ARTICLE REVIEW

TITLE: SCHEDULE WASTE DUMPING IN INDUSTRY

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The Environmental Quality Act 1974 defines "waste" as including any material that is designated as scheduled waste, as well as any material that can be solid, semi-solid, liquid, or in the form of gas or vapor that is released into the atmosphere in a way that pollutes the environment around. Meanwhile, scheduled waste was defined as any waste designated by the Minister in regulations as scheduled waste. In general, scheduled waste is any waste that has hazardous characteristics that have the potential to negatively impact the public and the environment.

What are the laws and regulations related to schedule waste in Malaysia?

According to Section 34B of the Environmental Quality Act 1974, no person could place, deposit, or dispose of any scheduled wastes on land or into Malaysian waters without the prior written approval of the Director General, except at prescribed premises. The Malaysian Department of Environment (DOE) has underlined the specific regulations and guidelines governing scheduled waste management, which are the Environmental Quality Regulations (Scheduled Waste) 2005. It defines schedule waste as any waste included in the category of waste that is listed in the first schedule, and a total of 77 types of scheduled waste are listed under this schedule.

Nowadays, industry plays a crucial role in modern society, and waste generation is a natural consequence of growth. When anything is thrown out carelessly, it becomes waste. It can also be hazardous to human health or the environment (soil, air, waste) if handled, stored, transported, or disposed of improperly. In simpler terms, scheduled waste plays a significant role in ecosystem degradation. Due to its harmful components that threaten public health and the environment, scheduled and hazardous waste is the most challenging to manage. Over the past twenty years, waste management has become a serious concern in Malaysia. Malaysia has created a thorough legal framework related to the handling of hazardous and toxic waste. This work evaluates Malaysia's scheduled waste management program in terms of the legal framework, waste types, and waste volume produced.

Scheduled waste can also affect the environment. Improper disposal of scheduled waste poses a grave threat to the environment, as it can lead to the release of hazardous substances into the air, soil, and water, causing contamination and long-term ecological damage. The negligent handling of scheduled waste disrupts the delicate balance of ecosystems, jeopardizing the health of both wildlife and human populations while undermining the sustainability of our natural resources.

The inappropriate disposal of electronic waste materials, or "e-waste," is one notable example of scheduled waste having a negative environmental impact. Ecosystems are seriously threatened when electrical gadgets that contain harmful elements like lead, mercury, and cadmium are disposed of improperly and leak these hazardous substances into the ground and water. In addition to providing an obstacle to aquatic life, the contamination may make its way up the food chain and ultimately impact human health. This demonstrates the complex and wide-ranging effects of improperly scheduled waste treatment.

To increase efficiency in the clean-up and disposal of waste, implementing comprehensive waste management strategies is essential. This involves investing in advanced technologies for waste sorting, recycling, and treatment facilities, thereby streamlining the overall process. Additionally, community education programs can raise awareness about responsible waste disposal practices and promote waste reduction and recycling initiatives. Strengthening regulatory frameworks and enforcement mechanisms can incentivize industries to adopt environmentally friendly practices, ensuring that businesses bear the true cost of waste generation. Furthermore, collaborative efforts between government agencies, the private sector, and local communities can lead to the development of integrated waste management systems, optimizing resource allocation, and minimizing the environmental impact of waste disposal. Overall, a multifaceted approach encompassing technological advancements, public awareness, regulatory enhancements, and collaborative initiatives is crucial for sustained and effective improvement in the clean-up and disposal of waste.

There have been several incidents because of the disposal of toxic and hazardous waste, such as the Minamata Poisonous Mercury Incident in 1956. Organic forms of mercury, such as methyl mercury, have caused hundreds of cases of paralysis and sensory loss along Minamata Bay in Japan. Methyl mercury from the chemical plant was discharged into the waterway in 1932 and then bio-accumulated in shellfish and taken up in the food chain of the community. The second incident happened because of toxic waste contamination at Love Canal, New York, USA, from the 1940s to the 1950s. The toxins were disposed of illegally by burying them in the soil, and after that, a school and housing were built on top of the disposal site. Then severe health problems affected schoolchildren and residents. Following that, there are also three cases of toxic and hazardous waste disposal in Malaysia.

In March 1995, 41 drums of potassium cyanide (KCN) from a Penang chemical firm were found dumped on Pangkor Island. In June 2004, 12,000 tons of toxic waste from Taiwan were found at a brick-making factory in Johor. Meanwhile, in January 2006, ammonia leaked from 300 tons of aluminum oxide waste illegally dumped in Labis, Johor. The nearest incident occurred was Kim Kim River toxic pollution. It occurred on 7 March 2019 caused by illegal chemical waste dumping at the Kim Kim River in Pasir Gudang, Johor. The illegal dumping released toxic fumes, affecting 6,000 people and hospitalising 2,775. Most of the victims were school students from 110 schools located near the river were subsequently closed.

In conclusion, considering that scheduled waste is harmful and must be managed cautiously, it is included in regulation schedules. This is an essential aspect of modern environmental management. Given the complicated connection that exists between industrial operations and ecological integrity, scheduled waste management and disposal must be done with care to minimize harmful effects on the environment and public health. An enduring commitment to comprehensive waste management practices becomes both legally required and morally imperative as we navigate the complexities of a rapidly changing global landscape, protecting the delicate balance of ecosystems and ensuring the sustainable coexistence of industries and the environment. Therefore, scheduled waste management's effectiveness goes beyond following regulations and serves as the foundation of our society as a whole.

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