MARS

MARS Report 409 | November 2026

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Note to readers: For some time, we have provided the URL links to the published reports used in MARS, most recently as QR codes. MARS reports do not always cover the entirety of the findings of each report, nor are they intended to. Providing these links allows readers to access the entire report if they so choose and delve into the minutiae of the accident to find extra value.

Unfortunately, URL links may change or become unsupported, so that the old link no longer works. To keep MARS 'evergreen', from this issue we will also reference the IMO Global Integrated Shipping Information System (GISIS) occurrence number, where available. This number remains unchanged. Readers can use this number in a search of the IMO GISIS database at the 'Marine Casualties and Incidents' section. You can access this database by registering for a personal account. These are available to anyone who wishes to register, is free of charge.

MARS 202635

Lashing hook/D-ring incompatibility leads to cargo fires

A bulk carrier was underway with a cargo of lithium-ion battery energy storage system (BESS) units and heat exchangers stowed in two cargo holds. Each BESS unit was secured with four polyester ratcheted lashing belts. These were hooked to D-rings that were held in place by brackets welded to the deck.

While transiting the North Pacific in heavy weather, the vessel rolled severely and shipped water over the hatches. The Master altered course to allow the crew on deck to check the cargo. They found that several BESS units on the tween deck of one hold had broken loose and shifted.

At around the same time, the chief officer saw black smoke coming from a manhole cover into the same hold that had just been opened. The alarm was sounded and the crew mustered. Once the second hold was confirmed clear of fire, and the first hold's ventilation secured and the space vacated, the Master ordered a full discharge of the fixed CO_2 system into the affected hold. The fire was declared extinguished later that day, and the crew re-lashed the units that had shifted.

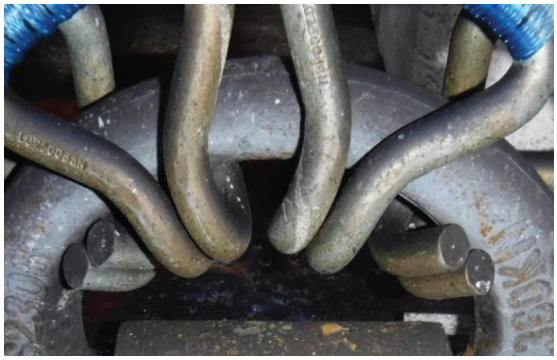
Three days later, again in heavy weather, a fire alarm sounded for the second cargo hold and smoke was seen coming from its ventilation. With no CO_2 remaining, the vessel's course was altered to reduce rolling and pitching. Crew then sprayed the hold exterior with seawater for several hours until infrared checks confirmed the temperature was falling. The vessel proceeded to a port of refuge, where the fires were confirmed extinguished.
No injuries had occurred, but damage was later estimated at $3.8 million. The investigation found that 41 of the 160 BESS units on the tween decks had broken loose, and three of these had suffered an internal fire.

A mismatch between the lashing belt hooks and the D-rings was the main contributing factor. The D-rings were too large in diameter for the hook throats, so only the tip of each hook engaged the ring instead of its full depth. This concentrated load at the bend of the hook rather than spreading it across the throat, and hooks began to fracture under the motion of the ship. As each hook failed, the remaining hooks and welded brackets on the unit took increasing load, leading to further hook fractures and, in some cases, brackets tearing away from the deck.

Once free of their lashings, the units shifted and

struck each other and the ship's structure. The now damaged battery packs and their exposed busbars contacted the unit's internal structure, short-circuiting the cells. This triggered thermal runaway in three units, producing the fires.

The mismatched hook-to-D-ring fitment had not been identified as a risk by the crew, the stevedores, or the parties overseeing the cargo securing, since the storage and lashing plan specified only the required breaking load and not the physical compatibility of the fittings.



Hooks engaged the ring only at the tip instead of at full depth

Lessons learned

- Fittings – hooks, D-rings, shackles – must be checked for physical compatibility. A hook that cannot fully seat on a ring will concentrate the load at its weakest point and may not hold to its rated strength.
- Cargo securing plans and pre-departure inspections should include a check that lashing hardware is correctly matched, not only that it is rated to the required load.
- Lithium-ion battery cargo that breaks free and suffers internal structural damage is at risk of thermal runaway and fire, even where the packaging shows only modest external damage. Internal shelf and rail deformation may not be visible from outside.

As edited from NTSB (USA) report MIR-25-41
IMO GISIS occurrence number not yet assigned

MARS 202636

Laundry inferno destroys ship

A chemical tanker was on passage in ballast, having discharged its cargo of ethanol. At about 1725, the officer on watch in the engine control room noticed smoke coming from behind a fluorescent light fitting. As a precaution, the generator and main engine were stopped while the crew searched the engine room for the source – but no fire was found.

Shortly afterward, smoke was seen coming from the port side of the accommodation. It was found to be emanating from the laundry room; smoke was escaping from around the door, and the door itself was hot to the touch. The fire spread very rapidly through the accommodation. Crew attempted to fight the fire in fire fighting kit, but could not get close to the seat of the fire due to dense smoke.

To complicate matters, because the generator had been shut down, the fire pump could not be run. The emergency fire pump, located in the steering gear room, could not be used either, as that space had filled with dense black smoke preventing access. All fire hoses were therefore useless.

With fire fighting effectively impossible, the Master ordered abandon ship. A distress call was broadcast and all 12 crew abandoned safely into the lifeboat without injury. Minutes after the crew cleared the vessel, flames reached the bridge structure and explosions occurred. The crew were recovered about an hour later by a passing containership and transferred to a Coast Guard vessel.

The fire burned until it was extinguished by the Coast Guard the following afternoon. The vessel was declared a total constructive loss and was later scrapped.



The investigation found, among other things:

- The vessel's fire alarm system did not activate; smoke in the laundry room was only detected by chance via a duct/void connection to the engine control room. This delayed detection and allowed the fire to grow without intervention.
- No smoke or heat detectors were operating in the laundry space itself.

- The exact ignition source could not be conclusively determined, but the evidence pointed toward an electrical fault in the laundry machinery as the most probable cause.
- The laundry room contained combustible materials besides the machines themselves, such as lint/fibre from oil filter wraps, filters, mattress sponge, and cleaning chemicals, increasing the fuel load.

Lessons learned

- Laundry rooms are a well-known but often underestimated fire hazard. Unattended operation, heat-generating machinery and accumulated lint/fibre create ideal conditions for rapid fire growth. These spaces deserve careful management and dedicated smoke/heat detection.
- Before securing power or isolating machinery as a 'precaution', consider what fire fighting capability you may be removing – especially fire pump availability – until the actual source and severity of a problem is confirmed.
- A functioning fire detection system is often the difference between early intervention and total loss.

As edited from UEIM (Türkiye) report, Board Decision No. 01/D-01/20241
IMO GISIS occurrence number C0009094

MARS 202637

Wood pellet fires

Over a two-week span, two hopper barges loaded with wood pellets containing binders caught fire as a result of spontaneous combustion while awaiting transport at a fleeting facility (barge holding area). Each fire caused considerable damage, including total cargo loss and significant vessel damage. While spontaneous combustion is not common, it is also not unprecedented.

The International Maritime Solid Bulk Cargoes Code (IMSBC) notes that 'wood pellets containing additives or binders may ferment over time if moisture content is over 15% leading to generation of asphyxiating and flammable gases which may cause spontaneous combustion'.

Assessment of other wood pellet barges revealed the presence of several hazards that can lead to spontaneous combustion, including:

- Visible moisture;
- Cargo decay and discolouration;
- Elevated cargo hold temperatures (75 C/168 degrees F);
- Carbon monoxide and hydrogen sulphide gas generated by cargo decomposition.

Some of these conditions likely preceded both fires.

Unfortunately, the first identified hazard was visible smoke from already smouldering pellets. Heat from the smouldering cargo melted the hopper covers, introducing oxygen to a volatile situation, resulting in rapid and uncontrollable fire growth.

Lessons learned

- With such cargoes, take steps to isolate cargo from external moisture sources. These include ceasing cargo operations during inclement weather and maintaining hopper covers to prevent rain ingress during transport.
- Plan deliveries to minimise long term storage, particularly storage on board barges.
- Conduct routine temperature readings to detect early-stage cargo decomposition.
- Ensure personnel conduct frequent rounds to identify signs of smouldering.

As edited from USCG Safety Alert 10-23



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