

Transport Management of Hazardous Materials and Toxic Waste

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Abstract: The existence of Industry in East Java have the potential to create pollution due to waste management that are not orderly. Both hazardous materials and toxic waste, solid waste and liquid waste which can make an impact are harmful to the environment. The problem of hazardous materials and toxic waste that resulted in the negative impact of environment to endanger human health requires serious attention by various parties. In this case the need for the transport management of hazardous materials and toxic waste is good and safe to the environment. Waste management permit on hazardous materials and toxic is the preventive administrative instruments of publication which can be done within one license by integrating with the Minister, Governors, or Regents/Mayors in accordance with those in powers based on the filing of the applicant's permission, otherwise known as permission to carry waste management on hazardous materials and Toxic Waste, with the transport permit issued by the Ministry of Environment and Forestry. This research is a form of socio-legal research analyzing on transport management of toxic materials and hazardous waste. To have the transport permit into the authority of the Ministry of Environment and Forestry, the authority of the division issuing the permit is required with requirements that have been determined as well as the consistency of the management of hazardous materials and toxic waste properly and correctly in accordance with the regulations.

1 INTRODUCTION

Based on the Law of the Republic Indonesia Number 32/2009 about "Protection and Management of the Environment", environment is everything that is surrounding us. It is the unity of space with all objects, resources, circumstances and living creatures, including humans and behavior that affects the nature itself, the continuity of life and the welfare of humans and other living beings. The components contained in the environment need to be in balance between the biotic and abiotic components. Human as the perpetrator in the preservation of the environment should maintain balance in the best possible environment. One of the inefficient provisions of the environment caused by behavior/human activities causing environmental pollution is coming from waste. Hazardous materials and toxic waste are harmful pollutants for the environment because it has a negative impact on the survival of living creatures and humans. East Java has a strategic position in the field of industry because it is flanked by two large provinces, namely Central Java and Bali, thus making it the center of

industrial growth as well as trade. The number of industries in East Java from a wide range of sectors have the potential to cause pollution due to poor waste management on toxic waste and hazardous materials, solid waste and liquid waste which are harmful to the environment. The most feared toxic materials and toxic waste are waste from the chemical industry. Hazardous materials and toxic waste from the industrial activities discharged into the environment will eventually have an impact on human health. The problem of hazardous materials and toxic waste is resulting in the impact of environmental damage to endanger human health requires serious attention by various parties.

Based on the list of industries which identifies as the types of industries that produce potentially hazardous materials and toxic waste significantly which is as much as 5276344.27 tons/year (The Environmental Agency Of The Province Of East Java , 2016).

Management of hazardous materials and toxic waste is a series of activities that includes the storage, collection, utilization, transport, and processing of hazardous materials and toxic waste. The waste management has attachments including

the manufacturers, transport, users, processing and hoarding hazardous materials and toxic waste. This could be seen in the following flowchart:

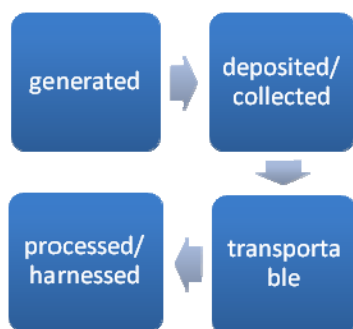


Figure 1: The flow of waste management on hazardous materials and toxic waste (government regulations number 101/2014 about waste management toxic and hazardous materials).

An important part in the management of hazardous materials and toxic waste is deciding on the right means of transportation. In its implementation and to reduce risk to the personnel executing, the involvement of all parts of the cover are required, i.e. the care and maintenance section of the management of hazardous materials and toxic waste facilities.

2 REVIEW OF LITERATURE

2.1 Hazardous Materials and Toxic Waste

Based on Law of Republic Indonesia Number 32/2009 on the Protection and Management of the Environment, Clause Number 1 Point (22) stated that hazardous materials and toxic waste are the remains of a business and/or activities which contain hazardous materials and toxic waste. According to the Government Regulation Number 101/2014 on Managing Hazardous Materials and Toxic Waste, hazardous materials and toxic (hereinafter abbreviated as hazardous materials and toxic substances), is energy, and/or other components due to the nature, concentration, and/or number, either directly or indirectly, which can contaminate and/or environmentally damaging, and/or harm the environment, health, and survival of human beings and other living beings.

According to Pankratz (2001), hazardous materials and toxic Waste are as follows “Any waste

or combination of wastes which pose a substantial present or potential hazard to human health or living organisms because they are non-degradable, persistent in nature, or may otherwise cause detrimental cumulative effects”. Meanwhile, according to U. S. EPA, simple definition of hazardous materials and toxic waste (B3) is waste with dangerous or harmful effects to human health or the environment. With this definition, then the EPA decided that the waste characteristics B3 should be tested using the method of testing thresholds that have been set.

2.2 Industrial Waste

Industrial waste, either solid, liquid or gas, generally includes categories of hazardous materials and toxic waste. Hazardous materials and toxic waste is very dangerous in the chemical industry. Waste from chemical industries in general contain a wide variety of heavy metal elements which accumulate and the toxic properties are so harmful to human health. Most major agricultural waste is pesticide and fertilizer. Hazardous materials and toxic waste from the industrial activity that is absorbed in the environment will eventually have an impact on human health. The impacts can be directly consumed by human, for example drinking contaminated water or through the food chain, such as consuming contaminated fish due to eating contaminated prey.

2.3 Transportation of Hazardous Materials and Toxic Waste

According to the Government Regulation No. 101 Year 2014 about Waste Management on Hazardous Materials and Toxic Waste Transport, it is described as a business entity that performs the activity of transporting hazardous materials and toxic waste.

The term means transporting hazardous materials and toxic wastes required by using the enclosed transport to waste hazardous materials and toxic waste category 1. The transport of material hazardous and toxic can be done by using tools that available for transporting hazardous materials and toxic waste in category 2. It is required to have the recommendations and permit of the transport of hazardous materials and toxic waste. The recommendations are the base for the publication permit by the Minister of Transportation. Transportation Recommendations of the hazardous materials and toxic waste was published by the

Minister of Environment and Forestry. Transportation of hazardous materials and toxic waste must be accompanied by manifest transport on hazardous and toxic waste. Carrier of hazardous materials and toxic waste must be done by a legal entity (PT, Cooperative, Institution), excluding CV, NV, UD and registered as a legal entity in the Ministry of Justice and Human Rights.

Based on Government Regulation No. 101 Year 2014 about Waste Management on Hazardous Materials and Toxic Waste, the definition of Carrier of hazardous materials and toxic waste are business entities that perform the transport of hazardous materials and toxic waste.

Legal Basis for the Transportation of Hazardous Materials and Toxic Waste is Regulation No. 22 Year 2009 about Traffic and Road Transport; Government Regulation No. 74 Year 2014 about Road Transport and Government; and Regulation No. 101 Year 2014 concerning Management of Hazardous Materials and Toxic Waste.

3 RESEARCH METHODS

Research methods used in this study was a socio-legal research method which was the approach of the normative nature of the law. The field approach was conducted by reviewing the legal issues by organizing research field interviews in depth to the subject research. As for the technique of data collection, it was done through interviews to the owner or applicant's of business license to transportation activity of hazardous materials and toxic waste in East Java in response to transport of hazardous waste with the life of obedience in 2017. The genuinity of this research was also supported by the author who is the apparatus of Government in charge of coaching the entrepreneur or the owner of the activity of transport of toxic materials and hazardous waste.

4 RESULT AND DISCUSSION

Management of hazardous materials and toxic waste needs to conduct integrated management because it can cause harm on human health, other living beings and the environment. In this case, it is necessary to manage the transportation of hazardous materials and toxic waste which is good and safe for the environment. Permit for the waste management

hazardous materials and toxic is the preventive administrative instruments and the publication can be done with one (1) license which is integrated by the Minister, Governors, or Regents/Mayors in accordance with those in powers based on the filing of the applicant's permission, otherwise known as Permission for Carriage of Waste Management on Hazardous Materials and Toxic Waste. The recommendations permits are issued by Ministry of Environment and Forestry.

Among all the activities of the management of hazardous materials and toxic waste, the transport of hazardous materials and toxic waste is the only activity where its operational permit is not granted by the Ministry of Environment and Forestry, but by the Ministry of Transportation. The role of the Ministry of Environment and Forestry activities in the transport of hazardous materials and toxic waste is giving recommendations to companies that perform services by transporting hazardous materials and toxic waste, which without this recommendation the operational permit from the Ministry of Transportation will not be provided.

While on the regulation of the Ministry of the Environment and Forestry no. P. 56/Menlhk-Secretariat/2015 of Ordinances and Technical Requirements of Hazardous and Toxic Waste Management of Health Care Facilities for the Three-Wheeled only with the consent of transport of hazardous materials and toxic waste that was published by the Head of the Environmental Agency of District/City. In this case, there is no operational permit from the Agency of Transportation of District/City. However, the implementation in the field up to today shows that there is no environmental agencies of the district/city which issued permits of the transport of hazardous materials and toxic waste with a three wheels vehicle because it is in contrary to the rules of Agency of Transportation.

Based on the Law of the Republic Indonesia No. 23/2014 about Local Government in Appendix K, which explain about the Division of Authority Sub Field of hazardous materials and toxic (B3), and the hazardous materials and Toxic Waste (Waste B3), the central government undertakes the management of the B3 and waste B3 management, the provincial government carries out waste collection of cross regional B3 district/city in one provincial area and the district/city governments carry out temporary storage waste B3. But many entrepreneurs who do the business or activities of the transport of dangerous waste and toxic materials are always hampered with the too slow pace of the process of

administration in the Ministry of Environment and Forestry which cause a problem.

In addition, due to one of the requirement that it should be a legal business entity-body (PT, cooperatives, foundations), not including CV, NV, UD and registered as a legal entity in the Ministry of Law and Human Rights, the results of the analysis showed that all local licensing of the transport on hazardous waste and toxic materials are recorded into the authority of the Ministry of Environment and Forestry and the operational permit from the Ministry of Transportation. Therefore, it is necessary to divide the authority of the issuance of toxic and dangerous waste material transport licenses with predetermined requirements and the consistency of waste management hazardous and toxic substances properly and correctly in accordance with applicable regulations.

The authority permits of the transport on toxic and hazardous waste would be splitted with local governments with certain conditions, where the requirements in the region created by the terms are more stringent and the number of the wheel are less. Among others the conditions are: legal entities should be PT/CV, having insurance in response areas, waste management experts in hazardous materials and toxic, and has a partnership with the producers, processors or users of hazardous materials and toxic waste and the vehicle used must meet the specification to suit the characteristics of hazardous materials and toxic waste to be transported. The Environmental Agency only issued a recommendation and the Transport Authority issued its operational permit or route.

Based on the above analysis, it is required to review the Act of Law of Republic Indonesia No. 23/2014 about Local Governance and The Government Regulation No. 101/2014 on Managing Hazardous Materials and Toxic Waste on the related authority division on transport of hazardous materials and toxic waste.

5 CONCLUSION

Transport of hazardous materials and toxic waste is one of the aspects in the process of management of hazardous materials and Toxic Waste that have been set up in the Government Regulation number 101 Year 2014 on Managing Hazardous Materials and Toxic Waste. Implementation of waste management includes the transportation of toxic and hazardous materials tailored to the powers that have been set in Law of Republic Indonesia No. 23/2014 about Local

Government that is included in the authority of the Central Government, which in this regard is the Ministry of Environment and Forestry.

There are some constraints in the requirements that is incriminating the implementation, such as: business entities must be a legal body (PT, cooperatives, foundations), not including CV, NV, UD and registered as a legal entity in the Ministry of Law and Human Rights. This is burdensome for small and medium enterprises. The slowness of the process of issuing licensing recommendations for transporting waste, thus also impeding the process of management of hazardous materials and toxic waste.

Based on such matters, in this research is proposed to re-evaluate the matter related to waste management authority on division of hazardous materials and toxic in Law 23 Year 2014 in order to divide the dangerous and toxic waste material transport affairs to the provincial government so there would be acceleration in the process of management of hazardous materials and toxic waste.

SUGGESTIONS

Based on the above research, it is required to review Law No. 23 Year 2014 about Government and Regional Government and Regulation No. 101 Year 2014 on Managing Hazardous Materials and Toxic Waste on the related authority division.

With the proper division of authority, it is expected to accelerate the licensing process of the transport of hazardous materials and toxic waste in provincial and district/city level. The acceleration of licensing process services on transporting hazardous materials and toxic waste will bring a positive impact to the environment, namely reducing a backlog of waste hazardous materials and toxic which indirectly can minimize pollution to the environment from hazardous materials and toxic waste.

REFERENCES

- Badan Lingkungan Hidup Provinsi Jawa Timur, 2016. *Identifikasi Limbah Bahan Berbahaya dan Beracun di Jawa Timur.*
- Dinas Lingkungan Hidup Provinsi Jawa Timur, 2014. *Inventarisasi Potensi Limbah B3 Rumah Sakit di Jawa Timur.*
- Dinas Lingkungan Hidup Provinsi Jawa Timur, 2017. *Data Rekapitulasi Laporan Industri.*

- Inglezakis, V.J., 2010. *Ion Exchange and Adsorption Fixed Bed Operations for Wastewater Treatment-Part I: Modeling Fundamentals and Hydraulics Analysis*. J. Eng. Stud. Res. 16.29-41.
- Irianto, Sulistyowati, dkk, 2012. *Kajian Sosiolegal*, Pustaka Larasan, Denpasar.
- Peter Mahmud Marzuki, 2010. *Penelitian Hukum*, Jakarta.
- Wijoyo, Suparto, 2005. *Hukum Lingkungan : Kelembagaan Pengelolaan Lingkungan di Daerah*, Airlangga University Press, Surabaya.
- Wijoyo, Suparto, 2005. *Refleksi Matarantai Pengaturan Hukum Pengelolaan Lingkungan Secara Terpadu (Studi Kasus Pencemaran Udara)*, (AirlanggaUniversity Press), Surabaya
- Yesilnacar M_I, C, etin H (2005) *Site Selection for Hazardous Wastes: A Case Study from the GAP Area*, Eng Geol 81(4):371–388. Turkey.

