

## Pentingnya Penggunaan Alat Pelindung Diri (APD) di ASD Transko Gelatik

### *The Importance of Using Personal Protective Equipment (PPE) at ASD Transko Gelatik*

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#### ABSTRAK

Indonesia merupakan kepulauan maritim yang memiliki kekayaan sumber daya alam yang sangat melimpah baik itu dari hasil laut, dan kekayaan dari hasil bumi lainnya. Kapal merupakan satu-satunya alat transportasi yang menghubungkan banyak hal dari berbagai wilayah melalui jalur laut. Penelitian ini adalah suatu kegiatan untuk memahami pentingnya penggunaan alat pelindung diri (APD) di kapal ASD Transko Gelatik. Metodologi penelitian kualitatif cocok untuk penelitian yang berfokus pada pemahaman tentang proses, makna, atau motivasi yang mendasari perilaku atau fenomena tertentu, terutama yang tidak bisa dijelaskan dengan angka atau statistik. Hasil dari penelitian ini yaitu: 1) Penggunaan APD di kapal ASD Transko Gelatik diantaranya jenis-jenis APD yang digunakan di kapal ASD Transko Gelatik, prosedur penggunaan APD di kapal, dan peran APD dalam operasional kapal; dan 2) Hambatan dan solusi penggunaan APD di kapal ASD Transko Gelatik diantaranya kurangnya kesadaran dan pengetahuan tentang APD, ketersediaan dan kualitas APD yang tidak memadai, ketidaknyamanan dalam penggunaan APD, budaya kerja yang kurang mendukung penggunaan APD, kurangnya pemeliharaan dan penyimpanan APD yang tepat, dan hambatan bahasa dan komunikasi.

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#### ABSTRACT

*Indonesia is a maritime archipelago with abundant natural resources from marine products and other natural resources. Ships are the only means of transportation that connects many things from various regions through sea routes. This study aims to understand the importance of using personal protective equipment (PPE) on the ASD Transko Gelatik ship. Qualitative research methodology is suitable for research that focuses on understanding the processes, meanings, or motivations that underlie certain behaviors or phenomena, especially those that cannot be explained by numbers or statistics. The results of this study are: 1) The use of PPE on the ASD Transko Gelatik ship including the types of PPE used on the ASD Transko Gelatik ship, the procedures for using PPE on the ship, and the role of PPE in ship operations; and 2) Barriers and solutions to the use of PPE on the ASD Transko Gelatik ship including lack of awareness and knowledge about PPE, inadequate availability and quality of PPE, discomfort in using PPE, a work culture that does not support the use of PPE, lack of proper maintenance and storage of PPE, and language and communication barriers.*

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## 1. INTRODUCTION

Indonesia is one of the maritime countries with a sea area that is significantly larger than its land area. With such an extensive marine territory, the Indonesian population utilizes the abundant natural resources in the sea as a primary source of livelihood, including fisheries, coral reef cultivation, seaweed farming, and other marine commodities. The vastness of Indonesia's maritime area has led to the development of various types of transportation that serve as facilities and infrastructure to connect the numerous islands across the archipelago. In line with this view, Simanjuntak (2023) states that Indonesia, as one of the major countries with many islands, holds great potential in the maritime sector.

Based on the above statement, it can be concluded that Indonesia is a maritime archipelago endowed with abundant natural resources, both from the sea and the land. The wealth of marine resources continues to be utilized by the Indonesian population as a daily source of income, such as fishing, cultivating marine biota like coral reefs and seaweed, and various other marine commodities. The diversity of fish species in Indonesian waters has driven high consumer demand from various regions. To meet this demand, the population must harvest marine resources and export them to consumers.

Transportation plays a crucial role in connecting people and the movement of goods, including natural resources and agricultural products, from one place to

another. The transportation system provides numerous benefits to human life. Considering Indonesia's advantages in the maritime sector, sea transportation has become one of the most accessible, beneficial, and widely used modes of transport by the Indonesian people.

Transportation can also be defined as the effort and activity of carrying or moving goods and/or passengers from the point of origin to the destination for specific purposes, using particular means (Arwini & Juniastra, 2023). From this definition, it can be concluded that transportation is highly important and beneficial for human convenience, such as facilitating the export and import of goods between countries. One of the available types of sea transportation is ships, which are capable of carrying thousands of tons of cargo to be delivered from one island to another.

The means of sea transportation that operates through maritime routes is the ship. A ship is the only means of transportation that connects various regions via the sea. It is used to transport people and a wide range of cargo. Various forms and types of ships are manufactured by companies, ranging from small-sized vessels to very large ones. These types of ships are used according to their functions, such as cruise ships that carry passengers for leisure voyages around the world, tankers that supply oil to different countries, and container or cargo ships that transport human necessities and various types of construction materials.

Fundamentally, ships come in various types according to their intended purposes.

However, in general, a ship is a means or facility used to transport or move something from one region to another by water (Manengkey et al., 2023). Based on the aforementioned statement, it can be concluded that ships are the only form of sea transportation used to carry people and various types of cargo through maritime routes. There are many types of ships in the world, and each type is distinguished by the kind of cargo it carries—the larger the cargo, the larger the ship required.

Competent, skilled, disciplined, and professional human resources are highly needed in the industrial workforce to achieve the success of a company. Human resources play a crucial role as the main driving force in an organization or company. This quality factor influences efforts to increase productivity and the role of individuals within the organization or company. This also applies to shipping companies, which require seafarers with strong skills, high expertise, and competence in shipboard duties.

Human resources are a combination of each individual's cognitive abilities, physical capacity, environment, and generational traits that shape human nature and behavior (Susi & Nilaasari, 2023). Based on the above statement, it can be concluded that human resources are the most essential factor in achieving the goals and success of an organization. With competent, skilled, disciplined, and professional human resources, the development and progress of an institution or organization can be assured.

Worker safety is also one of the most important aspects of creating a safe and comfortable work environment. Worker safety is specifically intended to prevent, avoid, and reduce the risk of workplace accidents that could have fatal consequences, whether due to equipment failure or incidents occurring onboard. Therefore, crew members must ensure their own safety and the safety of the vessel from potential hazards. Every seafarer must understand the causes, consequences, and preventive measures

related to workplace accidents, including the use of adequate equipment and adherence to all operational procedures.

Work procedures must be systematically understood thoroughly by all crew members in performing their duties, in order to minimize the occurrence of work-related accidents and ensure the safety of the workers' lives. The implementation of work procedures serves as a guideline or reference to carry out tasks and responsibilities in accordance with the function of each job (Aprian & Laia, 2025).

Occupational safety refers to a workplace in which labor is performed, involving workers operating within it, and the presence of potential hazards that may arise (Lawyer et al., 2023). Based on the aforementioned statement, it can be concluded that occupational safety is another essential supporting factor, as it serves to protect human resources—an important component within any institution or organization. With the implementation of occupational safety principles in an organization, the safety and well-being of the human resources within that organization can be assured. The stricter an organization is in applying a culture of occupational safety, the more likely it is to attract and retain high-quality human resources.

Personal Protective Equipment (PPE) refers to tools that provide protection during work activities to prevent hazards that may lead to accidents. PPE is provided by companies to ensure the safety of their workers. In all types of work, PPE must always be used by workers to protect themselves, as accidents can happen at any time, whether on land—such as during construction work or electrical installations in buildings—or at sea aboard ships, where the risk of accidents is considerably high. The use of PPE on board must be strictly supervised to avoid negligence. Such negligence is often the cause of accidents, resulting in losses for all involved parties.

Personal Protective Equipment is defined as equipment that partially or wholly protects an individual from potential hazards in the workplace (Sahputri et al., 2023). From this perspective, PPE is recognized as one of the key implementations of a workplace safety culture within an institution or organization. The use of PPE is a fundamental aspect that must be enforced when carrying out assigned projects or tasks. PPE reduces the likelihood of serious injury or fatal harm in the event of an accident or project malfunction. As a part of safety practices, PPE ensures that human resources are protected while performing their duties, thereby contributing to the achievement and sustainability of organizational goals and success.

From the various viewpoints discussed above, it is evident that Personal Protective Equipment (PPE) is essential for crew members working onboard ships in order to prevent work-related accidents. Various rules and standards mandate the use of PPE by all workers to avoid accidents that may cause significant harm to all relevant parties. Many accidents continue to occur due to improper use of PPE, which is largely attributed to the lack of education and understanding among seafarers (Nadeak, Sahusilawance, & Prihastuti, 2025).

## 2. RESEARCH METHOD

This study employed a qualitative approach with a descriptive design to gain a comprehensive understanding of the social phenomena being investigated. The main focus of this approach is to provide a detailed depiction of the phenomenon from the informants' perspectives, without testing hypotheses or applying interventions.

Informants were selected purposively using a snowball sampling technique, wherein the researcher initially identifies key respondents who are considered knowledgeable about the topic, and then those respondents recommend other relevant individuals to be interviewed. This method

enables the researcher to access sources with crucial information who may be difficult to reach directly. Snowball sampling is a sampling technique used when the population is not clearly defined and the number of members is uncertain (Hamidah, Kamilah, Raffiudin, & Jannah, 2025).

Data collection was carried out using three primary methods: open-ended interviews, field notes, and archival study. The interviews were conducted in a flexible and informal setting, allowing informants to freely express their opinions, experiences, and interpretations regarding the issues being studied. During interviews and observations, the researcher documented various events, non-verbal expressions, and environmental dynamics as part of field notes. Additional data were obtained from official documents, activity records, and relevant visual materials.

The data analysis process was carried out in stages, beginning with the preparation of raw transcripts, coding, the development of categories, and the extraction of meanings relevant to the research focus. The researcher applied inductive analysis, building understanding based on patterns emerging from field data, rather than relying on pre-existing theories.

To enhance the validity and reliability of the qualitative data, the researcher engaged in prolonged fieldwork, conducted cross-checks among multiple sources, and implemented peer debriefing to gain insights from neutral third parties. These techniques ensured that the findings are accurate, consistent, and scientifically accountable.

## 3. RESULT AND DISCUSSION

The ASD vessel *Transko Gelatik Samba* is an ASD-type ship owned by PT Pertamina Trans Kontinental. The vessel was built in 2015 in Shenzhou. It is registered under the Indonesian flag and listed in Jakarta with IMO Number 9778909, Call Sign YBUJ2, and MMSI 525104005. The vessel is classified by BKI (Biro Klasifikasi Indonesia). In Indonesia,

according to the Ministry of Transportation Regulation, every ship is required to obtain certification from an institution recognized by BKI in order to reduce the rate of maritime transportation accidents (Raharjo, 2015).

The *ASD Transko Gelatik* has the following dimensions: a Length Overall (L.O.A) of 29.36 meters, a Length Between Perpendiculars (L.B.P) of 23.80 meters, a Breadth Moulded of 9.8 meters, and a Depth Moulded of 5.25 meters. The vessel has a Gross Tonnage (GRT) of 368 tons and a Net Tonnage (NRT) of 110 tons. It also features a maximum draft of 4.35 meters, an air draft of 15 meters, a high water line of 11 meters, a bollard pull of 46.17 metric tons, and a maximum fuel oil (FO) capacity of 167.6 metric tons.



Picture 1. ASD Transko Gelatik

### Use of PPE on the ASD Transko Gelatik Ship

The use of Personal Protective Equipment (PPE) on board the *ASD Transko Gelatik* is an essential component in ensuring occupational safety and health for all crew members. The following is an explanation of the types of PPE used, the procedures for its use, and its role in ship operations.

### Types of PPE Used on the ASD Transko Gelatik Ship

#### 1. Safety Helmet

Protects the head from impact, falling objects, or other injury risks while working on deck or other areas of the ship.

#### 2. Hearing Protection

Used in high-noise areas, such as the engine room, to prevent hearing damage.

#### 3. Safety Goggles

Protects the eyes from chemical splashes, dust, or other potentially harmful particles.

#### 4. Protective Gloves

Protects the hands from physical injury, chemicals, or extreme temperatures when handling equipment or hazardous materials.

#### 5. Safety Shoes

Equipped with toe protection and anti-slip soles to prevent injuries from falling objects or slipping.

#### 6. Protective Clothing

Protects the body from exposure to chemicals, fire, or extreme weather conditions.

#### 7. Safety Belt or Harness

Used when working at height or in areas with fall risks to prevent serious injury.

### PPE Usage Procedures on Board the Ship

#### 1. Risk Identification

Before starting a task, crew members must identify potential hazards and determine the appropriate PPE to be used.

#### 2. APD Checking

Before use, PPE must be inspected to ensure there are no damages or defects that could reduce its effectiveness.

### 3. Proper Usage

PPE must be worn according to instructions and ensure that it is properly fitted to provide maximum protection.

### 4. Maintenance and Storage

After use, PPE must be cleaned, inspected, and stored in designated areas to ensure a long service life and readiness for future use; and

### 5. Regular Training

Crew members must undergo regular training on the use of PPE and related safety procedures to ensure high levels of compliance and awareness.

## The Role of PPE in Ship Operations

### 1. Injury Prevention

Proper use of PPE helps prevent injuries that may occur due to workplace accidents, such as slipping, falling, or contact with sharp objects;

### 2. Protection Against Hazardous Material

PPE protects crew members from exposure to hazardous chemicals, extreme temperatures, or environmental conditions that may pose health risks;

### 3. Regulatory Compliance

Using PPE in accordance with international safety standards ensures that ship operations comply with applicable regulations, avoiding sanctions or penalties; and

### 4. Enhancing Safety Awareness

Consistent use of PPE promotes a safety culture on board, encouraging crew members to remain alert and proactive in identifying and managing risks.

By implementing proper PPE usage procedures and fostering high awareness among all crew members, the ASD *Transko Gelatik* can ensure safe and efficient operations while protecting the well-being of every individual on board.

## Barriers and Solutions to PPE Usage on Board the ASD *Transko Gelatik*

The use of Personal Protective Equipment (PPE) on board the ASD *Transko Gelatik* faces several challenges that may affect safety and work efficiency. The following is an analysis of these barriers along with applicable solutions:

### 1. Lack of Awareness and Knowledge about PPE

Some crew members may not have adequate understanding of the importance of PPE or the risks associated with not using it. **Solution:** Conduct regular training and intensive awareness programs. Organize periodic training sessions emphasizing the importance of PPE and correct usage. Use posters, brochures, and other media to raise awareness about PPE.

### 2. Inadequate Availability and Quality of PPE

Available PPE may be insufficient or may not meet the required safety standards. **Solution:** Procure high-quality PPE and conduct routine inspections. Ensure the provision of PPE that complies with international standards and is sufficient for all crew members. Carry out regular inspections and replace any damaged or degraded PPE.

### 3. Discomfort in Using PPE

Some PPE may be perceived as uncomfortable, leading crew members to avoid wearing it. **Solution:** Choose ergonomic PPE and gather crew feedback. Select PPE designed for comfort and ease of use without compromising protection. Collect feedback from crew regarding PPE comfort and make adjustments if needed.

### 4. Work Culture That Does Not Support PPE Use

The onboard work culture may not emphasize the importance of PPE, resulting in its neglect. **Solution:** Proactive leadership and strict policy enforcement. Captains and senior officers should set an example by consistently using PPE and enforcing safety regulations.

Implement mandatory PPE policies and apply sanctions for non-compliance.

#### 5. Lack of Proper Maintenance and Storage of PPE

Improper maintenance or storage can lead to PPE damage, reducing its effectiveness. **Solution:** Establish proper maintenance and storage procedures. Implement regular maintenance routines to keep PPE in optimal condition. Provide appropriate storage facilities to protect PPE from environmental damage on board.

#### 6. Language and Communication Barriers

On ships with multinational crews, language differences can hinder understanding of PPE instructions. **Solution:** Provide multilingual training materials and interpreters or guides. Supply PPE training materials and instructions in various languages understood by the crew. Provide interpreters or guides to facilitate communication among crew members.

By identifying these barriers and applying appropriate solutions, PPE usage on board the ASD *Transko Gelatik* is expected to improve, thereby ensuring the occupational safety and health of all crew members.

## 4. CONCLUSION

Use of PPE on ASD Transko Gelatik: 1) Types of PPE used on ASD Transko Gelatik; 2) Procedures for PPE usage on board; and 3) The role of PPE in ship operations. Barriers and solutions to PPE usage on ASD Transko Gelatik: 1) Lack of awareness and knowledge about PPE; 2) Inadequate availability and quality of PPE; 3) Discomfort in using PPE; 4) A work culture that does not support PPE usage; 5) Lack of proper maintenance and storage of PPE; and 6) Language and communication barriers.

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