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Effectiveness of Implementing Law No 32 of 2009 Concerning Environmental Protection and Management In B3 Waste Utilization Activities at PT Dame Alam Sejahtera

Penas Simanjuntak¹, Yuniar Rahmatiar², Muhammad Abbas³¹Universitas Buana Perjuangan, Karawang, Indonesia, hk22.penassimanjuntak@mhs.ubpkarawang.ac.id²Universitas Buana Perjuangan, Karawang, Indonesia, yuniar@ubpkarawang.ac.id³Universitas Buana Perjuangan, Karawang, Indonesia, abbas2107022@gmail.comCorresponding Author: penassimanjuntak@mhs.ubpkarawang.ac.id¹

Abstract: This study aims to analyze the legal framework for the management of Hazardous and Toxic Waste (B3 waste) based on Law Number 32 of 2009 concerning Environmental Protection and Management, as well as to examine the effectiveness of the implementation of Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management in B3 waste utilization activities at PT. Dame Alam Sejahtera. This research employs an empirical legal method with a juridical-empirical approach through literature study and field research. The results of the study indicate that the legal framework for B3 waste management in Indonesia is comprehensive, covering obligations for waste management, environmental permitting, supervision, and legal sanctions for business actors. In practice, PT. Dame Alam Sejahtera has carried out B3 waste utilization activities by processing waste into construction products such as paving blocks and bricks, and has fulfilled administrative requirements including technical approvals, environmental approvals, and business licensing. However, the effectiveness of the regulatory implementation still indicates that technical aspects of processing and environmental impact control require further attention. This is reflected in the need to improve consistency in production processes, strengthen product quality testing, and implement continuous environmental monitoring. Thus, although administrative licensing requirements have been fulfilled, optimization of regulatory implementation is still necessary to ensure that the objectives of environmental protection and management can be achieved more effectively and sustainably.

Keywords: Effectiveness of Hazardous Waste Utilization Laws, Hazardous Waste, Environmental Protection

INTRODUCTION

The environment is the space where all living things, including humans, live and thrive. Therefore, its sustainability must be maintained to prevent damage that could negatively impact future generations. One cause of declining environmental quality is pollution. In Indonesia, pollution is a significant issue because it negatively impacts public health and

environmental sustainability. As a country with a large population and growing industrial development, Indonesia faces diverse sources of pollution, ranging from industrial waste, household waste, agricultural waste, to solid waste and plastic. This decline in environmental quality, coupled with the impact of global warming that triggers climate change, poses a serious threat to the sustainability of life in the future. Therefore, environmental protection and management must be implemented seriously and consistently by all parties. (Fikri nur alim, 2025) Therefore, waste can be categorized as B3 waste if it contains hazardous and toxic substances that, based on their nature or concentration, directly or indirectly, have the potential to damage and pollute the environment and endanger human health (Yuniar Rahmatiar, 2021).

In Indonesia, environmental protection and management are regulated by Law Number 32 of 2009 concerning Environmental Protection and Management. This law stipulates that every business activity with the potential to impact the environment is required to implement responsible environmental management. This is expressly stipulated in Article 2, which states: (Law Number 32 of 2009, 2009).

"Environmental Protection and Management are systematic and integrated efforts undertaken to preserve environmental functions and prevent environmental pollution and/or damage, encompassing Planning, Utilization, Control, Maintenance, Supervision, and Law Enforcement."

To implement this law, the government then enacted Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management as an implementing regulation governing various aspects of environmental protection and management, including the Management of Hazardous and Toxic Waste (B3 Waste), which encompasses various stages of activity, including:

1. B3 Waste Reduction is an effort by B3 waste producers to reduce the amount of waste produced and/or its level of hazard and toxicity before the waste is generated by a particular business or activity (I Putu Wira Eka Putra, 2025).
2. B3 Waste Storage is an action taken by waste producers to temporarily store the B3 waste they produce before further processing.
3. B3 waste collection is carried out by collecting waste from B3 waste generators before handing it over to B3 waste users, processors, or stockpilers for further management.
4. B3 Waste Transportation is the company responsible for transporting B3 waste from the production source to the collection, processing, utilization, or stockpiling site in accordance with applicable regulations.
5. B3 waste utilization means the reuse, recycling, and/or recovery of B3 waste to produce products that can be used as substitutes for raw materials, auxiliary materials, and/or fuels that are safe for the environment and human health.
6. B3 waste processing is the process of reducing and/or eliminating the hazardous nature of B3 waste (Satrio Aji, 2024).
7. B3 waste stockpiling is carried out by placing the waste in a specific location to prevent harm to the environment or human health (p.63/Menlhk/Setjen/KUM.1/7/2016, 2016).

Hazardous and toxic waste (B3) is the residue of activities or businesses containing hazardous and toxic materials that can pollute or damage the environment and endanger the health of humans and other living things due to the nature, concentration, and quantity of the material. Therefore, hazardous waste management must be carried out appropriately to prevent negative impacts on the environment (pollution) and accidents (Divia Avril Yuniar, 2024).

One form of hazardous waste management that plays a crucial role in supporting sustainable environmental management is hazardous waste utilization. This activity aims to reuse waste as a raw material, substitute material, or energy source, thereby reducing the amount of waste and converting it into usable products that are safe for the environment and

human health. (<https://jdih.kemenkeu.go.id>, 2026) In general, utilization efforts, also known as recycling, recovery, and reuse, are actions (Arif Zulkifli, 2014).

The author believes that the presence of hazardous waste management companies, particularly those engaged in waste utilization activities, plays a crucial role in supporting sustainable environmental management. One such company is PT. Dame Alam Sejahtera, which operates in the management of hazardous and toxic waste (B3) Utilization activities. This company's waste utilization activities include the manufacture of paving blocks and concrete blocks, enabling the hazardous and toxic waste generated from industrial processes to be reused as useful and environmentally safe construction products.

Normatively, every hazardous and toxic waste utilization company is required to meet various requirements stipulated in laws and regulations, including obtaining environmental approvals, meeting technical standards for hazardous and toxic waste management, and implementing supervision and reporting to authorized agencies. In practice, the implementation of hazardous and toxic waste management regulations by PT. Dame Alam Sejahtera requires readiness across various technical, administrative, and institutional aspects to ensure that hazardous and toxic waste utilization activities comply with environmental protection principles and support sustainable development.

Based on this, this study aims to analyze the legal regulations regarding hazardous and toxic waste utilization activities and examine the importance of corporate compliance in supporting environmental protection and sustainable development principles in the processing of hazardous and toxic waste into paving blocks and concrete blocks at PT. Dame Alam Sejahtera. Based on this, the author is interested in examining two main issues: the regulation of B3 waste management based on Law Number 32 of 2009 and analyzing the effectiveness of the implementation of Government Regulation Number 22 of 2021 at PT. Dame Alam Sejahtera.

METHODS

This study employs empirical legal research, aiming to assess the extent to which the law is effectively and consistently implemented in society. The approach employed is a survey method, a data collection technique that utilizes the opinions or perspectives of individuals directly involved in the phenomenon being studied. The primary objective of this method is to obtain a general overview through sampling from a number of respondents.

Furthermore, the approach employed in this study is an empirical legal approach, combining both library research and field research. Library research is conducted by referring to laws and regulations, legal books, related literature, and other documents relevant to the issue under study. Meanwhile, field research involves collecting data directly from the object or subject of the research.

RESULTS AND DISCUSSION

Legal Review Related to Hazardous Waste Management Activities for Hazardous Waste Management Business Actors Based on Law No. 32 of 2009 concerning Environmental Protection and Management

B3 waste is the residue from operations and/or activities containing hazardous and/or toxic materials that directly or indirectly pollute the environment. (Satrio Aji, 2024) One way to handle this B3 waste is through proper industrial waste management in accordance with applicable regulations. The management of industrial waste, particularly that containing hazardous and toxic materials (B3), is a problem that must be addressed appropriately to prevent environmental pollution and impacts on human health. Therefore, it is clear that waste containing hazardous and toxic materials (B3) must be handled immediately to prevent

environmental damage and human health harm. Managing B3 waste generated by industrial activities is one form of management that needs to be implemented (Kirana Kaulika, 2023).

As mandated by Article 59 of Law No. 32 of 2009 concerning Environmental Protection and Management,

"Every person who produces B3 waste is obliged to manage it. If a person is unable to manage it, the management can be delegated to another party."

Therefore, if businesses or communities encounter problems managing B3 waste, they can seek assistance from a third party to handle the waste they produce. One way to do this is by outsourcing the management of hazardous waste to a licensed waste management service (Dharma Saputra, 2025).

Outsourcing hazardous waste management to a third party aims to reduce the risk of exposure to hazardous waste and minimize the potential for environmental pollution. However, the third party appointed to manage hazardous waste remains legally responsible for its management activities, including any environmental pollution, whether intentional or unintentional. This demonstrates that hazardous waste management is not merely technical but also carries strict legal consequences.

To support the effectiveness of this management, various supporting efforts are also needed, such as research and development on the potential utilization of hazardous waste, market research on products resulting from waste utilization, and increased public education regarding the positive impacts of hazardous waste management and utilization. In line with this, the development of new materials for industrial waste processing is also crucial to increase the efficiency and effectiveness of the processing process. The development of new materials for industrial waste processing demonstrates that innovative approaches to material selection and use can significantly contribute to waste processing efficiency (Heri Askari, 2024).

These efforts are expected to raise awareness and encourage the optimization of sustainable hazardous waste management. If a third party is appointed to manage hazardous waste, they assume significant responsibilities, including if their processing operations cause environmental pollution, whether intentionally or unintentionally. These responsibilities demonstrate that hazardous waste management is strictly regulated within Indonesia's environmental law system. Therefore, for hazardous waste management in Indonesia, Law No. 32 of 2009 concerning Environmental Protection and Management serves as the primary legal basis. This law covers several important components, including: (Jangkar global groups, 2024)

1. Obligations for hazardous waste management, both for the hazardous waste generator itself and for third-party hazardous waste management services.
2. Environmental permits, for activities that have the potential to cause significant environmental impacts.
3. Government oversight, with the government's role in overseeing hazardous waste management activities.
4. Administrative and criminal sanctions for non-compliant businesses.

In this context, Law No. 32 of 2009 provides a comprehensive legal framework for hazardous waste management in Indonesia. These regulations not only emphasize the obligations of business actors, but also establish a strict, integrated system of supervision and law enforcement (Administrative, Civil, and Criminal Law) to ensure sustainable environmental protection (Dewi Asri Puannandini, 2025).

In addition to regulating the obligations for B3 waste management, Law Number 32 of 2009 also emphasizes the importance of basic principles in environmental protection and management, namely: (Mitra Ratna Djuwita, 2024)

1. Precautionary Principle.
2. Strict liability.
3. Polluter Pays Principle (producers are responsible for the B3 waste they produce).

4. To encourage the utilization of B3 waste, monitoring begins from the generation of B3 waste or non-B3 waste to final management.
5. Waste minimization.
6. Proximity (management is carried out as close as possible to the B3 waste location).

These principles are the main foundation for in every activity related to hazardous and toxic waste, including in its utilization and processing. With these principles, every business actor is not only required to comply with administrative provisions but is also obliged to ensure that their activities do not cause pollution or environmental damage.

The urgency of implementing these principles can be seen in various environmental pollution cases, one of which is the Minamata pollution case in Japan. In the 1950s, a chemical company discharged waste containing mercury into the waters, contaminating the surrounding ecosystem and marine life. Consuming contaminated fish subsequently caused a serious illness known as Minamata Disease, which resulted in neurological damage, disability, and even death in thousands of people. This case serves as an important lesson regarding the dangers of hazardous and toxic waste and has prompted reforms to waste management policies and systems in various countries (Bambang Suhartawan, 2023).

According to the author, this case demonstrates that failure to apply basic principles of hazardous and toxic waste management, particularly the precautionary principle and the polluter pays principle, can have widespread and long-lasting impacts, not only on the environment but also on human health. This emphasizes that the implementation of these principles cannot be viewed as an administrative formality, but rather as a substantive obligation that must be integrated into every stage of waste management.

Therefore, hazardous waste management must be understood as a comprehensive series of activities, from reduction, storage, transportation, utilization, processing, and final disposal. This demonstrates that hazardous waste management does not focus solely on the final stage of disposal, but encompasses the entire management cycle to minimize the risk of pollution and negative impacts on the environment.

In the context of hazardous waste management, one important aspect with strategic value is hazardous waste utilization. The purpose of hazardous waste utilization is not only to reduce the potential for pollution but also to transform waste into valuable resources, such as raw material substitutes, energy sources, raw materials, and other forms of utilization in accordance with developments in science and technology. This consideration should include: (Alvi Syahrin, 2022)

- a. Technology availability.
- b. Product standards if the result of hazardous waste utilization is a product.
- c. Environmental standards (environmental quality standards).

Furthermore, the implementation of B3 waste utilization is regulated in more detail in Government Regulation Number 22 of 2021 as the implementing regulation of Law Number 32 of 2009, which regulates technical provisions regarding the requirements, forms, and standards in B3 waste utilization activities.

Effectiveness of Implementation of Government Regulation No. 22 of 2021 concerning the Implementation of Environmental Protection and Management at PT. Dame Alam Sejahtera

The utilization of Hazardous and Toxic Waste (B3 Waste) is an activity that carries a high level of risk to the environment and human health because the substances/energy can directly or indirectly pollute and harm if not carried out in accordance with applicable regulations. (Yurnalisdell, 2022) Therefore, it is strictly regulated in the environmental protection and management system, outlined in Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management and its

derivative regulations, including Regulation of the Minister of Environment and Forestry Number 6 of 2021. B3 waste has characteristics that can endanger human health and has the potential to cause pollution and environmental damage if not managed properly. The classification based on hazard and source is as follows: (Government Regulation No. 22 of 2021, 2021).

1. Category 1 B3 Waste is waste that can directly affect human health.
2. Category 2 B3 Waste is waste that can directly affect human health and affect it for a certain period of time (chronic).

In line with these provisions, B3 Waste utilization activities must be carried out in accordance with applicable laws and regulations and other derivative regulations. One company engaged in hazardous waste utilization is PT. Dame Alam Sejahtera, which utilizes hazardous waste by processing it into products with reusable value. The hazardous waste obtained from fly ash and bottom ash, with the highest capacity, is then processed to become a mixture in building materials. The company uses hazardous waste to make substitute bricks and paving blocks. To implement this, the company is required to fulfill various licensing requirements, namely:

1. Technical Approval for Hazardous Waste Utilization Activities.
2. Environmental Approval.
3. Business permits for hazardous waste management activities.

After obtaining a technical approval decree, hazardous waste management companies are required to fulfill environmental approval, as stipulated in Government Regulation No. 22 of 2021 concerning the Implementation of Environmental Protection and Management. Environmental approval is a decision regarding environmental feasibility or a statement that they will manage the environment with the approval of the central or regional government. This is granted to business actors or government agencies as a requirement for issuing Business Permits or Government Approval.

1. Preparation of an Environmental Impact Analysis (EIA) and an EIA feasibility test.
2. Preparation of the Environmental Management and Environmental Management Plan (UKL-UPL) form and examination of the UKL-UPL.

The validity period of the Environmental Approval expires simultaneously with the expiration of the Business Permit or Government Approval. Every business plan or activity that impacts the environment is required to have an EIA and UKL-UPL. With the integrated and automatically interconnected OSS-RBA and Amdalnet systems, the process of preparing environmental documents to meet environmental approval requirements is streamlined. (<https://dpmpt.bantulkab.go.id>, 2025) This ensures that the required environmental approval documents (EIA, UKL-UPL, and SPPL) are prepared.

In the utilization of hazardous waste by PT. Dame Alam Sejahtera's hazardous waste is: (Technical Approval Document for Waste Utilization PT. Dame, 2025).

1. Dross from smelting in the iron and steel smelting industry/activities.
2. Blasting residue in the manufacturing, assembly, and maintenance industries of vehicles and machinery.
3. Copper slag from the copper ore smelting process (smelter) from primary and secondary processes.
4. Iron/steel dust from air pollution control during the smelting of iron and steel ore and/or metal using low-frequency induction furnace or cupola technology and/or reheating furnace processes.
5. Fly ash.
6. Bottom ash.

The hazardous waste used is to assess its potential use as a solidification material, in this case as a mixture for paving blocks and concrete blocks. In the manufacture of paving

blocks and concrete blocks, attention must be paid to the mixing and molding processes. Inhomogeneous mixing and pressure during molding will affect the compressive strength (M.Hasan Abdullah, 2024).

The author evaluated the hazardous waste utilization activities of PT. Dame Alam Sejahtera by referring to the regulations derived (Muhammad Akib, 2014) from Law No. 32 of 2009 concerning Environmental Protection and Management, namely Government Regulation No. 22 of 2021 concerning the Implementation of Environmental Protection and Management and Ministerial Regulation No. 6 of 2021 concerning Procedures and Requirements for the Management of Hazardous and Toxic Waste.

Table 1. Company Compliance with B3 Waste Utilization Activities

No	Parameters	Requirements under Relevant Regulations	Realisasi Lapangan
1	Characteristics of Hazardous and Toxic Waste (B3 Waste)	Possesses the same nature and/or function as the raw material(s) being substituted	Compliant
2	B3 Waste Capacity	Constitutes less than 100% of the total raw materials used	100% compliant
3	Specifications of Products Derived from Recovery/Utilization	- Complies with Indonesian National Standards (SNI) - Complies with environmental quality standards	Concrete brick (SNI No. 03-0349-1989) Paving block (SNI No. 03-0691-1996)
4	Specifications of B3 Waste Recovery/Utilization Facilities	- Presence of a Hazardous and Toxic Waste (B3) collection point for gathering waste intended for utilization - Availability of adequate facilities and equipment for utilization activities - Availability of a laboratory or analytical equipment to test, at a minimum, the quality of the product resulting from B3 waste utilization - Utilization site coordinates are specified in the Operational Feasibility Certificate (SLO)	Compliant
5	Permits	- Possession of UKL-UPL or AMDAL documentation - Possession of Technical Approval - Possession of Environmental Approval - Possession of SLO - Environmental insurance coverage	Compliant
6	Emergency Response System	Included in the Standard Operating Procedure (SOP)	Compliant
7	Competence of Personnel for B3 Waste Recovery/Utilization Activities	Presence of certified personnel competent in B3 waste handling, covering both operational staff and management roles	Compliant

Based on the overall description and evaluation results, the implementation of Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management in the utilization of hazardous waste at PT. Dame Alam Sejahtera can be considered to be effective from an administrative perspective, particularly in fulfilling environmental permits and approvals.

Furthermore, the utilization of waste into construction products such as paving blocks and concrete blocks demonstrates efforts to reduce hazardous waste through a reuse approach, which aligns with environmental management principles. However, the effectiveness of this regulation's implementation is not yet fully optimal. Sustainable attention is needed, both from

a technical perspective and from environmental impact control, which requires consistency in product quality testing and regular monitoring. The effectiveness of hazardous waste utilization is determined not only by compliance with permit requirements but also by the extent to which these activities can ensure long-term environmental safety and public health.

Therefore, although the activities carried out by PT. Dame Alam Sejahtera has moved towards more sustainable waste management practices, but optimization of regulatory implementation is still necessary to ensure that the objectives of environmental protection and management, as mandated in Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management, can be optimally achieved.

CONCLUSIONS AND RECOMMENDATIONS

The environment, as a living space for all living creatures, including humans, demands serious and sustainable protection and management efforts to prevent pollution and damage that could endanger the health and well-being of future generations. In the context of increasing industrial activity in Indonesia, which also generates waste, including Hazardous and Toxic Waste (B3 Waste), the existence of a legal framework such as Law Number 32 of 2009 and Government Regulation Number 22 of 2021 is crucial as a basis for regulating waste management systematically and integratedly. Therefore, B3 Waste management is not merely an administrative obligation but also part of a shared responsibility to maintain environmental quality through the application of basic principles of environmental protection and management.

Based on the author's description and analysis, the following conclusions can be drawn:

1. Legal regulations regarding the management of Hazardous and Toxic Waste (B3 Waste) in Indonesia are comprehensively regulated in Law Number 32 of 2009 concerning Environmental Protection and Management and its implementing regulations, specifically Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management. These regulations not only cover the obligations for B3 Waste management but also encompass the environmental licensing system, government oversight, and the application of legal sanctions, based on the precautionary principle, the polluter pays principle, and waste minimization as the foundation for environmental protection.
2. B3 waste management activities at PT. Dame Alam Sejahtera demonstrate that the company has complied with laws and regulations administratively. The company has received technical approval, environmental approval, business permits, and facilities to manage B3 waste. The utilization of B3 waste into construction products such as concrete blocks and paving blocks also demonstrates the principle of reuse.

Thus, although normatively and administratively it has been fulfilled, the effectiveness of B3 Waste management at PT. Dame Alam Sejahtera still requires optimization in technical and supervisory aspects so that the goal of environmental protection can be achieved optimally and sustainably. Therefore, it is necessary to improve product quality testing, continuous environmental monitoring, and strengthen supervision so that the goal of environmental protection and management can be achieved optimally.

REFERENCES

- Alvi Syahrin DKK, "Ketentuan Hukum Pengelolaan Limbah B3", (Jakarta: Kencana, 2022)
- Arif Zulkifli, *Pengelolaan Limbah Berkelanjutan*, (Yogyakarta: Graha Ilmu, 2014)
- Bambang Suhartawan DKK, "Pengelolaan Limbah Padat, Limbah Industri dan B3", (Padang: Get Press Indonesia, 2023), Hlm 77
- Dewi Asri Puannandini DKK "Penegakkan Hukum Lingkungan dalam Pengelolaan Limbah Bahan Berbahaya dan Beracun (B3)" *NNOVATIVE: Journal Of Social Science*

- Research Vol 5(5) (2025)
- Dharma Saputra DKK “Identifikasi Pengelola Limbah Padat B3 pada PT. Hidup Baru Perdana Abadi”, *Jurnal Keselamatan, Kesehatan Kerja dan Lindungan Lingkungan* Vol 11 (1) (2025)
- Divia Avril Yuniar DKK, “Tanggung Jawab Korporaasi: Analisi kebijakan pengelolaan limbah B3 berbasis prinsip circular economy” *Kampus Akademik Publishing Jurnal Multidisiplin Ilmu Akademin* Vol 1 No 3 (2024)
- Dokumen Persetujuan Teknis Pemanfaatan Limbah B3 PT. Dame Alam Sejahtera
- Fikri nur alim, “hukum lingkungan dan kewajiban perusahaan dalam menjaga kelestarian alam” *journal of administrative law and public policy*, volume 3 no 2 november (2025)
- Heri Askari DKK “Pengembangan Material Baru untuk Pengolahan Limbah Industri: Tinjauan Sistematis Literatur” *Jurnal Nusantara Technology and Engineering Review NTER* 2(2) (2024)
- <https://jdih.kemenkeu.go.id/kamus-hukum/pemanfaatan-limbahb3>, diakses tanggal 06 Maret 2026
- <https://dpmpt.bantulkab.go.id/web/berita/detail/869-sistem-oss-rba-dan-amdalnet-telah-diintegrasikan> di akses tgl Tgl 15, februari, 2025 pukul 17:47
- I Putu Wira Eka Putra, Mekanisme Pengelolaan Limbah Bahan Berbahaya dan Beracun berdasarkan Peraturan Perundang-undangan Tulisan Hukum JDIH BPK Perwakilan Provinsi Banten
- Jangkar global groups, Izin Limbah B3 OSS Bahan Berbahaya dan Beracun, diakses tgl 12 April 2026
- Kirana Kaulika DKK “Pertanggungjawaban Pihak ketiga Jasa Pengolah Limbah B3 dalam Mengolah Limbah B3” *Tanjungpura Law Jurnal* Vol.6 (1) (2022)
- Mitra Ratna Djuwita “Kebijakan Pengelolaan Limbah B3 dan Non B3 untuk Sektor Industri” 2024 Direktorat Pengelolaan Limbah B3 dan Non B3, Direktorat Jenderal Pengelolaan Sampah, Limbah dan B3 Kementerian Lingkungan Hidup dan Kehutanan
- Muhammad Akib, *Hukum Lingkungan*, (Jakarta:PT. RajaGrafindo Persada, 2014) hlm 142
- M.Hasan Abdullah DKK “Pemanfaatan dan Analisis Kelayakan Abu Hasil Incenerator Sampah untuk Paving Batako di TPS Mojosarirejo Kabupaten Gresik” *Jurnal Sinergitas PKM dan CSR* vol 8 no 1 (2024)
- Peraturan Pemerintah No 22 Tahun 2021 tentang Penyelenggaraan Perlindungan dan Pengelolaan Lingkungan Hidup
- Peraturan Menteri Lingkungan Hidup dan Kehutanan No : p.63/Menlhk/Setjen/KUM.1/7/2016 Tentang Persyaratan dan Tata Cara Penimbunan Limbah Bahan Berbahaya dan Beracun di Fasilitas Penimbunan Akhir
- Satrio Aji DKK “Pengolahan Limbah Bahan Berbahaya dan Beracun (B3) dengan Teknologi Insinerasi pada Fasilitas Pengelolaan Limbah Terpadu (FPLT) Kawasan Medan” *Jurnal Profesi Insinyur Indonesia* Vol 2 (I) (2024)
- Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup
- Yuniar Rahmatiar DKK, “Asuransi lingkungan sebagai salah satu upaya pencegahan dan penanggulangan pencemaran lingkungan hidup yang disebabkan oleh kegiatan industry tekstil” *Jurnal Justisi Hukum* ISSN 2528-2638 Vol 6, No. 1, Maret (2021)
- Yurnalisdel “Analisis Pengelolaan Limbah Bahan Berbahaya dan Beracun (B3) di Indonesia” *Jurnal Syntax Dmiration* Vol 4. No 2 (2023)