STUDY ON NESTLÉ INTERNAL INSTRUCTIONS: A GOOD PRACTICE FOR EXCELLENCE IN COMPLIANCE AT PT. NESTLÉ INDONESIA JAKARTA

MANUSCRIPT

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BOGOR AGRICULTURAL UNIVERSITY
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JAKARTA

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ABSTRACT

Nestlé Internal Instruction is the internal procedure of Nestlé in place to ensure full compliance with the regulatory requirements and to give implementation guidelines on company policy. Nestlé has already established its Nestlé Internal Instructions related to Quality Management which consist of instructions on Supplier Quality Assurance, Food Safety, Competitive Quality & Consumer, and Nestlé Quality Management System & Quality Training. The objective of this study during internship program as a final project is to identify and mapped Nestlé Internal Instruction as hard copy form related to Quality Management Department for excellence in compliance. The information was collected and evaluated based on the standards and regulations which can be obtained through the respected Authority Body’s website as softcopy form. Nestlé Internal Instructions related to Quality Management have already complied as a good practice for excellence in compliance. These Internal Instructions are also compliant with national or international regulations and standards. In some cases, Nestlé Internal Instructions are higher and stricter than regulations and standards depend on where the product is sold.

Keywords: Nestlé Internal Instruction, quality management, compliance
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MANUSCRIPT

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STATEMENT LETTER OF MANUSCRIPT AND SOURCE OF INFORMATION

Hereby I genuinely stated that the manuscript entitled Study on Nestlé Internal Instructions: a Good Practice for Excellence in Compliance at PT. Nestlé Indonesia Jakarta is an authentic work of mine under supervision of academic advisor and never being presented in any forms and universities. All the information taken and quoted from published or unpublished works of other writers had been mentioned in the texts and attached in the references at the end of the manuscript.

Bogor, 8th January 2013
The undersigned,

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This manuscript may not be translated or copied in whole or in part without written permission from Bogor Agricultural University in any forms or by any form, print, photocopy, microfilm, etc.
The author, Sally Wiedjarnarko, was born on 5th September 1990 in Pasuruan, East Java, Indonesia. She is the second child with one older sister and two younger sisters from Mr. Wiwick Wiedjarnarko and Mrs. Lanny Jonatan. She studied her elementary school in SDK Sang Timur Pasuruan (1996-2002), junior high school in SMPK Sang Timur Pasuruan (2002-2005) and high school in SMAK Kolese Santo Yusup Malang (2005-2008).

In 2008, the author continued her further study in Bogor Agricultural University with Seleksi Penerimaan Mahasiswa Baru (SPMB) path and she was accepted as Food Science and Technology student in the Faculty of Agricultural Engineering and Technology.

During her study, she got education scholarship from Bank Indonesia from 2010 to 2011. She also joined some organizations such as KMB (Keluarga Mahasiswa Buddhis), HIMITEPA (Himpunan Mahasiswa Teknologi Pangan) and she was active in some activities such as LCTIP XVII (2009) and CTIP XVIII (2010), Vegetarian Day (2009), Bakti Sosial (2009) and Orde dan Malam Keramat (2011).

The author has work experience as mathematic private teacher in 2011 in Sakura Learning Centre. The achievements that the author get included four research grants (2010 – 2011) in Program Kreativitas Mahasiswa (PKM) held by DIKTI which are entitled Micropilloba (Mainan Boneka Berbentuk Mikroba Sebagai Sarana Edukasi Masyarakat); Pengembangan Dodol Mixy Max sebagai Pangan Semi Basah Bahan Baku Pepaya, Labu dan Ketan Hitam untuk Pelestarian Sumber Pangan Lokal; Aplikasi Amilosa – Amilopektin Beras dan Beras Ketan dalam Meningkatkan Kerenyahan Tepung Pelapis pada Fried Food Product; and Bioavailabilitas Kalsium Kalsium pada Produk Teh dan Cookies Berbahan Baku Daun Kelor (Moringa oleifera) sebagai Pangan Fungsional Pencegah Osteoporosis. In April 2012, she started her internship program at PT Nestlé Indonesia Head Office entitled “Study on Nestlé Internal Instructions as a Foundation Module for Excellence in Compliance at PT. Nestlé Indonesia Jakarta” supervised by Prof. Dr. Ir. M. Aman Wirakartakusuman M.Sc. and Mr. Nana Sudiana, S.T.P.
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The author is truly hoped that this manuscript will give a worthy addition on food science technology area and will get useful information for anyone who read.

Bogor, 8th January 2013

Sally Wiedjarnarko
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I. INTRODUCTION

1.1 Background

Food is one of the most basic human needs. However, nowadays people no longer see food as just a basic human need, but rather as a part of their lifestyle. People are keener in taking control of the food they consume, demanding better safety and nutritional value – especially in light of the increasing frequency of food poisoning cases in dairy products such as airings, milk poisoning in elementary schools, and Enterobacter sakazakii contamination in infant formula.

The need for food safety is present in all aspects, starting from the production, creation, handling, and provision of food. Food suppliers must be able to show sufficient evidence to identify and control hazards that could impact food safety. Thus, the food industry has made numerous attempts to follow consumers request by ensuring the quality of its product.

The food industry aims to produce food that meets the safety and quality that the consumers demand. One of the important criteria of product acceptance in the food industry is quality. Because of the risk on human lives, the food industry and its products are tightly regulated both within the industry itself and by the government (in the case of Indonesia, BPOM is the main regulator).

With the increasing demands for collateral efficacy, safety, and product quality, the concept of “Quality Control” which is still widely used in the food industry is becoming inadequate. This concept is based on the idea of defect detection, which means using a surveillance system that can detect the occurrence of errors/deviations that has already occurred. Of course, in the midst of the current wave of globalization, a concept that is already woefully inadequate will not be able to provide the warranty of efficacy, safety, and quality of a product. Such a warranty can only be provided if there is a system that proactively prevents the occurrence of errors and irregularities in the process of manufacture. This new concept is referred to as “Quality Assurance”. Assurance can only be implemented if there are systems that manage all the elements in the food industry so that the quality objectives can be met. This system is often called the Quality Management System.

PT. Nestlé Indonesia is one of the world’s leading food company that supply more than 10 million food products to the market annually. PT. Nestlé, which carries the motto “Good Food, Good Life” has made the commitment to produce items that are healthy, of quality, and meets safety and nutrition standards in order for consumers to realize a better life. This is evident through many certificates of recognition that shows both maturity and fulfillment of quality and safety standards for consumer satisfaction.

In production activities, PT. Nestlé Indonesia consistently minimizes failures in multiple areas of production, from the receipt of raw materials to the delivery of food products to consumers. Still, production process often runs into problems related to the quality of the product, which may arise internally during the production process or externally until the products reach consumers. In order to keep problems to a minimum across all the systems, it needs an internal program as a good practice in excellence for compliance which can be maintained until the final product is delivered to consumers.

Nestlé has already established its Nestlé Internal Instructions related to Quality Management which
1.2 Objective

The objective of this study, as a part of the internship program was to identify and mapped Nestlé Internal Instructions for excellence in compliance related to Quality Management Department.
II. CORPORATE OVERVIEW

2.1 History of PT. Nestlé Indonesia

Nestlé is the world’s leading food company which supply more than 10 million of food products on the market every year. Nestlé with the motto “Good Food, Good Life”, describes Nestlé’s commitments as food producer which care about the health of consumers by generating a healthy food, good quality, safe, nutritious, scrumptious to be consumed to realize a better life.

Nestlé was established in 1866, when the first European condensed milk factory was opened in Cham, Switzerland, by the Anglo-Swiss Condensed Milk Company (Anonim 5 2012). In 1867, in Vevey, Switzerland, Henry Nestlé launched Farine lactée, a combination of cow’s milk, wheat flour and sugar, saving the life of a neighbour’s child. Nutrition has been the cornerstone of our company ever since. Henry Nestlé was a nutritionist from Germany. The things influence him was the babies who died before getting one year old. This was because their mothers could not breast-feed their baby by their selves.

Moreover, when Henry Nestlé’s friend met him to save a premature baby, then Henry Nestlé took the baby to his home and gave the food which contains a blend of bread, milk and sugar. The baby’s condition became better day by day. This discovery gave good news and spread widely. “Farine lactée”, was the first Nestlé product, became weaning food and also food nutrition enhancer which successfully decreased infant mortality. Since that time, Nestlé became a food producer which won the trust from the community. Henry Nestlé used his family name “Nestlé”, which in the language of Germany Switzerland means little nest, became his company’s logo. The logo became a symbol of a sense of security, affection, solidarity and caring.

Through the symbol of two birds in the nest with their parents who gave feed to their chicks, the image of Nestlé was directly know as a company that produced food with full of nutrients. This symbol was converted in 1868 and directly applied in various advertising materials and publications. Until now, the logo is still used in modern shades according to the growing decade.

“TJAP NONA”, entered into the market in 1910 through existing distributor of Indonesia in Singapore (Anonim 6 2012). In 1965, after Indonesia became an independent country, the government opened up opportunities for investment for foreign investors. On March 29th 1971, Nestlé S.A. centered in Vevey, Switzerland, together with their local partners, established PT. Food Specialties Indonesia. The first factory was established in Waru, East Java. This factory was established in 1972 and operated in 1973 which produced “TJAP NONA”.

PT. Food Specialties set up a new factory at Kejayan in 1984. This was because in early 1980, the production of fresh milk has increased dramatically, and this condition was the one of the success of PT. Food Specialties Indonesia in developing dairy farmers. This factory began operating commercially in 1988 and was inaugurated by the President of the RI, Soeharto, in June 1988.

PT. Nestlé Indonesia, formerly PT. Indofood Jaya Raya, which has a factory in Panjang, Lampung, began producing instant coffee “NESCAFE”, in 1979. PT. Nestlé Beverages Indonesia also produced mixed coffee in a variety of flavor, in addition to produce pure coffee. In 1977, NESCAFE began entering Russia market in jar packaging and two years later the production of instant coffee in cans
was stopped. Furthermore, in 2001, most packing processes for 3in1 product were submitted to co-
manufacturer and PT. Nestlé Beverages Indonesia changed its name to PT. Nestlé Indonesia.

In 1988, the centre of Nestlé acquired Rowntree Macintosh from United Kingdom that opened up
opportunities to expand its business on confectionary. PT. Food Specialties Indonesia factory, which was a
subsidiary of Nestlé, acquired PT. Multi Rasa Agung, which had a factory in Cikupa, Tangerang, and
produced candies with a trademark “FOXS”. In 1990, a new factory in Cikupa, Tangerang was
established. In 1992, in order to expand its business, PT. Multi Rasa Agung expanded its factory and
produced candies with a trademark “POLO”. In 1996, PT. Multi Rasa Agung changed its name to PT.
Nestlé Confectionery Indonesia and produced “Nestea Powder” in 1997. The brief history of PT. Nestlé
Indonesia is explained on the below table:

Table 1. A brief history of PT. Nestlé Indonesia

<table>
<thead>
<tr>
<th>Time</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>19th Century</td>
<td>MILKMAID, a product of Nestlé, was known as “TJAP NONA”</td>
</tr>
<tr>
<td>March 29th 1971</td>
<td>PT. Food Specialties Indonesia was established</td>
</tr>
<tr>
<td>1972</td>
<td>Waru factory, East Java, was established</td>
</tr>
<tr>
<td>1973</td>
<td>Waru factory was operated and produced milk products</td>
</tr>
<tr>
<td>April 12th 1978</td>
<td>PT. Indofood Jaya Raya was established, and then changed its name into PT. Nestlé Beverages Indonesia</td>
</tr>
<tr>
<td>1979</td>
<td>Panjang factory, Lampung was established which produced instant coffee products</td>
</tr>
<tr>
<td>1981</td>
<td>The sterile fresh milk was produced with the brand “BEAR BRAND”</td>
</tr>
<tr>
<td>1988</td>
<td>Kejayan factory, East Java, was established which produced milk powder</td>
</tr>
<tr>
<td>1990</td>
<td>Cikupa factory, Tangerang, was established which produced confectionery products</td>
</tr>
<tr>
<td>1993</td>
<td>PT. Food Specialties changed its name into PT. Nestlé Indonesia</td>
</tr>
<tr>
<td>1995</td>
<td>The acquirement of PT. Supmi Sakti which produced instant noodles with Telaga factory</td>
</tr>
<tr>
<td>1998</td>
<td>PT. Sumber Pangan Segar and PT. Rola Perdana were appointed as main distributor of PT. Nestlé Indonesia. Then, both of the company were merged and changed their name into PT. Nestlé Distribution Indonesia</td>
</tr>
<tr>
<td>2000</td>
<td>The joints of PT. Nestlé Indonesia, PT. Nestlé Confectionery Indonesia, and PT. Supmi Sakti became PT. Nestlé Indonesia</td>
</tr>
<tr>
<td>2001</td>
<td>The joints of PT. Nestlé Indonesia, PT. Nestlé Beverages Indonesia and PT. Nestlé Distribution Indonesia became PT. Nestlé Indonesia</td>
</tr>
<tr>
<td>2002</td>
<td>Waru factory was integrated with Kejayan factory</td>
</tr>
<tr>
<td>2005</td>
<td>The joint venture establishment with PT. Indofood Sukses Makmur, TBK, which was named as PT. Nestlé Indofood Citarasa Indonesia</td>
</tr>
</tbody>
</table>

Source: Anonim 2012

In addition to these factories in Waru, Kejayan, Cikupa, and Panjang, PT. Nestlé Indonesia also
had a factory in Telaga which produced instant noodles. Since 1999, the management of PT. Nestlé
Indonesia and its factories were continually merged. In December 1999, PT. Nestlé Indonesia and PT.
Nestlé Asean Indonesia were changed into PT. Nestlé Indonesia. Second, at the end of the year 2000, PT Nestlé Confectionery Indonesia joined PT. Supmi Sakti, then changed into PT. Nestlé Indonesia and Telaga factory was closed. Third, at the end of 2001, PT. Nestlé Beverages Indonesia and PT. Nestlé Distribution Indonesia joined with PT. Nestlé Indonesia. In June 2002, Waru factory was liquidated and merged with Kejayan factory.

PT. Nestlé Indonesia expanded its business by doing a cooperation agreement with another company. One of the cooperation was held on 1 April 2005. PT. Nestlé and PT. Indofood Sukses makmur, Tbk did cooperation in the form of joint venture. This company named PT. Nestlé Indofood Citarasa Indonesia (NICI). This company produced seasoning products which will be distributed in Indonesia. Since December 29th, 1993, PT. Food Specialties Indonesia has officially changed its name to PT. Nestlé Indonesia.

2.2 Location of PT. Nestlé Indonesia

PT. Nestlé Indonesia was centered at Wisma Nestlé, Arkadia Office Park, Tower B, 5th floor, Jl. TB Simatupang Kav.88, Jakarta 12520, Indonesia (Anonim, 2012).

Now, PT. Nestlé Indonesia has three factories for production:
1. Kejayan Factory, was established on 2nd June 1988
   Location : Raya Pasuruan – Malang Street KM. 9.5
2. Panjang Factory, was established in 1979
   Location : Serampok Village, Panjang District, Bandar Lampung
   Product : NESCAFE Originale 3 in 1, NESCAFE Crème 3in1, NESCAFE Ice, NESCAFE Classic, NESCAFE Mochaccino, NESCAFE Coffemix pas!, NESCAFE Kopi Susu Tubruk, NESCAFE Kopi Susu Mocha
3. Cikupa Factory, was established on October 1990
   Location : Bitung Jaya Village, Cikupa-Tangerang, West Java
   Product : “POLO” candy, “FOX’s” candy, “NESTEA” instant tea powdered drink, “MILO Choco Blast” snack

2.3 Organization Structure of PT. Nestlé Indonesia

Organization structure which is valid at PT. Nestlé Indonesia covers two parts, organization structure at headquarter and organization structure at each factory. The organization structure at PT. Nestlé Indonesia is explained on the picture below:
Figure 1. Organization Structure at PT. Nestlé Indonesia
III. LITERATURE REVIEW

3.1 Quality Management System

Quality management system is an integrated strategic management system that involves all staff using qualitative and quantitative methods to continuously improve the process within the organization to meet the needs, desires, and expectations of customers. Conceptually, quality management can be applied to both goods and services, because the thing that is emphasized in the application of quality management is the improvement of quality systems. Some things to consider for this improvement consist of: planning, quality control, and improvement of the new system.

Basically, the industrial process should be viewed as a continuous improvement (continuous industrial process improvement), consisting of a series of cycles that start from the existence of product idea, all the way through product development, production, and distribution to consumers. Later on, based on the feedback from the customers, creative ideas can be developed to continually improve old items and their production process. Five things that are paramount to consider in the development of Quality Management Systems are: customer focus, total involvement, benchmarks, systematic support, and continuous improvement (Potocki KA and Brocato RC 1995).

3.1.1 Quality Control

Quality control defines as a system of technical activities undertaken on a continuous basis. Quality control is a system of technical activities that are carried on continuously to measure and control quality while doing development. Quality control consists of three factors that must be tested of physical, chemical, and microbiological.

Quality control in industry terms can be defined as a process to delegate responsibility and authority for management activities by using methods that can guarantee satisfactory results. Quality control measures can be classified into four types, namely the new design control, incoming material control, product control and the study of specific processes (Feigenbaum 1989).

According to the Indonesian Quality Management Association (1986), the techniques commonly used in quality control program includes seven tools, namely:

1. Check Sheet
2. Stratification
3. Pareto Diagram
4. Histogram
5. Scatter Diagram
6. Fishbone Diagram
7. Control Charts
3.1.2 Quality Assurance

Quality Assurance can be interpreted as a real earnest and continued efforts to give satisfaction and trust in the public users of the product (consumers) for the quality of products produced. In this sense, satisfaction and consumer confidence are the goals and benchmarks of success as well as quality assurance. Consumers can be satisfied with the quality of a product, but not necessarily believe in the continuity of the quality of the product in the future. To that end, companies need to provide a quality guarantee for the quality of the product to the consumer (Soekarto 1990).

Quality Assurance in the food industry includes a wide variety of activities that must be done continuously. The main task of the Quality Assurance is to provide information about the efforts to follow the various quality parameters previously set at each stage of the production process. Provision of this information in the production is necessary and must be done as soon as possible because it can be used to correct the phases of the production process if it is less precise in progress that can result in losses for producers.

3.1.3 Quality Management

Quality management is an activity that brings a company at a certain quality level. Quality management has four main components of quality planning, quality control, quality assurance and quality improvement. Quality management is not only focus on product / service quality, but also means to accept it. Quality management uses quality assurance and control processes as well as products to obtain a more consistent quality management.

Nestlé has applied quality management system based on standards and regulations in order to make compliance status for excellence. These are both national and international standards/regulations such as The International Organization for Standardization, The Codex Alimentarius, The European Food Safety Authority, The National Agency of Drug and Food Control, and Indonesian Council of Ulema. These compliance requirements are described in the following subsequent sections:

3.2 The International Organization For Standardization (ISO)

The International Organization for Standardization or is known as ISO, is a worldwide federation of national standards bodies from some 100 countries. ISO is a non-governmental organization established in 1947 (ISO 2012). The ISO has the mission which is to promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and services, and to developing cooperation in the spheres of intellectual, scientific, technological and economic activity (Trace Center 2012).

According to Trace Center (2012), ISO standards are developed according to the following principles:
• Consensus
The views of all interests are taken into account: manufacturers, vendors and users, consumer groups, testing laboratories, governments, engineering professions and research organizations.

• Industry-wide
Global solutions to satisfy industries and customers worldwide.

• Voluntary
International standardization is market-driven and therefore based on voluntary involvement of all interests in the market-place.

There are three main phases in the ISO standards development process (Trace Center 2012). The need for a standard is usually expressed by an industry sector that communicates this need to a national member body. The latter proposes the new work item to ISO as a whole. The first phase involves definition of the technical scope of the future standard once the need for an International Standard has been recognized and formally agreed. This phase is usually carried out in working groups which comprise technical experts from countries interested in the subject matter. A second phase is entered during which countries negotiate the detailed specifications within the standard. This is happened once agreement has been reached on which technical aspects are to be covered in the standard. This phase is the consensus-building phase. The final phase comprises the formal approval of the resulting draft International Standard and the acceptance criteria stipulate approval by two-thirds of the ISO members that have participated actively in the standards development process, and approval by 75% of all members that vote), following which the agreed text is published as an ISO International Standard.

Most standards require periodic revision. Several factors combine to render a standard out of date: technological evolution, new methods and materials, new quality and safety requirements. ISO has established the general rule that all ISO standards should be reviewed at intervals of not more than five years in order to take account of these factors. It is necessary to revise a standard earlier in occasion.

According to ISO (2012), participating members of ISO are called "P" members, as opposed to observing members, who are called "O" members. ISO has 162 national members out of the 205 total countries in the world and has three membership categories:

• Member bodies are national bodies considered the most representative standards body in each country. These are the only members of ISO that have voting rights.

• Correspondent members are countries that do not have their own standards organization. These members are informed about ISO’s work, but do not participate in standards promulgation.

• Subscriber members are countries with small economies. They pay reduced membership fees, but can follow the development of standards.

3.2.1 ISO 22000: 2005

ISO 22000 is a standard developed by the International Organization for Standardization dealing with food safety. ISO 22000 is a Food Safety Management System which can be applied to any organization in the food chain, from farm to fork. This is a general derivative of ISO 9000.
The ISO 22000 does not have specific requirements for prerequisite program (PRPs), but requires that the organizations identifies and implements the appropriate programs. Food processors and manufactures can use the ISO Technical specification ISO/TS 22002-1 to develop their PRP programs. It outlines the requirements for PRP programs that are applicable to the organizations.

In order to build an appropriate Food Safety Management System, ISO 22000 requires effective prerequisite programs in place to ensure a clean sanitary environment, a Hazard Analysis and Critical Control Plan developed to identify, prevent, and eliminate food safety hazards, and established documented food safety management system processes to manage food safety throughout the organizations. This food safety management processes includes from management and business planning aspects to day to day communication and operations affecting food safety.

Based on ISO 22000, this standard contains the specific requirements to be addressed by the Food Safety Management System. The standard requires food safety management system processes including:
- Having an overall Food Safety Policy for organization, develop by top management
- Setting objectives that will drive company efforts to comply with this policy
- Planning and designed a management system and documenting the system
- Maintaining records of the performance of the system
- Establishing a group of qualified individuals to make up Food Safety Team
- Defining communication procedures to ensure effective communication with important contacts outside the company (regulatory, customers, suppliers and others) and for effective internal communication
- Having an emergency plan
- Holding management review meetings to evaluate the performance of the Food Safety Management System
- Providing adequate for the effective operation of the Food Safety Management System including appropriately trained and qualified personnel, sufficient infrastructure and appropriate work environment to ensure food safety
- Implementing Prerequisite Programs
- Following HACCP Principles
- Establishing a traceability system for identification of product
- Establishing a corrective action system and control of nonconforming product
- Maintaining a documented procedure for handling withdrawal of product
- Controlling monitoring and measuring devices
- Establishing and maintaining and internal audit program
- Continually updating and improving the Food Safety Management System

3.2.2 ISO 9001: 2008

ISO 9001 is International Standard for Quality Management System – requirements. ISO 9001 is used to establish and update organization’s quality management system. It can be applied to all types of organizations. More than one million organizations around the worlds are independently certified ISO
9001 management systems. This is one of the most commonly used as a management tool most widely used in today's world.

Quality management system ISO 9001: 2000 based on eight quality management principles. These principles can be used by senior management as a framework to guide the organization towards improved performance. The eight quality management principles aimed at improving the performance of the system to process that takes place in accordance with the main focus is effectiveness continual improvement. The eight management principles are:

1. **Customer Focus**

   All the planning and implementation of the system are solely to satisfy the customer. Survival of the company or organization is largely determined how the views of customers to the organization. Customer focus is only possible if the customer expectations known. It is necessary to first identify the market segments in order to know the expectations of customers. Focus on customer satisfaction is a special characteristic that distinguishes between organizations or companies with traditional or modern organizations. In the traditional organization, top management is the focus of the organization and who became the most satisfied, in other words, the customer is somewhat marginalized. Modern organizations reverse this paradigm by making the customer as the main focus or become party to be satisfied with the service organization.

2. **Leadership**

   Top management serves as a leader in guarding the implementation of the system that all movement is always controlled organizations in a single command with the same commitment and synergy of movement on each element of the organization. A leader has a great share in determining the direction and objectives. A leader shall also have the ability to create a vision into reality at the same time make it happen. Applying leadership principles will result benefit for organization. The people will understand and be motivated towards goals and objectives, activities will be evaluated, adapted and applied in a single manner, minimizing communication errors between the levels in the organization, raises desire to participate and contribute to continuous improvement.

3. **Involvement of Everyone**

   All the elements in the organization involved and concerned in the implementation of quality management system according to the function of each work, even to the office boy should always do their best and prove worthy of their performance and quality, to function as an office boy. Involvement is a fundamental and essential personnel in quality management principles. Personnel at all levels are the primary capital firm, where the full involvement of its ability to greatly benefit the company. With the involvement of personnel as s whole, it will generate a sense of belonging and responsibility in solving the problem.

4. **Process Approach**

   In the context of ISO 9001: 2000, the organization requires a process approach to the identification, implementation, management and conduct of ongoing (continual improvement) process requires for quality management system, and managing the interactions of each process that aims to achieve organizational goals. These processes are covered by the three things which are monitoring and measuring process: core processes, process support and management processes.

5. **Approach Against Management System**
Implementation of the system on how to approach emphasizes the identification, understanding, managing interrelated processes for achieving corporate objectives and increase the effective and efficient not only eliminates problems that occur. Therefore Kaizen Concept, continual improvement is emphasized. The pattern of management aims to improve the way in eliminating the root cause problems and make improvement to eliminate potential problems. Some of the profits earned by the systems approach include the integration and alignment process will achieve the best results from the desired ability to focus its efforts in key processes, give confidence to interested parties, such as consistency, effectiveness, and efficiency of the organization.

6. Continual Improvement

Improvement is the spirit of the implementation of ISO 9001: 2008 is an activity which is done repeatedly to increase the ability to meet quality requirements. Continual improvement should be fixed target company. In continual improvement process occurs constantly approach and be done with it immediately after completion. This will be the standard and the challenge to make improvements again.

7. Making Decisions Based on Fact

Every decision in the implementation of the system is always based on facts and data. There is no data (evidence of implementation) is not equal to the implementation of ISO 9001: 2008 system of effective decision-making that is based on analysis of data and information that can be accounted for. For that there are some things that need to be prepared by an organization to implement quality management, among others, should establish adequate information systems for each process such as the supply of data from suppliers, raw materials, process conditions, and others; the use of statistical techniques or methods relevant for data analysis, do record control (records, files, etc.) well; develop techniques check sheet for the various processes and activities to facilitate the daily data collection.

8. Mutually Beneficial Relationships with Suppliers

Suppliers are not helper, but business partners. Business partners because it must occur in a pattern of mutually beneficial relationships in order to improve both the ability to deliver value. According Muhandri T and Kadarisman D (2005) there are two kinds of policy directions for the relationship with suppliers, which is the opposite, and are called friends (corporation or partnership).

3.2.3 ISO/IEC 17025: 2005

ISO/IEC 17025: 2005 is the main standard used by testing and calibration laboratories. ISO/IEC 17025: 2005 was first issued in 1999 by the International Organization for Standardization and the International Electro-technical Commission (IEC) (Clarity Connect 2013). It is originally known as ISO/IEC Guide 25, ISO/IEC 17025: 2005 was initially issued by the International Organization for Standardization in 1999. ISO/IEC 17025 is applied directly to those organizations that produce testing and calibration results. In 2005, a second release of the standard was made after it was agreed that it needed to be more closely aligned with the 2000 version of ISO 9001 in term of its quality system words which include greater emphasis on the responsibilities of senior management. The second release
explicitly describes requirements for continual improvement of the management system itself, and particularly, communication with the customer.

There are two main clauses in ISO/IEC 17025 – Management Requirements and Technical Requirements (Anonim² 2011). Management requirements are related to the operation and effectiveness of the quality management system within the laboratory. This clause has similar requirements to ISO 9001. The second one, technical requirements, includes factors which determines the correctness and reliability of the tests and calibrations performed in laboratory namely competence of staff; environment control; testing methodology; equipment and measurement traceability; and reporting of test and calibration results.

Laboratories that can demonstrate compliance with ISO/IEC 17025 at assessment have demonstrated they operate using sound management practices. These laboratories are technically competent to perform specific tests, calibrations and/or measurements as well as at the same time are able to generate technically valid results for which they hold accreditation. Laboratories are reevaluated periodically by the accreditation body to ensure their continued compliance with requirements and to check that their standard of operation is being maintained. The laboratory may also be required to participate in relevant proficiency testing programs between reassessments, as a further demonstration of technical competence (Standards.org 2011).

3.3 Code Alimentarius

The Code Alimentarius is a collection of internationally adopted food standards and related texts presented in a uniform manner. Its name is derived from the Code Alimentarius Austriacus (2012). Its texts are developed and maintained by the Code Alimentarius Commission, a body that was established in early November 1961 by the Food and Agriculture Organization of the United Nations (FAO), was joined by the World Health Organization (WHO) in June 1962, and held the first session in Rome in October 1963 (Code Alimentarius Commission 2012). The Commission’s major aims are to protect the health of consumers and ensure fair practices in the international food trade. The Code Alimentarius is recognized by the World Trade Organization as an international reference point for the resolution of disputes concerning food safety and consumer protection (Code Alimentarius Commission 2006).

Based on Code Alimentarius Commission 2010, the publication of the Code Alimentarius is intended in order to guide and promote the elaboration and establishment of definitions and requirements for foods to assist in their harmonization. In addition it is intended in order to facilitate international trade. The Code Alimentarius includes standards for all the principle foods, whether processed, semi-processed or raw, for distribution to the consumer. In order to the extent necessary to achieve the purposes of the Code Alimentarius as defined, materials for further processing into foods should be included. In addition to standards for specific foods, the Code Alimentarius contains general standards covering matters such as food hygiene, food additives, residues of pesticides and veterinary drugs, contaminants, labeling and presentation, methods of analysis and sampling, and import and export inspection and certification. It also contains guidelines for the management of official, such as governmental import and export inspection and certification systems for foods.
Codex standards and related texts are not a substitute for national legislation or alternative to it. Every country’s laws and administrative procedures contain provisions with which it is essential to comply. Codex standards and related texts contain requirements for ensuring consumer a safe, wholesome food product free from adulteration, correctly labelled and presented. A Codex standard for any food or foods should be drawn up in accordance with the Format for Codex Commodity Standards and contain.

In order to ensure that Codex Alimentarius Commission are consistent with and reflect current scientific knowledge and other relevant information, they and their subsidiary bodies are committed to revision as necessary of Codex standards and related texts. A standard or related text shall be revised or removed in accordance with the Procedures for the Elaboration of Codex Standards and Related Texts when required. Each member of the Codex Alimentarius Commission is responsible for identifying and presenting to the appropriate committee, any new scientific and other relevant information that may warrant revision of any existing Codex standards or related texts (Codex Alimentarius Commission 2010).

3.4 The European Union Food Regulation

The European Food Safety Authority (EFSA) is the keystone of European Union (EU) risk assessment regarding food and feed safety (European Food Safety Authority 2002). EFSA’s remit covers food and feed safety, nutrition, animal health and welfare, plant protection and plant health. In all these fields, EFSA’s most critical commitment is to provide objective and independent science-based advice and clear communication grounded in the most up-to-date scientific information and knowledge. EFSA also provides independent scientific advice and communication on existing and emerging risks associated with the food chain in close collaboration with national authorities and in open consultation with its stakeholders.

The European Food Safety Authority (EFSA) was set up in January 2002, following a series of food crises in the late 1990s, as an independent source of scientific advice and communication on risks associated with the food chain. EFSA was created as part of a comprehensive programme for improving EU food safety, ensuring a high level of consumer protection and restoring and maintaining confidence in the EU food supply. It monitors and analyses information and data on biological hazards, chemical contaminants, food consumption and emerging risks. These areas of work are carried out by EFSA’s scientific units supported by working groups and networks. The Authority also supports the development of risk assessment approaches (European Food Safety Authority 2002).

EFSA has role to assess and communicate on all risks associated with the food chain. A large part of EFSA’s work is undertaken in response to specific requests for scientific advice because EFSA’s advice serves to inform the policies and decisions of risk managers. Requests for scientific assessments are received from the European Commission, the European Parliament and EU Member States. EFSA also undertakes scientific work on its own initiative.

According to European Food Safety Authority, 2002, EFSA’s advice frequently supports the risk management and policy-making processes. These may involve the process of adopting or revising European legislation on food or feed safety. In addition, it also includes deciding whether to approve regulated substances such as pesticides and food additives, or, developing new regulatory frameworks and
policies for instance in the field of nutrition. EFSA is not involved in these management processes, but its independent advice gives them a solid scientific foundation.

EFSA aims to provide appropriate, consistent, accurate and timely communications on food safety issues to all stakeholders and the public at large, based on the Authority’s risk assessments and scientific expertise. EFSA follows a workflow in developing its scientific opinions. EFSA has developed a comprehensive body of good risk assessment practices to guide its Scientific Panel and Committee experts to help ensure EFSA opinions respect the highest scientific standards. EFSA implements a quality assurance system to continually review and strengthen the quality of its scientific work.

Since its creation, EFSA has established key operating principles and rules which have been adopted by its Management Board which include a commitment to openness and transparency in all of the Authority’s work (European Food Safety Authority 2002). In addition the Authority is bound by European Union legislation on issues such as public access to documents. EFSA is legally obliged to publish on its website outcomes of its scientific work as well as main management documentation such as budgets, accounts and contracts in accordance with its Founding Regulation. All of EFSA’s activities are guided by a set of core values, such as excellence in science, Independence, Openness and transparency, and responsiveness.

3.5 The National Agency Of Drug And Food Control (NA-DFC)

The NA-DFC (Badan Pengawas Obat dan Makanan or BPOM) is an institution in Indonesia which is responsible to supervise and control the pharmaceutical, food, cosmetics and medical device industries (Anonim 2012). In addition it has a function to assess and evaluate national policy in food and drug. Furthermore, NA-DFC also has a function to provide guidance and service to the public in general planning field, administration, organization and governance, administration, finance, archives, coding, equipment and household. The NA-DFC is a non departmental government institution based on Presidential Decree No. 166, 2000. The agency is responsible directly to the President for its operation and builds policy coordination with the Minister of Health and Social Welfare (The National Agency of Drug and Food Control Indonesia 2001).

The NADFC is established with a national and international networking, authority to conduct law enforcement with highly credible professionalism. The organization in NA-DFC consist of Permanent Secretariat; Deputy of Therapeutic Products and Narcotics, Psychotropic, and Addictive Substance Control; Deputy of Traditional Medicines, Cosmetics and Complementary Product Control; Deputy of Food Safety and Hazardous Substance Control; National Laboratory of Drug and Food Control; Center of Drug and Food Investigation; Center of Drug and Food Research; and Center of Drug and Food Information (The National Agency of Drug and Food Control Indonesia 2001). The corporate cultures brought by the NA-DFC were professionals, credible, quick response, teamwork, and innovative (The National Agency of Drug and Food Control Indonesia 2001).

The NA-DFC has a vision for becoming an innovative, credible and internationally recognized drug and food regulatory authority for public protection. It also has mission to conduct pre-market evaluation and post-market control based on international standard; to implement quality management system consistently; to optimize partnership with stakeholders in various lines; to empower public in
protecting themselves from the risk and harmful drug and food to health; and to build the learning organization (The National Agency of Drug and Food Control Indonesia 2001). Some basic principles of the Drug and Food Control System (DFCS) were safeguarding with speedy, accurate and professional actions; management of conduct based on level of risk and scientific evidence; total quality assurance covering the whole production and distribution cycle; national scale and inter provinces with international networking; national authority supporting law enforcement; strong and cohesive national network of quality control laboratory with access to global network; and information system network on product safety and quality (The National Agency of Drug and Food Control Indonesia 2001).

3.6 **Indonesian National Standards**

Indonesian National Standards (Standard Nasional Indonesia or SNI) is the only authorised standard applied nationally in Indonesia. Indonesian National Standards was formulated by the Technical Committee and defined by National Standardization Institution (Badan Standardisasi Nasional or BSN) (National Standardization Agency of Indonesia 2011). National Standardization Agency of Indonesia is the authority who co-ordinates the standardisation system in Indonesia. Indonesian National Standards consist of standard for commodity, tool and machine, system as well as method. This standard is aimed to protect the people against treats relating to safety, health and fraud, and to promote production and trade of both domestic and international. Indonesian National Standards is generally applied voluntarily. Once it relates to human safety and health aspects or environment conservation, its application become mandatory under a technical regulation issued by relevant institution (Iwantoro, S 2002).

In order to have a wide acknowledgement from different stakeholders, SNI is formulated in accordance with the following WTO Code of good practice (National Standardization Agency of Indonesia 2011):

- **Openness:** so that all related stakeholders will be able to participate in SNI development;
- **Transparency:** Transparent so that all relevant stakeholders can follow SNI development from programming, formulation up to the establishment stages and can easily obtain all information related to SNI development;
- **Consensus and impartiality:** so that all relevant stakeholders can take advantage of the existence for their own purpose and be fairly treated;
- **Effectiveness and relevance:** in order to be able to facilitate trade due to its awareness of market demand and not opposing to the existing regulations;
- **Coherence:** Coherent with the international standard development so that the our market will not be isolated from the global market development and will certainly improve the international trade; and
- **Development dimension:** in order to be able to focus on public and national interests in enhancing national economic competitiveness.
3.7 Indonesian Council of Ulema

Indonesian Council of Ulema (Majelis Ulama Indonesia or MUI) is a non-governmental organization that facilitate the platform or forum for theologians, zu’uma and intellectual of Islam in Indonesia. The forum was held on the date of 7 Rajab 1395 Hijra, 26 July 1975 in Jakarta, Indonesia (Anonim 2011). The MUI was founded by the Indonesian New Order under the Suharto administration as a body to produce fatwa and to advise the Muslim community on contemporary issues. Indonesian Council of Ulema acts as an interface between the Indonesian government, which is secular, and the Islamic community. The government stated three goals for the Indonesian Council of Ulema. The first is strengthening religion in the way the Pancasila describes to ensure national resilience; the second is as participation of the Ulema in national development, and the third is to maintain the harmony between the different religions in Indonesia (Wessel 1996).

Indonesian Council of Ulema has vision for becoming trusted halal certification body in Indonesia and worldwide as well, to give tranquility life to muslim society, and becoming the world halal center which extends information, solution and halal standard admitted both in national and international level (Indonesian Council of Ulema 2012). It also has missions for making and developing proper standard in halal auditing system; conducting halal certification process for products marketed and consumed by muslim society; educating and realizing the society concern to consume halal product; and providing comprehensive and accurate information as well on halal products and various related aspects (Indonesian Council of Ulema 2012) by establishing LPPOM MUI (Lembaga Pengkajian Pangan, Obat-obatan dan Kosmetika Majelis Ulama Indonesia). LPPOM MUI recognize halal certificates issued by approved halal certification body only for product produced in the country where the halal certification body located, except for product produced in Europe can be used halal certificate by any approved halal certification body located in Europe. The MUI decree regarding list of approved foreign halal certification body is effective for two years as of the date it is stipulated and will be monitored and evaluated once a year (Indonesian Council of Ulema 2012).

3.8 Compliance

An effective compliance program is needed by organizations to ensure that its employees meet all current legal and regulatory requirements. A compliance program has been described as a commitment by an organization’s top management to ensure that the organization plays by the rules (University of Mississippi Medical Center 2004). Compliance is a critical issue, it is either a state of being in accordance with established guidelines, specifications, or legislation of the process. Based on Harvey (2004), compliance is undertaking activities or establishing practices or policies in accordance with the requirements or expectations of an external authority. University of Melbourne (2004) mentioned that compliance is what we do to ensure that we meet the requirements under the law relating to our activities. Compliance needs to be seen less as a function and more as an institutional state of mind, helping organizations to anticipate risk as well as to avoid it (Micallef 2007).

The Federal Sentencing Guidelines for Organizations (FSGO) mentions key components for effective compliance program (Silverman 2008):
1) Organizations must establish compliance standards and procedures to be followed by employees and agents of the organization

2) The program must be administered and overseen by “high-level” personnel within the organization

3) Organizations must ensure that substantial discretionary authority is not delegated to employees with a propensity toward criminal conduct

4) Organizations must provide training programs and effective communications about their compliance standards and procedures

5) Monitoring and auditing systems must be implemented, and a reporting system must be established through which employees can report wrongdoing without fear of retribution

6) Organizations must provide incentives for employees and others to come forward to report issues and must establish disciplinary policies for those involved in wrongdoing

7) After an offense has been reported, organizations must take reasonable measure to respond and prevent future incidents from occurring

The process which ensures that a set of people are following a given set of rules is called compliance management. The rules are referred to as the compliance standard or compliance benchmark, while the process is what manages their compliance. Compliance management can take many forms of a mix of policies, procedures, documentation, internal auditing, third party audits, security controls, and technological enforcement. There are two recognized models for implementing compliance management that are mentioned in HCi Journal (2001):

1) Model 1: The ‘Ten Commandments’ model
   This model sets forth the rules and actively punishes those who do not comply with the rules. This model works well where there is a simple set of rules that everyone can understand. It breaks down completely where there is a complex set of rules which need interpretation, or are just too large to memorize or access.

2) Model 2: Quality Management
   The Quality Management model has been widely adopted and has been largely successful. This model is especially important because many companies which are required to follow a compliance standard often have multiple standards to follow, some of which may overlap or conflict with one another. This model allows for some flexibility on the part of the company implementing the standards to make those judgement calls without being harshly penalized for something that may not make sense for the company.
IV. METHODOLOGY

Before starting the internship program at PT. Nestlé Indonesia Head Office Jakarta, the Corporate Quality Management on Quality System and Training introduced the trainee to each key department head and contact point of the related program. The intern must be known by each key person on Corporate Quality Management team, MSD and Regulatory Affairs team, Corporate SHE team, Corporate Pack Service Department, and Corporate Human Resources. The intern must understand safety rules at the Factory and Head Office.

The intern had acquaintance with the quality management system after being introduced to each key department head and contact point of the related program and knowing the rules. The familiarity was related to the regulations and standards (both international and national) and internal Nestlé quality management system. Nestlé quality management system includes Supplier Quality Assurance, Food Safety, Competitive Quality & Consumer, and Nestlé Quality Management System & Quality Training.

4.1 Information Collection

Information was collected from Quality Management department. It was collected in the form of document of Nestlé Internal Instruction. This Nestlé Internal Instruction includes the instructions of Supplier Quality Assurance, Food Safety, Competitive Quality & Consumer, and Nestlé Quality Management System & Quality Training.

4.2 Analysis and Evaluation

Information collected was analyzed and evaluated. Analysis of the information based on the standards and regulations which can be obtained through the respected Authority Body’s website as softcopy form. Evaluation of Nestlé Internal Instructions related to quality management system was done to know how it complied with both of the standards and regulations. This evaluation was also conducted to find gap analysis between Nestlé Internal Instructions and the related standards & regulations.

The standards and regulations which were used as a compliance requirements such as The International Organization for Standardization (ISO), The Codex Alimentarius, The European Food Safety Authority, The National Agency of Drug and Food Control, and Indonesian Council of Ulema. The ISO documents can be obtained from the International Organization for Standardization website with the address of http://www.iso.org. The Codex documents can be obtained from the Codex Alimentarius Commission website with the address of http://www.codexalimentarius.net, while the European Union Food Regulation website is http://www.efsa.europa.eu and http://ec.europa.eu. The National Agency of Drug and Food Control website can be accessed on http://www.pom.go.id and Indonesian Council of Ulema on http://www.halalmui.org.
Nestlé Internal Instructions then were converted into assessment sheet on compliance status in form of Excel checklist and module development in form of Power Point Presentation. Conversion into Excel checklist and module development were related into each Supplier Quality Assurance, Food Safety, Competitive Quality & Consumer, and Nestlé Quality Management System and Quality Training documents. After assessment sheet on compliance status to the Nestlé Instructions were developed, standard routine related compliance program on each Supplier Quality Assurance, Food Safety, Competitive Quality & Consumer, and Nestlé Quality Management System and Quality Training were also developed.
V. RESULT AND DISCUSSION

A company should have compliance management processes in place to ensure that various requirements are met and the impact of noncompliance is within a tolerable risk level. Company which creates a culture of compliance and risk management throughout the organization to emphasize the importance of compliance has a higher chance of success in compliance. Management can use an information system in the compliance management process for defining, collecting, reporting and monitoring compliance information.

As a leading company, Nestlé have done its compliance management process by establishing its internal instructions through all stages from the upstream, manufacturing and processing, to the distribution of the finished products. Nestlé Internal Instructions will be categorized according to upstream, manufacturing & processing, and consumer expectation & regulatory requirements of the finished products. All instructional parameters related to these standards along the handling and processing sequences are identified and described in the following observations. The instructional practices are referred to and benchmarked with the existing national and national standards/regulations.

A. Upstream
   - GI-31.104-3 Vendor Approval Process
   - GI-31.134 Hygiene & Food Safety Requirements for the Handling of Raw Materials Transported in bulk by Tankers
   - GI-31.110-2 Nestlé Good Laboratory Practice
   - GI-31.024 Food Safety Management System for Chemical Contaminants in Raw Materials and Finished Products

B. Manufacture
   - GI-31.211 Nestlé Food Safety Management System
   - GI-90.007-1 Product Compliance Management
   - GI-31.100-2 Nestlé Good Manufacturing Practices (NGMP)
   - GI-00.212 Requirements for Water used in R&D and Manufacturing Units
   - GI-31.201-4 Standard for HACCP, pHACCP and Model HACCP Studies
   - GI-31.006-4 Allergen Management Standard
   - GI-31.341 Pathogen Monitoring Standard
   - GI-00.232 Pathogen Monitoring in Factories Producing Low Moisture Products - General Principles
   - GI-31.024 Food Safety Management System for Chemical Contaminants in Raw Materials and Finished Products
   - GI-31.019 Management of Mycotoxins
   - GI-00.211-4 Quality Monitoring Scheme
   - GI-31.219 Model Quality Monitoring Scheme
   - GI-00.321-3 Batch Code Marking and Open Dating of Finished Products
   - GI-31.110-2 Nestlé Good Laboratory Practice
C. Consumer expectation and regulatory requirements

- Halal Policy
- Nestlé Standard for Label Texts Development

The compliance management process applied by Nestlé will be described in more detail in subsequent sections:

5.1 Upstream

Quality and safety requirements in food chains have become strict and rigid in food and feed industry. All industries need to ensure that all stages in the food chain are safe from the upstream to downstream. Outputs again are inputs for downstream businesses in the production chain. In the upstream businesses, the chain stretches out to as far as source inputs businesses (Van der Meulen BMJ 2011). According to Blankinship (2012), the upstream flow refers to the movement of a number of elements, such as material goods, to the supplier, that is, the source of the product supply chain. Downstream refers to movement in the direction of the customer, or even the consumer.

In order to comply with legal obligation, industries depend on how the product has been dealt with in the upstream chain. Therefore they need to ensure themselves with law instrument that legal and regulatory are being complied with, or to impose these regulatory on producers working in countries where different legal requirements apply, thus using private law to bridge the gap between different legal regulatory system. In food and feed industries, there are some legal regulatory which are related to upstream like ISO 22000. ISO 22000 is a standard developed by The International Organization for Standardization dealing with food safety. The ISO 22000 international standard specifies the requirements for a food safety management system that involves the interactive communication along the food chain. It is used to ensure that all relevant food safety hazards are identified and controlled enough at each step within the food chain. This includes communication between organizations both upstream and downstream in the food chain.

Nestlé has applied the ISO 22000:2005 for it’s food safety management system. This is to ensure that all stages in the food chain including the upstream to downstream are safe for human consumption. This Food Safety Management System is applied to all products under brand of Nestlé such as food, beverages, nutrition, health, wellness and petfood products.
5.1.1 Supplier Quality Assurance

Based on Electrolux (2007), Supplier Quality Assurance is the activity to interface with suppliers on quality matters. It is a confidence in a supplier’s ability to deliver a good or service that will satisfy the consumer’s needs. Each supplier should have a system to ensure the quality of goods produced. They must provide the instrument for guaranteeing that the product comply with the specifications defined. Before the company start producing with the ingredients or packaging from the supplier, the suppliers should be approved through Vendor Approval Process.

ISO 22000:2005 mentioned that the organization shall ensure food safety from raw materials, ingredients, and services. Ensuring the food safety from raw materials, ingredients, and services includes approving the suppliers used through Vendor Approval Process. The organization shall also establish an appropriate communicating with all personnel on issue having an impact of food safety (ISO 22000:2005). This is used to evaluate potential risks which can cause harm for human consumption.

Based on Nestlé Internal Instruction, The Vendor Approval Process is a cross-functional program. This aims to provide straightforward and consistent processes and rules to assure long-term sourcing and promote supplier development. Suppliers must be selected in order to ensure that the products safety, quality and traceability are in place for all raw materials sources. It also needs written specifications for raw materials sourced externally. If new sources from new suppliers are used, it must be qualified against the specifications. The suppliers should have scheduled validation testing to confirm they are maintaining specified quality and safety standards.

5.1.2 Transportation

Both raw materials and finished food or feed should be adequately protected during transport. All means of transport, whether owned or contracted, bulk or packed and by water, rail or land should be appropriately cleaned to control and minimize the risk of contamination. The most appropriate method of cleaning will depend on the nature of the loads being carried. As a general rule, load compartments should be kept dry and sweeping or vacuuming used wherever this is effective. It will be necessary to use a pressure washer or steam cleaner where wet or sticky materials are being carried. Vehicles used for the transport of medicated food and feed and other materials that present a high risk should be cleaned completely, sanitized and dried before they are used again. Compliance with the cleaning requirement should be checked regularly. Checks should be made that the previous loads carried in any transport are compatible with the subsequent load. All vehicles used for transport should be subject to regular cleaning and sanitizing programmes to ensure clean transport conditions and no accumulation of residual material.

5.1.2.1 Handling of Raw Materials Transported in Bulk by Tankers

Virtually all food, whether raw materials or finished product is transported by road on lorries, trailers or tankers. When transporting food, the main hygiene considerations depend on the need for
suitable temperature controlled transport. It also can depend on a trailer or bulk tanker if it is to be used. A bulk tanker is like a holding tank on wheels and the same care needs to be taken as for a stationary holding tank. It is used for transporting liquids or powders acts like the primary packaging, so needs to protect the food against contamination. Tankers are used for transporting chemicals, such as oil, and should not be used for transporting food, to avoid chemical contamination. A log book should be kept of the products that the tanker has been carrying, to prevent this happening by mistake.

Code of Hygiene Practices for the transport of food in bulk is set in CAC/RCP 47-2001. This code identifies additional requirements of food hygiene applicable to the Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1-1969, Rev 3 (1997)) applicable to the condition of the food transportation unit and the loading, transport, in-transit storage and unloading of bulk and semi-packed foods to ensure that food remains safe and suitable for human consumption. It also covers the condition of the food transportation unit, loading, transport, in-transit storage and unloading of bulk, semi-packed foods and fresh products from the points of shipment to the points of receipt. Before being filled the tanker needs to be cleaned and disinfected. Like holding tanks, bulk tankers should be made from stainless steel or surface coated with food-grade epoxy resins. As a safety precaution against human pests, tamper proof seals should be used on bulk tanker seals and trailer doors. Tankers are normally used to transport covered food. Sometimes, exposed food, such as sides of meat, is also transported by tankers. The tankers should still be kept clean, even if the food is protected by packaging, otherwise dust or debris could coat food containers and contaminate the food when the containers are opened. If the tankers use inner surface materials, it must be suitable for direct contact with food. It should be non-toxic, or at least compatible with the transported food.

Nestlé has implemented the recommended international code for transportation based on Codex Alimentarius Commission at its sixth session in 1969 and CAC/RCP 47-2001. This is used to avoid food from potential sources of contamination, from damage likely to render the food unsuitable for consumption, and from an environment which effectively controls the growth of pathogenic or spoilage microorganisms and the production of toxins in food. These procedures can be applied before and after loading of transportation for transport suitability.

5.1.3 Raw Materials

Raw materials used for human consumption should be got from trusted food producers. The trusted food producers shall be evaluated through the Vendor Approval Process. Raw material used must not contain substances at a level that will exceed the maximum allowed contaminant level in the final product.

In Indonesia, food producers must comply with the European Union’s food regulation “From Farm to Fork”, which is based on a process-oriented system in which each business operator in the food chain is responsible for ensuring that food placed on the EU market meets the required food safety standards. At present, Indonesian small and medium size farmers are unable to provide reliable supplies to processors. In order to address this problem the Indonesian Ministry of Agriculture has developed a strategy to improve the agriculture sector in Indonesia. It focuses on increase of production quantity; reduction of losses due to non-conforming product; quality and safety of the food; and sustainability of supply (Lord M, Oktaviani R, and Ruehe E 2010).
Nestlé has applied European Union’s food regulation by applying Good Agricultural Practices (GAP). Good Agricultural Practices used to ensure that raw materials from producers do not make harm for consumers. Good Agriculture Practices should be applied in farming to avoid contamination arising from soil, water, fertilizer, plant protection and biocides.

5.1.3.1 Laboratory Analysis

All analytical methods used in the laboratory to analyze raw materials or ingredients shall be written and documented in procedures. The analytical methods shall be an updated methods based on accurate standards and regulations. The laboratory head shall be approved all analysis methods before they used to analyze raw materials or ingredients.

ISO 17025 General Requirements for the competence of testing and calibration laboratories is an International Standard established a sampling procedure for analyzing by laboratories. The requirements for competence for analysis in laboratory are specified by this standard. Laboratories use this ISO to implement a quality system. This aimed to improve the ability for producing valid results.

Nestlé has applied the basic requirements methods for analysis based on ISO 17025 in spite of raw materials have been got from the trusted suppliers, farmers, or producers who have applied Good Agricultural Practices. Raw materials still need to be checked and analyzed in order to prevent harm in next processing. The appropriate methods of analysis used can meet the needs of raw materials sufficient to support the production processes effectively and efficiently. After the result of analysis is established, only suitable raw materials and ingredients should be used.

5.1.4 Storage

Food and feed industry must understand the ingredients and the storage requirements. They shall take steps in order to ensure that appropriate food safety principles are followed for all ingredients under storage conditions. Appropriate storage conditions can avoid damage or contamination for food and feed.

Codex Alimentarius CAC/RCP 1-1969 Rev.4-2003 explains about adequate storage conditions of food, ingredients, and non-food chemicals. Food storage shall be designed and constructed in order to enable food to be effectively protected from contamination during storage, permit adequate maintenance and cleaning. In addition to apply the Codex Alimentarius, Good Warehousing Practices shall be applied in storage area. Storage areas for raw materials and finished products should be separated. This is addressed in order to prevent cross contamination. These facilities should be free of chemicals, fertilizers, pesticides and other potential contaminants. Raw materials which are approved and according to specifications, should be stored in suitable packaging materials or containers. Storage facilities should be designed and constructed to prevent the entry of pests. Storage areas should be cleared completely and cleaned on a routine basis.

Nestlé has applied requirements for storage based on CAC/RCP 1-1969 Rev.4-2003 and Good Warehousing Practices. Raw materials from suppliers are kept cool and dry to prevent mould growth. Temperature and humidity should be controlled where necessary. Stock control measures should be
adequate to ensure that raw materials deteriorate prior to use or during storage. In order to make sure raw materials do not expire before they are used, the First-to-Expire, First-Out policy known as FEFO, or the First In, First Out policy known as FIFO is also followed by Nestlé. The principal of these two policies is to always use the oldest stock first. Raw materials should be clearly marked with the date of expiration and stacked by the date so that the used of these materials are on top of or in front of the newer supplies. The raw materials are also ensured that they are not near or past their expiration date.

5.2 Manufacture

5.2.1 Good Manufacturing Practices

Good Manufacturing Practices (GMP) is part of quality assurance, but every function has responsibilities on it. It is a system which is used to ensure that products meet food safety, quality and legal requirements. GMP ensures that products are consistently produced and controlled to the quality standards appropriate to their intended use and as required by the marketing authorization (MA) or product specification. GMP is concerned with both production and quality control and it should be applied along the food chain.

The Recommended International Code of Practice General Principles of Good Manufacturing Practices is set on CAC/RCP 1-1969, Rev.4-2003 which covers about food hygiene. In addition to this standard, another Code of Practices on Good Animal Feeding is set on CAC/RCP 54-2004. Both of these standards have the same basic principle to ensure that all products meet the appropriate requirements for safety.

Nestlé has applied the CAC/RCP 1-1969, Rev.4-2003 for food hygiene and CAC/RCP 54-2004 for feed hygiene in manufacturing process. These standards cover establishment about design and facilities, control of operations such as water used for processing, maintenance and sanitation, and personnel hygiene. The requirements for these standards will be described in these following sections.

5.2.1.1 Air Quality, Temperature and Ventilation

In manufacturing process, airborne contamination of food and feed should be minimized from aerosols and condensation droplets. This should be minimized specially in open production systems. Temperature and humidity at the manufacturing process should be controlled because it may adversely affect the safety and suitability of food and feed. In order to prevent cross contamination of products, equipment or utensils from exhaust vents or air intake, heating and cooling or air conditioning systems should be designed and installed. The ventilation system should be provided, designed and constructed to prevent grease and condensation from collecting on walls and ceilings and ensure intakes draw only clean air. Ideally, ventilation system design should ensure that air flows from clean areas to contaminated areas.
5.2.1.2 Personnel

People in process area who are known or suspected to be suffering from or to be a carrier of a disease or illness should not be allowed to enter any process area if there is a likelihood of their contaminating food and feed products. Any person should be assigned suitable duties or sent home if they are suffering from illness. Food and feed handlers should maintain personal cleanliness and wear suitable protective clothing, head covering and safety footwear that have to be kept in a hygienic condition. Clothing should be designed to not only protect the personnel where necessary but also to avoid contamination of food and feed products by personnel. Controls also should be in place to ensure that gloves do not get into the food and feed products where people wear it.

There should be clear rules on smoking and eating or drinking on site. Designated facilities should be provided away from areas where food and feed products are handled, stored or processed. Personal effects, such as items that might fall out of pockets and which may pose a threat to the safety and suitability of food and feed, should not be used and carried into areas where food and feed is stored, processed or handled.

In order to ensure that food and feed remain safe, good training is essential and should be documented. Those engaged in food and feed manufacturing and handling operations should be trained in food and feed hygiene as well as production protocols and handling of its products. All personnel should be aware of their roles and responsibilities in maintaining the safety. Training is done by the managers and supervisors who have the knowledge of food and feed hygiene principles. They also should be able to judge potential risks and take corrective actions.

5.2.1.3 Building

The layout of the building shall ensure a forward preparation or manufacturing process flow such that cross-contamination from earlier steps in the process is avoided in the later step. The layout of the building includes the floor, walls, ceilings, windows and doors used. The floor, walls, and doors of food and feed processing or service area shall be made of impervious, nonabsorbent, washable and non-toxic materials. The surfaces shall be maintained and shall be easy to clean and disinfect where necessary. Floors shall be sloped appropriately to facilitate adequate drainage and the drainage shall flow in a direction opposite to the direction of preparation or manufacturing process flow. The walls require a smooth surface up to a height appropriate for the operations. Wall surfaces shall be maintained in a sound condition and they shall be easy to clean and, where necessary, disinfect. Ceilings and overhead fixtures shall be designed, constructed, finished and maintained in order to prevent the accumulation of dirt, condensation and growth of undesirable molds. Windows and exhaust openings shall be constructed in order to prevent the accumulation of dirt. Windows shall remain closed and fixed during production where open windows would result in contamination of foodstuffs and feedstuffs.
5.2.1.4 Machine

All food and feed machines and equipments shall be such located, designed and fabricated that it permits adequate maintenance and cleaning, functions as per its intended use and facilitates good hygiene practices, including monitoring. All machines and equipment that come in contact with food or feed and used for food or feed handling, storage, preparation, processing, packaging and serving shall be made of materials, which do not impart any toxicity to the material. They also shall be specifically identifiable and suitably constructed if they used for waste, by products or dangerous.

5.2.1.5 Water

Any water coming into contact with food and feed products should be of potable quality. There should be an adequate supply of potable water with appropriate facilities for its storage, distribution and temperature control which specified in the latest edition of WHO guidelines for drinking water quality. Water quality is an important point in production process and the industry need to make sure the water quality. Non-potable water or water which is not used for processing should have a separate system. The systems should be identified and should not connect or allow reflux into, potable water systems. When water treatment chemicals used, it should be food compatible and be monitored and controlled in order to ensure the correct dosage is well used. Recirculated water should be treated, monitored and maintained as appropriate for its intended purpose when it used. It should also have a separate distribution system which is clearly identified and monitored.

In Indonesia, water quality should meet with the government regulation and standards. One of the standards released by Minister of Health Regulation No. 492/MENKES/PER/IV/2010 about Drinking Water Quality Policy, and the other one is based on National Indonesia Standard (SNI) No. 01-3553-2006 about Drinking Water in Package. These both standards have applied in Nestlé manufacturing process.

5.2.1.6 Waste

Food and feed industry shall have management for the removal and storage of waste. Waste from manufacturing process must not to be allowed to accumulate in processing, storage or other working areas. Waste and material those are not appropriate for food and feed have to be identified kept separate and removed.

Waste should be collected and stored in clearly identified containers. Containers used to hold waste should not be used for food or feed products. It used to store waste that is attractive to pests should be covered. Waste should be disposed of according to any applicable environmental regulations. The industry shall also have a waste management in case where waste is harmless or is unavoidable and have proper functioning of the business.
5.2.2 **Hazard Analytical and Critical Control Points (HACCP)**

HACCP is a management system in which food safety is addressed through the analysis and control of biological, chemical and physical hazards from the raw material to processing, distribution and consumption of the finished product (NACMCF 1997). It was developed nearly 30 years ago by the Pillsbury Company working together with the National Atmospheric and Space Agency (NASA) in USA, with the objective of finding a method to provide safe food for astronauts. The system focuses on preventing hazards that could cause food-borne illnesses, by applying controls to the production line, from raw material to the finished products (FDA 2001).

HACCP is a tool to assess hazards and to establish control systems that focus on prevention rather than relying on end-product testing. HACCP is needed in order to control any area or point in the food production system that could contribute to a hazardous situation, whether from contaminants, pathogenic micro-organisms, raw materials, a process, consumer use directions, the distribution system, or storage conditions. According to an article in *Tourismos: an International Multidisciplinary Journal of Tourism* (Georgakopoulos 2010), the Hazard Analysis portion of HACCP was intended to identify sensitive ingredients and sensitive areas in the processing of ingredients or food where critical points must be monitored to assure product safety. From this information, the Critical Control Points (CCPs) in the system that had to be monitored could be determined. Critical Control Points (CCPs) mean as those areas in the food production chain, from raw materials to finished product, where the loss of control could result in an unacceptable food safety risk.

ISO 22000:2005 defines more detail about preliminary steps to enable hazard analysis that must be carried out before implementation of HACCP. All the information needed about preliminary steps shall be collected, maintained, updated and documented. Nestlé follows Codex Alimentarius and ISO 22000 as a guide of HACCP that are carried out in 12 steps, with additional requirements for a quality management system. The twelve steps of HACCP study set up by Codex are:

1. Set up the HACCP team and define the scope
2. Product characteristic
3. Intended use of product
4. Flow diagram
5. Hazard Analysis and selection of control measures
6. Identify Critical Control Points and Operational Prerequisite Programmes
7. Establish limits for Critical Control Points and Operational Prerequisite Programmes
8. Establish a monitoring system
9. Establish corrective actions
10. Establish verification procedures
11. Establish documentation and record keeping
12. Validation of control measures

ISO 22000:2005 also defines seven HACCP principles:

1. Principle 1 - Conduct a hazard analysis.
2. Principle 2 - Determine the Critical Control Points (CCPs).
3. Principle 3 - Establish critical limit(s).
4. Principle 4 - Establish a system to monitor control of the CCP.
5. Principle 5 - Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control.
6. Principle 6 - Establish procedures for verification to confirm that the HACCP system is working effectively.
7. Principle 7 - Establish documentation concerning all procedures and records appropriate to these principles and their application.

Based Codex CAC/RCP 1-1969, rev.4-2003, the food industry shall control food hazards by undertaking the following steps:

a. Identifying any stages in their operations which are critical to the safety of food
b. Implementing effective control procedures at those stages to prevent or minimize hazards
c. Monitoring control procedures to ensure their continuing effectiveness and
d. Reviewing control procedures periodically, and whenever the operations change

The First Step relates to the process of hazard analysis (HACCP Principle 1) and determining Critical Control Points (HACCP Principle 2). The food hazards may be controlled by the implementation of the prerequisite food hygiene requirements in certain cases. In certain other cases, the hazard analysis may demonstrate that there are no hazards that need to be controlled. In such an event a formal hazard analysis and the development of HACCP procedures would become unnecessary. The second step relates to the process of establishing Critical Limits for identified Stages or Critical Control Points (HACCP Principle 3). The requirement of establishing a critical limit does not always imply that a numerical value must be fixed. This is in particular the case where monitoring procedures are based on visual observation. The third step relates to the processes of establishing monitoring system for identified stages or CCPs (HACCP Principle 4) and establishing corrective actions (HACCP principle 5) in case the norms get deviated. The fourth step relates to the processes of establishing verification procedures (HACCP Principle 6) for ensuring that HACCP system is working correctly and establishing documentation and record keeping (HACCP Principle 7) for demonstrating the effectiveness of HACCP implementation. The need for record keeping should be well balanced and limited to what is essential.

5.2.2.1 Hazard Identification

The followings are the identified hazards being controlled in the industry that relevant to Nestle’s factories:

A. Allergen

Allergen and sensitive ingredient control program shall be developed and maintained because it may be able to cause harm for human. The effective program shall direct the facility in assessing where allergens and sensitive ingredients are received, stored, handled. The program shall also identify potential
avenues for cross-contamination. The program for allergen management is also a part of Food Safety Management System, which must be effective and fully addressed in HACCP studies.

The most common food allergens in European Union are listed in the current allergen labeling legislation which include cereals containing gluten – wheat, rye, barley, oats, spelt, kamut; crustaceans; egg; fish; peanuts; milk; nuts – Almond (Amygdalus communis L.), Hazelnut (Corylus avellana), Walnut (Juglans regia), Cashew (Anacardium occidentale), Pecan nut (Carya illinoensis (Wangenh.) K. Koch), Brazil nut (Bertholletia excelsa), Pistachio nut (Pistacia vera), Macadamia nut and Queensland nut (Macadamia ternifolia); soy; sesame; celery; mustard; and sulphur dioxide and sulphites. There are some international standards for gluten free products although currently there are no established legal standards for any residual levels of allergens in products labelled as ‘Free-from’ those allergens. The European Commission has produced a list of such derived ingredients that are exempt from the labeling requirements of Directive 2003/89/EC. This is to be found in Commission Directive 2005/26/EC.

Based on Nestlé Internal Instruction related to Allergen Management Standard, Nestlé has its own guidelines about allergen management instruction and practices. In addition has internal instruction related to allergen management, Nestlé has complied with European Union about the most common food allergens which are listed in the current allergen labeling. The most common food allergens shall be labeled in package for all Nestlé products unless the local legislation has another requirements.

B. Physical

Physical contaminants, for example from pests put forward a major threat to the safety and suitability of food and feed. Pest contaminants can occur where there are breeding sites and a supply of food. Another common source of physical contaminants in food processing are glass (light bulbs, glass containers, and glass food containers); metal (fragments from equipment such as splinters, blades, needles, utensils, staples); plastics (material used for packaging, fragments of utensils used for cleaning equipment); stones (incorporated in fields crops, such as peas and beans, during harvesting); wood (splinters from wood structures and wooden pallets used to store or transport ingredients or food products) and natural components of food (hard or sharp parts of a food such as shells in nut products) (Anonim 2012).

The food and feed industry shall have a documented pest control program which is designed to prevent pest activity within the facility and its surrounding area. The program shall include supporting documentation indicating trap and bait station locations along with chemical usage and storage. Good hygiene practices including good sanitation, inspection of incoming materials and good monitoring, should be employed to avoid creating an environment conducive to pests. In addition Good Hygiene Practices, Good Manufacturing Practices should be applied to prevent another physical contaminants.

In order to avoid pest contaminants, Nestlé has kept food and feed establishment in good repair and condition to prevent pest access and to eliminate potential breeding sites. Food and feed materials have stored in pest-proof containers and/or stacked above the ground and away from walls. In order to prevent another physical contaminants such as glass, metal, wood, etc., Nestlé has also applied standard for Good Manufacturing Practices through CAC/RCP 1-1969 Rev.4-2003.
C. Chemical

The HACCP concept for food safety requires control over hazardous materials and other materials in foods which would render them injurious to the human health. In the process of developing a food safety program or HACCP plan, it is important to include microbiological, physical and chemical contaminants. Chemical contaminants are most often associated with raw materials, ingredients and personnel practices. Chemicals contaminants are more difficult to detect and exclude from a manufacturing process. The food safety plan must also include food allergens when considering chemical contaminants. It is necessary to consider the toxicology of the substance under review and the likelihood that it will be harmful to the consumers in evaluating chemical contaminants. In order to identify sensitive ingredients, raw materials packaging components or sanitation chemicals that may be agents in the transmission of chemical residues along the food chain, the risk assessment procedures used in the HACCP should also be applied.

Packaging materials may also represent a significant source of undesirable chemical contaminants. In order to determine compatibility with finished products, these packaging materials must be closely reviewed. The risk assessment and risk management of food safety must be extended to all forms of packaging, including metal cans, metal closures, flexible packaging, and corrugated packaging materials.

Mycotoxins are secondary fungal metabolites that contaminate agricultural commodities and can cause sickness or death in humans and animals. Mycotoxicoses are diseases caused by mycotoxins (Choudhary AK and Kumari P 2010). Mycotoxins can be acutely or chronically toxic or both depending on the kind of toxins and dose. In order to reduce the risk of mycotoxins contamination, it needs strategies to address the food safety and economic issues employ both preharvest and post harvest measures. Preharvest control includes good cultural practices, biocontrol and development of resistant varieties of crops through new biotechnologies. Post harvest measures, such as adequate storage, detection and decontamination or disposal as well as continuous monitoring of potential contamination during processing and marketing of agricultural commodities, have proved to be critical and indispensable in ensuring food and feed safety. The post harvest contamination is usually the result of preharvest presence of fungal contamination. Processed food cannot be safe if prevention, control, good manufacturing practices and quality control are not used at all stages of production. The Hazard Analysis and Critical Control Point (HACCP) approach to processing mycotoxins contaminated commodities should be considered.

The hazards associated with toxin must be managed through post harvest procedures, if the product is to be used for food and feed purposes even if the contamination occurs or persists after pre harvest phase. Storage and processing are the major areas where contamination can be prevented. Post-harvest Good Storage Practice (GSP) applies to both storage and transport at Nestlé factories. Following harvest, storage and transport, moisture management becomes the key control measure in the prevention of mycotoxin formation on post harvest phase. Post harvest strategy on post harvest phase can include removal of damaged grain and drying of grain to the minimal moisture level, control of insect and rodent activity and maintenance of appropriate moisture levels and temperature, appropriate packaging, and also frequent cleaning of food/feed delivery systems and short term storage (Choudhary AK and Kumari P 2010).
Nestlé Management is strongly committed to applying the Codex Alimentarius HACCP Principles. All mycotoxins must be considered as potential hazards in the HACCP study of all susceptible products under brand of Nestlé. Nestlé has also established a few internal limits for mycotoxins in raw materials at risk based on Codex Alimentarius recommendations at a minimum. Codex Alimentarius Commission through its committee on Food Additives and Contaminants (CCFAC) and other relevant commodity Committee is considering the establishment of international guidelines for levels of mycotoxins in food. This is set on Codex Stand 193-1995, Codex General Standard for Contaminants and Toxins in Food and Feed. Since mycotoxins can occur both in raw products and finished products, this is necessary to have test of mycotoxins at various stages in food chain.

D. Microbiological

Microbiological contaminant, such like pathogens, can be transferred from one food to another. It is either by direct contact or by food handlers, contact surfaces or the air. In order to prevent these contaminant, raw materials and/or unprocessed food should be effectively separated, either physically or by time, from ready-to-eat foods, with effective intermediate cleaning and where appropriate disinfection. Access to processing areas may need to be restricted or controlled and should be only via a changing facility where risks are particularly high. Personnel may need to be required to put on clean protective clothing including footwear and wash their hands before entering. Surfaces, utensils, equipment, fixtures and fittings used, should be thoroughly cleaned and where necessary disinfected after raw food, particularly meat and poultry, has been handled or processed (Codex CAC/RCP 1-1969, Rev.4-2003).

According to the European Commission Regulation (EC) No. 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs, the food industry has a duty to ensure that microorganisms are eliminated or minimized to the extent that they cannot cause harm to human health. European or national regulations are a legal requirement and compliance is mandatory. Microbiological criteria in the EU have been harmonized in Community legislation by the European Commission (EC) Regulation on microbiological criteria for foodstuffs No. 2073/2005 which came into force in January 2006. This supports the Regulation on the Hygiene of Foodstuffs, EC No. 852/2004, that also applies from January 2006, and the General Food Law Regulation, EC No. 178/2002, that came into force in February 2002, although certain key provisions applied only from January 2005. In addition, the Regulation laying down specific rules for food of animal origin, EC No. 853/2004, contains criteria for marine biotoxins, for live bivalve molluscs, and raw milk. The 24th Session of the Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU) requested the CCFH to revise the Recommended International Code of Hygienic Practice for Foods for Infants and Children (CAC/RCP 21-1979) in order to address concerns with pathogens that may be present in infant formula, including E. sakazakii infections.
5.2.3  Quality Monitoring Scheme

Based on Nestlé Internal Instruction related to Quality Monitoring Scheme, Quality Monitoring Scheme takes the forms of quality control frameworks that sets out key indicators relating to products and its processes. It is used to confirm that the product is compliant with the laws and regulations or another standard. ISO 9001 describes Quality Monitoring Scheme as Quality Planning, the part of quality management focused on setting quality objectives and specifying necessary operational processes and related resources to fulfill the quality objectives.

ISO 9001 provides detail about Quality Monitoring Scheme as Quality Planning. Quality Planning results Quality Plan. This Quality Plan is procedures and associated resources which shall be applied by whom and when to a specific project, product, process or contract.

Nestlé Quality Monitoring Scheme document is needed to access products, by whom, where, which method to be used. This has complied with Quality Planning described by ISO 9001. Nestlé Quality Monitoring Scheme is used in order to corrective actions can be taken when there are some problems with the products. The Nestlé Quality Monitoring Scheme is also used to ensure the products produced comply with regulations, laws, or another legal standards.

5.2.4  Batch Code and Traceability

The barcode or batch code on every package of finished product is an element for ensuring optimum and consistent traceability and stock status control along the supply chain. Batch code is also used for identifying consumer goods (Tomlin 2008). Based on Nestlé Internal Instruction, the batch code is an alphanumeric code, which together with the material number, identifies a batch of finished product. The batch code alone may not be sufficient to uniquely identify a material batch. All finished products must be associated with a batch code. To avoid ambiguous batch for identifying, a batch code is combined with a material number. The code is the key elements that enable the traceability of the material in extended supply chain. The batch code can be changed, but the change must be traceable. The quantity of leftover pre-printed material must be kept as small as possible when the batch code is pre-printed on the consumer or sales unit, wrapper or sticker before the actual filling and packaging. Each company must adopt a consistent and uniform procedure for printing the batch codes. They also must define the rules for each finished product and document the batch codes.

According to ISO 9000: 2000, traceability is defined as the ability to trace the history, application or location of that which is under consideration. In terms of products it relates to the origin of materials and parts, the processing history, and the distribution of the product after delivery (ISO 9000). In other words traceability means the ability to trace and follow a food through all stages of production and distribution (Tall 2001). Based on the European Council regulation (EC) 178/220, traceability means the ability to trace and follow a food, feed, food-producing animal or substance intended to be, or expected to be incorporated into a food or feed, through all stages of production, processing and distribution. In commercial practice, traceability includes details of what has happened to the food as well as the source of the raw materials and the recipient of the finished product.
Traceability should be established for food and any other substance intended to be, or expected to be, incorporated into a food, including all ingredients used in the preparation, manufacture or treatment of a food, including grain, gases, water or any other substance to be incorporated into a final product and veterinary drugs, plant protection products and fertilizers are not included in the scope, though other controls may apply under separate legislation relating to the traceability of such compounds (Etrace 2007). ISO 22000 described that the organization shall establish and apply a traceability system. The traceability program described by ISO 22000 identifies incoming material from the immediate suppliers to the distribution of finished products.

Nestlé has a product traceability program, complete with 24/7 emergency contact information, capable to effectively trace specific lots of ingredients (including bulk ingredients), packaging and finished products through shipping and distribution channels. This traceability program is based on ISO 22000 which also has the ability to trace ingredients or component product-in-process, carryover product and rework. Mock recalls shall be regularly conducted minimum of once a year to validate traceability program. Traceability program shall be documented and prepared for each mock recall describing the recall process and the results, with corrective actions addressing any discovered deficiencies.

5.2.5 Shelf Life and Expiry Date

Shelf life is how long foods, beverages, pharmaceutical drugs, chemicals, and many other perishable items are given before they are considered unsuitable for sale, use, or consumption. Gyesley (1991) describes shelf life as the recommendation of time that products can be stored, during which the defined quality of a specified proportion of the goods remains acceptable under expected or specified conditions of distribution, storage and display. Shelf life date is mostly used as guideline according to normal and expected handling and exposure to temperature. The expiry date does not guarantee the safety of a food or drug. It does not also guarantee that a product is not always dangerous or ineffective after the expiration date. Nestlé describes shelf life as the time period during which all quality, functional, safety and legal requirements of the batch can be guaranteed; the time period during which the batch of raw material, packaging material, rework and semi-finished product can be used for manufacture and packing of products; or the time during which the batch of finished product can be sold. The shelf life serves as a basis for Shelf Life Expiry Date calculation based on the production date. Process ensuring that all batches are associated with correct shelf life information is called shelf life management. Shelf life management ensures that all batches is managed appropriately to ensure timely consumption.

Codex regulates about shelf life on Codex Standard 1-1985, the General Standard for the Labeling of Prepackaged Foods. Shelf life is an informal term which is not used in the regulations of all countries. In Codex, the Date of Minimum Durability represents the end of a marketing life and is appropriately labeled “best before”. Labeling a food product with the date of minimum durability is required if the food is prepackaged.

All raw and packaging materials, semi-finished products and rework, and finished products in the Nestlé system must have a Shelf Life Expiry Date (SLED). Nestlé regulates its Shelf Life Expiry Date on the prepackaged foods based on Codex Standards 1-1985. All semi-finished products, rework, and finished products also have a production date which are based on Codex. The Shelf Life Expiry Date
information must be physically marked on the packaging or storage container, and must be consistent with the Shelf Life Expiry Date information in the corresponding batch record in the system.

5.2.6 Net Content

Every product under brand of Nestlé or not, which is sold to the market, must have the net quantity information on the label. The net quantity of contents (net quantity statement) is the statement on the label which provides the amount of food in the container or package. It must be mentioned in weight, measure or numeric count. Generally, if the food is solid, semi solid or viscous, it should be expressed in fluid measure (eg. fl oz). Food labels printed must show the net contents in both U.S. Customary System (ounces, pounds, fluid ounces) terms and metric (grams, kilograms, milliliters, liters). Controlling net content of food package has two goals. First, the food processing company must be able to evaluate performance. This is used to assure that production is within the governmental limits for net package content. The second is optimize overfill, which really means is to minimize it.

Federal regulations for net content of foods are covered by the U.S Department of Health and Human Services, Food and Drug Administration, and by the U.S Department of Agriculture Food Safety and Inspection Service. Alcoholic beverages are controlled by the U.S Department of the Treasury Bureau of Alcohol, Tobacco and Firearms. Nonfood consumer commodity net content regulations are covered by the Federal Trade Commission, and pesticides are under the jurisdiction of the Environmental Protection Agency. Legal reference of net content management in Indonesia is set up on Decree of the Minister of Industry and Trade of Republic of Indonesia No. 31/M-DAG/PER/10/2011. The type and the number of requirements per legislation vary from one country to another.

Nestlé has set up general requirements for net content based on Codex Stan 1-1985, General Standard for the Labeling of Prepackaged Foods. Net content shall be mentioned in packaged foods, for liquid, solid and semi solid foods. Nestlé has also applied the Decree of the Minister of Industry and Trade of Republic of Indonesia No. 31/M-DAG/PER/10/2011, regarding prepackaged goods. This regulation is applied to prepackaged goods that are produced in the country, imported packaged goods and domestically produced or imported goods or commodities which are prepackaged in Indonesia.

5.2.7 Laboratory and Analysis

Good Laboratory Practice or GLP refers to a quality system of management controls for research laboratories and organizations. Good Laboratory Practices is used to ensure the uniformity, consistency, reliability, reproducibility, quality, and integrity of chemical (including pharmaceuticals) non-clinical safety tests; from physio-chemical properties through acute to chronic toxicity tests. GLP is a quality system concerned with the organizational processing process and conditions under which non-clinical health and environmental safety studies are planned, performed, monitored, recorded, archived and reported.

ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories is the main ISO standard used by testing and calibration laboratories. ISO/IEC 17025 applies directly to
organizations that produce testing and calibration results. ISO/IEC 17025 includes information about personnel, accommodation and environment conditions, methods, equipment, measurement, sampling and reporting results.

Nestlé has implemented GLP based on ISO/IEC 17025:2005 and it is mandatory for all laboratories of the Nestlé group. Nestlé uses these general requirements for developing its management system for quality. All laboratories and technical operations shall use ISO/IEC 17025 for confirming or recognizing the competence of their laboratories. ISO/IEC 17025 used by Nestlé as basic requirements for methodology, laboratory and equipment and personnel in laboratory.

5.2.7.1 Methodology

The laboratory shall use standards and procedures for all methods used in sampling, handling, transport, storage and preparation of items. All instructions, standards, and procedures should be ensured up to date and readily available. International, regional, or national instructions, standards and procedures shall be used.

If the laboratory use methods which not covered by standard, it shall include a clear specification of the customer and consumer’s requirements. The method not covered by standard shall have been validated before use. A new validation method should be carried out if some changes are made in the validated non-standard methods. The validation may include the procedures for sampling, handling and transportation. The results obtained from validation process shall be recorded and documented.

5.2.7.2 Laboratory and Equipment

The working areas in laboratory must support for testing and/or calibration, it is not limited to energy sources, lighting and environmental conditions, shall be such as to facilitate correct performance of the tests and/or calibrations. The laboratory shall ensure that the environmental conditions do not invalidate the results or adversely affect the required quality of any measurement. The laboratory areas must have stable temperature and relative humidity that are suitable for both the personnel and laboratory equipment. The temperature, relative humidity, biological sterility, dust, electromagnetic disturbances, radiation, electrical supply, and sound & vibration supply must be monitored to keep the environment stays on the general environmental conditions.

The laboratory shall be furnished with all items of sampling, measurement and test equipment required for the correct performance of the tests and/or calibrations including sampling, preparation of test and/or calibration items, processing and analysis of test and/or calibration data (ISO/IEC 17025: 2005). It shall ensure that the requirements of International Standard are carried out when the laboratory using equipment from outside. Equipment and its software used for testing, calibration and sampling shall be capable of achieving the accuracy required. It also shall comply with specifications relevant to the tests and/or calibrations concerned. Equipment shall be calibrated or checked to establish that it meets the laboratory's specification requirements and complies with the relevant standard specifications before being placed into service and before use.
5.2.7.3 Personnel

The laboratory shall specify the responsibility, authority and interrelationships of all personnel who manage, perform or verify work affecting the quality of the tests and/or calibrations. The responsibility, authority, and interrelationships of all personnel are mentioned in written documents or job descriptions. The laboratory must also have policies and procedures to ensure the protection of its customers’ confidential information and proprietary rights, including procedures for protecting the electronic storage and transmission of results, and to avoid involvement in any activities that would diminish confidence in its competence, impartiality, judgment or operational integrity.

The management of laboratory shall ensure the competence of all personnel who work and operate specific equipment, calibrations, and evaluate results. Appropriate supervision shall be used and provided when using personnel who are under training program. If the management of laboratory uses personnel who performs specific task, they shall be first qualified. This qualification can be based on education, experience or training.

The laboratory shall use personnel who are employed by the laboratory or under contract to the laboratory. In case when additional technical or key support personnel are used, they should be supervised. They also shall work in accordance with the laboratory’s management system.

5.3 Consumer And Regulatory Requirement

Food chain industries increasingly face two types of specific constraints, consumer expectations and regulations. Regulations focus on food safety. It more focus on practices and standards, including the traceability and/or hazard analysis and critical control points (HACCP) for food and feed ingredients, and products. In parallel with regulation requirements, responses to consumer expectations also increasingly determine industry practices and standards.

Most available studies paradoxically suggest that a majority of consumers remain little aware or little interested in labels, while consumer organizations are increasingly vocal about obtaining detailed product information. On the other hand, consumer perception of food safety crises such as Bovine Spongiform Encephalopathy, dioxin, etc., in recent years has also resulted in lower risk tolerance or acceptance. A culture of zero risk is becoming more and more widespread. (Amerongen AV, Barug D, and Lauwaars M 2007).

In this section all related practices that relevant to the consumer’s concerned and needs are discussed that includes labeling, halal and other national requirements.

5.3.1 Labeling

Every product which is sold to the customer and consumer must have a label. Label means any tag, brand, mark, pictorial or other descriptive matter, written, printed, stenciled, marked, embossed or
impressed on, or attached to, a container of food (Codex Stan 1-1985). In addition, labeling also includes any written, printed or graphic matter that is present on the label, accompanies the food, or is displayed near the food, including that for the purpose of promoting its sale or disposal. Label provides information related to the safety of the consumer or purchaser.

All products under brand of Nestlé have label which comply with regulatory requirements (Codex Stan 1-1985), internal standards and policies. The product label must comply with each regulation required by the markets and the internal standards where the product is sold. According to the Nutrition Labeling and Education Act, all food labels at least must contain the following information:

- Common name of the product
- Name and address of the product’s manufacturer
- Net contents in terms of weight, measure or count
- Ingredient List – lists the ingredients in descending order of predominance and weight.
- Serving Sizes – each package must identify the size of a serving. The nutritional information given on the label is based on one serving of the food.
- Nutrition Facts – each package must identify the quantities of specified nutrients and food constituents for one serving.

Not all country use English as their language in the label, and Nestlé has its own regulations for product which is sold in another country which do not use English as main language. Multilingual labels for food and drug labels are necessary for countries which have another language. This has become a critical issue for corporations and the Food and Drug Administration. Regulation of food labels in the United States has four main purposes. First, the label gives the consumer nutritional information about the product, and the consumer can make decisions based upon dietary concerns. Second, the ingredient list on the label avoids the consumer to purchase products with unwanted ingredients, based on allergies, for example (Hutt PB and Merrill RA 1991). Third, regulations prevent labels from carrying misleading information. Fourth, warnings on food labels remind consumers to possible risks caused by the product. With the exception of the third purpose, these FDA labeling objectives are not met for consumers who cannot read English.

In Indonesia, standard for labeling is set on Government Regulation No.69/1999 on Label and Food Advertisement which also applied by Nestlé. Foreign languages in addition to the mandatory Indonesian language may be used. In general, foreign expressions are discouraged since they are seen as potentially misleading to a majority of the population. Some products need product specific requirements to prevent misleading for the consumer such as products derived from swine, sweetened condensed milk, alcoholic beverages, products with irradiated packaged food, products derived from genetic engineering, and product with specific regulated or prohibited claims.

Products derived from swine should have the words “MENGANDUNG BABI.” (Contains pork). This is written in red ‘universe medium corps 12’ font and enclosed in a red rectangle together with a drawing of a pig. Sweetened condensed milk should have the words “PERHATIKAN! TIDAK COCOK UNTUK BAYI.” (Beware! Not suitable for babies). This is written in red “universe medium corps 8” font and enclosed in a red rectangle.

Alcoholic beverages must have “MINUMAN BERALKOHOL”, DIBAWAH UMUR 21 TAHUN ATAU WANITA HAMIL DILARANG MINUM (Prohibited for use by people under 21 years or pregnant woman) on the label. Products with irradiated packaged food, must indicate the words
“RADURA: PANGAN IRADIASI” (Irradiated food), the reason for irradiation, the logo of irradiated food, name and address of the radiation facility, the month and year of irradiation, and the country in which the process was carried out. If the food cannot be re-irradiated, then the label should include the word: “TIDAK BOLEH DIRADIASI ULANG” (Not to be re-irradiated).

Food derived from genetic engineering must have “PANGAN REKAYASA GENETIKA” (Genetically Engineered Food) on the label. For processed foods containing genetically modified ingredients, identifying the genetically modified product in the ingredient list is sufficient. Processed food, for infants, children below five years old, pregnant or breast feeding mothers, people on special diets, elders, and sufferers or certain diseases should be informed of the portion size, method of use and other necessary instructions, including the impact of the food on human health. There are some regulations related with the Genetically Modified Organisms (GMOs), such as Act Number 21 of 2004 concerning Cartagena Protocol on Biosafety to the Convention on Biological Diversity, Government Regulation No.21 of 2005 concerning Biosafety of Genetically Modified Product, and Decree of the Head of Drug and Food Control No HK 00.05.23.3541 of 2008 on the Guideline for Food Safety Assessment of Genetically Modified Products.

5.3.2  Halal

Halal food means that food which is safe, hygienic and not harmful to health. Food does not contain any component regarded as najis under Syariah or constituents which are not safe for consumption. This also refers to food which is free of any forbidden parts of animal origin according to the Islamic Law (Syariah). Halal does not cover only the religious aspects but it adheres to very strict quality and hygiene compliance which are in line with GMP (Good Manufacturing Practices), covers everything from farm to fork, or from raw materials to distribution of products. All raw materials have to fulfill the conditions of the Islamic Law according to the definition given by Codex.

All materials, equipment and utensils used in the preparation, handling, filling and packing of the food must be ensure that it do not come into contact with pork and alcohol. It must be a clear separation between Halal lines and lines manufacturing products containing pork or alcohol. Production lines for Halal products cannot be used for the manufacture of products containing pork meat and alcohol. Halal and non-Halal covers all sides of Muslim life, not limited to foods and drinks only. Halal and Tayibb themselves portray the symbol of intolerance in hygiene, safety and quality.

In order to meet the Halal requirement, Nestlé are encouraged to adapt and maintain standards which meet global benchmarks such as ISO 9000, Codex Alimentarius, Quality Assurance, HACCP, Good Hygienic Practice (GHP), and its internal instructions. ISO 9000 is a suitable management standard to be bases as management system for food production (Manning L and Baines RN 2004). In Indonesia, list of approval halal certifying bodies is regulated by The Indonesian Council of Ulama (MUI). As a leading Nutrition, Health and Wellness company, Nestlé has always been at the forefront of the Halal food and beverage industry in Indonesia. Nestlé’s interest in Halal was borne out of social responsibility and
respect for its Muslim employees and consumers. The Nestlé Halal Policy must clearly state that all food and beverage products which are produced, marketed, imported and distributed by Nestlé Indonesia must be certified Halal by the relevant authorized bodies. Producers, imports and distributes only products that have been certified Halal by authorized Islamic certification bodies. All food processing and preparation facilities in the exporting and importing markets have to be submitted to an official certification.

5.3.3 Other Regulatory Requirement

Consumer need more detail about products information in addition to labeling requirement and Halal Certificate. In Indonesia, there are some regulatory authorities that provide further requirements about products information and consumer expectation. National Agency of Drugs and Food Control or BPOM (Badan Pengawas Obat dan Makanan), regulated package food for retail and further processed foods including food additive and processing aids. Products standardization is regulated by National Standardization Agency or BSN (Badan Standardisasi Nasional). Regulation about fresh fruit and vegetable is set by Agency for Agricultural Quarantine or Department Pertanian.

In addition some regulatory authorities, there are three organizations providing supporting services to the food industry: Gabungan Pengusaha Makanan dan Minuman Seluruh Indonesia (GAPMMI); Ministry of Industry (MOI); and Balai Besar Industri Agro (BBIA-MOI). In order to create a conducive business climate for the food and beverage industry, GAPMMI promotes Indonesian food business. It seeks to strengthen its members’ competence in the field of food safety, processing, health and nutrition. GAPMMI also acts as a spokesman for the food industry before the Indonesian Government.

5.4 Resume of Compliance of Internal Instructions

After identifying and mapping all the instructional practices in Nestlé followed by analyzing the gap with the relevant national and international standards/regulations, a brief status compliance of Nestlé internal instructions is explained on the below table:

<table>
<thead>
<tr>
<th>Nestlé internal instructions</th>
<th>Standard or Regulatory Requirements</th>
<th>Note</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>ISO</td>
<td>Codex Alimentarius</td>
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<tr>
<td>Upstream Supplier Quality Assurance</td>
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</tr>
<tr>
<td>Transportation</td>
<td>√</td>
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<tr>
<td>Raw Materials</td>
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<td>Storage</td>
<td>√</td>
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<tr>
<td>Manufacture</td>
<td>HACCP</td>
<td>√</td>
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<tr>
<td>Quality Monitoring Scheme</td>
<td>√</td>
<td>Nestlé has complied with ISO 9001</td>
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<tr>
<td>Batch Code and Traceability</td>
<td>√</td>
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</tbody>
</table>
| Shelf Life Expiry Date | √ | Nestlé has complied with Codex Standards 1-
<table>
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<th></th>
<th>1985</th>
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<tbody>
<tr>
<td><strong>Net Content</strong></td>
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<tr>
<td><strong>Laboratory Analysis</strong></td>
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<tr>
<td><strong>Halal Policy</strong></td>
<td>√</td>
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<tr>
<td><strong>Labeling</strong></td>
<td>√</td>
</tr>
</tbody>
</table>

It is very interesting to note that the majority of the compliance mostly based on the international standards and or regulations and there are not too many national regulations are available to be used as reference. This is understandable where as the member of the Codec Alimentarius Commission, Indonesia also follow and adopted most standards established by Codex, therefore when the internal instruction complied with international standards supposedly it also complied with national standards as well. It is also noted that as a country with moslem as majority, consumer’s requirements for having halal products is highly considered by Nestle.
VI. CONCLUSION AND RECOMMENDATION

6.1 Conclusion

This study has been identified and mapped Nestlé internal instructions in the quality management department which consist of instructions on Supplier Quality Assurance, Food Safety, Competitive Quality & Consumer, and Nestlé Quality Management System & Quality Training. These internal instructions include the instruction from the upstream until the distribution of the finished products to the consumers. These Nestlé internal instructions comply with and have already met regulations and standards (both international and national) and it can be used as a good practice for excellence in compliance for achieving quality objective.

6.2 Recommendation

It needs further study about the related documents in every stage of food safety management system to make the compliance management system sustainable. Nestlé should provide training programs and effective communications among related departments about their compliance to the given standards and procedures. Nestlé should also implement monitoring and auditing systems. In addition, regularly updated document of Nestlé internal instructions is needed to make sure that these comply with the recent and available regulations, either with national or international regulations and other standards. This regularly updating is also used to fit gap between Nestlé internal instructions and the standards and/or regulations. Nestlé internal instructions which were converted into assessment sheet on compliance status in the forms of Excel checklist and module development in the forms of Power Point Presentation are also needed to be updated regularly and used in training management.
REFERENCES


Commission Recommendation (EC) of 3 May 2007 on the monitoring of acrylamide levels in food.


Decree of the Minister of Industry and Trade of Republic of Indonesia No. 31/M-DAG/PER/10/2011 about Legal Reference of Net Content Management.


Minister of Health Regulation No. 492/MENKES/PER/IV/2010 about Drinking Water Quality Policy.


Republic of Indonesia Government Regulation No. 69/1999 on Food Labeling and Advertisement.


