



SAFETY INVESTIGATION REPORT

202204/005

REPORT NO.: 06/2023

April 2023

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Moreover, it is not the purpose of marine safety investigations carried out in accordance with these regulations to apportion blame or determine civil and criminal liabilities.

NOTE

This report is not written with litigation in mind and pursuant to Regulation 13(7) of the Merchant Shipping (Accident and Incident Safety Investigation) Regulations, 2011, shall be inadmissible in any judicial proceedings whose purpose or one of whose purposes is to attribute or apportion liability or blame, unless, under prescribed conditions, a Court determines otherwise.

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MV CMA CGM RABELAIS **Fire in a cargo container on deck,** **leading to a serious injury to a crew member** **during the fire-fighting operation,** **in position, 06° 19' N 094° 30' E** **06 April 2022**

SUMMARY

Whilst the vessel was *en route* to its destination, a fire broke out in a container loaded on deck. This container was not declared to be carrying any dangerous goods.

Although the crew members immediately commenced firefighting, the fire eventually spread to the neighbouring containers, several of which contained dangerous goods.

During the fire-fighting operations, the chief officer fell while descending a portable ladder and suffered

serious injuries. The ladder had not been secured, and it was likely that it slipped or tipped over.

While the exact cause of the fire could not be determined, the safety investigation believed that moisture may have come in contact with the cargo, causing it to decompose and ignite.

Following due consideration by the MSIU of the safety actions taken by the Company following the fire, and no recommendations have been issued.



FACTUAL INFORMATION

Vessel

CMA CGM Rabelais was a 72,884 gt container vessel, built in 2010 by Sungdong Shipbuilding & Marine Engineering Co. Ltd., Republic of Korea. The vessel was owned by Boxcarrier (No. 4) Corp. and managed by Danaos Shipping Co. Ltd., Greece (the Company). Det Norske Veritas (DNV) acted as the classification society, as well as the recognized organization in terms of the International Safety Management Code, for the vessel.

CMA CGM Rabelais had a length overall of 299.97 m, a moulded breadth of 40.0 m and a moulded depth of 20.14 m. The vessel's summer deadweight was 83,317.9 metric tonnes (mt), which corresponded to a summer draft of 14.48 m, and a container carrying capacity of 6,552 TEU¹. At the time of the occurrence, *CMA CGM Rabelais* was loaded with 3,216 TEU of containerized cargo, which weighed a total of 68,665.4 mt, and was drawing a forward draught of 14.4 m and an aft draught of 14.48 m.

Propulsive power was provided by a 10-cylinder, two-stroke, single-acting, slow speed, MAN B&W 10K98MC-C6 marine diesel engine, which produced 57,100 kW of power at 104 rpm. This drove a fixed-pitch propeller, enabling *CMA CGM Rabelais* to reach an estimated speed of 26 knots.

Crew and other personnel on board

The Minimum Safe Manning Certificate of *CMA CGM Rabelais* prescribed a crew of 15. Around the time of the occurrence, there were 21 crew members on board, comprising of Russian and Ukrainian nationals, along with a Company's superintendent and four service technicians.

The master was a 54-year-old Russian national. He had 22 years of seafaring

experience, 14 of which were served in the rank of a master with STCW² II/2 qualifications. His certificate of competency was issued by the Russian maritime authorities in 2006. He had been employed with the Company since 2013, serving as a master on container vessels of a similar size to *CMA CGM Rabelais*. The master had joined the vessel on 25 December 2021, at the port of Singapore.

The injured chief officer (C/O) was a 38-year-old Russian national. He had 17 years of seafaring experience, and this was his first employment term as a chief officer. He held STCW II/2 qualifications for a chief officer and his certificate of competency was issued by the Russian maritime authorities in 2017. He had been employed with the Company since 2010, serving in various ranks. The C/O had also joined the vessel on 25 December 2021, at the port of Singapore.

The third officer (3/O) was a 37-year-old Ukrainian national. He had 11 years of seafaring experience, and this was his first employment term as a third officer. He held STCW II/1 qualifications, and his certificate of competency was issued by the Ukrainian maritime authorities in 2018. He had been employed with the Company since 2008, serving in the ranks of an ordinary seafarer and an able seafarer (deck). The 3/O had joined the vessel at the port of Kwangyang, Republic of Korea, on 02 September 2021.

Environment

Information from the vessel indicated that, on the day of the occurrence, the sky was clear, and the visibility was 10 nautical miles (nm). The wind was blowing from the West, reaching Force 3 on the Beaufort Scale. The sea state was recorded as slight, with a 0.5 m-high Westerly swell. The air and sea

¹ Twenty-foot equivalent unit.

² IMO. (2020). *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978* (Consolidated ed.). London: Author.

temperatures were recorded as 33 °C and 28 °C, respectively.

Narrative³

CMA CGM Rabelais departed from the port of Singapore on 05 April 2022, at 0400, bound for Nhava Sheva, India.

On 06 April, at 2000, just as the 3/O took over the navigational watch from the C/O, he sensed a strong unusual smell. He also noticed a cloud of white smoke rising from between the containers stowed in the forward part of the vessel. The C/O was still on the bridge, completing the deck logbook. Soon after, a smoke detector in the accommodation triggered the vessel's fire alarm. The 3/O immediately called the master, who was carrying out administrative tasks in his cabin.

With the master's cabin being just across the stairway leading up to the bridge, he was on the bridge in no time. He immediately instructed the C/O and 3/O to go down to the muster station, inform the rest of the crew of the matter, and proceed to investigate the cause of the smoke. In the meantime, the second officer arrived on the bridge to assist the master. The C/O and 3/O proceeded as instructed and the Company's superintendent accompanied them to investigate the cause of the smoke. At about this time, the master transmitted a DSC⁴ distress alert, via the vessel's MF/HF radio equipment.

At 2010, the crew members found that a twenty-foot container loaded on the forward, starboard hatch cover of cargo hold no. 4 was on fire. This container was not marked to be containing dangerous goods.

The crew members noted the position of this container as 27-05-82⁵. There were four tiers

of TEUs loaded in this row of the bay, and the crew members observed the flames reaching the IMDG⁶ Class 3 tank containers in the two tiers directly above (tiers 84 and 86) and damaging the insulation of these two containers.

Approaching closer to the container on fire, they noticed that its door was bulging out and was partially open. They also noticed some small white tablets in the vicinity of its door. They informed the master about the situation, who in turn notified the Company.

In the meantime, the C/O went back into the accommodation to consult the supplement of the IMDG Code⁷ for the prescribed fire-fighting measures, based on the IMDG Class 3 tank containers stowed above. As the container on fire was not marked with any IMDG Class, its cargo documents had not been provided to the vessel.

At 2020, fire-fighting actions were initiated and at 2026, as the relative wind was from ahead, the master stopped the main engine to minimize the amount of smoke entering the accommodation spaces.

Almost all crew members were engaged in boundary cooling and fire fighting around the aft section of bay 27, with the 3/O and an ordinary seafarer carrying out boundary cooling of the containers from the forward section of bay 25. Access to gaps between the 20-foot containers loaded in bays 25 and 27 was impossible. The 40-foot containers loaded in rows 03 and 09, on bay 26, blocked the access to these gaps.

The C/O then placed a portable ladder⁸ (**Figure 1**) against a container in the neighbouring row and climbed it. His

³ Unless otherwise specified, all times in this safety investigation report are local (LT = UTC + 8).

⁴ Digital Selective Calling.

⁵ Bay 27, Row 05, Tier 82.

⁶ International Maritime Dangerous Goods.

⁷ IMO. (2020). *International Maritime Dangerous Goods (IMDG) Code* (2020 Edition, incorporating amendment 40-20). London: Author.

⁸ The C/O recalled the height of the ladder being about 6 m.

intention was to check whether the fire had spread to the gaps between the 20-foot containers.



Figure 1: The portable ladder used (photographs taken 07 April 2022)

On confirming that the fire had spread to these gaps, he instructed the crew members to direct the jets of some fire hoses towards the gaps.

At around 2250, whilst the C/O began to descend the ladder, the ladder fell with the C/O still on it. Consequently, the C/O fell down a height of about 6 m onto the lashing bridge, between bays 27 and 29.

Crew members ran to check on the C/O and assist him as necessary. He informed them that he felt some pain around the right side of his rib cage and that he was finding it difficult to breathe normally. The crew members informed the master of the C/O's fall, while an able seafarer (deck) carried the C/O on his shoulders to the vessel's hospital. The master sought advice from CIRM⁹, and updated the Company on the developments.

At 2330, the Company requested the vessel to proceed in the direction of Port Klang,

⁹ *Centro Internazionale Radio Medico*. A foundation based in Rome, Italy, which provides free, 24-hour medical advice and assistance to vessels with no doctors on board.

Malaysia. It also advised that arrangements were made for a fire-fighting tugboat to *rendezvous* with the vessel along the way. Around the same time, the vessel also received advice from CIRM on the medical treatment to be administered to the C/O.

Shortly after, *CMA CGM Rabelais* was underway, heading towards Port Klang. Meanwhile, the rest of the crew members continued with their fire-fighting efforts. In addition, cargo hold no. 4 was inspected at regular intervals, to ensure that the fire was not spreading into the cargo hold. **Figure 2** shows smoke emanating from bay 26, as seen from the bridge on 07 April.



Figure 2: Location of the fire

On 08 April, at 0315, the vessel met with the fire-fighting tug boat in position, 03° 31.21' N 100° 25' E. The tugboat immediately provided fire-fighting assistance. In the meantime, the Company, being in frequent contact with the master, arranged for a salvage company to provide the vessel with a shore fire team. The shore fire team arrived and boarded the vessel at 2117, following which, they assessed the situation, discussed, and agreed on a fire-fighting action plan with the crew members.

By 2300, the C/O was disembarked from the vessel onto a service boat arranged by the Company and was taken to a hospital in Port Klang. Fire-fighting actions continued, while the vessel intermittently shifted her drifting position according to instructions from the Company.

On 10 April, at 1115, the shore fire team punched holes into all containers affected by the fire and sprayed foam and water inside. At 1830, the shore fire team declared that the fire had been extinguished.

On 11 April, at 1435, the vessel received instructions from the Company to proceed towards the inner anchorage of Port Klang and at 2028, the vessel anchored in a position advised by the Port Klang authorities. The vessel eventually berthed at Port Klang on 18 April, where all the damaged containers were unloaded.

Injuries suffered by the C/O

As a result of the fall, the C/O suffered rib fractures on the right side of his chest and a collapsed right lung. Following medical treatment, he was discharged from the hospital, and repatriated on 02 May. He was expected to be fit for work between July and August 2022.

Damages sustained by the vessel

During the subsequent damage survey carried out by the vessel's classification society, it was found that the vessel did not sustain any structural damages due to the fire and/or the fire-fighting actions.

Cargo damages

A total of 14¹⁰ cargo containers were confirmed to have sustained damages from the fire. The cargo in the container where the fire had originated, was found to have been decomposed and mixed with burnt packaging material (**Figure 3**), while the container was structurally damaged by the fire (**Figure 4**).



Figure 3: Decomposed cargo inside the container



Figure 4: Container from where the fire originated
(seen in its actual stowed position: 27-05-82)

Besides this, the fire was restricted to the cargo containers loaded above the deck on bays 25, 26 and 27, extending mainly from rows 05 to 07 and tiers 82 to 88. A 40-foot container, loaded at 26-09-88, was also damaged.

Photographs of some of the damaged containers can be seen in **Figures 5 to 9**.

¹⁰ The Company informed the safety investigation that several other containers may have also been affected by the fire, although superficially.



Figure 5: IMDG Class 3 tank container which was stowed immediately above (27-05-84)



Figure 6: IMDG Class 3 tank container which was stowed immediately forward (25-05-82)



Figure 7: IMDG Class 3 tank container which was stowed at 27-07-84



Figure 8: IMDG Class 3 tank container which was stowed at 27-05-86



Figure 9: 40-foot container stowed at 26-09-88, as seen after it was unloaded from the vessel

Cargo in the container where the fire originated

The cargo documents¹¹ for the container in which the fire originated, indicated that it contained 920 cartons of oxygenic tablets, with each carton weighing 25.8 kg (gross). The cargo originated from Ningbo, China, and was to be delivered at Mumbai, India.

The Material Safety Data Sheet (MSDS) for the cargo indicated that its recommended use was for “oxygen supply for water quality on fishery” [*sic.*].

The MSDS confirmed that the IMDG Code did not apply to the cargo, and that the cargo was not flammable. However, in terms of fire hazards, it also stated:

Storage vessels involved in a fire may vent gas or rupture due to internal pressure. Damp material may decompose exothermically and ignite combustibles. Oxygen release due to exothermic decomposition may support combustion. May ignite other combustible materials. Avoid contact with incompatible materials such as heavy metals, reducing agents, acids, bases, combustibles (wood, paper, cloths etc.). Thermal decomposition releases oxygen and heat. Pressure bursts may occur due to gas evolution. Pressurization if confined when heated or decomposing. Containers may burst violently [*sic.*]

The MSDS also listed conditions which had to be avoided, namely: exposure to water,

¹¹ The cargo documents and material safety data sheet were made available to the vessel days after the fire had started.

acids, bases, salts of heavy metals, reducing agents, organic materials, and flammable substances.

Additionally, oxygen was listed as the only hazardous decomposition product of this cargo, with the MSDS stating:

Contamination with many substances will cause decomposition. The rate of decomposition increases with increasing temperature and may be very vigorous with rapid generation of large volume of oxygen and steam [*sic*].

Further information on the oxidizing properties of the cargo were not available to the safety investigation. Nonetheless, the section on regulatory information of the MSDS stated that the cargo was classified under Classes C and D2B of the WHMIS¹². The safety investigation noted that these classes were under the WHMIS 1988 classification system. Class C of the WHMIS included oxidizing material and Class D2B included toxic materials causing other toxic effects¹³.

Chemical composition and uses of the cargo

The MSDS indicated that the cargo was a chemical mixture of Sodium percarbonate¹⁴ (< 45%) and Sodium sulphate anhydrous (> 55%).

Sodium sulphate anhydrous (Na₂SO₄) is used in laboratories as a drying agent, for

removing traces of water from organic solutions. It is a standard laboratory reagent that can be also used in the preparation of other sodium salts. It is also used by various industries, such as textile, glass, wood pulp, pharmaceutical, *etc.*, with its largest use being as a filler in laundry detergent powders¹⁵.

Sodium Percarbonate (C₂H₆Na₄O₁₂ or 2Na₂CO₃.3H₂O₂) is used by industries and laboratories as an oxidising agent, and in households as a cleaning / bleaching product. Its rapid liberation of Hydrogen Peroxide, after dissolving in water, has resulted in its increasing use in detergent powders¹⁶. When dissolved in water, Sodium Percarbonate also releases Oxygen¹⁷.

Hazards related to sodium sulphate anhydrous and sodium percarbonate

Sodium sulphate anhydrous is neither classified as a combustible substance nor does it fall under any of the IMDG Code classes. However, it decomposes on heating, to form sodium oxides and sulphur oxides, giving off irritating / toxic fumes (or gases) in a fire¹⁸.

¹² Workplace Hazardous Materials Information System is a system of Canada's requirements for the hazard classification and communication for workplace chemicals. This system was updated in 2015, to incorporate the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Retrieved from: <https://whmis.org/>

¹³ WHMIS classifications. Retrieved from: https://www.ccohs.ca/oshanswers/legisl/whmis_classification.html

¹⁴ Proper shipping name: Sodium Carbonate Peroxyhydrate.

¹⁵ Sodium sulphate anhydrous (SSA). Retrieved from <https://stppgroup.com/products/detergent-chemicals/sodium-sulphate-anhydrous/>

¹⁶ Xing L., Zhuo B., Bakalis S., Castro J., & Zhang Z. (2017). Coating of sodium percarbonate particles using water soluble materials in a fluidised bed to achieve delayed release in aqueous environment. *Cogent Engineering*, 4(1), 1-18, Article 1372730. <https://doi.org/10.1080/23311916.2017.1372730>

¹⁷ Yue-hua, Z., Chun-Mei, X., Chang-Hong, G. (2011). Application sodium percarbonate to oxidative degradation trichloroethylene contamination in groundwater. *Procedia Environmental Sciences*, 10, (Part B), 1668-1673. <https://www.sciencedirect.com/science/article/pii/S1878029611004579>

¹⁸ International Chemical Safety Cards – Sodium Sulphate Anhydrous. Retrieved from: https://www.ilo.org/dyn/icsc/showcard.display?p_version=2&p_card_id=0952

Sodium percarbonate is also not classified as a combustible substance. By itself, however, it falls under Class 5.1 of the IMDG Code, *i.e.*, oxidizing substances. It enhances the combustion of other substances and poses a risk of fire and explosion. If the temperature of the substance exceeds 50 °C, a self-accelerating decomposition can occur, releasing heat, oxygen, and steam. Furthermore, it decomposes on contact with water, creating a fire and explosion hazard¹⁹.

The thermal decomposition of sodium percarbonate (in solid state) would give sodium carbonate (solid), steam and oxygen (gas)²⁰:



The steam and the oxygen evolve from the decomposition of hydrogen peroxide (H₂O₂).

Records of hours of work / rest

The vessel's records indicated that the crew members' work / rest hours complied with the STCW requirements.

Post-accident drug / alcohol tests

Drug / alcohol tests were not carried out immediately after the occurrence.

ANALYSIS

Aim

The purpose of a marine safety investigation is to determine the circumstances and safety factors of the accident as a basis for making recommendations, and to prevent further marine casualties or incidents from occurring in the future.

Seat of the fire

Based on the crew members' accounts and other data received from the vessel, it was concluded that the fire started from within the cargo container stowed on the forward, starboard hatch cover of cargo hold no. 4, in location 27-05-82. This container was not marked as containing dangerous goods.

There were no indications on the definite cause of the fire. After the container was unloaded, laboratory tests²¹ of cargo samples were initiated by the Company. However, these tests were also unable to confirm the exact cause of the fire, particularly due to the burnt packaging material mixing with the decomposed cargo during the fire.

The fire eventually spread and damaged adjacent cargo containers.

Cause of the injuries to the C/O

As mentioned earlier, the C/O was injured when the portable ladder he had just started to descend, fell. While none of the crew members could identify the exact reason why the ladder fell, information received by the MSIU confirmed that the ladder had not been secured. Therefore, it was highly likely that, while the C/O was descending, the ladder either slipped or tipped over and fell, with the C/O landing on the railings and / or other fittings in the lashing bay.

¹⁹ International Chemical Safety Cards – Sodium Percarbonate. Retrieved from: https://www.ilo.org/dyn/icsc/showcard.display?p_lang=en&p_card_id=1744&p_version=2

²⁰ Nakano M., Wada T., Koga N. (2015). Exothermic Behaviour of Thermal Decomposition of Sodium Percarbonate: Kinetic Deconvolution of Successive Endothermic and Exothermic Processes. *The Journal of Physical Chemistry*, 119, 9761-9769. Retrieved from: <https://pubs.acs.org/doi/pdf/10.1021/acs.jpca.5b07044>

²¹ The laboratory tests comprised of Scanning Electron Microscopy coupled with Energy Dispersive X-ray analysis, Powder X-ray Diffraction, and Raman Spectroscopy.

Bearing in mind the circumstances the crew members were facing with the fire on board, it was likely that securing the ladder may not have been a priority, if not perceived to be time consuming during the uncertain instances surrounding the fire.

Probable cause of the fire

Both components of the cargo were non-combustible. However, both would have decomposed on heating, with sodium sulphate anhydrous giving off irritating / toxic fumes and sodium percarbonate (being an oxidizing substance) enhancing the combustion of other substances and posing the risk of fire. The latter can also decompose on contact with water, generating a fire and explosion hazard.

The above suggested that moisture coming in contact with sodium percarbonate may result in a fire, which would be further aggravated by the thermal decomposition of sodium percarbonate.

Sodium sulphate anhydrous is used in the detergent powder industry to coat sodium percarbonate. The aim of such coating is to control the release of sodium percarbonate, since the latter, when dissolved in water, rapidly releases hydrogen peroxide, an active bleaching agent²². In other words, sodium sulphate anhydrous reduces the oxidization rate of sodium percarbonate. This could likely explain the use of this chemical composition for the manufacturing of the cargo which caught fire on board *CMA CGM Rabelais*.

With reference to the cause of the fire, the possibility of moisture coming in contact with the cargo could have materialised due to damaged packaging material along with any or a combination of the following factors²³:

- humidity (resulting in container sweat), considering that the vessel was transiting through a tropical region;
- wet packaging material, at the time of loading; and / or
- rainwater ingress inside the container, due to defective sealing of the container doors.

Bearing in mind the hazards stated in the MSDS, in particular: *Damp material may decompose exothermically and ignite combustibles*, the safety investigation believed that the moisture coming in contact with the cargo may have likely caused it to decompose and ignite the packaging.

Classification of the cargo under the IMDG Code²⁴

The cargo of oxygenic tablets was not listed in the IMDG Code. Furthermore, whilst sodium carbonate peroxyhydrate was listed as a Class 5.1 (oxidizing substances), under UN No. 3378, sodium sulphate anhydrous was also not listed in the IMDG Code.

The IMDG Code specified tests^{25,26} to determine whether substances could be classified as oxidizing solids of Class 5.1. Information as to whether these tests had been conducted on the cargo and, if conducted, the results of these tests, were not made available to the safety investigation.

was also possible, especially if the packaging had been damaged.

²⁴ *Vide* Footnote 7.

²⁵ (UN). 2019. *Manual of Tests and Criteria* (Seventh revised edition), as amended, Part III, Section 34, 381-399. New York and Geneva: Author. Retrieved from: <https://unece.org/transport/dangerous-goods/rev7-files>

²⁶ The Company informed the safety investigation that since the cargo had decomposed during the fire, the cargo samples obtained after the occurrence could not be tested in accordance with the specified and established test procedures.

²² *Vide* Footnote 14.

²³ The safety investigation was informed that a chemical reaction with the carton's steel staples

Considering that the cargo was not declared as dangerous goods, the safety investigation hypothesized that either the cargo was tested in accordance with the prescribed test procedures and the test results returned negative, or the cargo was not tested.

However, if the cargo was tested and the test returned negative results, it appeared that this would contradict the hazards prescribed in the MSDS of the cargo, which were similar to hazards of sodium percarbonate mentioned earlier in this safety investigation report.

Moreover, the safety investigation was unable to determine why the cargo would not be classified under the IMDG Code, considering that it was classified under the WHMIS.

Furthermore, the safety investigation observed that if the cargo was classified under IMDG Class 5.1, the IMDG Code would have required it to be stowed at least one container space (in the fore and aft and athwartships directions) away from the IMDG Class 3 containers. Additionally, the IMDG Code did not permit Class 3 containers to be stowed in the same vertical line as this container.

Human performance

The information available to the safety investigation did not indicate that the crew members were fatigued and unfit for work. Moreover, although no drug and alcohol tests were conducted immediately after the occurrence, the information available did not indicate that any of the crew members was intoxicated.

To this effect and noting that the behaviour of the crew members did not reflect any related issues, the safety investigation concluded that fatigue, drugs, and alcohol did not contribute to the occurrence.

CONCLUSIONS

1. The fire started inside the cargo container stowed on the forward, starboard hatch cover of cargo hold no. 4, in location 27-05-82.
2. Although the exact cause of the fire could not be determined, considering the hazards of the cargo stated in its MSDS, the safety investigation believes that moisture coming into contact with the cargo may have likely caused it to decompose and ignite the packaging.
3. The fire eventually spread to, and damaged, the neighbouring containers, which included tank containers carrying IMDG Class 3 cargoes.
4. The C/O fell and suffered serious injuries while descending a portable ladder which, being unsecured, may have either slipped or tipped over.
5. Due to inadequate information on the cargo, the safety investigation was unable to determine why the cargo was not declared as dangerous goods, although the MSDS stated hazards similar to those of oxidizing substances (Class 5.1 of the IMDG Code) and it was classified as an oxidizing material under the WHMIS.

SAFETY ACTIONS TAKEN DURING THE COURSE OF THE SAFETY INVESTIGATION²⁷

Following the occurrence, the Company:

1. promulgated a summary of the accident across its fleet of vessels; and
2. provided its vessels with a fog lance kit (**Figure 10**) and two portable, twin fire hydrants (**Figure 11**), after considering the difficulties faced by the crew members.



Figure 10: Fog lance kit, comprising of a water mist lance (the nozzle of which is designed to pierce a cargo container) and a penetration hammer (designed to punch a hole in a cargo container)

Source: The Company



Figure 11: Portable, twin fire hydrant (to allow two fire hoses to be connected at one location)

Source: The Company

RECOMMENDATIONS

Considering the safety actions taken by the Company, no recommendations have been made.

²⁷ **Safety actions and recommendations shall not create a presumption of blame and / or liability.**

SHIP PARTICULARS

Vessel Name:	<i>CMA CGM Rabelais</i>
Flag:	Malta
Classification Society:	Det Norske Veritas (DNV)
IMO Number:	9406635
Type:	Container vessel
Registered Owner:	Boxcarrier (No. 4) Corp.
Managers:	Danaos Shipping Co. Ltd., Greece
Construction:	Steel – Double bottom
Length Overall:	299.97 m
Registered Length:	289.39 m
Gross Tonnage:	72,884
Minimum Safe Manning:	15
Authorised Cargo:	Containerised cargo

VOYAGE PARTICULARS

Port of Departure:	Singapore
Port of Arrival:	Nhava Sheva, India
Type of Voyage:	International
Cargo Information:	68,665.4 mt of general cargo in containers
Manning:	21

MARINE OCCURRENCE INFORMATION

Date and Time:	06 April 2022 at 2000 (LT)
Classification of Occurrence:	Serious Marine Casualty
Location of Occurrence:	06° 19' N 094° 30' E
Place on Board	Open deck cargo space
Injuries / Fatalities:	One serious injury
Damage / Environmental Impact:	Damages restricted to several cargo containers
Ship Operation:	In passage
Voyage Segment:	Transit
External & Internal Environment:	Clear sky, visibility of 10 nm. Westerly wind, of Beaufort Force 3. Sea condition: slight, with a 0.5 m-high Westerly swell. Air and sea temperatures: 33 °C and 28 °C, respectively.
Persons on board:	26