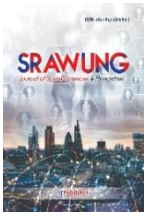

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# Legal Consequences of Disposal Mask Waste on Environment

Based on Law No. 32/2009 Concerning Environmental Protection and Management

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## ABSTRACT

*The use of masks in an effort to prevent Covid-19 is indeed quite effective. Unfortunately, the potential problem from the use of disposable masks is the waste will have an impact on environmental pollution because the mask material is made of polypropylene which is a type of plastic that is difficult to decompose.Therefore, the objective of this research is to find out the importance of preserving the environment by paying attention to waste around the environment and to analyze important to dispose of waste through proper processes and management for preventing the negative impact on environment that will cause environmental damage and pollution. The method used is descriptive qualitative combined with normative legal research and statutory, conceptual, historical, and comparative approaches. The legal materials used in this research are primary legal materials, such as Law No. 32/2009 concerning the environment protection and management, Law No. 18/2008 concerning waste management, Government Regulation No. 101/2014 concerning the management of hazardous waste and toxic materials (B3) as secondary legal materials.*

**Keywords:** *Environment, Garbage, Masks, Waste*

## INTRODUCTION

Coronavirus (Covid-19) is an infectious disease caused by the SARS-CoV-2 virus. Infected individuals typically experience moderate symptoms and recover without the need for medical treatment. However, some people may develop severe symptoms that require medical attention and assistance. The virus is transmitted through small fluid particles from the mouth or nose of an infected person when they cough, sneeze, talk, or breathe. These particles range from larger respiratory droplets to smaller airborne substances.

During the Covid-19 pandemic, various global organizations recommended wearing masks to create a physical barrier that helps break the transmission chain. One such organization is the U.S. Centers for Disease Control and Prevention (CDC), which advocates for mask usage as one of the most effective ways to prevent the spread of the virus. Additionally, the Indonesian government has taken several measures to ensure the public adheres to mask-wearing protocols to curb transmission.

The use of masks has proven to be an effective measure in preventing Covid-19, as they help block virus particles and reduce disease transmission. Consequently, masks have become an essential requirement for the community and have been regulated by the government. However, the widespread use of disposable masks presents environmental concerns. Disposable masks are made from polypropylene, a type of plastic that takes hundreds of years to decompose (Hanim & Tita, 2022). Unlike plastic bottles, of which nearly 25% are recycled, there are currently no established guidelines for managing mask waste. As a result, discarded masks are often disposed of carelessly.

When disposable masks are not recycled like other plastic waste, they can end up in freshwater and marine environments, leading to water pollution and negatively impacting ecosystems and marine life. The plastic components of masks break down into small pieces known as microplastics, which eventually degrade into nanoplastics. These microplastics absorb toxins and organic pollutants, which marine animals may ingest, exposing them to harmful substances. The accumulation of mask waste not only harms marine ecosystems but also poses risks to human health, contributing to environmental pollution (water, land, and air), ecosystem degradation, and the potential misuse of discarded masks, which could increase the spread of Covid-19.

The objective of this research is to highlight the importance of environmental preservation by addressing waste management issues and analyzing the necessity of proper waste disposal to prevent environmental damage and pollution. The increasing accumulation of mask waste is exacerbated by challenges in waste management, a lack of public education, and inadequate household-level management of Covid-19-related medical waste.

## RESEARCH METHODOLOGY

This research is a normative legal study, commonly referred to as research conducted by examining various legal library materials (secondary data). Normative legal research, also known as a document study, uses qualitative methods for data analysis and relies on secondary data sources such as regulations, court decisions, books, legal theories, and doctrines (Efendi, Jonaedi & Ibrahim, 2016).

The approaches in normative (dogmatic) legal research include statutory, conceptual, historical, and comparative approaches. Through a regulatory and conceptual approach, an inventory of all applicable laws and regulations is compiled to reflect legal concepts theoretically. The comparative law approach aims to obtain comparative sources that support the discussion material.

The legal materials used in this research consist of primary legal materials, such as Law No. 32/2009 on Environmental Protection and Management, Law No. 18/2008 on Waste Management, and Government Regulation No. 101/2014 on the Management of Hazardous and Toxic Waste (B3), as well as secondary legal materials.

## RESULT AND DISCUSSION

### The Definition of Environment

The environment in Law No. 32 of 2009 concerning PPLH stated that the environment is a unitary space with all objects, power, conditions and living things including humans and their behavior which affect the nature itself, the survival and welfare of mankind and other living things. According to Munajat Danusaputro, the environment is all objects and its conditions, including humans and their behavior that affect the humans' and other living bodies' welfare (Sood, 2019). Meanwhile, according to Otto Soemarwoto, the environment can be interpreted as a room inhabited by living things and non-living things in it (Rizal, 2016). According to Emil Salim, the environment can be defined as objects, conditions, circumstances, and influences that exist and affect the living things, including human life (Luc Hens, Bhaskar Nath, 2022).

### Type of Environment

The experts divide the environment into several types. The human environment can be classified into three types: physical environment, biological environment, and social environment. The physical environment is everything in the form of inanimate objects, such as houses, vehicles, mountains, water, sunlight, and other things. The biological environment is everything that surrounds humans in other living things, except humans themselves, animals, plants, microorganisms, and others. The social environment is another human around the society, such as neighbors, friends, and others.

**The Definition of Mask**

A mask is a tool or object used to cover the nose and mouth to protect oneself from various things that can threaten the person's health, such as sunlight, air pollution, and germs or viruses that spread through the air (Brooks & Butler, 2021). As for medical masks, also known as surgical masks, these are designed to be worn by health services during surgery and treatment to ward off the bacteria contained in droplets and small substances. These masks are not designed to protect from inhaling airborne bacteria or viral particles and are inferior to respirator masks such as N95 or FFP masks which provide better protection due to their material, shape, and effectiveness.

**The Definition of Waste**

Waste is an unused material that will have a negative impact on the community when it is not handled properly. Waste is the residue from production that comes from nature or as a result of human activities. The decree of the Minister of Industry and Trade Republic Indonesia No. 231/MPP/Kep/7/1997 Article 1 concerning the procedure for importing waste explains that waste is leftover used goods or materials produced from production activities or processes. Based on Government Regulation no. 18/1999 Jo.PP 85/1999, waste is defined as residue from business or human activities. In other words, waste is leftover goods produced by an activity that is no longer useful or has no economic value.

**Waste characteristics**

Physical waste is divided into solids, odor, temperature, color, and turbidity. Chemical waste consists of organic matter, BOD (Biological Oxygen Demand), DO (Dissolved Oxygen), COD (Chemical Oxygen Demand), pH (Puissance d'Hydrogen Scale), and heavy metals. Biological waste is used to measure water quality, especially water that is consumed as drinking and clean water.

**Type of Waste**

Waste is grouped based on its source and type of compound. Waste grouping by source includes domestic or household waste from household and commercial activities such as markets, restaurants, and office buildings, industrial waste from industrial processes, agricultural waste from agricultural or plantation activities, mining waste generated from mining activities like metals and rocks, tourism waste from vehicles, oil and oil spills dumped by ships and motorboats in marine tourism areas, and health or medical waste in the form of medicine and chemicals. Waste grouping according to its compound is divided into three types: organic, inorganic, and hazardous and toxic waste (B3). Organic waste comes from natural living things that are easily biodegradable, such as leaves, eggshells, tree bark, animal waste, human waste, plant remains, and animal bones. Inorganic waste is difficult to decompose naturally through microorganisms, such as laundry soap residue, plastic bags, cloth, industrial waste, oil waste, plastic bottles, used

drinks, and metal waste. Hazardous and toxic (B3) waste is a type of waste that can pollute the environment, health, and survival of living things because of its compounds. The B3 waste management requires special handling since it contains explosive, toxic, dangerous, irritating, and corrosive compounds. B3 compounds include heavy metals such as Al, Cr, Cd, Cu, Fe, Pb, Mn, Hg, and Zn, as well as chemicals such as pesticides, cyanides, sulfides, phenols, and others. B3 waste is generated not only in industry but also as a result of several types of economic activities, such as floor cleaners, gas stoves, glass cleaners, plastics, rat poison, scouring powder, detergent, floor cleaner, dye, and sewer clog remover.

**The Impact of Disposal Mask Waste on Environment**

The impact of disposal mask waste is causing environmental pollution. According to Article 1 No. 14 of Law No. 32/2009 regarding Environmental Protection and Management, environmental pollution is the inclusion of living things, substances, energy, and other components into the environment by human activities that exceed the environmental quality standards. During this pandemic, masks have become a major need for the community since they can protect and prevent the spread of COVID-19 disease. In addition, the use of masks is also mandatory and regulated by the government. However, there are potential problems caused by the use of these masks, especially disposable mask waste that will have a bad impact on the environment because the material of disposable masks is made of polypropylene, which is a type of plastic (Hashfi Hawali Abdul Matin, 2022). This disposable mask waste is the same as plastic waste, which is difficult to decompose and will have a negative impact on the environment. Plastic can be harmful to the environment because it is difficult to decompose and takes a long time to break down completely within 100 to 500 years.

**Legal Consequences of Disposal of Waste Masks on Environment**

Legal consequences or legal sanctions are intended for people, industries, or companies that intentionally or unintentionally dispose, create, and produce waste that ultimately causes damage and pollution to the environment. In Law Number 32/2009 concerning Environmental Protection and Management, there are regulations regarding the legal consequences or sanctions of waste disposal that cause environmental damage and pollution.

## CONCLUSION

The existence of Covid-19 has required people to wear masks to protect themselves from the spread of the virus, as mandated by the government. The obligation to wear masks during the pandemic has led to an increasing daily usage, resulting in large-scale production and an accumulation of mask waste from public use. If this waste is not disposed of properly through the correct

process, there is a risk of misuse and potential environmental pollution and damage.

To prevent the accumulation of waste that could cause pollution and environmental harm, mask waste disposal must adhere to proper management and disposal regulations, as outlined in Law Number 32/2009 concerning Environmental Protection and Management, particularly Article 58 (points 1–2) and Article 59 (points 1–7). Additionally, Government Regulation No. 101/2014 on B3 waste management, specifically Article 3 (points 1–4), Article 10 (points 1–4), and Article 11 (points 1–2), along with Law No. 18/2008 on waste management, regulated in Article 19, Article 20 (points 1–5), Article 21 (points 1–2), Article 22 (points 1–2), and Article 23 (points 1–2), must be followed. Every activity involving B3 waste is required to implement proper management to minimize the risk of pollution and environmental damage, as B3 waste has significant potential to cause adverse environmental impacts (Kementerian Hukum dan Hak Asasi Manusia, 2008).

Since masks fall under the category of B3 waste, legal consequences apply to individuals, industries, or companies that intentionally produce B3 waste that threatens the environment. In such cases, legal sanctions may include criminal lawsuits and compensation claims against those responsible for environmental pollution and damage.

Criminal lawsuits are regulated under Law Number 32/2009 on Environmental Protection and Management, particularly in Articles 102, 103, and 104. Meanwhile, compensation is addressed in Article 87 (points 1–4), Article 90 (points 1–2), Article 91 (points 1–3), and Article 92 (points 1–3) of the same law.

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