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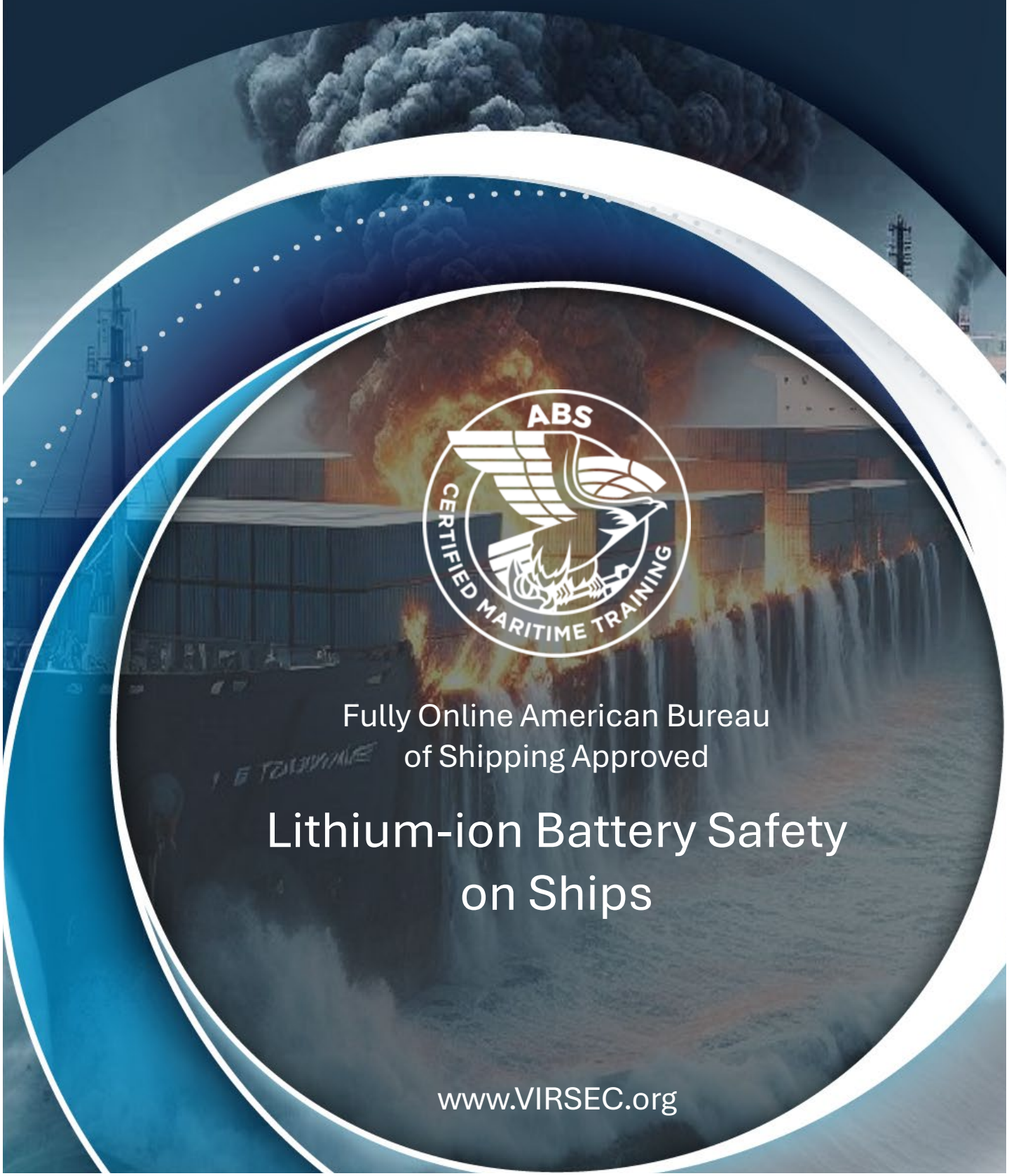

Fully Online American Bureau of Shipping Approved

Lithium-ion Battery Safety on Ships

www.VIRSEC.org

About the Course

Lithium-ion batteries are rapidly becoming an integral part of modern maritime operations, powering a wide array of devices and systems from personal electronics like smartphones and laptops to larger applications such as electric vehicles (EV's) and cargo-handling equipment.

These batteries offer unparalleled benefits in terms of energy efficiency and performance, helping to reduce emissions and fuel costs.

However, despite their advantages, lithium-ion batteries also pose unique safety challenges, particularly in the marine environments, where improper handling or storage can lead to serious hazards such as fires, explosions, or toxic gas release.

VIRSEC provides maritime training for an online "Lithium-Ion Battery Safety on Ships" course which empowers maritime professionals with the knowledge and skills to mitigate risks and ensure safe operations.

Target Audience

This essential maritime training course is tailored for ship crew, officers, port personnel, MAIB, DPAs, emergency response teams, and shoreside managers interacting with lithium-ion batteries and EVs in the maritime environment.

Whether you use battery-powered equipment, oversee EV loading or charging operations, or need to provide confident leadership in implementing safety procedures, this course is for you.

Aim of the Course

This course aims to equip learners with the essential knowledge and skills required to handle, store, and transport Lithium-ion (Li-ion) batteries safely on ships.

Given the specific hazards associated with Lithium-ion batteries, including thermal runaway, chemical leakage, and potential fire and explosive risks, this course provides comprehensive guidance on best practices for safe storage, handling protocols, emergency response, and regulatory compliance.

Learners will gain a clear understanding of the unique risks Lithium-ion batteries present in maritime environments and learn strategies to mitigate these risks, ensuring the safety of crew, cargo, and vessel alike.

Awarding Body

Once the Learner has successfully completed this online course, they will receive an American Bureau of Shipping (ABS) Approved, Lithium-ion Battery Safety on Ships Certificate from VIRSEC.

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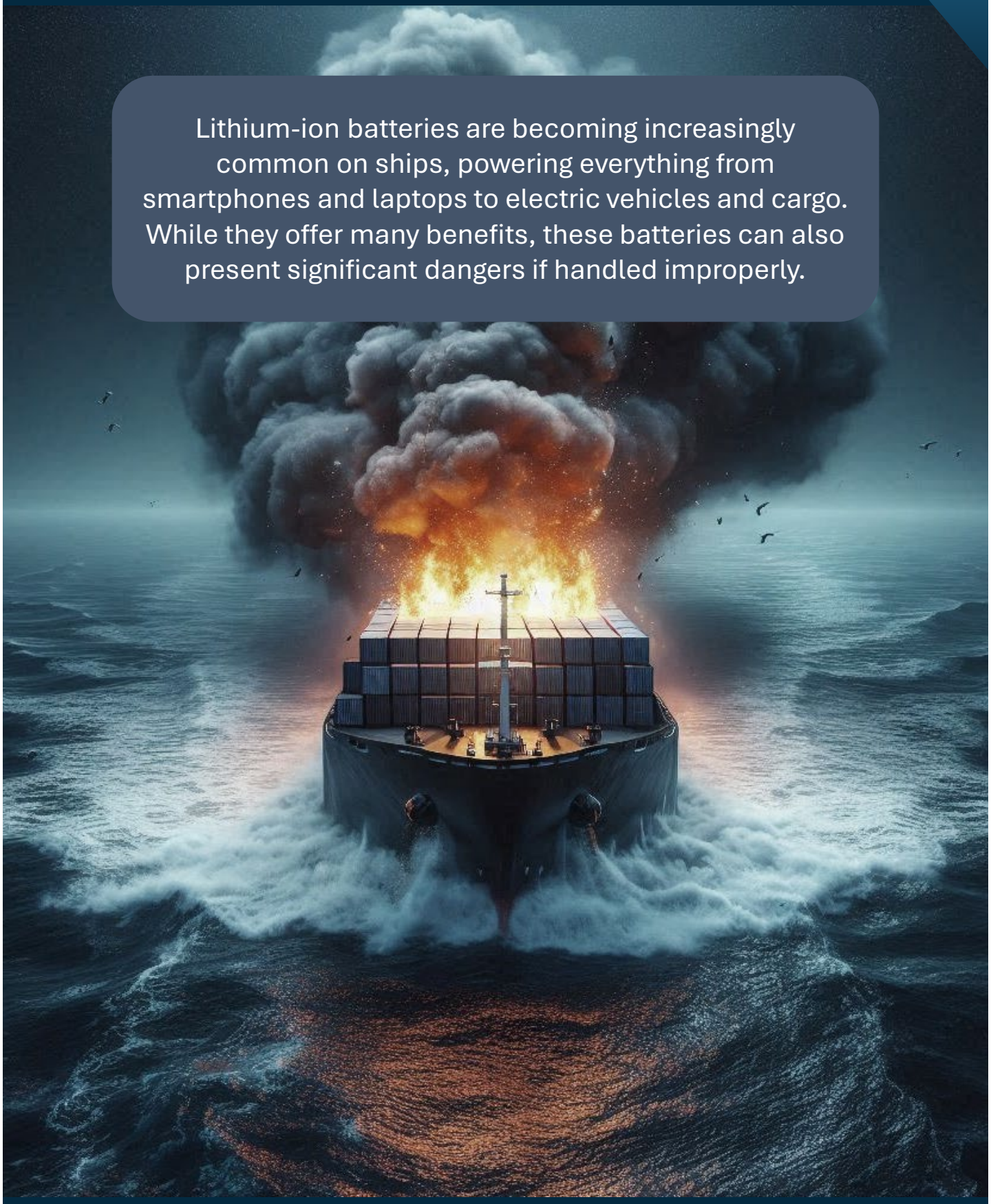
Lithium-ion batteries are becoming increasingly common on ships, powering everything from smartphones and laptops to electric vehicles and cargo. While they offer many benefits, these batteries can also present significant dangers if handled improperly.



MERSEY MARITIME MEMBER

ARMED FORCES COVENANT

Maritime & Coastguard Agency
MCA accredited course provider

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Course Learning Objectives

Upon completing this course, the Learner will be able to:

1. Identify at least five common locations where lithium-ion batteries are found on ships
2. Understand the risks associated with the carriage of EVs on RoRo's, RoPax, Ferries, and PCTCs
3. Explain the basic functional processes of lithium-ion batteries
4. Recognise battery abuse conditions and at least three types of hazardous battery defects
5. Describe the characteristics of toxic and explosive gases emitted from lithium-ion batteries
6. Understand the hazards of thermal runaway and appropriate responses to battery fires
7. Evaluate the suitability of water-based fire suppression systems for lithium-ion battery fires
8. Identify at least two types of specialist equipment for containing and suppressing lithium-ion battery fires
9. Understand the best practices necessary for the safe loading, stowage and charging of EVs on RoRo, RoPax, Ferries, and PCTCs.

Course Subjects

The Online Lithium-ion Battery Safety on Ships Course includes the following subjects:

- The development of Li-ion battery technology
- How Li-ion batteries function
- Where Li-ion batteries can be found on yachts
- Recognising and preventing Li-ion battery abuse
- The statutory need for hazard identification for Li-ion batteries
- Toxic and explosive gas hazards
- Fire and thermal runaway
- Basic fire theory as applied to Li-ion battery fires
- Fixed firefighting systems on yachts
- Advanced equipment and solutions for tackling Li-ion fires
- Safe battery storage handling and disposal
- Safe battery charging practices

Course Duration

The duration of the online Lithium-ion Battery Safety on Ships Course is 3.5 to 4 hours depending on the individual reading speed of the Learner.

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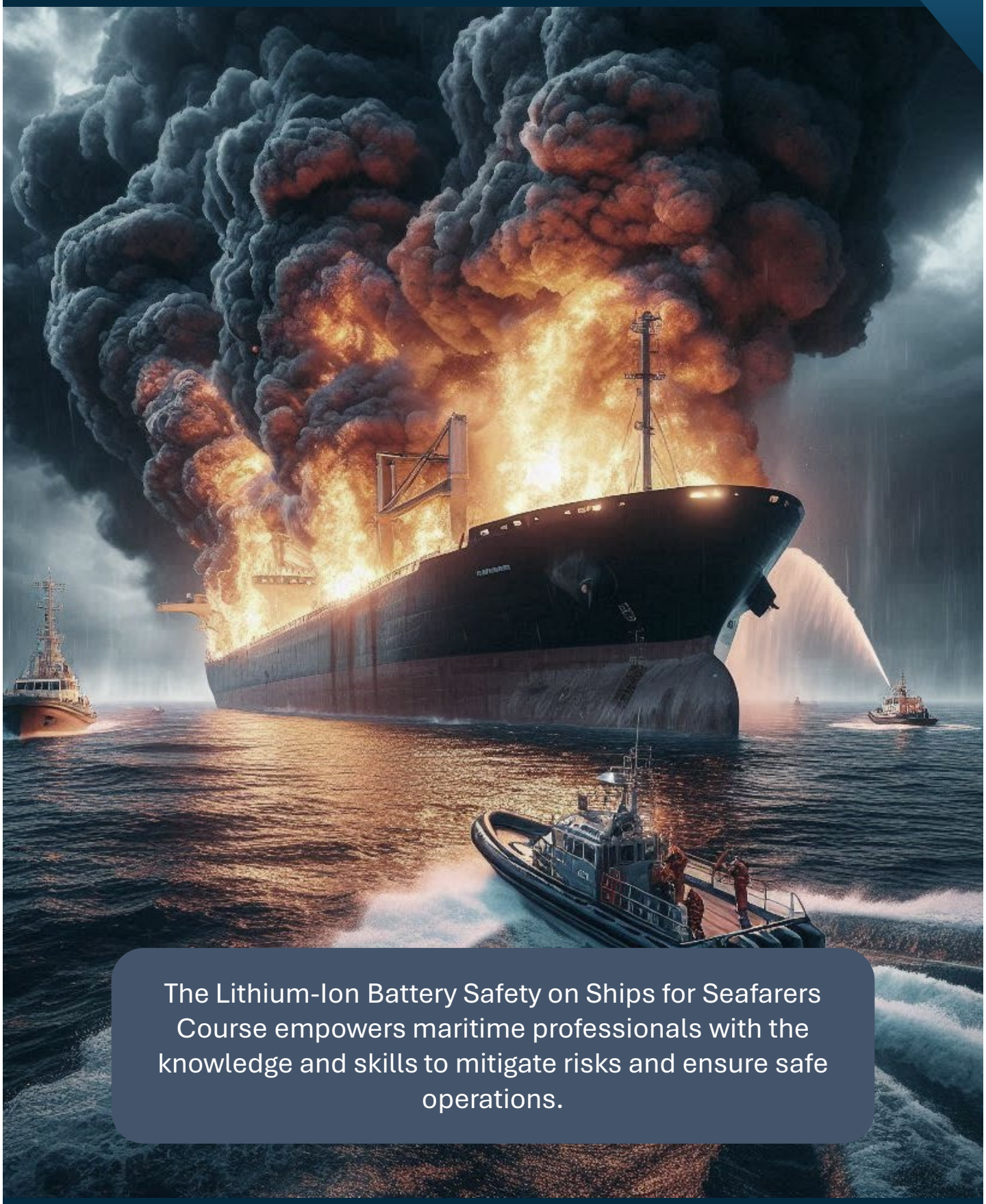

The Lithium-Ion Battery Safety on Ships for Seafarers Course empowers maritime professionals with the knowledge and skills to mitigate risks and ensure safe operations.

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Compliance Statements

Adherence to the ISM Code

According to ISM Code 6.3, yacht managers are mandated to establish procedures ensuring personnel, particularly those in safety and environmental roles, are adequately familiarised with their duties.

Our course fulfils this requirement by delivering comprehensive training in lithium-ion battery safety, demonstrating a commitment to meeting ISM Code obligations and ensuring personnel are well-versed in safety protocols.

Alignment with ISM Code 6.5 Standards

ISM Code 6.5 emphasises the importance of identifying and providing necessary training to support safety management systems.

The “Lithium-ion Battery Safety Awareness for Superyachts” course aligns with this directive, offering thorough insights into lithium-ion battery safety to equip all personnel with essential training for safe superyacht operations.

Compliance with STCW Convention Regulation I/14-5

STCW Convention Regulation I/14 – 5 underscores the necessity for companies to acquaint seafarers with their duties, ship arrangements, equipment, and relevant procedures.

Our course goes beyond theoretical frameworks by imparting practical knowledge essential for handling routine and emergency situations involving lithium-ion batteries.

This empowers yacht managers to enhance crew competency in accordance with the STCW Convention.

Course Certificate

Upon successfully completing this online course, Learners will be able to open, save, and download a copy of the ABS Approved, Certificate of Course Completion provided in Partnership between VIRSEC and Mariner House.

Bulk Purchases

Book your Online Lithium-ion Battery Safety on Ships Course at VIRSEC, where you can learn about Maritime Safety Training.

If you have any questions about the course or any of our other Maritime Courses, please contact us to inquire about bulk purchasing and associated discounts.

You can also call us on +44 (0)161 763 4427 and one of our team members will happily assist you.

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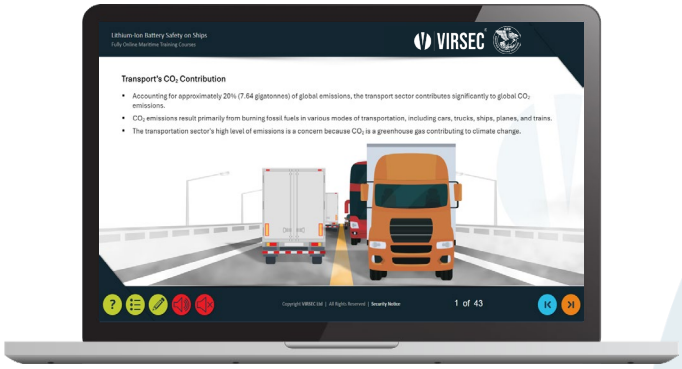
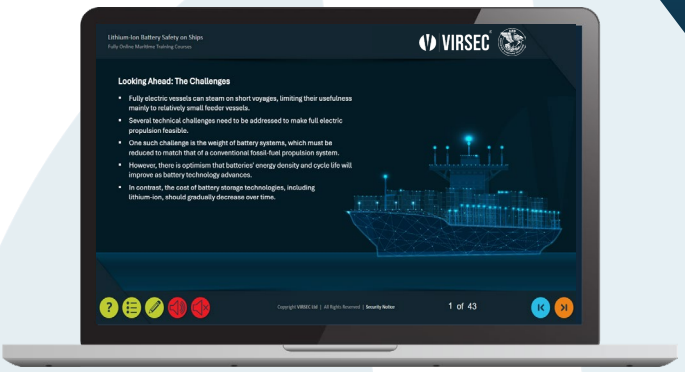
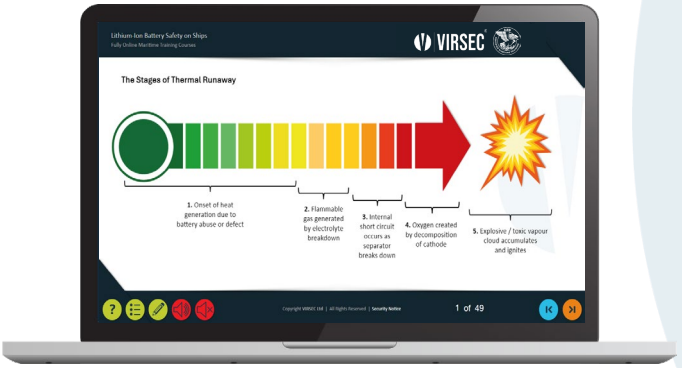
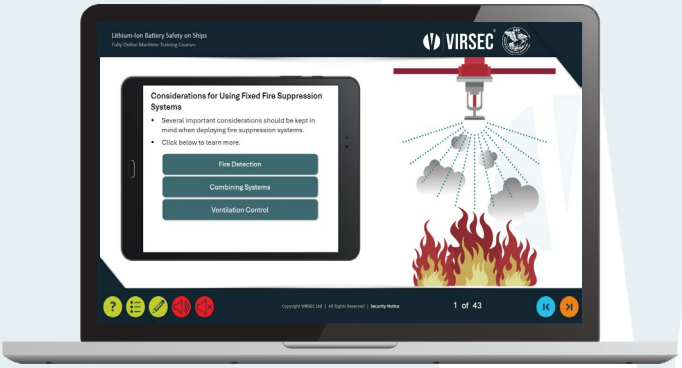
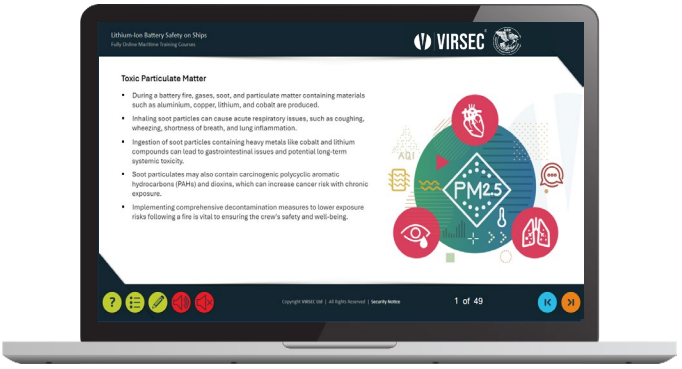
Sample Course Slides

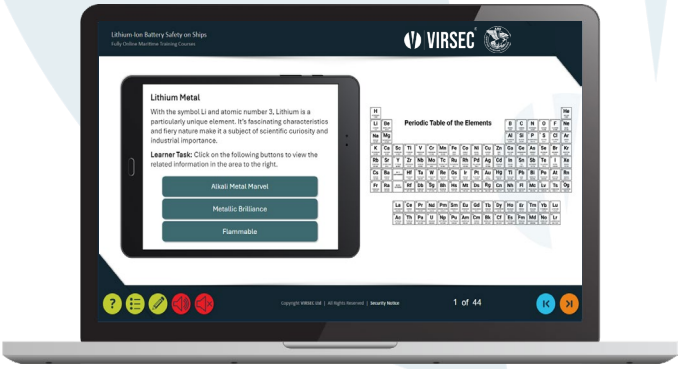












+44 (0)161 763 4427
www.virsec.org
training@virsec.org

VIRSEC®

Contact Us

VIRSEC Ltd.
Canada House
3 Chepstow Street
Manchester
M1 5FW
United Kingdom

T: +44 (0)161 763 4427
E: training@virsec.org
W: www.virsec.org