

# Workers' Safety and Health at Cyprea International Inc.: A Theoretical Approach

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## ABSTRACT

This study examined awareness of toxic substances among workers at Cyprea International Inc. Cyprea prioritizes safety through existing measures and compliance with national regulations. However, due to the inherent risks of the raw materials, polyurethane and isocyanate, which can release harmful gases during production, Cyprea acknowledges the need to enhance its occupational health and safety (OHS) infrastructure. The study recommends further actions to improve worker safety, including investment in infrastructure and training, along with potential regulatory reforms and industry collaboration. Ultimately, Cyprea's commitment to a safe and healthy work environment can contribute to its continued success and the well-being of its workforce.

**KEYWORDS:** occupational health, toxic substances, foam manufacturing

## Introduction

Cyprea International Inc. is a premier foam rubber supplier nestled in the heart of Mandaue City, Cebu. Collaborating with an extensive array of foam manufacturing enterprises across the Philippines. The company boasted a robust infrastructure bolstered by proficient employees, vigilant quality inspectors, and adept commercial personnel deeply entrenched in the local business landscape. With a commitment to excellence, Cyprea International Inc. utilizes top-grade materials, primarily polyurethane and isocyanate, to craft their foam insulation products, ensuring unmatched durability and thermal efficiency for various applications.

Polyurethane and isocyanate are chemicals that are the raw materials in foam insulation production. When heated, this material would form carbon monoxide, hydrogen cyanide, and other toxic products harmful to humans (Sean et al. Hull, 2016). This posed significant health risks: dizziness, headaches, and even asphyxiation in high concentrations and toxic fire effluents that are responsible for fire injuries. Despite existing safety standards, such as ventilation systems and personal protective equipment, the possibility of exposure remains a worry, necessitating urgent action to limit hazards and maintain workers' well-being. Addressing this issue was imperative to safeguard the well-being of Cyprea's workforce and uphold the company's commitment to excellence in product quality and employee welfare.

The primary purpose of this study was to assess workers' awareness of exposure to these toxic substances. With the end in mind, the following sub-problems were also explicitly answered on the perception of risk among workers regarding the hazards associated with their work environment; considerations when

assessing risk; the awareness of toxic substances of workers; the sources of information about potential health risks; their habits and practices related to safety protocols; individual health concerns; and the effectiveness of current risk management practices existed in the company and possible suggestions for improvement for such matter. This study was anchored on the Occupational Health and Safety in the Workplace by Sowbarniga (2023).

### **National policy and legislation**

According to the Republic Act No. 11058 in the Philippines, this aims to ensure workers' rights against occupational hazards resulting in injury, sickness, or death. A covered workplace shall establish occupational safety and Health (OSH); the study of (Cuya – Antonio, 2021) states that employers must provide workers with every kind of on-the-job protection against injury, sickness or death through safe and healthful working conditions. By Republic Act No. 6969, known as the Toxic and Hazardous Substances and Nuclear Waste Control Act of 1990, the main aim of this law is to regulate, restrict or prohibit the importation, manufacture, processing, sale, distribution, use and disposal of chemical substances and mixtures. It shall also include keeping inventory, monitoring, and regulate, inform and educating the populace regarding the hazards and risks and preventing the entry of chemicals or even in transit, as well as storage and disposal of hazardous waste within the territorial limits of the country for whatever purpose (Ariel et al., 2022). Implementing these laws helps Cyprea International Inc. to mitigate health risks, prevent occupational diseases and injuries, and reduce the economic burden associated with lost workdays and medical costs. It also ensures that the company operates responsibly, contributing to the safety and well-being of its workforce and the broader community. By aligning with these regulations, Cyprea International Inc. enhances its operational safety and efficiency and fosters a positive reputation and trust within and among stakeholders.

### **Creating awareness**

Cyprea International Inc. focused on creating awareness about the danger of gas exposure at work while guaranteeing its employees' well-being and security. The company regularly conducted safety meetings and workshops to educate workers on carbon monoxide, hydrogen cyanide, risks, handling procedures, and emergency responses. Clear signage, comprehensive safety manuals, and the provision of personal protective equipment (PPE) were standard practices. Occupational Safety and Health pertains to the "set of rules issued by Department of Labor and deployment which mandates the adoption and use of appropriate practices, means, methods, operations or processes, and working conditions reasonably necessary to ensure safe, healthful employment" (Cuya- Antonio, 2021). Adhering to this will ensure rigorous safety protocols for the company.

### **Development of infrastructure and competence**

Infrastructure is crucial to the operation of economies and the well-being of populations. According to various studies, infrastructure encompasses many physical and organizational structures, including transportation networks, communication systems, water supply, and energy facilities, essential for economic productivity and quality of life. For instance, infrastructure investment is often linked to economic growth, improved public health, and enhanced social inclusion (World Bank, 2020; OECD, 2018). Additionally, the resilience and sustainability of infrastructure systems have become increasingly important in the face of climate change and urbanization pressures (United Nations, 2019). The resilience

and sustainability of infrastructure systems have become increasingly important in the face of climate change and urbanization pressures (United Nations, 2019). Infrastructure is a set of structures, buildings, systems and services that allow the economy to function and provide living conditions for the population. (Yakubova, et al., 2021). A poorly designed infrastructure lowers the standard of living. Public-private partnerships in infrastructure benefit the economy, national politics, the private sector, and the population (Yakubova et al., 2021). Infrastructure development initiatives significantly impact social development and serve as the cornerstone for vital public services. Infrastructure projects play a significant role but can also be complicated and filled with safety concerns that put people in danger and affect the project's main stakeholders. (Aisheh et al., 2021). One of the most essential purposes of infrastructure projects is to enhance public services and improve the daily situation required to sustain economic and social activities. Thus, with that being stated, it is pretty known that developed and competent infrastructures can enhance the safety of workplaces and reduce the risks that might emerge. The study recommends investing in infrastructure development alongside competence building to improve worker safety at Cyprea International Inc. This development could involve improved ventilation systems, designated hazardous material storage areas, or even upgrades to personal protective equipment. By creating a more robust physical environment and ensuring workers have the proper training and skills to navigate it safely, Cyprea can significantly reduce potential risks associated with its foam manufacturing processes.

### **Diseases and economic losses**

Exposure to elevated gas levels in the workplace has led to significant health risks and economic losses for Cyprea International Inc. According to (Nelia et al. et al., 2020) vario, various health hazards (noise, dust, chemicals, poor ventilation) were found in garment production plants (GPPs) and used materials (UMs) facilities. However, most workers did not recognize these hazards as harmful. Unsafe work practices, improper chemical handling, and lack of protective equipment increased worker exposure to these risks. Building on the extensive body of research on occupational health and safety, a recent study found musculoskeletal injuries, malaria, hypertension, and respiratory diseases to be the most common and costly health problems among informal welders (masters and apprentices). Masters, due to more prolonged exposure to hazards, suffered more lost workdays and higher economic burdens (up to 9.4% of earnings) compared to apprentices. The study highlights the need for safer working environments to reduce health risks and improve the well-being of informal welders, ultimately contributing to their economic stability and national development (Dina Adei et al., 2021). In 2016, it found that nearly 61% of workers experienced occupational diseases, and 39% suffered injuries. Women, older workers (over 50), and those without proper protective equipment were more likely to get hurt or sick on the job.

Interestingly, workers with over ten years of experience had a lower chance of disease, suggesting potential adaptation or awareness over time (Dina Adei et al., 2021). These health impacts not only affected employee well-being but also resulted in increased healthcare costs and potential compensation claims for Cyprea International Inc. Moreover, frequent health-related absences and decreased work efficiency disrupted production schedules and caused financial losses for the company. Therefore, mitigating gas exposure had been critical to safeguarding employees' health and ensuring the economic stability of Cyprea International Inc. These studies could highlight that a lack of protective equipment and improper handling of hazardous materials further exacerbate these risks. The company can enhance employee well-being, improve productivity, and contribute positively to economic stability and national

development by applying these studies. This proactive approach benefits the workforce and supports the company's long-term success and sustainability.

### **Regulatory Framework:**

Cyprea International Incorporated could be crucial in addressing the gaps and challenges surrounding workers' safety and health, especially within the informal economy. Cyprea could provide advisory services to help firms, particularly those in the informal industry, comply with existing requirements such as Republic Act No. 11508 and Republic Act No. 6969. Additionally, they could provide training programs to raise awareness about occupational health risks and safety measures among employers and workers. Moreover, Cyprea could assist in developing tailored solutions for monitoring exposure to hazardous pollutants and establishing systems for accident reporting and periodic audits to improve workplace safety standards. The study highlights the high societal costs of endocrine-disrupting chemicals (EDCs) due to increased disease and disability. It argues that, unlike other harmful substances, EDCs lack a clear regulatory framework. The authors compare approaches that focus on minimizing exposure and banning specific uses, as well as limited testing and risk-based regulation. They propose an international program similar to the one for carcinogens to proactively identify and regulate EDCs based on their health risks (Christopher D. Kassotis, PhD, et al., 2020). By partnering with governmental agencies and industry stakeholders, Cyprea International Incorporated can enhance workers' safety and well-being across various sectors in the Philippines.

### **Occupational Health Facilities**

The World Health Organization (WHO) calculates that 59 million people work in healthcare facilities worldwide, accounting for around 12% of the working population. The World Health Organization reports that occupational dangers affect all healthcare workers, including professionals. According to the International Labour Organisation (ILO), millions of healthcare professionals suffer from work-related diseases and accidents, with many dying as a result of occupational hazards. (Lin Che Huei et al, 2020) Defined occupational hazards as short-term and long-term dangers or risks associated with unhealthy workplace environments. Occupational hazards offer health and safety risks and hurt the economy, accounting for approximately 4% of worldwide GDP loss (i.e. \$2.8 trillion annually). In the Philippines, industries began to recognize the importance of workers' health after occupational safety and health were introduced in the early 1900s. Ever since, several legal bases have existed to protect the people's welfare. However, data regarding this matter is limited to the country. Occupational safety refers to the efforts of a company to prevent accidents, injuries, and illnesses among its employees. It is concerned with various aspects of a person's health and involves developing protocols, policies, and procedures to protect people from multiple hazards in the workplace (Herbert et al., 2023). The irrelevant section about healthcare facilities can be replaced with specific actions Cyprea International Inc. can take to improve their occupational health facilities. For instance, the company could invest in on-site medical personnel or establish partnerships with nearby clinics to provide immediate care for work-related injuries or illnesses. Additionally, implementing a system for regularly monitoring employees exposed to hazardous materials would be a valuable addition to their occupational health infrastructure. These initiatives would indicate Cyprea's dedication to worker well-being and possibly lower healthcare expenditures linked with workplace dangers.

### **Occupational health risks for Cyprea workers:**

Occupational health and safety (OHS) management systems become certified to a standard through an audit by an independent third party. The most common OHSMS standard worldwide is OHSAS 18001, first published in 1999. The systems will undoubtedly diffuse even more rapidly with the publication of the ISO 45001 standard in 2018 (Christian et al., 2020). In the future, we expect that management systems will become the central organizing tool in the OHS-management practices of many businesses, and it thus becomes paramount to understand how these management systems 'work' within the organizational contexts where they are applied (Hohnen & Hasle, 2018). Cyprea International faces significant challenges as its employees are exposed to hazardous gases. Determining an occupational health and safety management system (OHSMS) can provide considerable benefits. This approach will aid in systematically identifying, assessing, and mitigating health concerns, encouraging a safer workplace. By doing so, Cyprea International can protect its employees from gas exposure and other occupational hazards, ultimately enhancing overall organizational health and efficiency.

### **Recommendations**

Cyprea International Inc. is committed to enhancing occupational safety through various measures. Firstly, the company conducts regular training sessions on adequately handling hazardous materials like polyurethane and isocyanate, emphasizing risk identification, safe handling techniques, and the importance of using personal protective equipment (PPE). Additionally, efforts to improve ventilation systems and provide high-quality PPE aim to minimize the risk of exposure to toxic fumes while encouraging open communication channels, empowering employees to report safety concerns and actively participate in safety protocol development and review. Ongoing evaluations and updates based on feedback and emerging best practices ensure continual improvement in safety standards.

Furthermore, Cyprea International Inc. prioritizes creating awareness about gas exposure dangers through safety meetings and workshops, educating workers on risks, handling procedures, and emergency responses related to substances like carbon monoxide and hydrogen cyanide. Adherence to clear signage, comprehensive safety manuals, and PPE provisions align with Occupational Safety and Health regulations, underscoring the company's dedication to maintaining a secure work environment. These efforts are essential for safeguarding employee well-being and security.

Moreover, the company recognizes the importance of tailored solutions for monitoring hazardous pollutant exposure, accident reporting systems, and periodic audits to enhance workplace safety standards. Advocating for regulatory frameworks to minimize exposure to endocrine-disrupting chemicals (EDCs) and partnering with governmental agencies and industry stakeholders demonstrate Cyprea International Inc.'s commitment to enhancing workers' safety and well-being across various sectors.

By implementing robust monitoring systems and adhering to global standards such as OHSAS 18001 and ISO 45001, the company ensures continuous improvement and alignment with the most effective practices in occupational health and safety management. This ultimately enhances its workplace's safety and ensures its employees' well-being.

### **Conclusion**

Cyprea International Inc. Workers were completely aware of their exposure to hazardous substances at the workplace, such as carbon monoxide and hydrogen cyanide. They diligently adhered to safety

protocols and utilized protective gear to minimize potential health risks to their health. Despite the inherent dangers, their awareness and proactive measures ensured a secure working environment.

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