Chemical Management in Indonesia: Present and Future (Analysis on the Draft of Chemical Management Law and the Draft Revision of Government Regulation No. 74/2001 on the Hazardous and Toxic Substance and Their Relations)

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Dyah Paramita,
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"*Solving global issues related to hazardous chemicals relies on effective national regulation of products and markets – but the lack of regulation in many countries is impeding the progress*" Erik Solheim, UNEP Executive Director

CHAPTER I
INTRODUCTION

I.1. Background

The chemical bill is listed in the national legislation program[1] during the period of 2015-2019 and is being discussed in the parliament. Indonesia does not have comprehensive chemical laws**.** However, the country has various regulations related to the control of hazardous substances that are issued and managed under different authorities. These regulations are Government Regulation No. 74/2001 on Hazardous and Toxic Substance (known as Bahan Berbahaya dan Beracun/B3) and several Ministries of Industry Regulations which relate to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)[2].

GR No. 74/2001 regulates 152 types of chemicals some of which are considered as persistent organic pollutants[3] based on the Stockholm Convention. At present, the Government of Indonesia is preparing for the revision of the GR. The draft GR consists of 11 chapters[4]. The GR implements the mandate of the Environmental Protection and Management Act (EPMA) which formerly was regulated under Act No. 23/2013 and replaced by Act No. 32/2009. The responsible authority for the implementation of the EPMA and GR No.74/2001 is the Ministry of Environment and Forestry (MoEF).

In relation to the GHS, Indonesia has committed to implement the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). GHS intends to harmonize the rules to classify hazards and provide the same format and content for labels and safety data sheets (SDS). Since March 24, 2010, GHS implementation has been mandatory for single substance chemicals for domestic production and import. On the other hand, it is voluntary for chemical mixtures. However, the GHS will be mandatory for chemical mixtures after December 31, 2016 with an exception for small to medium enterprises (SME)[5]. The GHS is implemented based on self-assessment by the companies. The GHS implementation should be reported via an

[1] National Legislation Program (known as Prolegnas) is the Indonesian Government's legislation program prepared by the House of Representative and the President, which sets priority for the formulation of laws within 4 years period.

[2] Minister of Industry Regulation No. 87/M-IND/PER/9/2000, Minister of Industry Regulation No. 23/m-IND/PER/4/2013, Minister of Industry Regulation No. 87/M-IND/PER/9/2009 and Director General Industry Agro and Chemical Regulation No. 21/IAK/PER/4/2010 on the Technical Guideline on the Implementation of GHS.

[3] There are one substance that is restricted namely Lindane, and ten substances that are forbidden based on the GR namely Aldrin, Chlordane, Dielderin, DDT, Endrin, Mirex, Heptachlor, PCBs, Hexaclorbenzene, Toxaphene.

[4] Draft version 6 September 2016, the title of the chapters can be found in the attachment

[5] Article 2, MoI Regulation No. 23 /2013

online system[6] which started from January 28, 2015. The responsible agency for the GHS implementation is the Ministry of Industry (MoI).

The chemical bill is initiated by the MoI. It aims to develop harmony in the system of classification and the communication of hazards, the use of chemical substances and the elimination of chemical substance risks[7]. The chemical bill itself consists of 10 chapters[8]. Article 6 of the bill states that the GHS is applied in the management of chemicals.

In the development of a law, the lawmakers are required to provide an academic manuscript[9], which explains the background of the formulation of the law, philosophy and principles. The academic manuscript is not binding once the draft law has passed; however, it becomes an important reference when there is confusion in the implementation of the law.

The academic draft of the chemical bill[10] states that the existing regulation regarding chemicals is not integrated and harmonized[11]. Some of the regulatory gaps identified in the academic draft are:

- Indonesia has no regulation regarding chemicals in the activities/industry process[12];
- Indonesia has no regulation regarding the management of chemicals in its life cycle based on the globally harmonized classification system[13].

Nevertheless, the academic draft does not provide in-depth analysis regarding the relations of the chemical bill, the existing GR No. 74/2001, the Minister of Industry Regulations pertaining to GHS and institutional analysis as the implementation of these regulations involves two separate agencies (MoI and MOEF). The academic draft states that the policy regarding the stipulation of hazardous and toxic substance (*Bahan Berbahaya dan Beracun*/B3) under the existing GR No. 74/2001 is counter productive as most of the chemicals would be easily categorized as hazardous and toxic, especially those that are used in industry[14]. The academic draft does not provide discussion about how to solve this issue.

The research will discuss the current regime of chemical management in Indonesia, and discuss the structure of the academic draft of the chemical bill, the draft bill, and the draft revision of GR No. 74/2001[15]. Chemical management in the European Union based on REACH regulation and the main features of chemical legislation based on the LIRA Guideline will be briefly discussed. A report regarding the research will be presented to the Government of Indonesia.

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[6]The system can be accessed via http://www.siinas.kemenperin.go.id/e-reporting/GHS

[7] AlAfghani, Mohamad Mova and Paramita, Dyah, *Polychlorinated Biphenyls (PCBs) Phasing-Out Regulation in Indonesia, Final Report* (United Nations Industrial Development Organization and the Ministry of Environment and Forestry, Republic of Indonesia 2016), p.

[8] Chemical Bill, Draft version 11 September 2015 (hereinafter Chemical Bill)

[9] Law No. 12/2011 regarding The Establishment of Law and Regulations, Art 43 (3)

[10] Academic manuscript draft version 13 November 2015 (hereinafter Academic manuscript draft)

[11] Academic manuscript draft p.84

[12] Ibid p.86

[13] Ibid p. 93

[14] Ibid p. 58

[15] Draft Revision of GR No. 74/2001, version 6 September 2016 (hereinafter Draft Revision of GR No. 74/2001)

Based on the aims and objectives of carrying out the proposed research, the research problem is formulated as follows:

1. What is the relation between the draft of chemical management law and the Government Regulation (GR) No.74/2001 on the Hazardous and Toxic Substance? Are they complementary to each other or regulate two different things?

To answer this research problem, the following research questions will lead the following investigation:

- What is Indonesia's current regulatory regime governing chemical management/hazardous and toxic substance and what are the gaps?
- What are the principles of chemical management based on international practices? In this case, the EU chemical legislation on Registration, Evaluation and Authorization of Chemicals ("REACH")[16] and the principles on chemical management based on the LIRA-Guidance[17] will be examined.
- What do the draft of chemical management law and the Government Regulation (GR) No.74/2001 on the Hazardous and Toxic Substance intend to regulate?
- Is there any viable intersection between the structure of draft law and the draft revision of GR?

[16] Commission Regulation 1907/2006, 2006 O.J. (L396) 1 (EC) (hereinafter REACH)

[17] The complete name of the document is The UNEP Guidance on the Development of Legal and Institutional Infrastructures for Sound Management of Chemicals and Measures for Recovering Costs of National Administration.

CHAPTER II
Existing Regulatory Framework on Chemicals /Hazardous and Toxic Substance Management in Indonesia

Indonesia is a party of the major international agreements relating to chemical management such as the Basel Convention[18], the Stockholm Convention[19], the Rotterdam Convention[20] and a signatory of the Minamata Convention[21]. The existing regulatory framework regarding the chemical or hazardous toxic substance (B3) management will be described below.

II.1. Law No. 32/2009 on Environmental Protection Management Act (EPMA).

The Law provides a foundation regarding principles and framework for environmental protection. Basic principles for environmental protection are: state responsibility, preservation and sustainability, harmony and balance, integration, benefit, precaution, justice, eco-region, biodiversity, polluter pay, participative, local wisdom, good governance and local autonomy[22]. However, there is no further guidance regarding the implementation of these principles (e.g. precautionary principle) in the B3 management.

The law prohibits anyone from "inserting" (*memasukkan*) B3 that are forbidden based on the law and regulation, into the Indonesian territory. [23] Forbidden B3 include DDT, PCBs, Dieldrin, etc**.** It is also prohibited to dump B3 in the environment[24]. Act No. 32/2009 imposes criminal sanctions of imprisonment (minimum 5 years and maximum 15 years), and fines (minimum Rp. 5,000,000,000 and maximum Rp. 15,000,000,000) for those who insert/import forbidden B3. Nevertheless, the law does not have sanctions for those who use and/or posses such B3. The law states that further regulation regarding the management of B3 is regulated under Government Regulation (GR)[25].

II.2. Government Regulation No. 74/2001 on the Hazardous and Toxic Substance Management.

The basic principles on the management of B3 are not covered in GR No. 74/2001. However, the GR is considered as an implementing regulation of the EPMA;

[18] Basel Convention was ratified through Presidential Decree No. 61/1993 on the Basel Convention Ratification and the Presidential Regulation No. 47/2005 on the Ratification of the Amendment of Basel Convention.
[19] The Convention was ratified through on Law No.19/2009 on the Ratification of Stockholm Convention on Persistent Organic Pollutants
[20] The Convention was ratified through Law No. 10/2013 on the Ratification of Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
[21] Indonesia signed the Minamata Convention on 10 October 2013 but the convention has not been ratified
[22] Environmental Protection and Management Act No. 32/2009 (hereinafter EPMA), Art 2
[23] Ibid Art 69 (1) b
[24] Ibid Art 69 (1)f
[25] Ibid Art 58(2)

therefore the principles of the B3 management should be referred to the EPMA. The management of B3 under the GR means "activities that produce, transport, distribute, store, use and/or dispose of B3[26]".

GR No. 74/2001, classifies the B3 into 15 characteristics such as[27]: (1) explosive (*mudah meledak)*, (2) oxidizing (*pengoksidasi)* (3) extremely flammable (*sangat mudah sekali menyala)*, (4) highly flammable (*sangat mudah menyala)*, (5) flammable (*mudah menyala)*, (6) *extremely toxic* (*amat sangat beracun)*, (7) highly toxic (*sangat beracun)*, (8) moderately toxic (*beracun)*, (9) harmful (*berbahaya)*, (10) corrosive (*korosif)*, (11) irritant (*bersifat iritasi)*, (12) dangerous to the environment (*berbahaya bagi lingkungan*), (13) carcinogenic (*karsinogenik*), (14) teratogenic (*teratogenik*), (15) and mutagenic (*mutagenik*). The classification of B3 is different from the arrangement under the GHS.

Furthermore, based on the 15 classified characteristics, the B3 are categorized into three groups, namely B3 that can be used, forbidden B3 and restricted B3[28]. The restricted B3 means B3 that is restricted to be used, imported or produced[29]. The forbidden B3 is defined as the type of B3 that is prohibited to be used, produced, distributed or imported[30]. The attachment II of the GR lists numbers of forbidden B3.

Some of the persistent organic pollutants (POPs) in the Stockholm Convention are covered in this GR. It excludes chemicals under Annex C of the Stockholm Convention (unintentionally produced chemicals). This is because GR No. 74/2001 focuses on the chemicals as raw materials for activities rather than chemicals derived from certain activities or from unintended results[31]. The POPs listed in the attachment of the GR No.74/2001 are as follows:

Table 1 List of POPs Based on GR No.74/2001

Substances	**Category Under GR No. 74/2001**	**Category Under Stockholm Convention**
Aldrin	B3 that is forbidden Chemical Abstract Service (CAS)[32]: 309-00-2 Synonym: HHDN Molecule formula: $C_{12}H_8Cl_6$	Annex A
Chlordane	B3 that is forbidden CAS: 57-74-9 Synonym: CD68; Velsicol 1068; Toxichlor; Niran;	Annex A

[26] GR No. 74/2001 Art 1 no 2
[27] Ibid Art 5 (1)
[28] Ibid Art 5 (2)
[29] Ibid Art 1 para 9
[30] Ibid Art 1 para 10
[31] AlAfghani, Mohamad Mova and Paramita, Dyah, *Polychlorinated Biphenyls (PCBs) Phasing-Out Regulation in Indonesia, Final Report* (United Nations Industrial Development Organization and the Ministry of Environment and Forestry, Republic of Indonesia 2016), p. 9 to 10
[32] The Chemical Abstract Service Registry Number is universally used to provide a unique, unmistakable identifier for chemical substances. A CAS Registry Number itself has no inherent chemical significance but provides an unambiguous way to identify a chemical substance or molecular structure when there are many possible systematic, generic, proprietary or trivial names. CAS Registry Numbers are used in many other public and private databases as well as chemical inventory listings and, of course, are included in all CAS-produced databases. https://www.cas.org/faqs

	Octachlor; Orthoclor; Synclor; Belt; Corodane. Molecule formula: C10H6Cl8	
Dieldrin	B3 that is forbidden CAS: 60-57-1 Synonym: Compound 497; ENT 16225; HEOD; Insectiside No.497; Octalox	Annex A
DDT	B3 that is forbidden CAS: 50-29-3 Synonym: Dichlorodiphenyltrichloroethane; D-58; Chlorophenothane; Clofenotane; Dicophane; pentachlorin; p,p-DDT; Agritan; Gesapon; Gesarex; Gesarol; Guesapon; Neocid. Molecule formula: C14H9Cl5	Annex B
Endrin	B3 that is forbidden	Annex A
Mirex	B3 that is forbidden	Annex A
Heptachlor	B3 that is forbidden	Annex A
PCBs	B3 that is forbidden CAS: 1336-36-3 Synonym: Polychlorinated Biphenyls; Chlorobiphenyls; Aroclor; Clophen; Fenclor; Kenachlor; Phenochlor; Pyralene; Santotherm. Molecule formula: C12X X=H or C	Annex A and C
Hexaclorbenzene	B3 that is forbidden	-
Toxaphene	B3 that is forbidden	-
Lindane	B3 that is restricted	-

Based on the list, POPs are categorized as a forbidden B3. The transition article of GR No. 74/2001 states that at the time when the GR is enacted and the forbidden B3 still exists in Indonesia, such B3 can be exported to the country that is in need of that B3, based on the existing export mechanism[33]. The GR does not provide sanctions for those who use and/or possess such B3. Similar to the law, the GR does not have sanctions for those who use and/or possess forbidden B3.

In addition, the import of products containing B3 (e.g. a transformer which contains PCBs) is not under the authority of the Ministry of Environment and Forestry (MoEF) and is not regulated under GR 74/2001. Similar to the law, the GR does not have sanctions for those who use and/or possess forbidden B3.

Any person who produces B3 is required to prepare a Material Safety Data Sheet[34]. Furthermore, any person who is responsible for transportation, storage and distribution of B3 is required to provide MSDS[35]. Labeling, symbolizing and MSDS are required for the B3 package(s)[36]. The method of packaging and labeling will be stipulated by the responsible agency within the Ministry of Environment and Forestry[37]. The symbol and label should be renewed if there is any damage and the responsibility lies on: a) producers (if the damage occurs during the production process), b) transporters (if the damaged occurs during the transportation process) and c) repositories (if the damage occurs during the repository process)[38]. Guidelines

[33] GR No. 74/2001 Art 41
[34] Ibid Art 11
[35] Ibid Art 12
[36] Ibid Art 15(1)
[37] Ibid Art 15(2)
[38] Ibid Art 17(1) (2)

relating to the symbol and label will be stipulated by the relevant agencies[39]. Administrative and criminal sanctions will be imposed for violations regarding symbolizing and labeling of B3. However, the criminal sanctions refer to the provisions of the Environmental Management Act No. 23/1997 which was revoked and replaced by a new environmental law in 2009.

II.3. Important Ministerial Regulations

II.3.1. Minister Regulation No. 2/2010 regarding The Utilization of Hazardous and Toxic Substance (B3) Electronic System Registration within the Framework of INSW (Indonesia National Single Window/INSW) at the Ministry of Environment and Forestry.

This regulation implements Article 6 of GR No. 74/2001 which requires a registration for the importer or producer of B3 (especially the B3 that is imported for the first time).

INSW is a national system that enables single submission of data and information, single and synchronous processing of data and information, and single decision-making for custom release and clearance of cargoes[40]. The B3 electronic registration aims to handle customs documents that relate to permits, imports or exports of B3 within the framework of INSW[41]. The Deputy in the MoEF is responsible for the B3 registration.[42]

The registration application should be supplied with several documents as follows: the deed of the company's establishment, business license, company registration certificate (*tanda daftar usaha perdagangan),* tax identification number, import identification number, material safety data sheets, certificate of analysis, and pictures of the warehouse[43]. In the case that B3 is used as a pesticide and/or a pesticide active substance, the applicant has to provide a letter of pesticide brand registration (*surat pemegang merk pendaftaran pestisida*) from the Ministry of Agriculture[44]. Furthermore, in the event the B3 to be registered is the restricted B3, the applicant has to provide a B3 notification approval from the Ministry of Environment[45]. The mechanism for the registration is available in attachment I of this report.

II.3.2. Minister of Environment Regulation No. 03/2008 on the Symbol and the Labeling of B3.

The regulation requires symbolizing and labeling of B3 in accordance to their classification. Similar requirements also apply for the storage and the vehicle transporting B3. The attachment of the regulation provides guidelines regarding this matter. Nevertheless, it is not clear whether B3 in this context refers to a single

[39] Ibid Art 17(3)
[40] MoEF Regulation No. 2/2010, Article 1 para 6
[41] Ibid Art 2
[42] Ibid Art 6
[43] Ibid Art 5(2)
[44] Ibid Art 5(3)
[45] Ibid Art 5(4)

substance or mixtures. Based on interpretation, it implicitly refers to a single substance.

Regulation No. 03/2009 classifies the B3 into 16 characteristics, namely: (1) explosive (*mudah meledak)*, (2) oxidizing (*pengoksidasi)* (3) extremely flammable (*sangat mudah sekali menyala)*, (4) highly flammable (*sangat mudah menyala)*, (5) flammable (*mudah menyala)*, (6) *extremely toxic* (*amat sangat beracun)*, (7) highly toxic (*sangat beracun)*, (8) moderately toxic (*beracun)*, (9) harmful (*berbahaya)*, (10) corrosive (*korosif)*, (11) irritant (*bersifat iritasi)*, (12) dangerous to the environment (*berbahaya bagi lingkungan*), (13) carcinogenic (*karsinogenik*), (14) teratogenic (*teratogenik*), (15) mutagenic (*mutagenik*), (16) and pressured gas (gas bertekanan). This regulation is not yet harmonized with the GHS.

II.3.3. Globally Harmonized System in Indonesia

Indonesia has adopted the Globally Harmonized System of Classification and Labeling of Chemicals, also known as the GHS system. In general, the guidelines regarding GHS implementation, which are formulated by the Indonesian Ministry of Industry, refer to the UN GHS Purple book[46]. Specific regulations that are enacted for the implementation of GHS are:

- Minister of Industry Regulation No. 23/m-IND/PER/4/2013 on the amendment of the Minister of Industry Regulation No. 87/M-IND/PER/9/2009. The former regulation amends most of the provisions of the later. Pharmaceutical products, food additives, and cosmetic or pesticide residue in the food are not subject to this regulation. Hazard classifications and categories of the chemicals based on regulation No. 23/m-IND/PER/4/2013 are as follows:

Table 2. Hazard Classifications and Categories[47]

Hazard Classes	Hazard Categories
Physical hazard	Explosives
	Flammable gas (including chemically unstable gas)
	Aerosol
	Oxidizing gas
	Under pressured gas
	Flammable gas
	Flammable solid
	Self reactive substances and mixtures
	Pyrophoric liquids
	Pyrophoric solids
	Self heating substances and mixtures
	Substances which on contact with water emit flammable gases
	Oxidizing liquids
	Oxidizing solids Organic peroxides
	Corrosive to metals
Health hazards	Acute toxicity
	Corrosion/skin irritation
	Serious eye damage/eye irritation

[46] MoI Regulation No. 87/M-IND/PER/9/2000, Art 3
[47] MoI Regulation No. 23/m-IND/PER/4/2013, Art 4

	Respiratory or skin sensitization
	Reproductive toxicity
	Target organ systemic toxicity - single exposure
	Target organ systemic toxicity - repeated exposure
	Aspiration hazard
Environment hazard	Hazardous to aquatic environment (acute) or short term
	Hazardous to aquatic environment (acute) or long term
	Hazardous to the Ozone layer

Regulation No. 23/m-IND/PER/4/2013 requires labeling for the chemical substances, which includes the identity of chemicals, hazard pictograms, signal words, hazard statements, precautionary statements and identity of producers, suppliers and/or importers[48]. In addition, the label must be easy to read, clear to see, proportional, not easily broken, not easily separated from the packaging, and it should not easily fade because of the sun, air, water or other causes[49]. The label should be written in Indonesian language and be accompanied by formal international languages by the United Nations[50]. Every business that produces chemical and/or consumer products has to determine the classification of the chemical/products they produce, label them (on the packages) and provide a safety data sheet (SDS), and review the SDS and label every five years if there are any changes[51]. In addition, a report on the implementation of GHS (labeling and SDS) has to be submitted to the Directorate General for Industrial Guide. The Directorate General for Industrial Guide within the Ministry of Industry is responsible for disseminating information to the chemical producers, public and stakeholders pertaining to the implementation of this regulation, as well as providing training for the producers and relevant government apparatus[52]. It is prohibited for the businesses to give misleading information in the label and SDS for the chemicals they produced. It is also prohibited to produce chemicals without labeling them[53]. The regulation states that the Directorate General for Industrial Guide will regulate detailed provisions on labeling and hazard classification.

- The Director General Industry Agro and Chemical Regulation No. 21/IAK/PER/4/2010 on the Technical Guideline for the Implementation of GHS stipulates the effective date for the GHS implementation, which is 24 March 2010 for a single substance and the end of December 2013 for a mixture[54]**.** The Director General Industry Agro and Chemical is responsible for supervising and guiding producers and business actors pertaining to the implementation of GHS by conducting trainings and disseminations, and by

[48] MoI Regulation No. 23/m-IND/PER/4/2013 Article 5 (2)
[49] Ibid Art 5 (3)
[50] Ibid Art 10(1), (2)
[51] Ibid Art 11
[52] MoI Regulation No. 87/M-IND/PER/9/2009, Art 14
[53] Regulation No. 23/m-IND/PER/4/2013 Art 12
[54] Ibid Art 2

evaluating the report of the company[55]. The regulation states that the businesses that neither implement nor report the implementation of GHS, nor follow up the evaluation from the Directorate regarding the implementation of GHS is subject to administrative sanctions and/or criminal sanction based on the prevailing law and regulations[56]. However, there are no clear sanctions for this violation in the prevailing law and regulations.

- The Director General of Industry and Manufacture Regulation No. 04/BIM/PER/1/2014 on the Technical Guideline and Implementation of GHS stipulates the obligation regarding the classification of mixture and substance for the determination of hazards[57]. In considering the hazard, a single substance can be classified based on available data from tests and QSAR (Quantitative Structure Activity Relationships)[58]. On the other hand, a mixture can be classified by applying the bridging principles, calculation method or additivity formula of acute toxicity and/or cut-off value and concentration limit (M-Factors)[59]. Producers, suppliers and importers that are producing and/or distributing chemicals are required to classify them[60]. In addition, if the chemicals are categorized as hazardous, those producers, suppliers and importers have to provide a safety data sheet, label and report. The report should be submitted annually, via online[61], starting from 28 January 2015[62]. In terms of labeling, it should include the identity of chemicals, hazard pictograms, signal word, hazard statement, precautionary statement and identity of producers, suppliers and/or importers[63]. The Directorate General for Industrial Guide is responsible for the supervision and implementation of GHS. The Directorate is also responsible for conducting dissemination and training for the stakeholders, analyzing the company's report and evaluating the implementation of GHS[64]. The attachment of this regulation provides guidelines pertaining to building blocks and cut off value, which is similar to the EU-CLP regulation.

II.4. Chemical Bill

In general, the bill intends to regulate a) the management of chemicals, b) the optimization of value-added chemicals, c) the health and safety of chemicals, and d) research and development[65]. The description of these matters is as follows:

a) Management of chemicals

The bill states that chemical management should be done in every stage of its life cycle (*simpul daur hidup bahan kimia*). The stages of the chemical life cycle refer to:

[55] Ibid Art 4 (1)(2)
[56] Ibid Art 5
[57] Regulation No. 04/BIM/PER/1/2014 Article 2 (1)
[58] Ibid Art 2 (3)
[59] Ibid Art 2 (5)
[60] Ibid Art 4(1)
[61] The report should be submitted to https://siinas.kemenperin.go.id/
[62] Regulation No. 04/BIM/PER/1/2014 Article 4(2)(3)(8)
[63] Ibid Art 5
[64] Ibid Arts 13, 14
[65]Chemical Bill Art 4

a) procurement and/or import, b) production, c) storage, d) transportation, e) distribution, f) utilization, g) export and h) disposal and extermination [66]. Furthermore, the management of chemicals in their life stages includes: a) planning, b) controlling, c) reporting, and d) guidance and supervision[67]. A detailed description regarding the management of chemicals and their life stages is available in attachment II of this report.

b) Optimization of value-added chemicals

Optimization of value-added chemicals should be encouraged for all hazardous chemical (in the form of intermediary materials and/or final goods) production that aims to meet human needs[68]. The production process is conducted through: a) an effective and efficient technology, b) innovative or pioneer technology, c) clean technology and a clean development mechanism, d) technology that involves re-use, recycling, and the recovery of chemicals and by-products, and e) product diversification which optimizes the use of domestic chemicals as raw materials[69].

c) The safety and security of chemicals

The measures for chemical safety and security must be prepared and implemented by everyone involved in the chemical management and its life cycle. The measures for chemical safety cover: a) the implementation of risk assessment and risk management and b) the preparation of an emergency response system[70]. The implementation of risk assessment is one of important points in the bill. The academic draft elaborates on the significance of chemical risk assessment and the methods[71].

In order to reduce risks from chemical exposure, the bill includes some measures that should be taken, such as stipulating the threshold value of chemicals in the workplace, stipulating the quality standard for chemical exposure in the environment, and stipulating the guidelines to monitor and evaluate chemicals in the work place and/or environment[72].

In terms of security of the chemicals, some measures that must be taken are a) preparing standard operating procedures, b) preparing information related to the security of chemicals, and c) securing the industry's facility and infrastructure[73].

d) Research and development

The bill encourages research and development of chemicals in order to improve industrial competitiveness by prioritizing the use of domestic raw materials, alternative energy and product diversification. Incentives are provided in this matter and they should be implemented in coordination with relevant Ministers in charge of research and technology, environment and finance[74]. The government is also

[66] Ibid Art 5(1),(2)
[67] Ibid Art 5 (3)
[68] Ibid Art 36(1),(2)
[69] Ibid Art 37(1)
[70] Ibid Art 39
[71] Academic manuscript draft p.35 to p.48
[72] Chemical Bill Art 40 (1)
[73] Ibid Art 41(1)
[74] Ibid Art 43(1),(4)

concerned with facilitating and funding research programs and development to support sustainable development within the chemical industry[75].

II.5. Draft Revision of GR No. 74/2001

The draft Revision of the GR aims to improve the management of B3 that are governed by GR No.74/2001 and conform to the new environmental law (EPMA) and the ratification of the conventions related to chemical/B3 management. There are several terms under the draft that are defined differently from the GR, as follows:

- "Restricted B3" means "chemicals that pose risks to the environment, health and can be tolerated"[76]
- "Forbidden B3" is defined as "chemicals that pose risks to the environment, health and/or cannot be tolerated"[77];
- "B3 management" means "measures to prevent or reduce the risks of B3 to the environment, health and safety of humankind and other living beings."[78]

The draft also provides definitions regarding several terms that are not set by GR No.74/2001, such as:

- "B3 that can be used" means "B3 that do not prevail upon the categories of B3 that are forbidden and restricted[79]"
- "New B3" is "B3 that are introduced for the first time, first to be introduced/imported to Indonesian territory and/or unlisted B3, yet meet the criteria set in the Ministerial Decree"[80].
- "End users of B3" means "an industry (industries) that is using B3 as raw/auxiliary materials that are processed in physical chemistry resulting in a change in its chemical and physical properties. It has also gained added value. It also includes a company or an institution that uses B3 as auxiliary material and has a permit from the relevant authority[81]".

In addition, the draft GR proposes new features that are not covered by GR No. 74/2001**.** The features are:

- A mandate to stipulate national policy and strategy regarding the management of B3[82].
- The classification and labeling system of B3 and the preparation of SDS to be applicable with GHS[83]
- An article containing B3 and its standard[84]
- The mechanism to review and update the list of B3, including the establishment of a B3 Technical Team[85];
- The selling of B3 in retail[86]

[75]Ibid Art 44
[76] Draft Revision of GR No. 74/2001, Art 1 para 4
[77] Ibid Art 1 para 3
[78] Ibid Art 1 para 6
[79] Ibid Art 1 para 2
[80] Ibid Art 1 para 5
[81] Ibid Art 1 para 17
[82] Ibid Art 4(1)
[83] Ibid Art 7
[84] Ibid Art 60
[85] Ibid Arts 9, 17, 18
[86]Ibid Art 50

- The B3 registration cost[87].
- The B3 information system[88]

[87] Ibid Art 104
[88] Ibid Art 69

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CHAPTER III
ANALYSIS

In this section, **the chemical bill,** GR No. 74/2001 and **the draft revision of the GR** will be compared based on main issues to be considered for legislation governing the placement of chemicals on the market from the LIRA-Guidance[89], as follows:

a) General aspects of the laws: This aspect includes purpose and objective, scope, coverage of substances, basic principles, and definitions of the laws;
b) Administration: This section will discuss the primary authority and coordination mechanisms;
c) Instruments governing the placement of chemicals on the market. The instruments include bans and restrictions, classification and labeling, registration, licensing, export and import
d) Inspections;
e) Report keeping and reporting;
f) Enforcement;
g) Confidentiality; and
h) Transparency and communication.

In addition, the analysis will also include some principles of REACH regulation in the European Union.

III.A. General Aspects

III.A.1. Purposes and Objectives

The draft academic manuscript states that the purposes of the **chemical bill** are:

- Optimizing the value added of the utilization of chemicals and improving the competitiveness of chemical products[90];
- Actualizing the harmonization of the classification and hazard communication system[91];
- Preventing, reducing, and overcoming the risk of chemical management in its life cycle[92];
- Promoting the development of science and technology[93];
- Actualizing competitive chemical industry at the national and international levels continuously[94].

The scope of the **bill** is as follows:

- The bill covers persons and corporations as subjects that must comply[95];

[89] LIRA Guidance Op.cit, p. 7,8
[90] Academic manuscript draft p. 107
[91] Ibid
[92] Ibid
[93] Ibid
[94] Ibid

- The bill covers the chemicals in the whole management process, optimization of the added value of chemicals, research and development of chemicals and criminal sanctions[96].

The purpose of GR No. 74/2001 and the draft revision of the GR are similar. The purpose is to prevent and/or reduce the hazard or risk of B3 to the environment, human health, and living beings[97]. **The draft revision of the GR focuses on the management of B3 which involves:**

- classification
- categorization
- registration
- notification
- reporting
- distribution
- utilization
- supervision
- storage
- packaging, labeling and symbolizing the B3
- the B3 technical team
- emergency response in the management of B3
- the information system
- environmental pollution
- monitoring and law enforcement.

III. A.2. Coverage of Substances

The bill focuses on chemicals. It excludes the management of chemicals used in the sectors of foods, pharmaceuticals, health, farming, fuel and lubricants[98]. The scope of chemicals covered in the bill includes all chemicals in the form of raw materials, intermediary materials, or finished goods that are already identified[99]. The elucidation of the bill provides definitions regarding raw materials, intermediary materials or finished goods as follows:

- "Raw materials" mean chemicals that have not been processed or have undergone one or several stages of industrial processing. They are not in the forms of semi-finished goods and/or intermediary materials, but can be further processed into semi-finished goods, intermediary materials or articles, or products. For example, olefin is a raw material to produce ethylene or propylene, benzene is a raw material to produce alkyl benzene sulfonate, and ammonia as a raw material for urea fertilizer[100].
- "Intermediary materials" are defined as a semi-finished goods that have undergone one or several stages of industrial processing. They can be

[95] Ibid p. 108
[96] Ibid
[97] GR No. 74/2001 Art 2, Draft revision of GR No. 74/2001 Art 2
[98] Chemical Bill Art 28 (2)
[99] Ibid Art 3 (1)
[100] Elucidation of the Chemical Bill Art 3(1)

isolated and further processed into articles and/or products, such as vinyl monomer chloride as an intermediary material to make PVC pipe or plastic, and monomer styrene as an intermediary material to make styrofoam[101].

- "Finished goods" mean chemicals that have undergone one or several stages of industrial processing and they can be further processed into articles and/or products. For example, hydrochloric acid is a finished good[102].
- "Article" means an object, which during production, is given shape, surface, or specialized design so that its function has added value compared to its chemical compositions. Examples include pharmaceutical products or drugs and cosmetics, tires, batteries, thermometers, paper, plastics, and PVC pipes[103].
- "Identification of the chemicals" means measures taken to identify the name of the chemicals, the molecule formula, and the CAS (Chemical Abstract Services) registration number[104].

The draft revision of the GR focuses on the B3. It does not state explicitly what kind of B3 or chemicals that are not within the scope of the draft GR. On the other hand, the GR No. 74/2001 explicitly states that the management of radioactive materials, explosives, mining products, oil and natural gas and its processed products, food and beverages and other food additives, household health and cosmetics supplies, pharmaceutical ingredients, narcotic, psychotropic, precursors and other additive substances, chemical and biological weapons, are not within the scope of the GR[105].

III.A.3. Basic Principles

The bill states the basic principles for chemical management. They are elaborated as follows[106]:

- Harmonization

This principle means harmonizing the life cycle of chemical management by implementing the applicable international guidelines regarding the classification system and the chemical hazard communication system, known as GHS, issued by the United Nations[107].

- Value added and natural resources utilization

The management of chemicals is based on the efforts to increase the economic value and the benefits of chemicals by utilizing the natural resources and transform them into products or results that are useful and have more economic value. Additionally, it has minimal risk, meets the people's needs and improves their welfare[108].

- A balance between the benefit and risk of chemicals

[101] Ibid
[102] Ibid
[103] Ibid
[104] Chemical Bill Art 3 (2)
[105] GR No. 74/2001 Art 3
[106] Chemical Bill Art 2
[107] Academic manuscript draft p. 65
[108] Ibid

The regulation of chemicals must provide a balance between the benefits of its production and the use of the chemical. It can be reached by minimizing the risks or negative impacts that they may cause to human health and the environment[109].

- Health and Security

This principle asserts that the regulation of chemicals is based on efforts to provide guarantees for the public regarding the safety and security of chemicals in the management of chemicals and their life cycle[110].

- Business certainty

The regulation of chemicals must provide legal certainty in conducting chemical business[111].

Neither GR No. 74/2001 nor the draft revision of GR 74/2001 explicitly states the principles of the B3 management. However, it is assumed that the management of B3 in Indonesia is based on the principles under the EPMA. Nevertheless, there has been no further discussion on how these principles should be applied in this matter.

At the international level (European Union), REACH has main principles that are important to the development of a chemical management regulatory framework. These principles are:

- Shifting the burden of proof from the Government to the Industry

REACH is claimed to bring a new paradigm in chemical management at the global level. It shifts the burden of proof from the government to the industry to ensure the safety of the chemicals[112]. Based on this concept, the chemical should not be sold in the market if scientific uncertainty prevails.[113] Whereas, a governmental burden of proof may cause a failed condition where the government cannot meet its responsibility to prove the harm when there is scientific uncertainty that leads to the release of harmful chemicals to the market[114].

- Precautionary Principle

REACH article 1 states that "*Its provisions are underpinned by the precautionary principle*"[115]. The precautionary principle means scientific uncertainty cannot be used as a reason to delay measures to prevent environmental degradation, in the event that threats or irreversible damage may occur. [116] In the context of a regulatory system that is committed to preventing harm, inaction cannot be justified by the lack of data and chemical safety should be practiced by industry.[117] In this case, REACH interprets the precautionary principle as taking necessary measures in

[109] Ibid
[110] Ibid
[111] Ibid
[112] Noah M. Sachs, Jumping the Pond: Transnational Law and Future of Chemical Regulation, 62 Vand.L. Rev 1815 (2009) p. 1837
[113] Ibid
[114] Ibid
[115]REACH Title 1, Chapter 1 Art 3
[116] Rio Declaration, Principle 15, http://www.unep.org/documents.multilingual/default.asp?documentid=78&articleid=1163
[117] John S. Applegate, Sythesizing TSCA and REACH: Practical Principles for Chemical Regulation Reform, 35 Ecology L.Q. (2008) p. 748, http://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1886&context=elq

the event that there is scientific uncertainty and relying on scientific expertise to inform policy choices as well as consultation with stakeholders[118].

- Substitution of safer alternative

The provisions of REACH encourage the development of alternatives and risk reduction of chemicals continuously. For new and safer chemical development, grants and incentives will be provided[119].

- Transparency and the Right to Know

REACH requires the flow of information to the entire supply chain, up and down[120], as well as to governmental institutions and the public regarding chemical safety. [121] REACH guarantees the consumer's right to know whether the articles they purchase contain substances of very high concern. Consumers can ask the suppliers and the relevant information must be provided by them, free of charge within 45 days of the request[122]. In addition, REACH also protects the access to information of the EU citizens on chemicals to which they are exposed and allow the citizens to make informed decision in order to use the chemicals. This enables them to apply pressure to the industry to use or develop safer chemicals/substitutes. In addition, REACH guarantees free and easy access to basic data held by agencies, such as profiles of hazardous properties, labeling requirements, authorized uses and risk management measures[123].

- Reduced Animal Testing

REACH promotes the protection of human health and the environment, and it also balances the protection of the welfare of animals tested in the laboratory. In order to minimize the number of animals tested, REACH has two approaches, namely data sharing and alternative methods/approaches[124]. The former requires companies to share information regarding their hazardous properties and jointly submit the information to ECHA. The later is an alternative to use existing animal studies before REACH. It is known as read-across, meaning that the companies can foresee the properties of substances based on the comparison of a substance with other similar substances, which already has test data[125].

Based on the comparison of the bill, GR No. 74/2001, **the draft revision of the GR,** and REACH in terms of principles, it seems that the management of chemicals in Indonesia has not yet focused on the avoidance of animal testing or the substitutions to safer alternatives. With regard to the optimization of chemicals, the draft law states that chemicals and/or hazardous chemicals should be value-added. This statement is unclear as to what kinds of hazardous chemicals should be optimized. If the chemicals are under the POPs category for example, the value

[118] Olivier Godard. The Precautionary Principle and chemical risks. P. 28, cahier de recherche 2012-17. 2012, p. 28, https://halshs.archives-ouvertes.fr/hal-00689761/document
[119] White Paper on the Strategy for a future Chemicals Policy COM (2001) 88, p 5 and 8, http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52001DC0088
[120] REACH, Title VI, Arts 31-39.
[121] Ibid. at Arts. 118-19
[122] REACH, Title IV, Article 33
[123] REACH, Article 117
[124] "What about animal testing?" ECHA, https://echa.europa.eu/chemicals-in-our-life/animal-testing-under-reach
[125] Ibid

cannot be optimized. Some POPs such as PCBs and Heptachlor are prohibited based on GR No. 74/2001, and based on the Stockholm convention they should be phased out and disposed of. They cannot be recycled or recovered.

III. A.4. Key Definitions Regarding Chemical Management Based on Indonesian Laws

This section will discuss basic terminology in the Indonesian regulatory framework pertaining to chemical or hazardous and toxic substance management such as chemicals, hazardous and toxic substances (B3), hazardous substances (B2) and mixtures. In addition it will also compare the definition used in REACH.

III.A.4.1 Chemicals

The term "chemical" appears in several regulations, but it is not as extensively used as compared to the B3 term. The definitions of "chemical" used in various regulations are as follows[126]:

- All material which include single compound or mixture in the form of liquid, solid or gas[127];
- A substance whether by itself or in a mixture or preparation and whether manufactured or obtained from nature, but does not include any living organism. It consists of the following categories: pesticide (including severely hazardous pesticide formulations) and industrial[128].
- All material in the form of liquid, solid or gas, as an element or as a single compound or mixture, and they have specific characteristics[129].
- All material as an element, single compound and/or mixture in the form of liquid, solid, or gas[130].
- Single chemicals or mixtures which, based on the chemical and physical characteristic and/or toxicology, are harmful to labor, (work) installation and environment. [131].

In addition, basic definitions pertaining to chemical management based on the bill are as follows:

- "Hazard" is defined as "the natural ability of the chemicals to have a negative impact on humans and the environment.[132]"

[126] Regulations related to chemical weapons are excluded in this paper

[127] Chemical bill

[128] Law No. 10/2013 on Ratification of the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. The law defines the chemicals based on the Rotterdam Convention Art 2(a)

[129] Minister of Industry Regulation No. 87/M-IND/PER/9/2000, Art 1 para 3, and Director General Industry Agro and Chemical Regulation No. 21/IAK/PER/4/2010, Art 1 para 4

[130] Minister of Industry Regulation No. 23/M-IND/PER/4/2013, Art 1 para 8, and Director General of Industry and Manufacture Regulation No. 04/BIM/PER/1/2014 , Art 1 para.3

[131] The Ministry of Manpower Decree No. 187/Men/1999 regarding the Management of Hazardous Chemicals in the Workplace, Article 1 a

[132] Chemical Bill, Art 1 para 2. The Indonesian definition is "*sifat kemampuan alamiah bahan kimia yang dapat memberi dampak negative terhadap manusia dan lingkungan*".

- "Chemical packaging" is defined as "materials used to contain and/or wrap a product made of chemicals, and it has direct contact (with the product).[133]"
- Chemicals are declared as "hazardous chemicals" in the event they fulfill the classification, category of the hazard level and concentration or amount specified[134].

The bill includes the term of hazardous chemicals or chemicals that are stipulated as hazardous[135] but it does not provide any explanation regarding this matter. An issue to be clarified is whether or not the chemicals declared as "hazardous chemicals" are the same as the toxic and hazardous substances (B3).

III.A.4.2 Hazardous and Toxic Substance (B3)

In Indonesia, the ministries have different definitions regarding hazardous and toxic substances (B3). The Ministry of Industry and Trade, the Ministry of Environment, and Ministry of Transportation have their own terms to define a substance with similar characteristics.

The Environmental Protection and Management Act (EPMA) defines B3 as substances, energy, and/or other components that due to their characteristics, concentration and/or amount, either directly or indirectly, can pollute and/or damage the environment, and/or harm the environment, health and the life of humans and other living beings"[136]. The draft revision of GR No. 74/2001 defines the B3 based on the EPMA.

The definition of hazardous and toxic substance (B3) in the GR is slightly different from the EPMA and the draft revision. GR No. 74/2001 uses the term "hazardous and toxic substance" (B3) to define substances that, due to their characteristics, concentration and/or amount, directly or indirectly, can pollute and/or damage the environment, and/or harm the environment, health and the life of humans and other living beings[137]. It is unclear whether the GR addresses the substance in the form of mixture and article. However, based on the attachment of the regulation, it is likely that the GR focuses on a single substance.

With regards to hazardous and toxic substances (B3) the Ministry of Industry and Trade defines it as "substances included in one or more categories as follows: (1) toxic substances, (2) explosive substances, (3) flammable substances, (4) oxidator and redactor substances, (5) explosive and flammable substances, (6) pressured gas, (7) corrosive/irritant substances, (8) radioactive substances, (9) other hazardous and toxic substances stipulated by the Minister of Industry[138]".

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[133] Chemical Bill, Art 1 para 7. The Indonesian definition is "*bahan yang digunakan untuk mewadahi dan/atau membungkus produk berbahan kimia yang bersentuhan langsung*".

[134] Chemical Bill Art 8(6)

[135] Ibid Arts 22, 34

[136] EPMA, Art 1 para 21

[137] GR No. 74/2001 Article 1 para 1

[138] Minister of Industry and Trade No.148/M/SK/1985 on Safety of Hazardous and Toxic Substance in Industrial Companies, Article 1 (a). The Indonesian definition is "*"bahan yang termasuk dalam salah satu golongan atau lebih dari bahan-bahan berikut: (1) Bahan beracun, (2) Bahan peledak. (3) Bahan mudah terbakar/menyala, (4) Bahan oksidator dan reduktor, (5) Bahan yang mudah meledak dan terbakar, (6) Gas bertekanan, (7) Bahan korosi/iritasi, (8) Bahan radioaktif, (9) Bahan beracun dan berbahaya lainnya yang ditetapkan oleh Menteri Perindustrian."*

The Ministry of Transportation, under GR No. 74/2014 on Road Transportation uses the term "dangerous goods" (*barang berbahaya)*. Elucidation of Article 63(c) states that what is meant by "dangerous goods" includes hazardous and toxic substances (B3). However, the decree does not provide more detailed information regarding this matter.

III.A.4.3. Hazardous Substance (B2)

The Ministry of Industry and Trade also uses the term hazardous substance or *bahan berbahaya* (B2). B2 is defined as "a chemical or biological substance, in singular form and/or a mixture, which can be directly or indirectly harmful to the environment. They have toxic, carcinogenic, teratogenic, mutagenic, corrosive and irritant characteristics"[139].

In addition, the Ministry of Transportation Decree No. KM 69/1993 uses the term hazardous substance/*bahan berbahaya* (B2) to define "any substance or material that, due to its characteristics and condition, is harmful for the health and public order and soul, or human health and other living creatures"[140].

III.A.4.4. Mixtures and Articles

A mixture is defined as "a combined and/or blended solution composed by two or more compounds that do not react with each other[141]". The existing Indonesian legislation does not specifically differentiate between a single substance, mixture and article. Based on discussions with government officials, in practice, the term substance (*bahan)* is often used loosely to refer to both articles and mixtures[142]. In this case, for example, a transformer (an article that may contain PCB oil) is handled as a substance by the Ministry of Environment and Forestry. However, it may not be the case for another Ministry[143]. As discussed, different institutions (Ministries) have their own way to name a substance as B2 or B3. Thus, this causes the various regulations (industry, transport and environment) to have different statements and hazard categories. Sometimes, what is considered as B2 in a sector may not necessarily be considered as a B2 in another sector[144].

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[139] Ministry of Trade Regulation No. 75/M-DAG/PER/10/2014, Article 1(1). The definition of B2 in Indonesian is "*zat, bahan kimia dan biologi, baik dalam bentuk tunggal maupun campuran yang dapat membahayakan kesehatan dan lingkungan hidup secara langsung atau tidak langsung, yang mempunyai sifat racun (toksisitas), karsinogenik, teratogenik, mutagenic, korosif, dan iritasi".*

[140] Minister of Transportation Decree No. KM 69/1993, Article 1 para 7. The definition in Indonesian is "*setiap bahan atau benda yang oleh karena sifat dan ciri khas serta keadaannya, merupakan bahaya terhadap keselamatan dan ketertiban umum serta terhadap jiwa atau kesehatan manusia dan makhluk hidup lainnya".*

[141] Minister of Industry Regulation No. 87/M-IND/PER/9/2000, Art 1 para 4, Director General Industry Agro and Chemical Regulation No. 21/IAK/PER/4/2010, Art 1 para 3, Minister of Industry Regulation No. 23/M-IND/PER/4/2013, Art 1 para 10, and Director General of Industry and Manufacture Regulation No. 04/BIM/PER/1/2014 , Art 1 para 5

[142] AlAfghani, Mohamad Mova and Paramita, Dyah, *Polychlorinated Biphenyls (PCBs) Phasing-Out Regulation in Indonesia, Final Report* (United Nations Industrial Development Organization and the Ministry of Environment and Forestry, Republic of Indonesia 2016), p. 21

[143] Ibid

[144] Ibid

In addition, chemicals in articles and/or mixtures containing hazardous chemicals are widely found in Indonesia. Paints containing lead with dangerous levels are found in the Indonesian market[145]. Recycled toys (e.g. thermo cup, rubik cubes, hair bands, etc.) that contain OctaBDE and/or DecaBDE are sold in Indonesia[146].

Elucidation of Article 3 (1) of the bill mentions the definition of "article/product" as it is explained in Section II.6 above. In addition, article 28 of the bill states that the requirement regarding the amount, and the registration of chemicals in consumer products and/or finished goods will be regulated in the Government Regulation. However, it will exclude the stipulation regarding types, the use of chemicals and the registration of chemicals in food and consumer products which relate to the sectors of pharmacy, health, agriculture, fuel and lubricants**[147].**

The draft revision of GR No. 74/2001 mandates that products containing B3 comply with the Indonesian National Standard (*Standar Nasional Indonesia*) known as SNI. In this regard, MoEF will coordinate with the relevant ministry to designate the safety limit of B3 in the products to be stipulated in the Indonesian National Standard[148].

III.A.4.5. Definitions Used in the European Union Regulations

A substance is defined as "a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition"[149]. Similar definitions can be found in REACH, CLP, GHS, and in the EU regulations regarding pesticides[150].

The term "hazardous substance" means a substance that can be characterized as hazardous and may include a health hazard, an environmental hazard, or a hazard due to physic-chemical properties.

"Article" means an object, which during production is given a special shape, surface, or design, which determines its function to a greater degree than does its chemical composition[151].

Based on the description above, there is non-uniformity regarding terms and their definitions (e.g chemicals, B3, B2) that are used in the Indonesian regulations. This situation creates confusion regarding the objects being regulated and

[145] Press Release: "Protect Our Children from Lead in Paint and Asbestos Exposures Paint with Dangerous Levels Widely Sold in All Developing Regions of the World", Bali Fokus, Jakarta 24 October 2016, http://www.balifokus.asia/single-post/2016/10/24/PRESS-RELEASE-Protect-Our-Children-from-Lead-in-Paint-and-Asbestos-Exposures

[146] Siaran Pers: "Bahan Kimia Berbahaya dari Sampah Elektronik (e-waste) Ditemukan Pada Mainan Asah Otak yang Beredar di Indonesia", Bali Fokus, Jakarta 31 Agustus 2016, http://www.balifokus.asia/single-post/2016/09/01/Siaran-Pers-Bahan-Kimia-Berbahaya-dari-Sampah-Elektronik-E-Waste-Ditemukan-Pada-Mainan-Asah-Otak-yang-Beredar-di-Pasaran-Indonesia

[147] Chemical Bill Art 28 (2), (4)

[148] Draft Revision of GR No.74/2001 Art 59 (1),(2),(3)

[149] CLP Art 2(7)

[150] Rules on Chemical in the Life-cycle of Articles – A Legal Analysis, KEMI 2014, p. 43

[151] REACH Art 3(3)

responsible authorities, which makes it difficult for the public to follow. In addition, the scope of the regulations is also unclear as to whether it includes an article, a single substance or mixtures. The chemicals in products (articles) are not yet elaborated comprehensively in either draft. There is no clear sanction regarding B3 in the products. The supervision of chemicals in articles is under the authority of the Ministry of Industry, in coordination with the MoEF especially for the articles containing B3.

Article 28 of the bill above is similar to the draft revision of GR which intends to regulate hazardous chemicals and/or B3 in articles. The draft revision of GR proposed the Indonesian National Standard (SNI)[152] for the articles. A mandatory SNI should be stipulated by the relevant minister regulation or agency (non-ministry) in the event that there is a necessity relating to safety, security, health and environmental protection[153]. SNI has been in place for some years. The concept and procedure of a mandatory SNI are relatively established based on SNI regulations[154] but it is unclear whether SNI is effective in controling articles that contain B3. On the other hand, regulating articles/products through a specific GR that is mandated by the bill is preferable since a GR is superior to a ministry regulation. However, the concept and procedure regarding this matter are not clear in the bill and the academic draft.

The product standardization mechanism based on SNI needs to be reviewed to determine whether it will be applicable and effective to control B3 in products. In addition, the concept of regulating articles/products through a specific GR that is mandated by the bill needs to be clarified. Specific research on this matter is recommended.

III.B. Administration

III.B.1. Designation of the Primary Authority

The Chemical bill is initiated by the MoI. In addition the bill also stipulates the implementing regulations such as Government, Minister and Presidential Regulations. In this regard, the MoI will be responsible for coordinating and/or initiating the formulation of the regulations. Below are the issues that should be further regulated.

a) Issues that should be regulated based on GR are:
   - the classification system, hazard level stipulation, concentration or amount of the chemicals[155]
   - procedures and requirements of chemical hazard communication and risks[156],
   - requirements and approval of the hazardous chemical utilization [157];

[152] SNI is a product standardization. It aims to improve the quality, efficiency, competitiveness, as well as to protect the health, safety and environment of consumers and other stakeholders, Law No. 20/2014 on Standardization and Conformity Evaluation, Art 3
[153] Law No. 20/2014 Art 24(1)
[154] Regulations related to SNI are
[155] Chemical Bill Art 7(7)
[156]Ibid Art 10
[157] Ibid Art 18(9)

- requirements on the amounts, and registration of chemicals in articles (consumer products) and/or finished goods[158]
- format and procedure for a chemical report submission[159];
- provisions regarding guidance and supervision;
- chemical safety[160];
- security measures for chemicals[161]

b) Issues that should be regulated based on the Minister Regulations are:
- packaging requirements and procedures for chemicals[162],
- requirements and procedures regarding a permit issuance for the production of chemicals[163];
- the control of chemical production [164]
- priority for the procurement of chemicals, types and their amount that result from natural resource extraction and/or domestic industries[165];
- the implementation of controlling chemical production[166];
- the control of chemical storage[167]
- the chemical production process, technology application and incentive[168]. In this regard, the MoI has to coordinate with the Ministry of Technology, the Ministry of Environment and Forestry, and the Ministry of Finance[169].

c) An issue that should be regulated by the Presidential Regulation is:
- the formulation of a chemical committee, its tasks, functions, membership and governance[170]

Regarding responsibility, both GR No. 74/2001 and the **draft revision of the GR** designate the MoEF as the main institution that is in charge of the implementation of the GR. Nevertheless, it also has to coordinate with other relevant institutions. Similar to the bill, the draft revision of GR No. 74/2001 also mandates the implementing regulation in the form of minister regulations. Several issues to be covered by the Minister Regulations are as follow:

- Stipulation of the categories of B3 (B3 that can be used, restricted B3 and forbidden B3)[171];
- Evaluation regarding the stipulated categories of B3 (B3 that can be used, restricted B3 and forbidden B3)[172].
- The scope and tasks of the B3 technical team[173];

[158] Ibid Art 28 (4)
[159] Ibid Art 32(4)
[160]Ibid Art 39(6)
[161] Ibid Art 41(4)
[162] Ibid Art 11(4)
[163] Ibid Art 14(2)
[164] Ibid 23 (2)
[165]Ibid 21(4)
[166] Ibid 23
[167]Ibid 24(2)
[168]Ibid 37(3)
[169] Ibid
[170]Ibid Art 35(3)
[171] Draft Revision of GR No. 74/2001, Art 8
[172] Ibid Art 9 (2)
[173] Ibid Arts 17, 18

- The packaging and packaging procedures for B3[174];
- Provisions regarding notification procedures for the export and import of restricted B3[175];
- Provisions regarding procedures and requirements to apply for the registration of the B3 management activities and the receipt[176];
- Procedures to apply for a recommendation to transport B3[177];
- Provisions regarding location and requirements of the storage for the B3 that can be used and restricted B3 [178];
- Provisions regarding the reporting form and reporting procedures regarding the management of B3[179];
- Provisions on the mechanisms, procedures, development and utilization of the B3 management information system[180];
- Provisions regarding measures to overcome environmental pollution as a result of B3 management activities[181];
- Provisions regarding environmental rehabilitation[182];
- Provisions regarding the procedure to conduct supervision.[183]

III.B.2. Coordination Mechanisms

Once the bill and the draft revision of the GR have been passed, the primary authorities (MoEF and MoI) will need to collaborate with other governmental bodies to ensure the effective and efficient management of the chemicals and/or B3. For example, the export and import of chemicals fall under the authority of the Ministry of Trade while the Ministry of Environment and Forestry is responsible for the registration of B3 and notifications[184].

The bill mandates the establishment of a chemical committee that has pivotal roles such as developing a national chemical inventory, researching and evaluating the GHS implementation, creating a chemical hazard communication system, etc[185]. The establishment of the committee, the tasks, functions, memberships and the governance of the committee will be stipulated based on the Presidential Regulation[186]. However, neither the draft academic manuscript nor the bill provides further information regarding the concept of the committee. However, it is expected that the membership will consist of representations from various institutions including academia and public interest sectors such as consumer protection organizations. It is still unclear how the chemical committee will relate to other

[174] Ibid Arts 19 to 24
[175] Ibid Arts 25 to 30
[176] Ibid Arts 31 to 39
[177] Ibid Art 47
[178] Ibid Art 52
[179] Ibid Arts 63 to 68
[180] Ibid Arts 69 to 71
[181] Ibid Arts 72, 73
[182] Ibid Arts 74 to 83
[183] Ibid Arts 91 to 96
[184] Chemical Bill Art 22
[185] Ibid Art 35
[186]Ibid Art 35 (3)

committees such as the Pesticide Committee which is regulated under the Ministry of Agriculture Decree No. 847/KPTS/OT.160/2/2011.

GR No. 74/2001 mandates the establishment of a B3 commission based on the Presidential Regulation. The commission is responsible for providing recommendations to the government regarding management of B3. Nevertheless, the commission has never been established until now. Coping with the growing list of B3 that should be added into one of the categories is one of the challenges of the GR. This is because the B3 commission that is responsible for proposing the changes of the list has never been established. Furthermore, the establishment of the committee itself should be based on the presidential regulation, which takes time to formulate. Another obstacle is that it also takes some time to amend the lists in the GR, since the formulation of the GR needs consolidation with and approval from various ministries.

However, the draft revision of the GR proposed for the establishment of the B3 Technical Team is based on the MoEF Regulation. Contrary to the B3 commission which has a broad task, the task of the technical team is specified to evaluating the B3 list and categories of B3. This includes adding new B3s into one of the categories (B3 that can be used, are forbidden or restricted). The members of the team should represent relevant institutions such as the Ministry of Industry, the Ministry of Trade, the Ministry of Agriculture, the Ministry of Health, the Ministry of Transportation, academia, the MoEF, etc. It is assumed that the establishment of a B3 technical team is more feasible since its establishment is under the jurisdiction of the MoEF and the task is limited.

III. C. Instruments Governing the Placement of Chemicals on the Market

III.C.1. Development of Inventories

The inventory of chemicals/B3 is not regulated in the existing regulations. However, the bill states that the development of the national chemical inventory is one of the tasks of the chemical committee[187]. Nevertheless, the academic draft does not provide any guidelines regarding this matter such as measures to be taken to develop a chemical inventory.

III.C.2. Notification Procedure

The chemical bill does not cover a notification procedure. Nevertheless, GR No. 74/2001 administers the notification process. Regarding import, the GR requires notification of the import of B3 that is restricted and/or imported for the first time[188]. The obligation also applies to the import of the B3 that are not listed in the GR (attachment)[189]. Regarding export, notification is required for the export of B3 that is restricted[190]. The MoEF is responsible for the notification procedure (including approving or rejecting the notification).

There is a different arrangement in the draft revision of GR regarding notification. **The draft GR** requires a notification procedure for the export and

[187] Chemical Bill Art 35 (2)a
[188] GR No. 74/2001 Art 8
[189] Ibid Art 9
[190] Ibid Art 7(1)

import of B3 that are restricted[191] as part of the implementation of a prior informed consent procedure under the Rotterdam Convention. However, the draft does not provide guidance for the B3 imported for the first time and the B3 that are not listed in the GR. It means that such B3 are not obliged to follow the notification procedure. In addition, the notification does not include articles and pesticides. Pesticides can be understood to fall under the authority of the Ministry of Agriculture while the bill states that articles will be further regulated under a Government Regulation (in order to oversee the chemicals in articles)

III.C.3. Classification and Labeling

The existing regulations regarding the implementation of GHS in Indonesia issued by the Ministry of Industry are not easy to follow as they are distributed in several regulations aforementioned in section II.5. In addition, some provisions are repeated. Some of the repetitive provisions are: the obligation regarding labeling and SDS for the stakeholders, the responsibility of the government to provide training and guidance, and the protection of confidential business information. The regulations issued by the Ministry of Environment relating to classification, symbolizing and labeling are not yet harmonized with the GHS norms.

Both the Chemical Bill and the draft revision of the GR acknowledged the importance of classification and labeling to be compatible with the GHS international norms. The bill mandates that the GHS should be applied in the management of chemicals[192]. The application includes the classifications of chemicals, chemical hazard and risk communications, and chemical packaging[193]. The classification of chemicals will be determined based on the hazard classes. The hazard classes involve: a) physical hazard, b) health hazard and c) harm to the environment[194]. Furthermore each hazard class will be divided into several hazard categories which have specific symbols and labels based on GHS.

The draft revision of the GR acknowledges the importance of a classification and labeling system of B3, as well as the need for the preparation of SDS to be harmonized with GHS. Therefore the implementation regarding these matters should refer to the provisions stipulated by the MoI.

III.C.4. Bans and Restriction

The chemical bill states that the ban and restriction on the use of chemicals should be done based on consideration of risks and benefits and/or based on international conventions ratified by Indonesia. However, the use of the prohibited chemicals can be excluded for a national security reason, research and development, medical reason and education[195].

GR No.74/2001 does not provide clear justification as to why a B3 can be categorized as forbidden or restricted. In the attachment of the GR, there are only lists that categorize the B3 into those three groups.

[191] Draft Revision of GR No. 74/2001 Arts 25 to 29
[192] Chemical Bill Art 6
[193] Ibid Art 7
[194] Ibid Art 8 (1),(2)
[195] Ibid Art 29(1)(2)

Similar to GR No. 74/2001, the draft revision of the GR does not provide clear justification regarding the categorization of B3. As mentioned in section II.7, the draft revision of the GR defines restricted B3 as chemicals that pose risks to the environment, health and can be tolerated[196]. Furthermore, forbidden B3 is defined as chemicals that pose risks to the environment, health and/or cannot be tolerated[197]. There is no explanation as to the standards or the meaning of "can be tolerated" and "cannot be tolerated". However, the draft mandates the formulation of the MoEF to further regulate this matter[198]. The B3 Technical Team is responsible for evaluating the B3 lists that may result in the ban and restriction of certain B3.

Within the European Union context, based on REACH, the restriction includes limiting or banning the substances, mixture or articles. Furthermore, the decision as to whether the chemicals should be banned or restricted should be considered based on several issues, such as whether it is a substance of very high concern (VHC), the substance is proven to be adequately controlled or not, and the availability of proper alternative substances. In addition, the assessment must include the life cycle of the chemicals. In the existing Indonesian regulations these parts are missing.

Restriction is a means to protect the environment and human health from unacceptable risk of chemicals. Restrictions may limit or ban the manufacture, placement on the market or use of a substance. The restriction can be applied to any substance on its own, chemicals in a mixture or in an article, including those that are not obligated to be registered[199]. Annex XVII of Reach restricts the use of or bans approximately one hundred substances. Generally, they are imposed on articles containing substances at a certain level (normally 0.1% by weight). Restrictions may also involve rules of various types relating to all parts of the recycle. Recycled materials sold in the market, for example, are basically treated the same way as new materials even though the requirement level can sometimes be lower. One of the examples is the cadmium in the PVC. In this case, based on Annex XVII point 23, a higher limit value applies to the recycled PVC compared to the virgin PVC[200].

Import of a substance can also be restricted[201]. In this case the Member States or the Agency on behalf of the Commission will prepare proposals for restrictions in the form of a structured Dossier. The dossier is necessary as it poses that there are risks to human heath and it assists in the identification of the risk reduction measures[202].

The restriction based on REACH regulation may establish a type of rule that can lead to special legal instruments that are focused on regulating article/products and waste management rather than chemicals, in which restriction on the contents of chemicals may be an important element[203].

[196] Draft Revision of GR No. 74/2001, Art 1 para 4
[197] Ibid Art 1 para 3
[198] Draft Revision of GR No. 74/2001 Art 8(2)
[199] Restriction, ECHA, https://echa.europa.eu/regulations/reach/restriction
[200] See supra note 150, p. 42
[201] Restriction, ECHA https://echa.europa.eu/regulations/reach/restriction
[202] REACH in Brief, EU Environment Directorate General, October 2007, p, 13, 14, http://ec.europa.eu/environment/chemicals/reach/pdf/publications/2007_02_reach_in_brief.pdf
[203] See supra note 150, p. 42

III.C.5. Registration

The chemical bill does not regulate the registration procedure for the chemicals. Nevertheless, GR No.74/2001 imposes a one-time obligation to register on the importer or producer of B3, especially for the B3 that is imported for the first time.[204] However, the GR does not oblige the owners of B3 to register. Based on the GR, B3 registration means the registering and numbering of B3 that exist in Indonesia[205]. The registration based on the INSW procedure is still valid as long as it is not contrary to the draft revision of GR once the draft becomes a law.

The draft revision of GR No. 74/2001 has a slightly different definition regarding registration. It means the registering and numbering of B3 produced in Indonesia or imported to Indonesia and is not yet listed in the B3 category list[206]. Importers who want to import a B3 that is not listed in the B3 category lists that are stipulated by the MoEF are required to submit an application to register the B3 and an application for the determination of the B3 category[207]. Similar obligations are also imposed on the producer who wants to produce a B3 that is not yet listed in the B3 category lists[208].

Besides the registration for the B3 itself, the draft revision of GR also requires registration for the activity related to the management of B3. In this regard, it is a requirement to have a B3 Management Activities Registration Receipt for everyone who is importing, producing and/or distributing the B3 that can be used and the B3 that is restricted in Indonesia and/or exporting it outside Indonesia[209]. The Ministry of Trade (MoT) is in charge of the registration and approval of the management activities regarding B3 that can be used[210] while the MoEF is responsible for the activities that involve the B3 that is restricted[211]. The registration fee will be charged to the applicant. The MoI will stipulate the registration fee for the B3 Management pertaining to the B3 that can be used. On the other hand, the MoEF will stipulate the registration fee for the restricted B3[212].

In the EU, the registration requirements are different from Indonesia. Based on REACH, registration is compulsory for all chemicals produced and imported in quantities of more than one metric ton per year, both new and existing (or "phase in"), as well as certain substances in products.[213] The application for the registration of the chemicals must include a technical dossier. It contains comprehensive information regarding the inherent properties of chemicals such as toxicological and eco-toxicological information, and guidance on the safe use of the substance, [214].

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[204] GR No. 74/2001, Art 6(1),(2)

[205] Registrasi B3 Online Terintegrasi INSW, Penerapan Registrasi B3 Online Dalam Mendukung Tata Kelola B3 Nasional, Direktorat Pengelolaan B3, Direktorat Pengelolaan Sampah, Limbah dan B3, KLHK, Jakarta 10 Juni 2016, http://www.menlhk.go.id/berita-106-launching-aplikasi-registrasi-b3-online-pada-pekan-lingkungan-hidup-dan-kehutanan-2016-jumat-10-juni.html

[206] Draft Revision of GR No. 74/2001 Art 1 para 22

[207] Draft Revision of GR No. 74/2001 Art 10

[208] Ibid Art 11

[209] Ibid Arts 36 to 46

[210] Ibid Art 31(2)

[211] Ibid Art 31(3)

[212] Ibid Art 105 (1) (2)

[213] REACH Title II Chapter 3 Arts 6, 7, 12, 17

[214] Ibid Title II Chapter 3 Arts 10, 12

The chemical data is shared up and down the supply chain to avoid unnecessary testing[215]. For chemicals in quantities above ten metric tons, a more comprehensive chemical safety report is required. It includes toxicology and exposure data, as well as procedures to reduce risks from the chemical[216]. In order to reduce the costs, the registrants have to jointly submit information regarding the substance and its hazard classifications, as well as the chemical safety report[217].

III.C.6 Licensing

The chemical bill stipulates types of licenses issued by relevant institutions. These involves the licenses regarding[218]:

- procurement and/or import of chemicals ;
- production of chemicals;
- storage of chemicals;
- transportation of chemicals;
- distribution of chemicals;
- the use of chemicals;
- export of chemicals; and
- the disposal and extermination of chemicals.

The draft revision of the GR only covers licensing requirements for transporting B3. The MoEF is responsible for providing recommendations for the person/company that intends to transport B3. The Ministry of Transportation, based on the MoEF's recommendation, will issue the license[219].

III.C.7 Export and Import

The MoEF is responsible for the registration and approval of the import, export, production, and/or distribution of restricted B3[220].

III. D. Inspections

The chemical bill imposes the obligation on the relevant institutions to conduct supervision and inspection. The MoI is responsible for the supervision of production, storage, and the use of chemicals and/or hazardous chemicals for industry[221]. The supervision involves inspection and verification, monitoring and evaluation. The ministry coordinates with the governor, regent and/or mayor to perform the supervision and inspections.

The draft revision of the GR mandates the MoEF and local government (governors and mayors) to supervise monitor and provide assistances based on their authorities. They are responsible to supervise everyone who import, export, produce, transport, distribute, store, utilize, process and/or pile up B3. The supervision is conducted though the verification of the B3 management reports, and

[215] Ibid Title II Chapter 1 Art 11
[216] REACH in Brief, EU Environment Directorate General, October 2007, p. 7, http://ec.europa.eu/environment/chemicals/reach/pdf/publications/2007_02_reach_in_brief.pdf
[217] Ibid p.8,
[218] Chemical Bill Art 12(3)
[219] Draft Revision of GR No. 74/2001 Art 47 (1) (2)
[220] Ibid Art 31 (3)
[221] Chemical Bill Art 33 (1), Art 34 (1)

monitoring of the B3 registration[222]. The MoEF is responsible to assist environmental agency at the provincial and regency levels. The Province environmental agency is responsible to assist environmental agency at the city level.

III.E. Record Keeping and Reporting

Based on the chemical bill, a report should be submitted to the relevant Ministry that issued the license and copied to the MoI. The report must cover the plan of activities, the implementation, the description of types and amount of chemicals, and the information regarding the label and SDS[223]. The bill does not provide information about the frequency of report submissions.

The draft revision of the GR requires the submission of the report to the MoEF regarding the B3 management, which involves B3 that can be used and restricted B3. The report should be submitted at least once a year[224].

III.F. Enforcement

The criminal sanction provisions of GR No. 74/2001 refer to the old Environmental Management Act No. 23/1997 which has been revoked and replaced by a new environmental law since 2009. The existing regulations do not impose sanctions for not implementing, reporting, or updating GHS.

The chemical bill provides administrative and criminal sanctions. Administrative sanctions are imposed in the form of a) written notices, b) administrative fines, c) public notifications in the mass media regarding violations, d) suspensions, and e) revocation of the permit and closure of the activities[225]. The administrative sanctions will be imposed against those who:

- do not manage the chemicals in every stage of its life cycle;
- do not implement the provisions regarding chemical hazard and risk communications such as labeling and providing SDS based on GHS;
- do not implement the provisions regarding the requirements of chemical packaging;
- violate the permit requirements in terms of using hazardous chemicals for industrial purpose;
- violate provisions regarding the import of hazardous chemicals which require registration and approval;
- do not comply with reporting provisions;
- do not comply with the provisions regarding the safety and security of the chemicals.

Regarding the criminal sanctions, a maximum fine of 3,000,000,000 Indonesian Rupiah (equivalent to 224,550 USD) and imprisonment will be imposed on those who violate provisions regarding the management of chemicals in any stage of its life cycle, or abuse and misuse chemicals**[226].** In the event such violations cause damage, fire, an explosion, a health hazard, or environmental pollution, the maximum fine of

[222] Draft Revision of GR No. 74/2001 Art 91 (1)(2)
[223] Chemical Bill Art 32 (1), (2), (3)
[224] Draft Revision of GR No. 74/2001 Art 63, 64
[225] Chemical Bill Art 47(2)
[226] Ibid Art 49(1)

Rp 10,000,000,000 (equivalent to 748,503 USD) and 5 years imprisonment will be imposed[227]. In addition, if such violations cause death, a maximum fine of Rp. 15,000,000,000 (equivalent to 112,754 USD) and 7 years imprisonment will be imposed[228].

Criminal sanctions also address the crimes committed by corporations. In this sense, the violations pertaining to the management of chemicals in any stage of its life cycle, and the abuse and misuse of chemicals are committed under these circumstances[229]:

- It is conducted or instructed by the manager of the corporation;
- It is conducted in order to meet the purpose(s) and objective(s) of the corporation;
- It is carried out in accordance with the duties or functions of the perpetrators or those who give orders;
- It is conducted with the intention to benefit the corporation.

The sanctions for the corporate crime is the maximum amount of the criminal sanctions plus one third. Additional sanctions can also be imposed in the form of the revocation of certain rights, the publication of the judge's verdict, compensation, the return of profit or rehabilitation.

The draft revision of GR No. 74/2001 imposes administration sanctions for the violations of the GR. The sanctions are in the form of a) written notice, b) revocation of the B3 registration receipt, c) revocation of the transportation recommendation, and d) revocation of the permit[230]. A written notice will be given if the company/person does not submit a report as it is stipulated in the registration receipt of the B3 management activity[231]. The B3 registration receipt will be revoked if the company/person ignores the written notice for the third time or violates the provisions in the receipt[232]. The relevant ministries (MoEF, MoI), Governor and Mayor based on their authority are responsible for enforcing the administrative sanctions[233]. The environmental pollution countermeasures and rehabilitation should be done within a maximum of 24 hours after B3 pollution is perceived[234].

III.G. Confidentiality

The existing Ministry of Industry regulations state that the government is responsible for protecting confidential business information[235]. Nevertheless, **neither the chemical bill nor the draft revision of the GR** explicitly regulates this matter.

III.H. Transparency and Communication.

Pertaining to the right to information, GR No.74/2001 states that people have the right to information regarding environmental impact management as a

[227] Ibid Art 49(2)
[228] Ibid Art 49(3)
[229] Ibid Art 50
[230] Draft Revision of GR No. 74/2001 Art 97 (1), (2)
[231] Ibid Art 98 (1)
[232] Ibid Art 99 (1),(2)
[233] Ibid Art 100
[234] Ibid Art 101
[235] MoI Regulation No. 87/M-IND/PER/9/2009 Art 6, Regulation No. 04/BIM/2014 Art 6

result of B3 management[236]. The person responsible for the B3 management shall provide the information[237]. The provision of information can be delivered through the printed media, and/or an announcement board[238].

The draft revision of the GR mandates the establishment of a B3 management information system. It includes information about the B3 profile in Indonesia, data on the management of B3 in Indonesia and its update[239]. The information system functions as an information clearing unit pertaining to B3 management in Indonesia[240]. In addition, the governance of the information system will be stipulated by a MoEF regulation.[241] Nevertheless, the draft revision is silent regarding the people's right to participate and have access to information on the B3 management and the information system.

[236] GR 74/2001 Art 35(1)
[237] Ibid Art 35(2)
[238] Ibid Art 35(5)
[239] Draft Revision of GR No. 74/2001 Art 70(1)
[240] Ibid Art 70(3)
[241] Ibid Art 70(4)

CHAPTER IV
CONCLUSION

Regulating the B3 and/or chemicals in Indonesia is very challenging as it involves the authority of various institutions and their policies. It is important to identify the overall regulatory gaps in B3/chemical management and decide on the type of the regulation that can best cover the issue. The academic draft should be able to explain this thoroughly.

Based on the analysis, the chemical bill and the revision of the draft GR have different scopes and they can be complementary. On the other hand, it also possible to accommodate issues covered by the bill or the draft revision of the GR in one regulation. However, there are fundamental issues that need to be clarified and reviewed thoroughly before deciding the form of the regulation. Some of the fundamental issues are as follows.

1) It is important to consider the hierarchy, practicality and the effectiveness of the regulation. Based on the hierarchy, a law on chemical is more favorable than Government Regulation as it is stronger. However, if the bill does not have enough details and only covers basic principles as it is written in the chemical bill, then it is more practical to have a Government Regulation than a Law. The chemical bill mandates 8 (eight) issues to be regulated by GR aforementioned in section III.B.1. Some of the issues are the classification system, hazard level stipulation, concentration or amount of the chemicals[242], format and procedure for a chemical report submission[243]. Indonesia already has MoI regulations regarding classification system or GHS implementation. It need to be reviewed the efficiency of the regulation. Is it possible to improve the MoI and what is the necessity to regulate those issues at the GR level? The next question to be clarified is the possibility to merge those 8 issues to the draft revision of GR No. 74/2001.
2) It is very necessary to have clear and consistent use of terms and their definitions to prevent dispute and misunderstanding in the implementation of the law/regulation. In the Indonesian legislation, the term B3 originates from the EPMA. It might be difficult to substitute the term B3 for chemicals but perhaps the draft law can clarify whether the term “hazardous chemical” is the same as the restricted and forbidden B3, while the term “chemicals” per se means B3 that can be used.

[242] Chemical Bill Art 7(7)
[243] Ibid Art 32(4)

3) It is recommended to conduct a specific research regarding the best form of regulation to govern chemicals and/or B3 in articles.
4) It is important to establish a clear and effective administration in the management of chemicals/B3.
5) It is necessary to have an integrated instrument governing placement of chemicals on the market
6) It is important to provide a confidentiality clause but at the same time it should be able to be challenged based on the freedom of information act and/or public's right to information if there is a danger to human and environmental safety if the information is remained closed.
7) It is important to guarantee public's right to the chemical/B3 information and participation decision-making process regarding to chemical/B3 management.