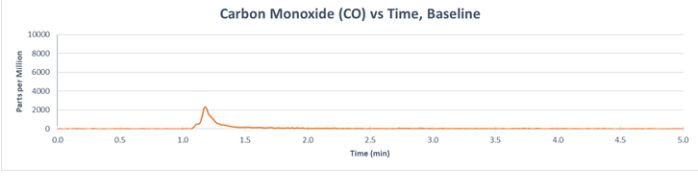
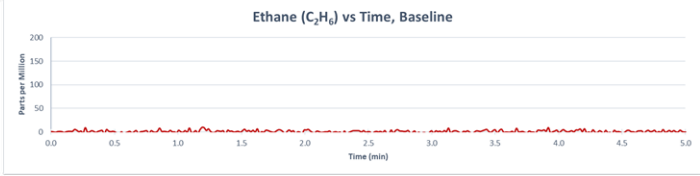
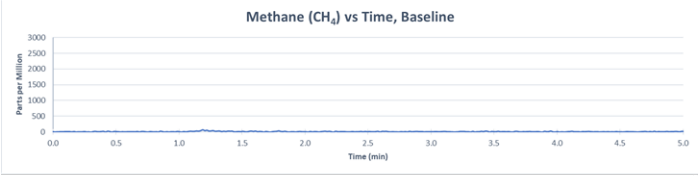
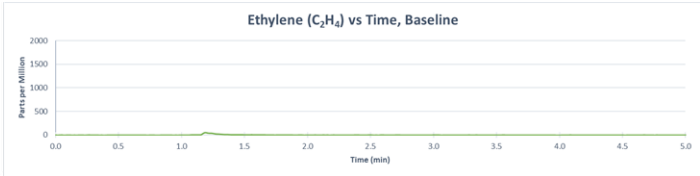
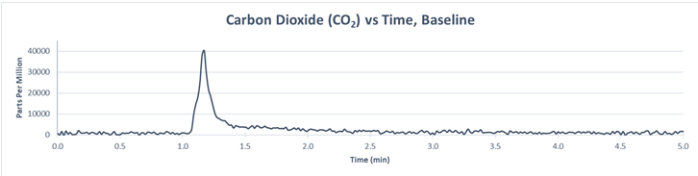
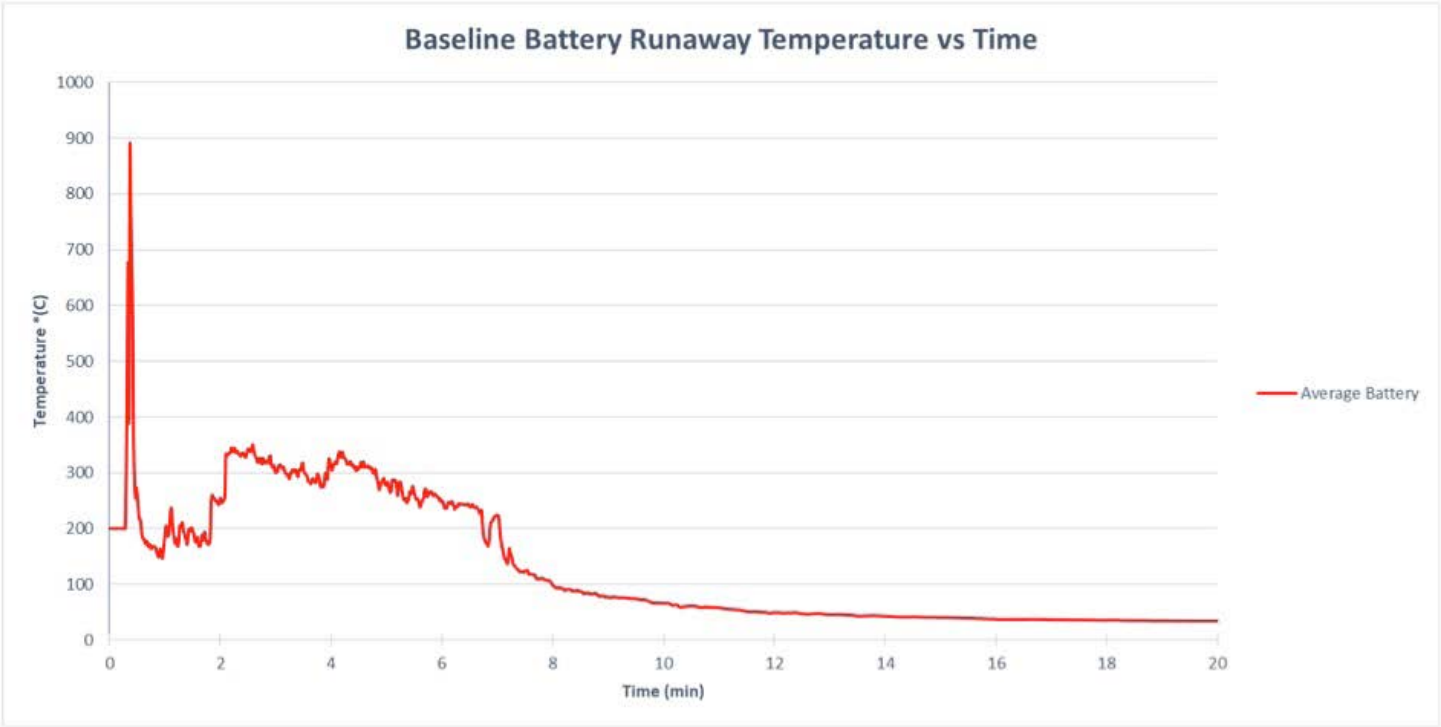
- Fire Suppression
- Shock and vibration mitigation
- Filtration of gases
- Ease of loading/unloading
- Packaging Customization
- Thermal Management



The outer encasement is the last line of defense between the contents and the environment.

ZARGES BatterySafe™ cases are designed for safe packaging and transport of lithium ion batteries. ZARGES' solutions are comprised of aluminum cases with different linings of materials that can suppress ignition and contain heat. BatterySafe cases offer all the available features of our standard K 470 cases, including secure latches, stacking corners, three fully-welded aluminum profile frames, and easy loading and unloading.

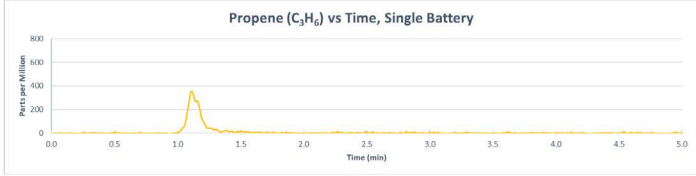
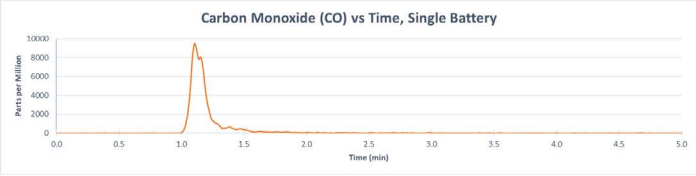
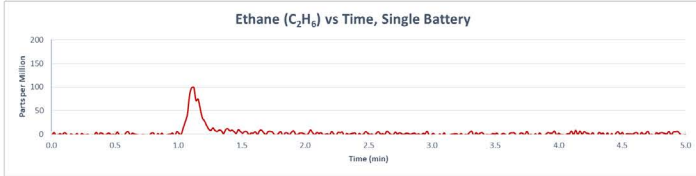
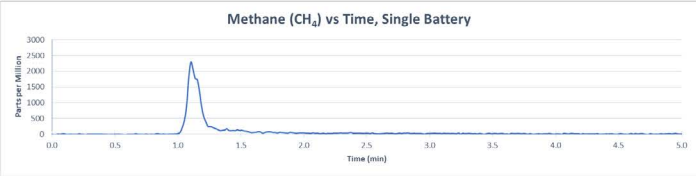
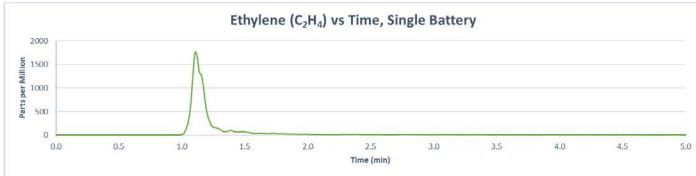
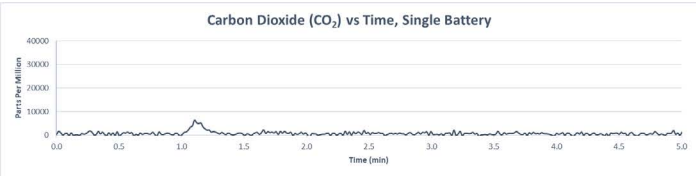
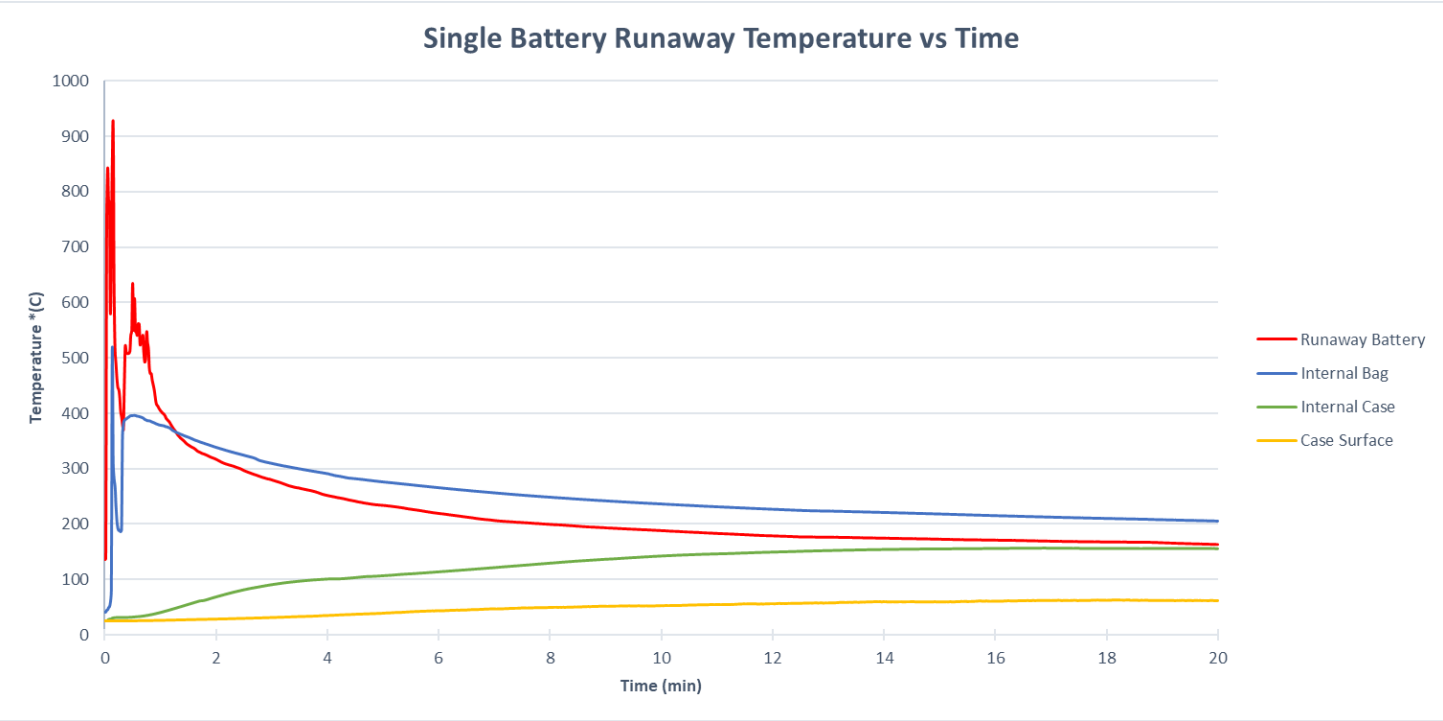
ZARGES Baseline Test Results



High levels of CO₂ were detected due to unconstrained burn with abundant oxygen. All other gases were very low. These results were as expected.

ZARGES Single Battery Test Results

Case surface temperature only reached 63 °C. Prototype reduced external case surface temperature by 30 °C from Phase II POC.



- Greatly reduced CO₂ levels were detected due to contained burn with reduced oxygen. All other gases increased but remain at nonlethal and noncombustible levels.
- HF, HCl, HCN, CO₂O were scarcely measurable.



before

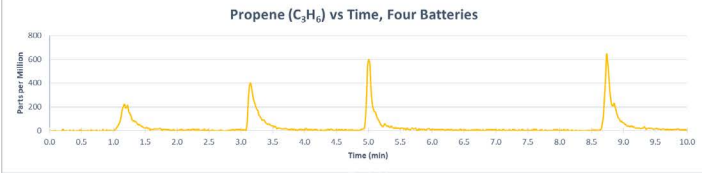
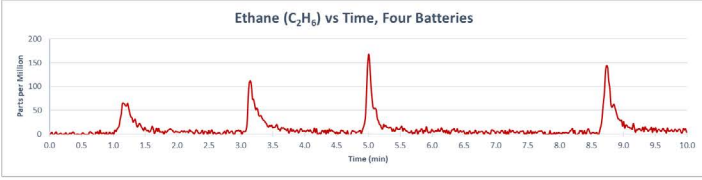
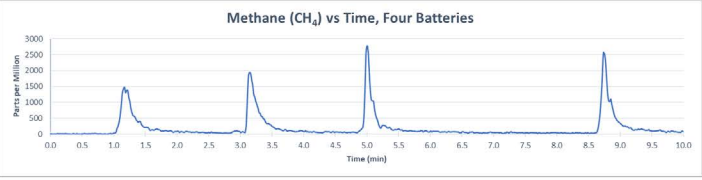
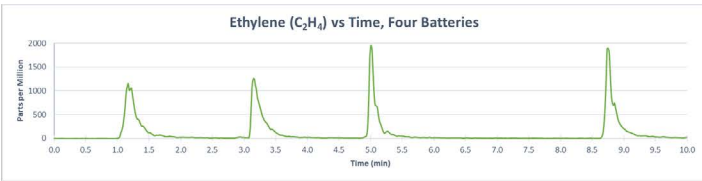
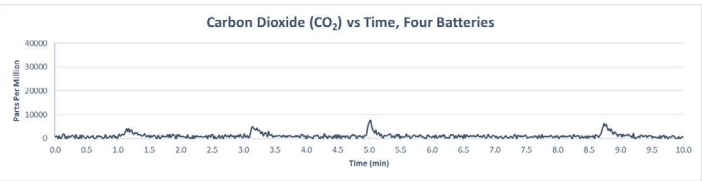
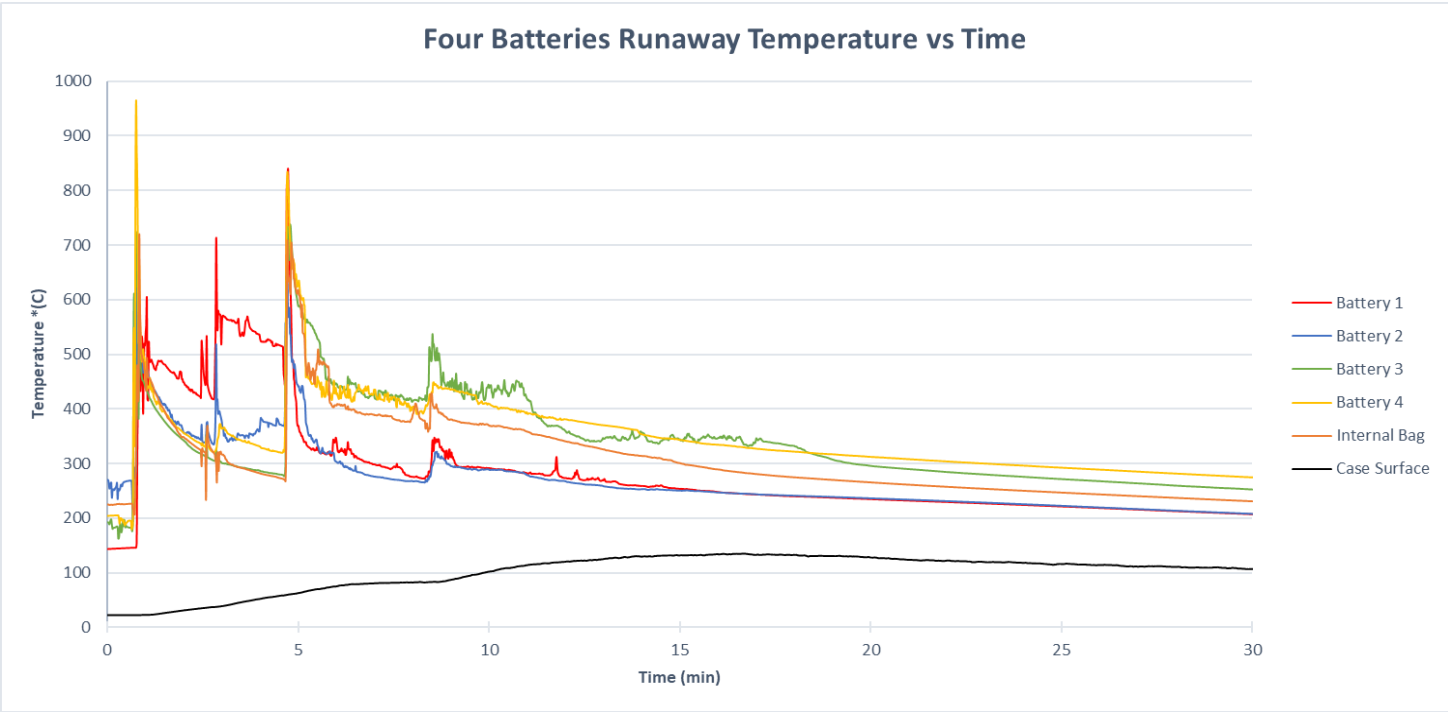


after

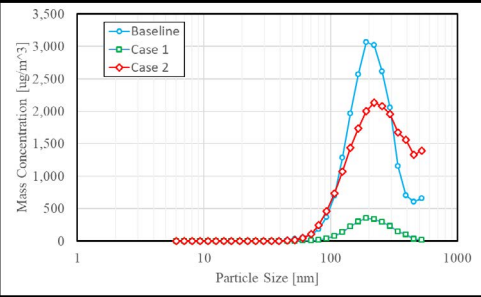
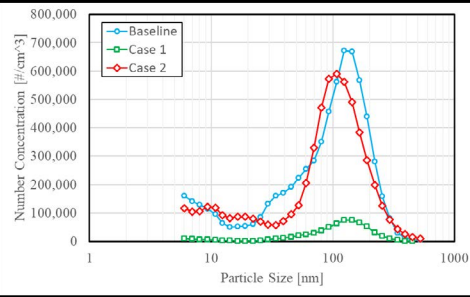
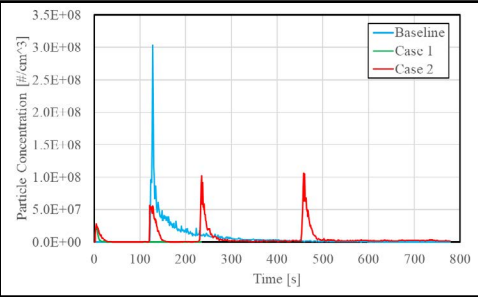


ZARGES Four Battery Test Results

Case surface temperature only reached 135 °C. Meets all known shipping regulations.



Particulate Analysis



ZARGES standard K 470 #40564

The ZARGES K 470 aluminum shipping and storage case provides perfect protection, even under the most extreme conditions. The K 470 is MIL-810G approved, lightweight, rugged, and dust and water resistant. Its durable construction provides optimal protection for any contents and is available in 26 standard sizes. Options include UN Certification for HazMat transport, IP 65 protection, a family of accessories, foam and finishes, or custom fabrication.

Capacity and Capabilities

- Extreme fire resistance inside and out assures containment of all fire and particulate with a standard IP54 enclosure that is UN Certified PGI and ATA 300 Category 1 at the absolute highest level.
- Assures the prevention of thermal runaway, thereby limiting released gases.
- Cases are easily stackable and conform well to a standard 463-L. Each case is supplied with tie-down features for secure transport.
- Interior packaging provides for mitigation of >10g in a 30g 11 ms shock curve and can withstand open cargo per MIL-810.
- ZARGES case can be delivered either IP 54, IP 65 with UN approval.
- ZARGES will reduce toxic gases.
- ZARGES delivers a COTS solution at <27# and reduces the occurrence of adjacent batteries entering thermal runaway in a modified COTS solution with minimal NRE.



Standard product:

K 470 40564, IP 54 rated case, special inner bag, intumescent pillows, SMCL approved materials

Options:

- Custom paint and stencils.
- HAZMAT certification.
- Upgraded IP 65 rating.
- Additional tie down eyes.
- Artic mitten handles.
- Custom sizing.
- Lockable latches.
- Alternative inner packaging.



Contact:

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phone: 888-357-6285 • ZargesUSA.com

ZARGES is a global supplier of storage and transport equipment, used in a multitude of industries and companies worldwide. Our lightweight aluminum cases are appropriate for safe and secure storage and transport of Lithium Ion batteries.

- Over 87 years in the industry
- 30+ years of hazmat protection and experience.
- 100 years of combined on-staff expertise in hazmat
- Produce 2,000+ cases per week