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Hazardous and Toxic Waste (HTW) Management Liability in The Perspective of Civil Law

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ABSTRACT

A person or legal entity can assume responsibility for hazardous and toxic waste (HTW) management. The Environmental Protection and Management Law (UUPLH) aims to protect the environment from pollution, including HTW. This waste is generated from industrial or human activities that pose a great potential for environmental damage and threats to the lives of the living. Therefore, HTW should be managed properly to prevent pollution that endangers the ecosystem. Business actors or communities that are unable to manage HTW independently can seek the assistance of third parties who have expertise in the management of such waste. This collaboration is necessary to assure that HTW is managed effectively, in accordance with applicable regulations, thus avoiding additional risks to the environment and public health. This research aims to increase awareness of the importance of HTW management and the inherent responsibilities of the parties involved. This research adopts a normative juridical approach, which refers to regulations, legal concepts, and relevant literature studies. Drawing on secondary data obtained from relevant literature and regulations related to HTW, this research highlights the importance of HTW management in preventing threats to the environment and ensuring the sustainability of the living environment. The findings of this research suggest that proper HTW management is key to protecting the environment from the dangers of pollution and supporting the sustainability of ecosystems and human welfare in the future.

Keywords: *Hazardous and Toxic Waste, Liability, Management*

INTRODUCTION

Development and human activities, both on a large and small scale, contribute directly to environmental capacity. Ecological imbalance, disproportionate use of natural resources, and low efficiency in resource utilization are becoming increasingly urgent problems to address. Population growth, urbanization and increased industrial activities have accelerated environmental degradation, causing water, soil and air pollution. This indicates an urgent need to raise awareness of the importance of maintaining environmental balance through proper and sustainable management.

In addition, the awareness of private companies and the general public in protecting and managing the environment is still relatively low. The lack of attention to waste management, both from the industrial and household sectors, exacerbates the existing environmental pollution conditions. Waste that is not managed properly, especially hazardous and toxic waste (HTW), is a major source of ecosystem pollution that affects human health and the welfare of other living beings. This problem is further exacerbated by the fact that many companies and individuals are yet to implement an effective waste management system (Abfertiawan, 2019).

In order to prevent further environmental damage, waste management should be a top priority, especially for industries that generate massive amounts of waste. Wastes generated from industrial activities, despite some of them being recyclable or reusable, still leave residues that could potentially pollute the environment if not properly managed. For instance, liquid waste from factories often causes water pollution, while gaseous waste or solid particles may pollute the air and soil. Therefore, it is necessary to implement waste treatment procedures that comply with applicable standards, before the waste is released into the environment.

Law No. 22/2021 on Environmental Protection and Management (UUPPLH) provides a clear legal framework regarding waste management and environmental pollution prevention. Article 1 Point 1 of the UUPPLH states that “The environment is a spatial unity of all things, forces, conditions, and living things, including humans, which have an impact on the nature, survival, and welfare of humans and other living things” (P. P. Indonesia, 2021). Thus, the active participation of all parties in protecting the environment is indispensable in order for development to take place in a sustainable manner without compromising the quality of the environment for future generations.

This research aims to provide an overview and analysis of the various ways of managing HTW. It also explores various preventive and repressive measures for environmental pollution caused by HTW, as well as to identify ways to remediate the polluted environment to restore its ecological function. This research will address ways in which every action related to HTW, including collectors,

generators, utilizers, transporters, stockpilers, and processors, can consider environmental elements while maintaining environmental quality.

LITERATURE REVIEW

Theory of Strict Liability

The term liability refers to the obligation to bear the consequences of an action (Rossulliaty et al., 2023). The term legal liability covers all aspects of rights and obligations in a legal perspective (Jiwantara et al., 2022). Etymologically, liability refers to a legal concept that encompasses various types of responsibility arising from an action, both those that have occurred and those that have the potential to occur in the future, including losses, threats, or costs arising from the implementation of the law. Strict liability refers to a legal principle where the perpetrator is unable to avoid liability despite trying to avoid the risk or harm (Rhiti, 2017). This principle is applied because of the realization that every individual or group must be responsible for the harm caused by their actions, and usually applies in cases of compensation.

In the Law on Environmental Protection and Management (UUPPLH), Article 35 Paragraph 1 states that: “The person in charge of a business or activity that endangers the environment, such as the use of hazardous and toxic waste (HTW) or the generation of HTW, is fully or partially responsible for the losses caused” (P. P. Indonesia, 2021).

Theory of Environmental and Community Protection

Legal protection is an effort to protect human rights that can be abused by others (Zahra et al., 2023). Legal protection includes various steps taken by law enforcement officials to provide a sense of physical and mental security from abuse and threats that can come from any party. The purpose of protection is to minimize or eliminate the negative impacts of HTW on the environment and public health (Ichtiakhiri & Sudarmaji, 2016). It includes regulations governing the generation, storage, transportation, and disposal of HTW by companies, facilities, and related individuals, with the aim that HTW is managed properly and safely for the public and the environment.

Legal protection theory emphasizes the public interest, that is, the protection of the environment and public health, over the interests of individuals or corporations. In the case of HTW, the importance of this public interest means reducing the risk of environmental pollution and negative impacts on human health. This theory ensures that hazardous waste management is conducted safely and responsibly, in accordance with established environmental standards.

In order to protect people's right to a good and healthy environment, there are various legal instruments applicable at the national, regional and international levels. The right to the environment, also known as ecological rights, is part of a wider range of rights, including the right to live in a healthy environment and the

right to access well-managed natural resources to support human survival. The 1945 Constitution, specifically Article 28H Paragraph 1 and Article 33 Paragraph 4, states that: “Every person has the right to live in physical and spiritual prosperity, to have a place to live, and to have a good and healthy environment, and to receive health services” (P. P. Indonesia, 1945).

Theory of Environmental Management

According to The Indonesian Forum for Environment (WALHI), environmental protection and management are systematic and integrated efforts to maintain environmental functions and prevent damage (W. L. H. Indonesia, 2017). These efforts include planning, utilization, control, maintenance, monitoring, and law enforcement. Environmental management involves the important role of the community and the private sector, in addition to the role of the government. In a well-established rule of law country, all state institutions, especially the government, must act in accordance with the applicable legal regulations, both in their relationships with citizens and with other state institutions (Dinata, 2022). The same applies to the people who must obey the law in their daily lives.

In pursuit of environmental sustainability, everyone holds the right and obligation to participate in environmental management (Fraenkel-Haeberle, 2023). This participation is important to maintain a balance between the use and maintenance of the environment to maintain the carrying capacity and environmental capacity (Schwerdtfeger, 2023). The carrying capacity of the environment refers to its capacity to support human life and other living things, while the capacity refers to the capacity of the environment to absorb substances, energy, and other elements without causing damage.

Environmental protection efforts must be based on environmental quality standards to ensure that environmental conditions remain optimal (Kofidou et al., 2024). These standards regulate the amount of living things, substances, energy, or other components in the environment that are acceptable to the environment, both in the general environment and in the case of waste. Given these standards, any human activity can continue without exceeding the capacity of the environment, ultimately preventing damage and degradation of the ecosystem. In this regard, environmental protection and management is not merely the responsibility of the government, but also the shared responsibility of every element of society and the business community, for a sustainable environment.

RESEARCH METHODOLOGY

This research uses the normative juridical approach, which refers to regulations, legal concepts, and literature review. Secondary data obtained from the literature and regulations related to hazardous and toxic waste (HTW) indicate that HTW management is essential to prevent harmful impacts on the environment and maintain the sustainability of living things.

RESULT AND DISCUSSION

Responsibility for Hazardous and Toxic Waste Management Under Government Regulation No. 22/2021

The processing stage, which is the responsibility of the producer, as stipulated in Article 342 Paragraph 1 of Government Regulation No. 22/2021 and Article 59 Paragraph 3 of the Law on Environmental Protection in conjunction with Article 342 Paragraph 2 of Government Regulation No. 22/2021, is an important step in hazardous and toxic waste (HTW) management. Given that HTW has the potential for significant hazards and risks to the environment, its management license is crucial. Therefore, the precautionary principle must be applied in every stage of HTW management. The licensing system serves as a control mechanism to ensure that HTW management is carried out in accordance with applicable standards.

Based on Article 59 Paragraph 1 of the Law on Environmental Protection, every party, both business actors and the public, that generates hazardous and toxic waste (HTW) has the responsibility to manage the waste. This management includes a series of processes ranging from waste reduction to waste disposal. Industries that generate HTW are still responsible for the entire process, but they must obtain a license from the relevant minister. In case the producer is unable to manage the HTW directly, this responsibility can be transferred to a third party who is authorized and capable to do such.

Article 49 Paragraph 6 of Government Regulation No. 22/2021 stipulates that an Environmental Feasibility Decree is required in HTW management. According to point d of the article, technical approval includes technical standards and expertise in HTW management as part of the decree. This confirms that any party that generates HTW must follow the standards set in the management of such waste.

The HTW management system must be designed and implemented in accordance with applicable technical and competency requirements. The two types of permits regulated by the Law on Environmental Protection are business licenses and environmental permits. Minister of Environment and Forestry Regulation No. 4/2021 (PMLHK 4/2021) stipulates that activities or businesses that require an EIA are those with significant impacts, such as HTW management. In addition, PMLHK 6/2021, specifically Article 220, stipulates that business entities must obtain two important documents for HTW management: Operational Feasibility Letter and Technical Approval for Hazardous and Toxic Waste Management (PLB3).

Responsibility for Transportation of Hazardous and Toxic Waste

Hazardous and toxic waste (HTW) is the waste produced by activities that produce substances that are potentially harmful to the environment and human health. This waste may come from various sources, such as manufacturing industries, hospitals, laboratories, and the agricultural sector. Given the magnitude

of the risk posed by HTW, its management requires very careful handling. One important aspect of HTW management is safe and efficient transportation.

HTW transportation services play a crucial role in ensuring a safe and effective waste management system. The benefits of using HTW transportation services include regulatory compliance, reduced health and safety risks, efficient management, technical support, utilization of modern technology, and enhanced company reputation. Entrusting the transportation of HTW to professionals not only protects the environment and public health, but also strengthens their operations and image in the market.

As part of the management system, HTW management includes various stages, such as storage, collection, utilization, transportation, processing, and landfilling of processed HTW. Each party involved in HTW management has a role and responsibility in each of these stages. Therefore, the responsibilities in each stage of management must be fulfilled properly.

HTW management includes processes that aim to change the characteristics, amount, and nature of waste in order to make it non-hazardous, recyclable, or reusable before being landfilled. The main objective of HTW management is to prevent further pollution, repair environmental damage that has occurred, and restore optimal environmental functions.

Due to the highly hazardous nature of HTW, an environmental impact assessment (EIA) must be conducted before building a HTW treatment facility. This assessment aims to plan waste treatment activities, either independently or integrated with other related activities. In HTW management, integrated measures are used to achieve several key objectives, including:

1. Encourage industries to reduce or eliminate the production of HTW.
2. Establish stricter HTW management standards.
3. Stopping the import of HTW, establishing HTW import regulations, imposing licensing requirements for HTW management, and determining the classification of HTW.

Liability for Negligence in Hazardous and Toxic Waste Management

In accordance with Article 350 Paragraph 2 of Government Regulation No. 22/2021, HTW producers must obtain an agreement that regulates their responsibilities in the management of such waste. In this context, the business entity acting as the HTW management is the legal subject that bears the responsibility to carry out the waste treatment process. Therefore, the primary responsibility is given to the HTW management business entity.

Should a responsible party make a mistake in the HTW management process, they may be held legally liable. This mistake may cause harm, requiring the party to pay damages after going through a legal process or event known as “liability” or legal responsibility. This concept allows law enforcers to pursue damages against perpetrators of HTW pollution quickly and efficiently.

Article 76 and Article 97 of the Law on Environmental Protection regulate the various types of sanctions that can be imposed if a person violates the legal provisions related to HTW management. As mentioned earlier, the treatment of HTW can be carried out by the waste producer itself or transferred to an authorized waste manager. Business entities that manage HTW must fulfill various requirements and regulations to obtain permits, including environmental permits, environmental protection permits, environmental management permits, wastewater utilization permits, and wastewater discharge permits.

Efforts to Address Hazardous and Toxic Waste Pollution

Waste management is an activity that aims to create a cleaner production process, with the goal of increasing production efficiency through reduced use of materials and energy. In addition, waste management also aims to improve environmental quality by reducing the volume of waste and converting it into economically valuable products.

Under Law No. 32/2009 on Environmental Protection and Management, handling pollution problems involves preventive measures. These preventive measures include efforts to reduce significant environmental impacts by, for instance, controlling the use of raw materials, utilizing environmentally friendly technologies, conducting strict environmental monitoring, and setting strict quality standards. In general, the following are several ways to reduce environmental pollution:

1. Regulate the industrial waste disposal system to prevent environmental pollution.
2. Locate industries or factories in special areas specified for industrial activities.
3. Supervise the use of industrial chemicals that can potentially pollute the environment.
4. Planting vegetation to reforest the surrounding area.
5. Establish strict sanctions or penalties for those who pollute the environment.
6. Increase public awareness on the importance of protecting the environment and its benefits for sustainability.

Liability for Hazardous and Toxic Waste in Civil Law

Legal liability in civil law refers to a person's obligation to be liable for acts that are considered unlawful. The scope of unlawful acts in civil law is more extensive compared to criminal law. The concept of unlawful acts in civil law includes not only violations of criminal laws, but also acts that are contrary to other legal regulations, including unwritten laws.

The purpose of the rules regarding unlawful acts is to protect the disadvantaged party and provide compensation for the loss caused by the act. In

civil law, unlawful acts include not only acts that violate the law, but also acts or omissions that violate the rights of others or contravene the prevailing norms of decency, propriety, or fairness in society.

This concept helps control potentially harmful behavior, establishes who is responsible for the disadvantages that occur as a result of social interactions, and provides victims with the right to seek compensation through lawsuits. Unlawful acts are regulated in Articles 1365-1380 of the Civil Code.

Since hazardous and toxic waste (HTW) can pose a great risk to the environment and human health, its management must be carried out safely and efficiently. In accordance with the Law on Environmental Protection and Management (UUPPLH), if a business or community is unable to manage HTW independently, they can engage an authorized third party. If the waste producer is unable to handle HTW management, the management responsibility can be transferred to another party.

Companies engaged in HTW management must comply with various regulations that apply during their operations to ensure that waste management is carried out according to established standards.

Mechanism for Hazardous and Toxic Waste Management Under Government Regulation No. 22/2021

The two Government Regulations, including the Government Regulation No. 22/2021, were issued on February 2, 2021. Additional provisions on hazardous and toxic waste (HTW) management are stipulated in Chapter VII of Government Regulation No. 22/2021, following the repeal of Government Regulation No. 101/2014. Between Government Regulation No. 101/2014 and Government Regulation No. 22/2021, there are significant changes as follows:

1. HTW Management Permit: Replaced with Technical Approval for HTW Management.
2. Environmental Permit: Replaced with Environmental Approval.
3. Trial Approval: Replaced with reporting and audit obligations following the issuance of Technical Approval for HTW Management.
4. Temporary Storage Site Permit: Changed to SLO (Approval Letter/Operational Feasibility) arrangement, which is granted upon verification of meeting the requirements of the Technical Approval.
5. Dumping Change: Dumping may only be conducted by HTW producers.
6. Dumping Approval: Currently requires approval from the Central Government.
7. Landfill Facility Verification: Consists of three phases-location, construction, and operation of the dump.
8. Classification of HTW: 9 types of HTW are now classified as non-HTW.

9. Integration of Technical Approval in Environmental Approval: Technical Approval for HTW Management is now integrated in the Environmental Approval.

These changes reflect the government's efforts to update regulations to ensure more efficient HTW management that is in accordance with technological developments and environmental policies.

Types of Hazardous and Toxic Waste Treatment Mechanisms

1. Waste Reduction

Hazardous and toxic waste (HTW) reduction involves the efforts of waste generators to reduce both the volume and the hazardous level of HTW before it is generated as a result of their operations.

2. Packaging

HTW packaging is the process of inserting, covering, and sealing HTW materials into specialized containers or packaging. This activity aims to ensure that HTW is packaged safely to avoid harm to humans and the environment.

3. Waste Storage

To prevent harm, HTW must be stored properly. If the waste cannot be treated immediately, temporary storage is necessary to prevent environmental pollution and protect human health. Ensuring safety, HTW must first be properly packaged before storage. This action is carried out by the HTW generator, collector, harvester, processor, or hoarder during the temporary storage process.

Mechanism of Hazardous and Toxic Waste Management in Civil Law

Business actors are responsible for managing hazardous and toxic waste (HTW) while contributing to national development. The utilization of natural resources to improve the welfare of society is carried out through development programs designed by the government. These programs must be implemented in a balanced manner and in harmony with environmental functions.

High-risk sectors such as industry, hospitals, and mining are required to have a good management system so that HTW management can operate effectively. Based on environmental laws and regulations, the rights, obligations, and authorities of each party in HTW management are protected by law.

In this system, it requires a workforce that is skilled in HTW management and is aware of the importance of environmental protection. The Civil Code and the Law on Environmental Protection and Management (UUPPLH) regulate the responsibility of business actors in managing hazardous waste and preserving the environment. The principle of strict liability facilitates law enforcement without the burden of proving the perpetrator's guilt in pollution cases.

Proving Hazardous and Toxic Waste Pollution

Hazardous and toxic waste (HTW) generated by industries can be categorized into three main categories: mining, energy and minerals (PEM), agriculture, and manufacturing industries. Further explanation of HTW from these industries is as follows:

1. Mining, Energy and Minerals Industry (PEM)

The mining industry pursues two major purposes: generating financial returns and preserving the environment. In accordance with Law No. 4/2009 on Mineral and Coal Mining, mining activities include a series of processes ranging from exploration to post-mining (P. P. Indonesia, 2009). This process generates hazardous waste such as sulfuric acid, arsenic, heavy metals (lead and mercury), and gas emissions that must be properly managed to prevent negative environmental impacts.

2. Agroindustry

Agroindustry is a sector that processes agricultural products through various stages such as processing, physical or chemical treatment, storage, packaging, and distribution. The products produced include production, processing, transportation, storage, marketing, and stability of agricultural products. This sector includes several industries, such as the Agricultural Product Processing Industry (IPHP), the Agricultural Equipment and Machinery Industry (IPMP), and the Agricultural Services Sector Industry (IJSP).

3. Manufacturing

In Indonesia, the manufacturing sector is one of the most dominant industrial sectors. This sector encompasses a wide range of activities that transform raw materials into valuable products using machinery, equipment and labor. Manufacturing covers a wide range of production scales, from handicrafts to high-tech mass production. The sector is an integral part of the free market economic system, where goods are produced on a large scale for profit.

Government Supervision of Hazardous and Toxic Waste Management by Companies

The government has the authority to regulate environmental management in Indonesia, including prohibiting the direct discharge of hazardous waste into water, land or air to protect public health and prevent environmental pollution. Hazardous and toxic waste (HTW) management must be carried out in accordance with regulations, and local governments can be held legally responsible for its implementation.

Duties of the Environmental Impact Assessment (EIA) and Licensing Department:

1. Prepare and coordinate environmental pollution prevention programs (EIA, Environmental Management Efforts and Environmental Monitoring Efforts, environmental audit).
2. Assess environmental documents.
3. Arrange for Letter of Undertaking for Environmental Management and Monitoring registration.
4. Form a transparent research team.

Duties of the Environmental Management Section:

1. Collecting data on natural resources.
2. Prepare the Environmental Management Plan (RPPLH) document.
3. Integrating RPPLH into regional medium-term development plan (RPJP) and regional medium-term development plan (RPJMD).
4. Monitoring the implementation of RPPLH and conducting socialization.

Duties of the Climate Change and Environmental Stewardship Section:

1. Implementing natural resource sustainability policies.
2. Designing management strategies that consider environmental factors.
3. Implement climate change adaptation strategies.

Duties of the Pollution and Environmental Damage Control Section:

1. Conduct routine evaluation of environmental quality.
2. Provide monitoring facilities.
3. Implement environmental restoration measures.
4. Setting pollution quality standards.

Duties of the Waste Management Performance Section:

1. Making regional waste management policies.
2. Organizing and supervising waste management.
3. Conducting an assessment of waste management performance.
4. Cooperate with business entities and local governments.

Duties of the Waste Reduction and 3R Section:

1. Designing waste reduction policies and setting targets.
2. Collecting waste management information.
3. Conduct socialization of the 3R principle (Reduce, Reuse, Recycle).
4. Building waste management facilities.

Duties of the HTW Management Section:

1. Designing HTW temporary storage permit policies, including submission, extension, and revocation of permits at the regional level.

CONCLUSION

The environment acts as an important element in maintaining the continuity of all living beings on earth, hence its sustainability must always be maintained. In accordance with Law No. 22/2021 concerning Environmental Protection and Management (PPLH), companies bear sole responsibility for the management of hazardous and toxic waste (HTW) that could potentially threaten environmental sustainability. In terms of responsibility for the impacts resulting from the use of HTW or any other activities that harm the environment, companies are not required to provide any proof that they are at fault. This concept of absolute responsibility is applied to ensure that businesses are proactively involved in preserving the environment, rather than just focusing on economic interests. As such, companies are obliged to comply with all relevant provisions on environmental management and protection, especially in terms of HTW management. Compliance with environmental management and protection regulations is the ultimate obligation to ensure that every waste management action is carried out in accordance with the permit that has been granted, in order to avoid damage and pollution of the environment in the future.

The management of HTW from households involves several important stages, including packaging, storage, treatment, collection, utilization, and transportation. Each of these stages must be carefully managed, ranging from the use of proper packaging and storage methods, appropriate treatment techniques, to the collection, utilization, and transportation of waste in a safe manner. Household HTW, such as used batteries, old paint, and e-waste, pose a potential hazard to the environment as well as human health, thus requiring careful management.

It is advisable to develop a comprehensive waste management plan, which includes identification of waste types, determination of their characteristics, and development of waste reduction strategies. In addition, the provision of safe temporary storage sites and the selection of effective disposal methods are also important parts of the plan. The waste transportation process should be strictly regulated to prevent leakage or contamination during transportation. Providing training to household members is also necessary for them to realize the safe management of HTW. Properly segregating waste, ensuring safe storage, and implementing appropriate treatment and disposal methods are key steps in effective household HTW management. The use of environmentally friendly products can also help reduce the volume of HTW generated, thus supporting environmental protection efforts. Implementing proper management allows household HTW to be controlled and minimize its impact on health and the environment in the near future.

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