



**MARINE SAFETY INVESTIGATION REPORT ON
VERY SERIOUS MARINE CASUALTY**

VESSEL NAME : M/V OLMA
IMO NO : 8004806
FLAG OF THE VESSEL : Honduras
LOCATION OF ACCIDENT : Port of Mersin Anchorage Area No. 2
DATE and TIME OF ACCIDENT : 09 February 2022 / 09:17 (UTC+3)
FATALITY/INJURY : 1/-
DAMAGE CONDITION: : None
ENVIRONMENTAL POLLUTION : None

Board Decision No: 01 / D-01 / 2023

Date: 16/01/2023

The sole objective of this investigation is to make recommendations for the avoidance of similar accidents and incidents within the framework of the Transport Safety Investigation Center regulation. This report is neither the product of a judicial or administrative investigation nor intended to attribute blame or liability.

LEGAL BASIS

This marine casualty has been examined by the provisions of the “DIRECTIVE OF INVESTIGATION OF MARINE CASUALTIES AND INCIDENTS” published and enacted in the Official Gazette dated 11/27/2019 and numbered 30961.

International Standards for Safety Investigations into marine casualties or Incidents (MSC 255(84) and Resolution A.1075 (28) and International Maritime Organization Decisions on Recommended Practices (Accident Investigation Code) and Directive 2009/18/EC of the European Union have also been taken into account for the procedures and principles of the investigation.

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DEFINITIONS and ABBREVIATIONS

- GMT* : Greenwich Mean Time
- AIS* : Automatic Identification System
- VHF* : Very High Frequency
- ISM* : International Safety Management
- IMO* : International Maritime Organization
- MT* : Metric Tons

SOURCE OF INFORMATION AND LIST OF REFERENCES

- *Logs of M/V OLMA*
- *Records of The Ship Operator*
- *M/V OLMA Master and Crew*

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SUMMARY

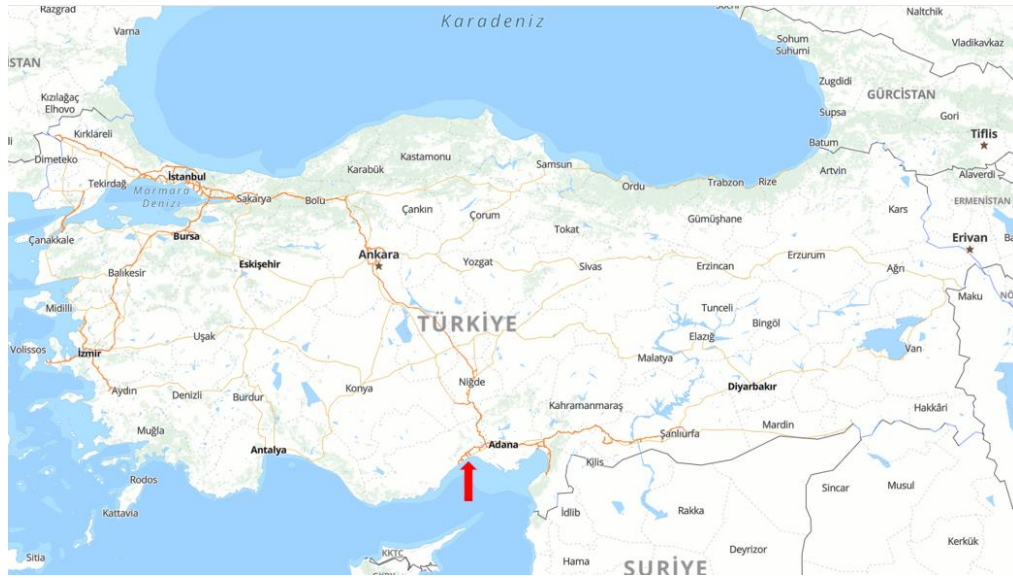


Image 1 Location of the Accident

Note: All times used in the report are local time. (GMT¹ +3)

The vessel M/V OLMA was moored at the anchorage site of the port of Mersin at 12.21 on 08 February 2022 (**Image 1**). On 09 February 2022 at 09.00 hours, the vessel traversed to take precautions against possible anchor dragging due to adverse weather conditions, and it was reported to the bridge that the chief officer had fallen from the tween deck² to the floor of the hold. Firstly, he was diagnosed to suffer from a broken leg and also a head injury. The ship's agency was informed of the accident after it had taken place. The chief officer who was taken from the vessel by the pilot boat arriving on board, was transferred to the ambulance waiting on the shore. Afterwards, the vessel was informed at 14.30 on the same day that the Chief Officer had passed away.

The marine safety investigation resulted in recommendations to the Chambers of Shipping and the Ship Operator.

¹ GMT: Mean Solar Time on the Greenwich Prime Meridian

² Tweendeck, Betweendeck: Floors in the holds of dry cargo vessels, floors between decks.

SECTION 1 – FACTUAL INFORMATION

1.1 Information on the Vessel

M/V OLMA

Flag	: HONDURAS
Call Sign	: HQAE5
IMO Number	: 8004806
Type	: General Cargo Ship
Place and Year of Building	: Germany/1981
Gross Tonnage	: 3433
Length Over All	: 80,20 meters
Beam	: 16 meters
Main Engine and Power	: 2237 KW
Hull Construction	: Steel



Image 2 The vessel M/V OLMA

1.2 Information on Vessel Navigation

M/V OLMA

Port of Departure	: Tartous / Syria
Port of Arrival	: Mersin / Türkiye
Cargo Information	: In Ballast
Number of Crew	: 13
Minimum Safe Manning	: 8
Type of Navigation	: Red Sea, Mediterranean Sea, Black Sea

1.3 Information on Accident

M/V OLMA

Date/Time of Accident	: 09 February 2022- 09:00 (GMT+3)
Accident Type (IMO)	: Very Serious Marine Casualty
Type of Accident	: Occupational Accident
Location of Accident (Latitude-Longitude)	: 36° 43.71' North - 034° 37.83' East
Dead/Injured	: 1/-
Damage	: None
Pollution	: None

1.4 Information on Environmental Conditions

Wind	: 7/8 Beaufort force from South/Southwest
Weather Condition	: Overcast, heavy thunderstorms and showers
Sea Condition	: 2-3 meters waves
Visibility	: Good, moderate during rainfall.

The accident took place at anchorage site no. 2 of the port of Mersin (Figure 3) and no swells were reported.

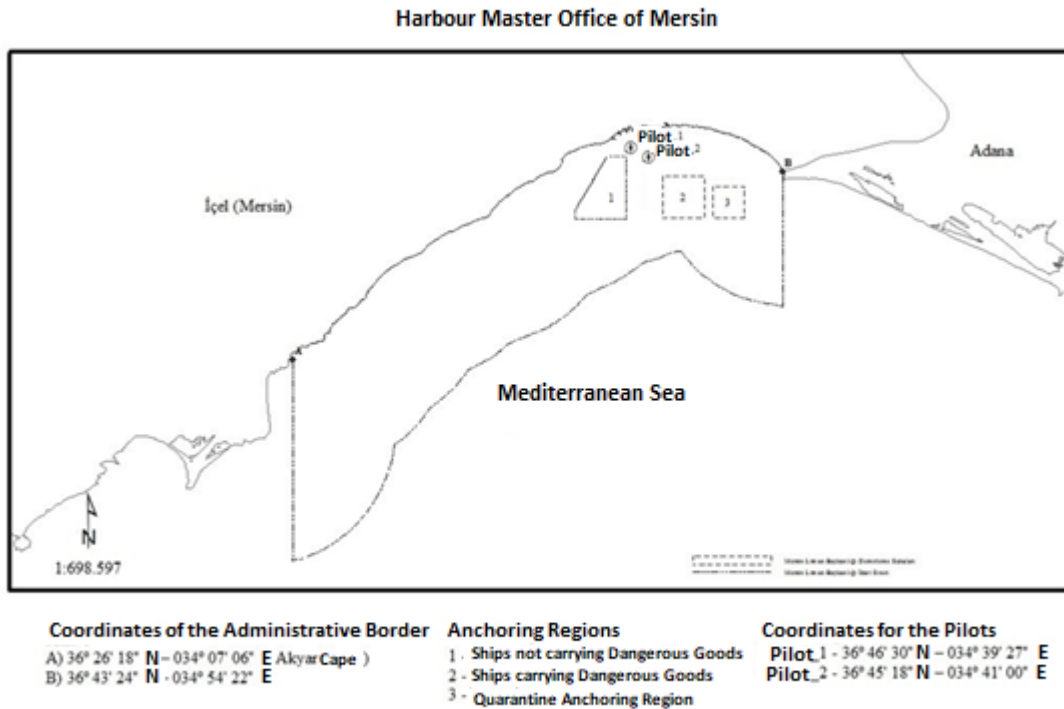
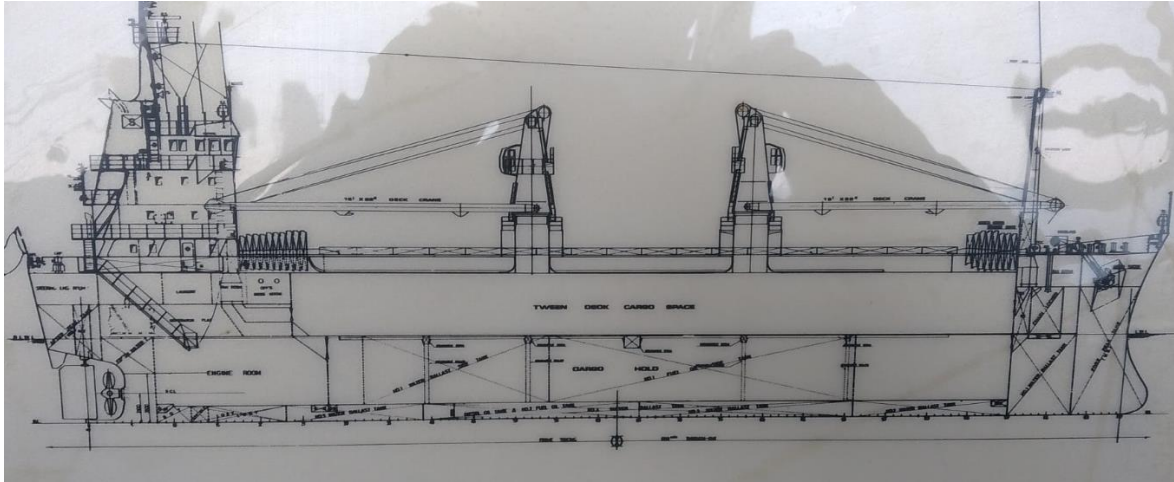


Image 3 Anchorage Site No. 2 Of the Port of Mersin

1.5 The vessel M/V OLMA

M/V OLMA was built in Germany in 1981 as having a single cargo hold. The vessel with a single hold features a tween deck layout along the hold.



Sketch 1 General Arrangement of the vessel M/V OLMA

The vessel had valid certificates and class certificates at the time of the accident and their survey times had not expired. The International Ship Safety Certificate issued on 10/05/2021 is valid until 09/05/2026.

The Safe Management Certificate (SMS) of the said ship was issued on 10/05/2021 and expires on 09/05/2026.

1.6 Manning and Key Crew of the Vessel

The vessel, M/V OLMA, must be manned with 8 crew according to the Minimum Safe Manning Certificate issued under the International Convention for the Safety of Life at Sea (SOLAS 74) Rule V/14. There were 13 crew on board, including the master, on the day of the accident and the vessel was **manned with sufficient number of qualified seafarers** according to the Minimum Safe Manning Certificate. Also, there were neither deck cadet nor passengers on board. All crew members are Syrian nationals and working language is Arabic.

1.6.1 The Master

The master was born in Tartous, Syria in 1975 and was 47 years old at the time of the accident. He holds all the necessary certificates and licences. He was on the bridge at the time of the accident.

1.6.2 The Casualty, Chief Officer

The chief officer was born in Syria in 1969 and was 52 years old at the date of the accident. He had a certificate of competency as an Oceangoing Chief Officer. He joined the ship on 6 February 2022. He was employed by that company for the first time. He held certificates of professional competence as well as licences appropriate for the job he would undertake. While the vessel was at anchor waiting for mooring to the port in ballast condition, he fell from the tween deck of the hold, where he was alone, to the hold floor and was injured. The casualty was alive when he was taken out by the ship's crew from where he fell, but later passed away. It was stated that he had previously worked with the Ship's Master on other vessels and they knew each other.

SECTION 2 – NARRATIVE

The sequence and time of the incident that leads to the marine accident under investigation and the location of people based on the eyewitness statements and interviews, as well as the video footage.

2.1 Sequence of Events

M/V OLMA departed from the port of Tartous, Syria at 00.36 on 08 February 2022 in ballast condition to load 5900 MT gypsum from the port of Mersin. The said vessel moored at the anchorage of Mersin at 12.21 on 08 February 2022 with 13 crew members, all of whom were Syrian nationals (**Image 4**).

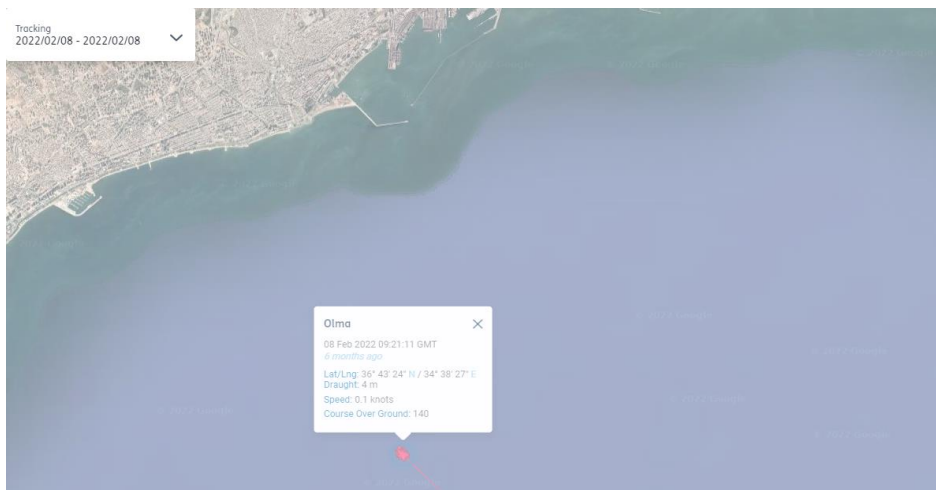


Image 4 Anchorage of Mersin of The Vessel M/V OLMA

Since the Vessel was in ballast and there was a concern that she would not hold the anchor due to the abrupt wind blow, on 09 February 2022, at 08.20, the master started the engine at 08:20 and gave way and traversed³. Meanwhile, the casualty, chief officer went down to the hold alone. Neither the Master who was on the bridge had any information that the Chief Officer went down to the hold, nor did the ship's crew.

2.2 Course of Events After the Accident

At around 09.00, the Second Engineer called the Master on VHF channel 77, who was waiting for the weather conditions to get better while traverse sailing on the bridge, and reported that the Chief Officer had fallen from a height of about 4 metres (tween deck) to the hold floor (**Image 5**) and sustained a broken leg and a head injury.

³ Traverse: A zig-zag sailing in stormy weather to prevent the hull from being battered or damaged, and to make efficient use of the wind in sailing.



Image 5 General View of the Vessel's Hold



Image 6 Illustration of the Casualty at the Scene of the Fall

The ship's crew, who wanted to take the casualty out of the hold, managed to get the casualty out of the hold by using a suspender attachment and carried him to his cabin. During the first inspections when the casualty was found, it was observed that he was not wearing a helmet among the personal protection equipment and he was carrying only a non-standard flashlight. The master stated that the casualty was alive but unconscious when he visited him in his cabin.

The Master informed the Harbour Master Office and Vessel Traffic Services Center about the accident and requested an ambulance through the ship's agency. Since the weather conditions were not suitable for transferring the casualty from the vessel to the pilot boat, it was requested from the vessel to move into the breakwater of the port. The pilot boat that approached to the vessel M/V OLMA, which had moved into the breakwater, took the casualty as unconscious at 10.45.

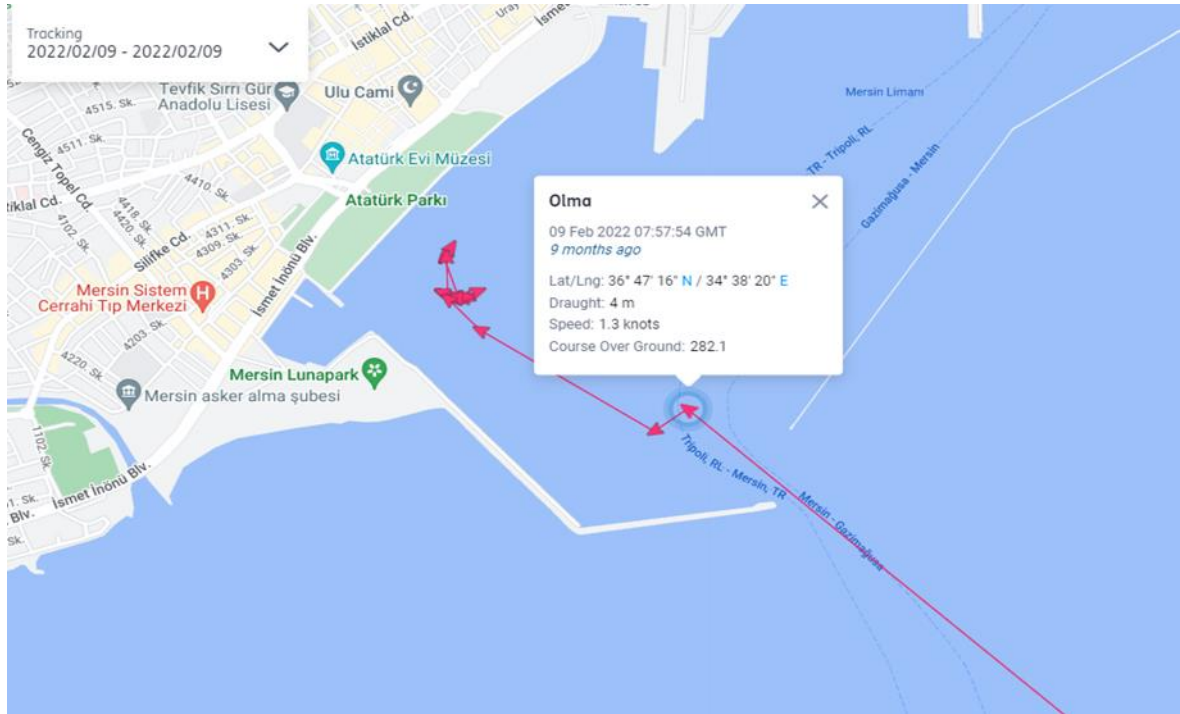


Image 7 Casualty Delivery Point

The casualty was taken to the hospital by ambulance that was waiting on the shore at 11:35, however, as stated in the death certificate issued by the Department of Forensic Medicine, he passed away at 14:30.

SECTION 3– ANALYSIS

While analysing the marine accident under investigation it is aimed to identify and determine the factors that caused the accident by considering the sequence of events and data obtained during the investigation as well as to draw useful conclusions that lead to the safety recommendations on root causes.

3.1 Purpose

This marine safety investigation aims to make recommendations for the prevention of similar potential marine accidents or incidents by identifying the circumstances and safety issues of accidents.

3.2 Description of Enclosed Spaces and Access Procedures

It is necessary to refer to the definition of enclosed space adopted in Resolution A.1050(27)⁴ published by the International Maritime Organisation (IMO) with regard to the accident. An enclosed space may be defined as a place that is not intended to be used for daily activities and has any of the following characteristics.

1. limited openings for entry and exit;
2. inadequate ventilation; and
3. is not designed for continuous worker occupancy.

Any of the foregoing characteristics **can turn the space into an enclosed space**. The most common enclosed spaces on board are cargo spaces, bottom tanks, fuel tanks, ballast tanks, cargo pump rooms, cofferdams, chain lockers, inner barrier areas, boilers, engine crankcases, as well as engine scavenge air receivers, waste tanks, adjacent connected spaces and any location outside of these areas with an oxygen deficiency/excess, flammable, and/or toxic atmosphere.

Any enclosed space on board that is left unventilated for any period of time should be considered as hazardous.

⁴ IMO Resolution A.1050(27)

3.2.1 Precautions to be taken before access to the Enclosed Space

Article 5—Authorisation of Entry to Enclosed Spaces—of the IMO Resolution A.1050(27)” states that: *No person should open or enter an enclosed space unless authorized by the master or the nominated responsible person and unless the appropriate safety procedures laid down for the particular ship have been followed*”. Within this context, the following points should be considered before accessing enclosed spaces in accordance with the foregoing resolution:

- Issuance of a formal authorization form to work in an enclosed space by the master,
- Filling out the checklist,
- Presence of a communicator,
- Informing the watch officer,
- Presence of an oxygen analyser for the person who will enter the enclosed space,
- Keeping rescue and resuscitation equipment outside the enclosed space,

However, when the vessel was inspected after the accident, neither the safety officer filled out any document nor carried out any operation related to the authorisation.

Although the Chief Officer held the necessary certificates and licences, he joined the vessel only 3 days ago. It was found that he had gone to the hold for a check alone, although the vessel familiarization was carried out on paper in accordance with the Safety Management System. Given that the Master, who was also the Ship Security Officer, was not aware of this act of the Chief Officer, it is considered that such introduction and information were only on paper.

Also, it was found that the ship’s security officer and chief officer together with other crew members failed to do a thorough risk assessment as part of the readiness for such circumstances, and the measures required to be followed and taken before accessing the enclosed spaces in accordance with the Safety Management Systems were not fulfilled.

3.3 Probable Cause of the Accident

The cause of why the casualty, Chief Officer fell onto the hold floor from the tween deck of the hold was not entirely identified and probabilities were evaluated based on the information and documents obtained from the accident investigation.

Also, the exact time of the accident could not be identified, given that none of the crew members witnessed the chief officer when he went down to the hold and in through the manhole.

The sun rose at 07.29 on the day of the accident. The hatch covers of said vessel, which was waiting in ballast condition, were closed. However, the portable lights (Image 7) in the hold into which the casualty went were inadequate and given that the flashlight he was carrying (Image 8) was inadequate, it is considered that the Chief Officer, who was walking through the tween deck with a walking width of approximately 1.5 metres, could not fully see the footing due to the inadequate lighting and may have fallen down.



Image 8 Portable Light



Image 9 Flashlight Carried by the Casualty

On the other hand, it would be usual for the vessel in ballast condition to heel towards the starboard/port side of the vessel with serious angles in very short periods due to the effect of the wind blowing suddenly and the high seas. Considering that the casualty was walking on a path with a width of about 1.5 metres, it is clear that he could have lost his balance and fallen into the hold due to the heeling of the ship on both her starboard and port sides at serious angles.

On the other hand, the interviews with the ship's crew were unable to provide satisfactory information on the crew's preparations for heaving up for the vessel, which traversed due to weather conditions, in heavy sea and weather conditions. Nevertheless, the casualty went down to the hold without informing anyone and was coincidentally found by the Second Engineer. This indicates that the ship's crew did not get prepared sufficiently for heaving up and moreover, the necessary and sufficient communication among the crew was not established.

3.4 Use of Personal Protective Equipment

The helmet is probably one of the most important personal protective equipment on board ships. Helmets are manufactured with crash absorbent properties to avoid concussion and severe head injury caused by falling down or hitting the head.

Statements suggest that the casualty was not wearing a helmet after the fall. It is considered that if the casualty had a helmet on his head, he would not have suffered the blows to his head or the helmet might have mitigated the impact of the blows.

Besides, the conclusion of the casualty not to wear the helmet during work indicates that the safe working culture has not been internalised in the operational life of the vessel.

3.5 Pulling out the Casualty from Where He Fell

As a general national and international recognition, working in any area where there is a level difference and a possibility of injury due to a fall is considered as working at height.

In case of a fall from height, the casualty must be recovered by professional teams and with adequate and certified equipment. Even though the casualty is considered to sustain a head injury, other unseen vital organs may have been injured due to falling from a height. These life-threatening injuries include a neck fracture (if not recovered properly, even if the patient survives, he may still have to live a life dependent on the bed due to spinal cord injury), injury/bleeding in the internal organs due to a fall, the swallow of bleeding from head/neck area into lungs with respiration when the patient is positioned facing down, and complete cessation of difficult but ongoing respiration of the patient, as well as the leak of gastric stuff into the lungs as the stomach becomes empty when the patient is placed facing down. In such cases, the patient's state of consciousness should be monitored until professional teams arrive at the scene. If the casualty can be accessed, he must be observed, first by trying to communicate, then with gentle touches to the shoulder/body whether to respond or not, and if he cannot be reached, it must be observed whether he reacts to the voice. If the airway can be checked, his breathing must be maintained; if there is visible bleeding, the bleeding must be tried to be controlled by proper precautions. Even if the casualty is taken out from the place where he has fallen, since the medical teams are unable to respond under appropriate conditions, taking the casualty out unconsciously or without the proper equipment before the medical teams arrive may cause secondary injury and stroke.

Therefore, the International Medical Guide for Ships clearly states the correct course of action to be taken under the heading “Response to a Fall from a Height”. After the casualty was found by the Second Engineer, his colleagues made efforts in good faith to recover the casualty from the scene. Within this context, the ship’s crew tied the casualty with the suspender attachment (Image 10) in order to take the Chief Officer on deck and then, carried him to his cabin. It is clear that the practices by the ship’s crew both during the recovery of the casualty from the hold and during the transfer to his cabin were not in accordance with the procedures stated in the International Medical Guide for Ships under “Response to Fall from a Height”. Based on the above remarks, it is considered that the recovery of the casualty out of the hold from which he had fallen was not duly executed.



Image 10 Illustrated Recovery of the Casualty

SECTION 4 – CONCLUSIONS

1. It was found that the precautions to be taken and the rules to be followed before the casualty accessed the hold, an enclosed space, were not followed before accessing the enclosed spaces.
2. Both the autopsy report and the information given by the ship's crew led to the conclusion that the fatal injuries that the Chief Officer sustained were due to falling from height.
3. There was not sufficient light in the hold where the Chief Officer went down. The flashlight that he used for lighting was unable to provide enough visibility since the hatch cover was closed.
4. The helmet of the casualty was not on his head at the time of the accident.
5. The process of recovering the casualty from the place where he fell to carrying him to his cabin was not in compliance with the procedures described in the International Medical Guide under "Response to Falling from Height".
6. Although everything appears to have been duly carried out in the Ship Safety Management documents, it is found that the necessary precautions were not taken given the way the accident took place and the series of factors leading to the accident.
7. Since the Chief Officer joined the vessel 3 days before the accident, it was not possible to ascertain whether the working and resting hours accurately represented the truth.

SECTION 5 – RECOMMENDATIONS

The following recommendations are directed by considering the analysis and conclusions obtained from the accident investigation.

The Ship Operator is recommended to;

01/01-23 Circulate this marine safety investigation report to the fleet ships, and deliver training and drills to raise the situational awareness of seafarers before accessing enclosed spaces, taking into account the results of the report,

The Chambers of Shipping are recommended to;

02/ 01- 23 **Circulate** this marine safety investigation report to Ship Operators, and to the members that provide Pilotage, Mooring and Tugboat services.