Universidad de Barcelona

Facultad de Farmacia

THE INTERNATIONAL COSMETIC REGULATORY FRAMEWORK

TRABAJO DE FIN DE GRADO

ALUMNO: NICHOLAS SHAW NÚÑEZ

ÁMBITO PRINCIPAL: LESGISLACIÓN Y DEONTOLOGÍA

ÁMBITOS SECUNDARIOS: GESTIÓN FARMACÉUTICA Y TECNOLOGÍA FARMACÉUTICA

Contents

ABSTRACT

Regulatory compliance with international regulations is the first step towards international presence in the cosmetic market. The cosmetic industry, from manufacturers to traders, must be able to adapt to a constantly changing framework. Even if there is a tendency to unite cosmetic legislations across countries, enough differences remain and may result in lack of compliance and product recalls or sanctions. In this review, the legislative evolution in Europe for cosmetic products is analysed, and then compared to five other countries in order to see what common ground they share and what are the differences that set them apart. Product classification, product control and composition stand out as the three divergent elements in international compliance that can constitute barriers to trade. Among the common elements, good manufacturing practices guidelines and product labelling are similar from country to country, albeit with some slight changes.

RESUMEN

Establecer el nivel de cumplimiento con las regulaciones internacionales es el primer paso para conseguir una presencia internacional de un producto cosmético. La industria cosmética, tanto fabricantes como comerciantes, deben ser capaces de adaptarse a unos requisitos que se encuentran en constante transición. A pesar de que existe una tendencia generalizada de convergencia en algunos aspectos, las diferencias siguen siendo lo suficientemente importantes como para resultar en productos no cumplidores que pueden llevar a retiradas de mercado o incluso sanciones. En esta revisión, se ha analizado la evolución de la legislación Europea en tema de cosméticos, y luego se ha establecido una comparativa con otros cinco países con el objetivo de determinar las similitudes existentes y qué características son las que los diferencian. La clasificación de productos cosméticos, la regularización y control de los mismos y su composición son tres de los temas que presentan una mayor divergencia a nivel internacional. Otros aspectos como el cumplimiento de las buenas prácticas de Fabricación y etiquetado se mantienen relativamente constantes entre países con solo algunos cambios menores.

ABBREVIATIONS

INCI – International Nomenclature of Cosmetic Ingredients
PAO – Period After Opening
CMR – Carcinogenic, Mutagenic, Reprotoxic
GMP – Good Manufacturing Practices
PIF – Product Information File
FDA – Food and Drug Administration
OTC – Over-the-counter
CFDA – Chinese Food and Drug Administration
MUCAP – Maximum Used Concentration in Approved Product
SFDA – Saudi Food and Drug Administration
CAP – Conformity Assessment Program
CAN – *Comunidad Andina de Naciones*
INVIMA – *Instituto de Vigilancia de Medicamentos y Alimentos*

1. INTRODUCTION

As the world seemingly strives to become a more globalised and better connected environment, where new trade agreements are signed between nations and the internet presenting itself as a powerful tool to reach the end consumer, it becomes increasingly important to understand that cosmetic products are part of a regulatory landscape that is far from homogenous. In fact, significant differences between cosmetic legislations and technical requirements can be a source of major headaches for companies who wish to begin an international venture. While some countries have decided that cosmetics need to be legislated in order to protect both the health and interests of the consumer, and have accordingly set up a regulatory standard against which all the industry must be measured, other countries have not yet reached the same level. Furthermore, this is also reflected in the nature of the authority in charge of the control and market surveillance of cosmetics that are sold or imported into a country; while it is usually the health authorities that assume this function, some countries have assigned this to the commerce or industry administration, to the customs department or the local standardisation departments.

In order to gain a perspective in economic terms, the estimated international market size in 2001 for the cosmetic, toiletry and fragrance industry was $124 billion (€110 billion) (1). This value, according to the latest predictions, will have more than doubled by 2017, by which time it will have reached a global value of $265 billion (€236 billion) (2). This growth has been supported by an emerging Eastern market, in which countries such as China, Japan or South Korea have been steadily increasing in value from both an economic and scientific progress standpoint. Well established markets have also continued growing at a steady pace, and Spain has its own place in these figures. Currently estimated to be worth €6.5 billion making it the 5th within the European Union, it holds 6th position worldwide in export of cosmetic goods, with a total revenue of €2.6 billion (3).

With the current size of the cosmetic industry and its perspectives of growth and advancement in the following years, the regulatory status will be in constant change trying to keep up with the progress being made. However, there is much to learn from the current situation, and it is interesting to be able to provide a snapshot in order to better understand not only what it has to offer at this moment in time but also its limitations.

2. OBJECTIVES AND METHODOLOGY

This review aims to provide a general understanding of the current international regulatory framework in place for the design, production and commercial distribution of cosmetics and how legislative differences between countries relate to the cosmetic industry in practical terms.

With such a complex international legislative framework, analysing and reviewing every single piece of legislation on the statute books would not be viable. Thus, the aim is to achieve a general vision by examining a cross-section in which all parts may be represented and in which there is enough variety and examples of what the differences are and their implications. In order to achieve a valid cross-section, the perspective that will be employed will follow a middle-out criteria, which can be broken down into two points: firstly, the analysis of current and past legislation in Spain and in the European Union, and secondly, the relationship between these regulations and other significant laws in place in other countries or international associations.

The current legislation in place within the European Union, which all member states have to comply with, is a standard which many countries have chosen to either accept, include or follow in their respective regulations, making it a valid starting point from which measure the scope of other legislations. Furthermore, by examining the evolution of cosmetics legislation in Europe we can also gain some insight into what might happen in the future on a global scale.

From the European Union, we move outwards to examine the legislative structures of other countries. These countries have been selected both for their geographical or political location, meaning that they are members of an international cooperation agreement with common legislations, such as the EU, and because they have a certain level of influence over adjoining countries, with their legislations being used as a common standard, explicitly or not. The countries that have been selected are five in total: the United States of America (the USA), China, Saudi Arabia, Colombia and the Philippines. As to the individual reasons why these countries have been selected, we can argue the following: the USA is a clear choice because of its economic dimension and influence over other countries in as regards to normative standards; China is an emerging market and also an economic force to be reckoned with, offering a very interesting counterpoint as to the legislation of cosmetic products that will serve as contrast; Saudi Arabia is also an emerging market with a very important niche for luxury cosmetics, and it provides a window into what regulations may be like in Islamic countries where cultural elements might play an important part; finally, Colombia and the Philippines have not been chosen for the novelty factor, they do not introduce crucial elements of

differentiation, but they are representatives of the international associations they belong to and offer a perspective of the geographical areas they belong to.

To sum up this section, the middle-out perspective comes from first reflecting on the European legislation and its recent evolution, and comparing the present regulatory status of the European Community to the corresponding international standards over the selected countries. To be able to offer an exact and truthful review, the primary sources of information should be, when available, the original legal texts published by the relevant authorities, official or international standard documents or official guidelines. The last item, the official guidelines, although they might not carry the same legal weight that a law or regulatory text does, are documents published by the relevant authorities to explain the requirements and minimum expectations of compliance. Dealing with a language barrier, sometimes it is hard to obtain primary sources of information. Where these are lacking, official translations will be the best alternative to the original, and these not being available, we will refer to publications done by experts or relevant figures in the cosmetic sector.

Finally, we will conclude with the examination of two practical cases: we will present two marketed formulas for cosmetic products that are compliant with the European legislation, a face moisturising cream and a sunscreen. We will then explore what the technical requirements would be in order to be able to export these products and if they are fully suitable for sale in other countries.

3. RESULTS

The result of the comparative work has been presented for better understanding in the form of tables which allow for an initial perspective on the subject and to be able to discern divergent aspects at a glance.

Firstly, a table consisting on the comparative analysis obtained through examination of the previous European Directive on cosmetic products and the current European Regulation which is presently in force. This table is presented as Table 1 and contains specific elements of the legal texts that have been identified in order to break down these into sections with actual comparative value.

Secondly, following the same criteria, the comparative analysis has been extended from the European Regulation onto the international standards with the results being featured in Figure 2, consisting on a more extensive comparative table including the same elements that had been identified in the first examination.

Table 1, comparison of the main aspects included in the European cosmetics legislation.

NORMATIVE	DIRECTIVE 76/768/EEC	REGULATION EC 1223/2009
DEFINITION	A 'cosmetic product' shall mean any substance or mixture intended to be placed in contact with the various external parts of the human body (epidermis, hair system, nails, lips and the external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance and/or correcting body odours and/or protecting them or keeping them in good condition.	A "cosmetic product" means any substance or mixture intended to be placed in contact with the external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance, protecting them, keeping them in good condition or correcting body odours.
PRODUCT CONTROL	As stated in Article 2, it is the responsibility of each of the member states to control that the cosmetic products which access the market are compliant with the Directive.	The cosmetic product is under a "Responsible person" and the authorities must be notified previously to the product entering the market. Detailed obligations for responsible person and distributor.
INGREDIENTS AND COMPOSITION	A comprehensive list of substances has been set in order to restrict, control or allow the use of certain substances, which have been included as annexes of the Directive.	The annexes detailing the composition have been maintained and updated accordingly, prohibiting, restricting or allowing certain ingredients from being part of a cosmetic product. There is additional text regarding CMR substances and Nanomaterials.
LABELLING AND MARKING	Label control is given to the control of the authorities of each member state. However, the items that must appear have been listed: - Name and address of the responsible person. - Nominal content - Date of minimum durability or PAO - Particular precautions - Batch number - Function of the product unless clear from presentation - Ingredient list	Labelling control becomes a part of the notification process. And any changes have to be submitted. The items that must appear: - Name and address of the responsible person. - Nominal content - Date of minimum durability or PAO - Particular precautions - Batch number - Function of the product unless clear from presentation - Ingredient list.
GMP	The manufacturing method must comply with the Good Manufacturing Practices laid down on the corresponding guide.	The manufacturing process must follow the approved Good Manufacturing Practices, ISO 22716.
ANIMAL TESTING	A ban is introduced on non-approved animal testing being carried out both on ingredients and finished product.	A complete ban is set for cosmetics which have been tested on animal, be it the finished product or their ingredients.

Table 2. Comparative table of the identified key aspects throughout the international framework.

COUNTRY	EUROPE	UNITED STATES	CHINA	SAUDI ARABIA	COLOMBIA	PHILIPPINES
DEFINITION	A "cosmetic product" means any substance or mixture intended to be placed in contact with the external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance, protecting them, keeping them in good condition or correcting body odours.	Articles intended to be rubbed poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness, or altering the appearance and articles intended for use as a component of such articles.	Defined as daily used industrial chemicals which can be spread on the outer surface of the human body (skin, hairs, nails, lips, etc.) for the purpose of cleaning, deodorizing, providing skin care, beauty and make-up, by way of smearing, spraying or other chemical means.	"any substance or preparation intended to be placed in contact with the various external parts of the human body (epidermis, hair system, nails, lips, and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance and/or protecting them or keeping them in good condition".	"any substance or formulation for local application intended for use on the different superficial areas of the human body: epidermis, hair, nails, lips and external genital organs or on the teeth or mucous membranes, with the aim to clean, perfume, change appearance, protect or maintain them in good condition and prevent or correct body odours."	"any substance or preparation intended to be placed in contact with the various external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance and/or correcting body odours and/or correcting them or keeping them in good condition"

COUNTRY	EUROPE	UNITED STATES	CHINA	SAUDI ARABIA	COLOMBIA	PHILIPPINES
PRODUCT CONTROL	The cosmetic product is under a "Responsible person" and the authorities must be notified previously to the product entering the market. Detailed obligations for responsible person and distributor.	Cosmetic products can be voluntarily registered with the FDA. Imported cosmetics are examined upon entry.	General use cosmetics have to be registered, while special-use cosmetics must have an administrative authorisation from the SFDA.	A notification system is being implemented for local and foreign manufacturers and products. For imports, there is also a Conformity Assessment Program.	The notification system is the method of product control. Local manufacturers and importers must notify the products they intend to sell and await for authorisation.	Product control is exercised through cosmetic notification to the Philippines FDA. Approval is issued by authorities as to market access is granted.
INGREDIENTS AND COMPOSITION	The annexes detailing the composition have been maintained and updated accordingly, prohibiting, restricting or allowing certain ingredients from being part of a cosmetic product. There is additional text regarding CMR substances and Nanomaterials.	The FDA has prohibited the use of 12 ingredients. The rest are to be used only when considered safe under normal use. Liability lies with the person responsible for the marketing of the cosmetic. Nanomaterials are allowed, but FDA encourages previous knowledge	CFDA regulates cosmetic composition through a positive list of approved ingredients, IECIC. New ingredients can be used but need to be submitted for registering.	Adapted version of the composition tables included in the Directive 76/768/EEC in which a few ingredients have been changed. Total prohibition on pork derivatives. Special conditions for inclusion of alcohol as an ingredient.	Official recognition of international ingredient standards: - USFDA - CTFA - Cosmetics Europe - EU Directives	There is express indication of the acceptance of the European Cosmetic Ingredient Listings included in the Cosmetic Directive 76/768/EEC.

COUNTRY	EUROPE	UNITED STATES	CHINA	SAUDI ARABIA	COLOMBIA	PHILIPPINES
LABELLING AND MARKING	Labelling control becomes a part of the notification process. The items that must appear: - Name and address of the responsible person. - Nominal content - Date of minimum durability or PAO. - Particular precautions - Batch number - Function of the product - Ingredient list. Claims are subject to control.	The label must include: - Name and address of business - Net content - Any instructions deemed necessary so as to not pose any risk. A misbranded product is the one bearing an incorrect label for non-inclusion of relevant information or for misleading.	The labelling requirements are as follows: - Product name - Net content - Country of origin - Name and address of manufacturer - Ingredient list - Warning statements and instructions. - Name and address of the importer - Licence number - Shelf life - Batch number	Labelling requirements include: - Name and address of manufacturer/supplier - Any particular precaution according to the composition. (can be in English) - Batch number - Function* - Expiry date or PAO - Net content - Country of origin For products containing alcohol: SASO 582/2000	The labelling requirements are: - Product name - Net content - Country of origin - Name and address of manufacturer - Ingredient list - Warning statements and instructions. - Name and address of the importer - Licence number - Shelf life - Batch number - NSO number	Labels must include the following: - Product name - Function - Instructions for use - Full ingredient listing - Country of manufacture - Name and address of the company/person responsible - Net content - Batch number - Expiry date or PAO. - Special precautions
GMP	The manufacturing process must follow the approved Good Manufacturing Practices, ISO 22716.	A Draft GMP Guide has been issued by the FDA. Compliance is “advised”.	A document has been published with GMP-like guidance for manufacturers	No direct reference to published GMP guidelines. Acceptance of the international standards in GMP.	CAN GMP guide has been published and transposed .	ASEAN GMP guidelines and answer to industry. Recognition of international standards.

COUNTRY	EUROPE	UNITED STATES	CHINA	SAUDI ARABIA	COLOMBIA	PHILIPPINES
ANIMAL TESTING	A complete ban is set for cosmetics which have been tested on animal, be it the finished product or their ingredients.	The FDA does not hold a determinant position regarding animal testing. Neither in favour nor against, safety comes first.	Animal testing is compulsory for all imported cosmetics and all domestic special-use cosmetics.	There is no reference to animal testing. Product safety is to be assured.	There is no reference to any ban being in place for animal testing in cosmetics	There is no ban in place for animal testing. Official position not stated.

4. DISCUSSION

4.1. EUROPEAN COSMETIC LEGISLATION:

To appreciate progress there is an essential need to define a reference starting point. To understand the latest and current legislation that guides and determines both the industry and the end cosmetic product, we will look back at its predecessor.

In Europe, the Directive 76/768/EEC (4) came into force in the year 1976, with a two year margin for member states to transpose this directive. Although several amendments were introduced, this regulation stayed in place until 2013, when the new European Directive 1223/2009 replaced the old one introducing several important changes.

In this section, the key elements of the old cosmetics directive that have been identified will be examined by themselves, and also how they have been updated in the new regulation to adapt to the changes that have occurred in the cosmetic world since. This comparison has been represented in Table 1, in which both European directives have been divided into its parts, summed up and set side by side so as to better appreciate the existing differences. Following, the comparative table is explained in further detail and the differences are explained.

4.1.1. The old Directive 76/768/EEC

Despite having been published in 1976, this legislation continues to be very much present nowadays. It stays on in the direct or indirect influence it has had over the regulatory status of cosmetics all over the world; whether it is as reference material or as a direct transposition or acceptance of the standards that are set in this directive, many countries have assimilated it into their legal structure.

At the centre of the directive stands the first element included in Table 1: the definition of what constitutes a cosmetic; “

“*cosmetic product shall mean any substance or mixture intended to be placed in contact with the various external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them changing their appearance and/or correcting body odours and/or protecting them or keeping them in good condition.”* (4)

This directive gives a positive definition by including three different characteristics:

- Cosmetic product: a cosmetic can not only be a mixture, which is what we may traditionally regard it as, but it can also be a single ingredient.
- Area of application: a list of areas where a cosmetic product can be applied or used is given, in which all areas can be considered as external in so much as mucous membranes can be considered as outwardly.
- Function: arguably the most interesting part of the definition as it separates the cosmetic product from any other kind of products based on its intended use.

Together, these characteristics clearly define what constitutes a cosmetic product and allows for the classification into different categories according to one or more of these characteristics. A comprehensive list of this categorization is included in the actual directive so as to better guide the industry towards achieving compliance.

Following the product criteria of the definition, for any cosmetic, be it a single substance or mixture, the ingredients that can be included into its composition have been incorporated into the directive. Due to the vast and ever-growing amount of ingredients being discovered, designed or repurposed, a complete positive list of ingredients is not manageable from a regulatory point of view. Instead, several lists have been included into the annexes of this directive that together aim to control the safety of the cosmetic product for the consumer population. The lists are as follows:

- Prohibited substances: including all substances which cannot be part of the composition of a cosmetic product. This list constitutes Annex II of the cosmetics directive.
- Regulated substances: composed of several lists in which restrictions are set for certain allowed substances in regards to the concentration in the finished product relating also to their function. The lists include:
    - Substances included in Annex III
    - Colouring agents included in Annex IV.
    - Preservatives included in Annex VI
    - UV filters included in Annex VII

All ingredients which are deliberately introduced into a cosmetic product must appear in INCI nomenclature on the label as per Article 6 of the regulation, in decreasing order of concentration for those over 1% and in any order for those under 1%. For the particular cases of perfumes the word “parfum” or “fragrance” is accepted, and in colorants, the code by which they are known.

This leads us to the next part of the legislative text, in which the labelling requirements are set. For every cosmetic product the following items must appear on the label:

- Name and address of the manufacturer or responsible person. As if hidden, this simple sentence has a deep significance within the regulation. It introduces the concept or "responsibility". For any cosmetic product in the market there is, according to this, a person who will and must answer to any issues derived from the cosmetic product. This responsibility could also turn into liability if the cosmetic product is not only found to be non-compliant with the directive, but also if it poses a health risk for the consumer.
- The nominal content at the time of packaging, in weight of volume.
- The minimum durability date of the product. This can appear as an actual date, as a month/year or, for products with a shelf life of over 30 months, as what is called a PAO (period after opening), which is an indication of the period of time in which the product can be used without harm to the consumer.
- Particular precautions, which may have to do with the presence of a certain ingredient, such as the ones in the regulated lists, a specific presentation or the packaging.
- The batch number of manufacture. This assures traceability of the finished product and is deeply related to the exercise of good manufacturing practices.
- The function of the product, unless it is clear from the presentation.
- The list of ingredients, as previously mentioned.

The Directive itself clearly indicates that each member state must assure the implementation of the standards provided in it, and it does so in Article 3, in which it grants each of these members the supervision over the market control of cosmetics in their country, and full compliance of the industry and final products. Furthermore, in Article 7a the directive gives the instruction that the competent authority must be notified of the manufacturing of the cosmetic product and that a certain amount of information regarding the cosmetic product must be kept available at the address stated as the responsible person's address. Being a process left to the disposition of each country, places like Spain adopted a Registration System, by which the product was revised by the authorities and once it was deemed to be compliant with the directive, it would then be authorised for commercial distribution.

A part of the information to be kept and to be reviewed by the authorities is a GMP assessment, in which the method of production must be explained and it must follow the good manufacturing practices.

Last but not least, a matter of much ethical debate, animal testing. In the old directive, animal testing was not expressly banned, but rather adjusted itself to the good laboratory practices. Animal testing should be limited to practices and tests approved by the health authorities and carried out in the same manner.

4.1.2. The new Regulation EC 1223/2009

After the new Regulation EC 1223/2009 (5) was entered into force in 2009, it fully replaced the old Directive 76/768/EEC from 2013. Issued as a Regulation, member states do not need to exercise a transposition of the actual Regulation or its contents, further helping the harmonization process by direct application of the European legal text. With it, some crucial and significant changes were made to the cosmetic sector with the aim of making compliance easier and safer for the consumer at the same time. In this section we will highlight these changes and discuss their implications in order to grasp an understanding of the current framework set around cosmetic products and its industry.

Following the same order as with the previous directive, the new regulation does not introduce any significant changes to the definition of the cosmetic product. It still includes the triple positive definition of composition, area of application and function. The fact that the definition has not been changed means that there has been no need for a product reclassification which would entail that certain products would be under the scope of another regulation.

Regarding the composition, another thing that has remained is the classification of cosmetic ingredients into corresponding lists according to whether they are prohibited, regulated based on maximum allowed concentration and function, and allowed substances for specific functions, like colouring agents or UV filters. However, there are two new additions to the ingredient considerations: CMR substances and Nanomaterials. CMR substances are those that can be carcinogenic, mutagenic or reprotoxic when used, and their inclusion is initially prohibited. Exceptions could however be made if the scientific reviews deem it safe for human use in cosmetic form and there are no possible alternatives to their use. In the case of nanomaterials, the corresponding authorities need to be expressly notified of their presence in the cosmetic product formula and enough data must be available that ensures its safety in human cosmetics. They must also be listed as such in the label so as to inform the consumer of their presence and allow for an informed decision.

No significant changes have been made to the minimum labelling requirements either, the information to be included in it remains the same, but the description and indications given in the

Regulation are clearer and more elaborate. As before, the language in which the label must bear the relevant information must be determined by the member states, although it is generally accepted that the label must be in the main language of each country in which the cosmetic product wants to be marketed. While all this has not varied much, there is one element that is becoming increasingly important in the cosmetic industry which is featured in this Regulation in its Article 20, Product claims[1]. This article clearly states that there must be no kind of implication that the cosmetic product bearing the claims has characteristics or functions that they do not have. This concept is further explored in the Commission Regulation (EU) No 655/2013 of 10 July 2013 (6), dedicated to cosmetic claims in which, among other things, it states that claims are an information tool for the end consumer, and as such, any claim that is included must be proved or substantiated and based on six distinct principles: legal compliance, truthfulness, evidential support, honesty, fairness and informed decision-making. In this way, product assertions are regulated specifically from a health authority standpoint and not only from a publicity and advertisement point.

Product control in the new Regulation is now not only a question for each member of the European Union to decide upon. Rather, responsibilities have been shared out and now each part bears an equal load in regards to product compliance with the Regulation. The figure of the Responsible Person is still present, but the concept has been slightly expanded to include the preparation and custody of what has been deemed a "product information file" or PIF. This PIF is similar to the information dossier that needed to be done under the old Directive 76/768, and it includes a safety assessment report as a main part of it. This PIF must be kept at the premises given for the responsible person and be available upon request of the health authorities for a period of 10 years after the last batch has been placed in the market. The next level of control, the one exercised by the corresponding authority of each member state has also been shifted from the market authorisation, which has disappeared, to a market surveillance scheme as described in Article 22, where it gives each country the right and responsibility to check the products that are being sold in their territory through the PIF and any testing they deem necessary, as well as monitoring compliance with the principles of good manufacturing practices. Lastly, the now extinct market authorisation (which was basically a registration process) has been substituted by a Notification scheme by which, through electronic means, the responsible person or notifier shall submit a certain degree of information such as the category, name and address of the responsible person, member state in which it was first placed in the market, etc. All this information is enough to identify without a shadow of a doubt the product, the responsible person and the degree of health-relevance that the product might carry.

[1] Claim: (*noun*) Assertion that something is true. Oxford Dictionary.

In line with what we just reviewed, GMP compliance is a key issue in this regulation. The production method must be described in the PIF, and it should reflect the GMP principles. As seen, inspections can be carried out by the authorities of the member states to assure that the facilities and processes are adapted to the GMP indications. According to the relevant article of the Regulation, Article 8, these GMP shall be drawn from the corresponding harmonised standard, which is to mean, that ISO 22716 is the reference guide to GMP implementation and assessment, and it is this standard by which all manufacturers and distributors must abide by in their activity. Since it is an international standard, local health authorities cannot certify compliance to the ISO 22716, which can be done through private entities, but it is expected upon inspection to be able to prove full observance and when found not to, there could be liability or administrative repercussions.

Finally, and as the first regulation to introduce this worldwide, this directive expressly bans all animal testing from cosmetic products and ingredients, and for any testing to be done within the European Union. Instead, valid *in vitro* methods are to be used for product and ingredient assessment. All previous ingredients and products that in order to fulfil compliance with the previous Directive had carried out animal testing, could still be placed in the market, however, no further testing can be done. All new ingredients and products must be sure to ascribe to the valid alternative testing methods in order to complete the respective Material Safety Data Sheets and Safety Evaluation Reports.

It is clear that both the old European Directive and the new European Regulation are intricate texts which present the opportunity for a more in-depth review and examination of the repercussions, interpretations and implications of all the wording set in place. However, the key points which arise when examining any regulatory text have been identified, weighed and compared in order to give the intended bird’s-eye view, which will be necessary in order to be able to envision a global regulatory framework in place.

4.2. INTERNATIONAL COSMETIC LEGISLATION

In order to examine the international cosmetics legislation we have defined a starting point in the EU Regulation 1223/2009. From here, comparisons can be drawn and other legal mechanisms and texts better understood. Because of the impracticality of examining each and every legislation in every country, a representative selection has been drawn. As stated previously, the countries have been selected for various reasons: their political area of influence, the relevance of their regulatory stance or the membership to an international community with shared normative. The following five countries fit into one or more of these reasons, and at the same time offer enough diversity as to consider the selection representative. Also, for the sake of increasing the comparative value of the regulation analysis, the main focus will be set on the key elements that had been identified in the previous section during the review of the European normatives. A comparative table has been drawn which includes an overview of this section, included in the Results section of this review. Next, we will explore the comparative results by further examining the differences that have appeared.

4.2.1. United States of America

The political influence of the USA over neighbouring countries and worldwide is beyond any doubt. However, the regulatory area of influence is equally important as far as cosmetics legislation goes. Citation of the regulatory text or standards is not uncommon when consulting different legal texts form all over the world, and although it is usually with respect to specific aspects such as composition restrictions. However, this is not the only reason as to why the USA has been chosen for this comparison. This country offers a significantly different regulation and compliance procedure to the EU, and is a perfect example of a contrasting outlook.

The Food and Drug Administration (FDA) is the health authority in charge of the regulation and control of cosmetic products. Through the regulatory texts and guidance documents which interpret laws, the FDA sets the standards which are to be followed and exercises its own kind of control over compliance with them.

According to the Federal Food, Drug, and Cosmetic Act (FD&C), cosmetics are "*articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness, or altering their appearance, and articles intended for use as a component of any such articles*" (7). If we break this down, we can see that a heavy emphasis is made to incorporate into the definition of a cosmetic the different application methods and to make sure that all are covered within. This comes as a contrast

to the European Regulation in which the stress was made to define a cosmetic through area of application rather than methods. Secondly and probably most importantly are the functions which define a cosmetic. In the US regulation, the definition does not include two key terms: “protecting” and “correcting”. While it might not look like a very relevant omission, it is the source of great concern for those in the industry willing to import or manufacture inside the US. The implications that these two words have are bigger than one might expect. The absence of the first of these terms, protecting, directly affects products such as sunscreen preparations, which have a function of protecting the skin against UVA and UVB radiation. In the case of the second term, correcting, it can relate to antiperspirants, for which the function would be to correct excessive sweating. In both these cases, the products mentioned would not be considered as a cosmetic product. Better said, they would be doubly classified as a cosmetic and an over-the-counter (OTC) drug at the same time and as such would have to be compliant to both the cosmetic and OTC drug regulations. Other products such as anti-dandruff shampoos also have this double classification because of its dual function, both as a tool to clean hair and to treat dandruff conditions (treating being an element of the definition of a drug) (8).

Regarding product and market control, the FDA does not pre-approve a cosmetic product for its marketing and distribution. Compliance with the standards and regulations lies within the responsible person, be it a physical or judicial, for the product being on the market. However, the fact that no pre-market approval exists does not mean that the FDA exercises no control, but rather that products on the market can be tested or examined and anything that might be a risk to human health will have the corresponding consequences of product withdrawal and possibly administrative sanctions. For imported products, these are examined upon entry to the US, and deemed as fit to be granted access or an Notice of Action or Warning Letters will be issued in order to address any non-compliance that might have arisen (9) (10) .

There is, nonetheless, a Voluntary Registration Program (VCRP) to which products and manufacturers can endorse. Only cosmetic products which are already on the market can be registered, and it does not grant an approval by the authorities, but rather it is a means for the manufacturer/distributor to keep the FDA informed of the cosmetics he has brought to the market (11). While the registration procedure is common to many countries, the fact that it is voluntary is a unique characteristic of the US and FDA.

As stated before, manufacturers can also register through the VCRP, and inform the FDA of their activity, and this extends both to local and foreign manufacturers. Any manufacturer that has a

cosmetic product in the US market can be inspected at any given time if the FDA deems it appropriate with prior warning. Upon inspection, the manufacturer is expected to be able to prove that the conditions in which cosmetic products are produced assure quality and safety. Regarding GMP compliance, the FDA has published "Draft Guidance for Industry: Cosmetic Good Manufacturing Practices" (12), which was last reviewed in 2013. This guide was published and as a Draft, it is not compulsory to follow it, however, the FDA strongly encourages it and fully expects it to be adopted.

With respect to assuring the safety of the cosmetic product for human health through its composition, the FD&C Act gives a definition in Section 361 of an Adulterated Cosmetic as that "*which bears any poisonous or deleterious substance which may render it injurious to users under the conditions of use prescribed […] or are customary or usual*". This definition, in all its ambiguity will be used as a basis for ingredient regulation. A list of specific ingredients which are prohibited from being included into a cosmetic product has been issued by the FDA and is included in the Federal Regulations (13), but it is a small list, with only 12 items, in comparison to the ones established by the European Commission. Once again, the responsibility that the ingredients included are safe and that the labelling gives the appropriate indications lies solely on the person who has made the cosmetic available in the market, be it manufacturer, importer or brand. Nanomaterials can be used, but a full safety assessment is encouraged before its use. The FDA also encourages manufacturers to inform when using a new nanomaterial and to provide the scientific proof of its safety beforehand (14).

In keeping with including enough information on the label about ingredients and the intended use of the cosmetic product, there are other pieces of information that need to be included. Failure to do so or to do it in an incorrect manner might render the cosmetic product "misbranded" according to the FD&C Act. A misbranded cosmetic is so when the "*labelling is false or misleading in any particular*", or "*if in package form unless it bears a label containing the name and place of business of the manufacturer, packer, or distributor, and an accurate statement of the quantity of the contents in terms of weight, measure or numerical count*". So here we have at least two requirements as to the content of the label: name and address and net content declaration, as well as a reference to any possible borderline claims. Furthermore, if we align both adulterated and misbranded definitions, we reach the conclusion that the label must also feature indications on the function/use instructions if deemed necessary and also any particular precautions regarding safety, whether it is because of an ingredient or the end product. Additional instructions are given as to the size and visibility of the label contents, which are not relevant to the current review.

Finally, on the subject of animal testing, the FDA does not support or condone the use of animals in order to test security or efficacy of cosmetics. It is once again left to the judgement and responsibility of the manufacturer/brand. It does insist that any testing required to ensure the safety of the cosmetic product must be used, while at the same time urging for alternative validated testing methods to be used. It also fully advocates for the use of the minimum animals needed to obtain the maximum amount of scientific information possible (15).

As we have seen, there is much to be learnt from the differences between the US and the EU regulations. Differences like the consideration of certain products as cosmetics or drugs, the different approach to ingredient regulation and the like conform a template to which European products must adapt into in order to access the market. While the regulatory standpoint of the US might seem more relaxed than the one set by the EU Commission, the wording in the legal texts allows for the FDA to be able to implement any changes to the direction and standards without having to rework the basis. FDA guidelines serve as a departing point to understand the position it holds with some aspects such as labelling or GMP and allows better compliance from the industry.

4.2.2. China

In a similar way that the USA has an influence over western countries, so does China over Eastern hemisphere. It is arguably already one of the most powerful countries in the world, and this extends to the cosmetic industry. The increment of the cosmetic sector in China has impulsed the Eastern expansion of the cosmetic industry and also global growth. And it has done so despite the deep complexity of its regulatory framework.

According to the definition given by the Chinese regulation, a cosmetic product is defined as "*daily used industrial chemicals which can be spread on the outer surface of the human body (skin, hairs, nails, lips, etc.) for the purpose of cleaning, deodorizing, providing skin care, beauty and make-up, by way of smearing, spraying or other chemical means*"[2] (16). By this definition, both function and area of application are used to mark the confines of cosmetic products. By area of application, we can see that in the Chinese definition, teeth and oral mucous membranes are not included. Moreover, if we take a closer look we can appreciate the interpretation that has been given to the functions given. Similarly to the US regulation, the function of "protecting" is not included in this definition. However, there is an indication of "providing skin care" which has a wide enough scope as to include to protect or to aid with skin integrity, which would take it closer to the EU Regulation. The

[2] Not an official translation, extracted from CIRS-REACH

Chinese FDA (CFDA) has cleared the water on this matter by classifying cosmetic products into two clearly defined categories, which are:

- General use cosmetics: general cosmetics are those used for hair care, nail care, skin care, perfumes and make-up. They are simple in the method of application and do not pose much risk for the consumers' health.
- Special-use cosmetics: including hair growth restoratives, hair dyes, deodorants and sunscreen products. These cosmetics have been categorized separately due to the increased complexity of their claims and properties, which need to be addressed and confirmed. They might also have a higher risk for human health under normal use conditions that warrants a strict control over them.

So instead of categorizing more complex products as OTC drugs like the US FDA, the Chinese regulation assimilates these into the cosmetic definition. Yet it still acknowledges that they are to be carefully supervised. This in turn leads to differences in the kind of control the CFDA takes on each category.

The process followed for the placement of a cosmetic product on the Chinese market will depend on the category of cosmetic it fits into. Two separate procedures will need to be completed if the product is to be authorised. Depending on the sources these processes might have different names, but what remains is that they are clearly distinct. General-use or non-special-use cosmetics have to be submitted for a registration process[3] , sometimes referred as a notification due to its comparative simplicity. This registration entails the presentation of a dossier in which special attention is given to the labelling and the formula of the cosmetic product, to ensure that it has been rightly categorized as a general cosmetic. This registration is, as stated before, comparatively simple to the process through which special-use cosmetics are authorised and the time to complete the registration is also shorter. On the other hand, for special-use cosmetics, the process of product legalization is an "*administrative authorisation*"[4]. This procedure is more time-consuming and the main difference is that safety and claim proof has to be submitted and reviewed in order to assess the possible health risks and truthfulness behind the more complex claims (17).

Regardless of the kind of product legalization that has to be undergone, the product formula will have to be submitted for reviewing. In China, cosmetic composition is regulated through a positive list, which is to say a list of ingredients that are allowed to be used in cosmetic formulations. This list is called the "*Inventory of Existing Cosmetic Ingredients in China*" or IECIC (18). In its last edition,

[3] This is a translation of the official name given as per the form document of request for registration.
[4] Again, the translation is directly extracted from the form of request for administrative authorisation.

2014, the IECIC included 8783 cosmetic ingredients approved by the CFDA. Alongside the cosmetic ingredients, for some a Maximum Use Concentration in Approved Product – or MUCAP- is given. The MUCAP represents the highest concentration of the ingredient available in the market through authorisation of the cosmetic product that contains it, and is not in itself a restriction. However, presence of an existing ingredient in a higher concentration than previously allowed must be accompanied with enough scientific data so as to ensure safety. Additionally, a cosmetic ingredient not listed in the IECIC means it has not been previously approved and must be submitted for ingredient registration with the CFDA, a process that can take up to two years (19).

The list of ingredients, along with other information regarding the cosmetic product, has been set as requirements for the cosmetic product labelling according to the corresponding standard, GB5296.3/2008 *General labelling for cosmetics* (20). These have been included in the comparative table and do not introduce any new requisite.

For manufacturers of cosmetic products, a regulation has been set in place in order to establish the correct production methods which need to be followed. The "*Hygienic Standard for Production Enterprises of Cosmetics*" (2007) (21) is an executive document containing GMP-like guidance to the manufacturer in order to ensure the sanitary conditions of cosmetic production.

Lastly, we come upon the controversial and difficult topic of animal testing. It is on this topic that presents most difficulties for European exporters wishing to access the Chinese market. We have seen that the EU Commission banned animal testing both for ingredients or finished cosmetics products. China's regulatory stance on this subject is the complete opposite, animal testing is not only acknowledged, but compulsory. The CFDA does not recognise alternative methods to animal testing and although this is slowly changing, the current stand remains the same. For cosmetic products being imported into China, both general-use and special-use cosmetics need to be tested on animals in order to receive approval (19). For Chinese manufacturers, only recently was the animal testing waived for general-use cosmetics, but not banned. The animal testing requirement enters in direct conflict with the EU Regulation 1223/2009 in which animal testing is banned for cosmetics sold in Europe. So, the same cosmetic product would initially not be able to be sold simultaneously in Europe and China. In order to circumvent this issue, the industry has had to come up with adroit solutions such as changing the product formula or name, so it is no longer the same cosmetic product, or import bulk product which will then be reprocessed in China and would be considered as a local cosmetic product and not subject to the animal testing requirement.

All in all, China offers an interesting third perspective into the cosmetic regulations. With a categorization of cosmetics into two groups, which is a system followed in many Asian countries, a perspective in product control that is interestingly complex and a stand on animal testing that offers enough of a challenge for foreign manufacturers.

4.2.3. Saudi Arabia

As a one of the most influential members of the Gulf Cooperation Council (GCC), and as a representative country of the Middle-Eastern community to which it belongs, Saudi Arabia is a sensible choice to bring into the comparison.

The regulatory framework of cosmetic products in Saudi Arabia is mediated through two different and interrelating standards. On the one side, we have the Gulf Standard GSO1943/2009 and on the other the Saudi Standards or SASO 1953. The Saudi health authorities, in the form of the Saudi Food and Drug Administration (SFDA) gives prevalence to SASO Standards, but sanctions GSO 1943/2009 (22). As in most of the middle-Eastern countries, Saudi Arabia includes the old European Directive 76/768/EEC as reference material (23). This directive has been openly acknowledged as an accepted regulatory text in some cases and when not, it has heavily influenced the local legislation.

Within the SASO 1953 standard, a cosmetic product is defined as "*any substance or preparation intended to be placed in contact with the various external parts of the human body (epidermis, hair system, nails, lips, and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance and/or protecting them or keeping them in good condition*" (23). This definition, which is also given in the GSO standard, is completely in line with the one in the European Directive, which means that the type classification will also correspond with the one held in Europe. However, just like with the European Directive, and the later Regulation, this definition sets it apart from that given in China or the US.

With regards to product control, up to 2015, while local businesses had to register with the SFDA, products manufactured locally did not need to be registered or follow and approval system. For imported cosmetics, a Conformity Assessment Program (CAP) was set into place so as to verify that the products conform to the given standards. For the CAP, private certification agencies have been given the right to issue certificates ensuring said compliance, and these can be obtained within the country of origin in order to speed up customs procedures. From 2015, a notification scheme has been launched from the SFDA (24) into which all products and manufacturers/distributor must be

included. This notification also constitutes a marketing authorisation, as the SFDA verifies the data submitted and issues a response that fits into the accept/reject kind. Foreign cosmetic products being imported into Saudi Arabia and the corresponding foreign manufacturers also have to be notified through the same system.

Among the items included in the Conformity Assessment and the notification process is the formula of the cosmetic product. The composition of cosmetic products is outlined by the corresponding annexes to the standard that include an adapted version of the ingredient lists included in the old EU Directive, in which only a few changes have been made. These changes can be found in importation guides published by the SFDA. In addition to these, and common to most of the Islamic world, there is a total ban on any kind of product containing lard or any kind of pork derivative. Furthermore, even if there is not particular restriction on alcohol concentration, in keeping with the Muslim tradition there are specific requirements for products containing this ingredient.

Labelling requirements are in themselves not very different from the ones that have been examined before, with the main components being the same as we have seen for the European Union and China, for example. A specific indication of the allowed or expected languages is included in the Standard in which it states that certain aspects of the label can be in English, while others must be in Arabic. For product labelling regarding composition, there is a specific standard that deals with the particularities of cosmetics products containing alcohol within an Islamic environment. This standard is the SASO 585/2000 (25), which can be summed up as the inclusion of two indications that must appear clearly on the label. Firstly, an indication of the alcohol concentration in the finished product must be given. Secondly, precautionary statements must be included such as “not suitable for drinking” or “external use only” and these must appear in Arabic so as to reach the end consumer.

Continuing, the SFDA has not published a corresponding guide of GMP for the cosmetic industry. It relies solely on the adaptation to the international standards of quality manufacturing. For domestic manufacturers, it is not clear from a regulatory point of view how GMP assessment is done, although there is a corresponding section within the notification scheme. However, for foreign manufacturers importing cosmetic products into the country it is done thought the Conformity Assessment Program, in which manufacturers are asked to submit any relevant documents regarding GMP and quality systems implementation or observance, be it in form of a declaration or an actual certification.

Lastly, considering the subject of animal testing of cosmetic products and ingredients, there is no official position regarding to it which in itself constitutes a standpoint. Product safety must be guaranteed, without mention of the testing methods that must be followed. For cosmetic products

being imported into the country, all data regarding animal testing must be submitted for review, thus seeming of certain relevance at the very least, even if it is through external companies that are a part of the CAP.

While Saudi Arabia does not introduce great changes from a regulatory point of view, it is still relevant to this review as a window into the regulations on cosmetics in the Middle East. It is true that it relies heavily on the European Directive 76/768 and to some extent, by some other international standards that are commonly accepted as progressive. But despite this, the standards have been adapted to suit the specific needs of the Islamic community. Neighbouring countries have also adapted following Saudi Arabia's example and through the GSO Standards. The information reviewed in this section might be easily applicable to other Middle Eastern countries.

4.2.4. Colombia

The Andean Community (*Comunidad Andina de Naciones* or CAN) is a customs union that includes four countries: Colombia, Peru, Bolivia and Ecuador. Among the specific aims of a customs union is the promotion and aid of the establishing of trade relations between all countries included. In this line, it is in the union's best interest to circumvent any possible technical barriers to trade. These countries have all set a common standard which they have all later transposed into their own legal framework. This gives an added value to this overview, as we not only gain sight of the Colombian industry, but also into the standard followed by several countries. We will also get a very general perspective, within all of its diversity, of what South America is like from a regulatory perspective.

As mentioned, Colombia follows the CAN Standards which have been adopted into its own regulatory setting. For cosmetic products, the corresponding standard is CAN Decision 516 (26), with its amendments: Decision 777 (27) and Resolutions 797 (28) and 1333 (29). Within Colombia, as well as the transposition of the standard, certain aspects have been further defined through local legislative actions, for example, Resolution 3132 (30) deals with specifics regarding sunscreen products, or Resolution 3774 (31) by which the CAN GMP guide has been accepted.

The Andean Standard, Decision 516, defines a cosmetic as "*any substance or formulation for local application intended for use on the different superficial areas of the human body: epidermis, hair, nails, lips and external genital organs or on the teeth or mucous membranes, with the aim to clean, perfume, change appearance, protect or maintain them in good condition and prevent or correct body odours*". This definition does not introduce any changes with respect of the European Directive. Products considered cosmetics in Europe would also be included in this category within Colombia,

and there is a list of corresponding product categories into which these products might be classified. As it is in line with the European definition, it is also significantly different from the definitions we have seen were given in China or US.

Once defined the limits of a cosmetic product, the Decision also establishes the method for product and market control. In a similar way to the European Regulation, this procedure is also called a notification. But unlike the European model, in which the product is notified but there is no need for approval from the corresponding authorities, the CAN and Colombian compulsory notification will have an administrative decision of authorisation of the product. This notification process is called Compulsory Health Notification (*Notificación Sanitaria Obligatoria* or NSO). Each CAN country establishes the way the NSO takes place, and in Colombia, Circular 100-00439 sets the validity of this Notification for a period of 10 years (32). In order to complete the NSO, an official form must be completed and the relevant information requested by the health authorities must be attached, including relevant information regarding claims of the product, product formula, safety evaluation, or production method description within the scope of GMP. Product notification is not centralized as it is in the European setting, but consistent with the common standard, there is a process of product notification recognition. This recognition process is based in a trust setting between health authorities of the member states. The request for product notification recognition is also form-based, but the amount of information to be included is significantly less.

Product formula is also assessed as part of the notification process before been given the authorisation to place the product on the market. The CAN standard, and hence the Colombian regulations, have decided against directly including any list into the legal text. Instead, the official acknowledgment of international standards has been adopted as the best method of ingredient control. Thus, Article 3 of the Decision 516 recognises the following ingredient lists: US FDA, CTFA (Cosmetics, Toiletry & Fragance Association), Cosmetics Europe and the European Directives. This is, in a way, a comfortable approach to control the ingredients being used in cosmetic products. The acceptance of international standards profits from scientific and administrative contributions of other countries. With this, new recommendations or limits for ingredients that might have a health risk are incorporated as soon as these changes are set into the corresponding international lists. Secondly, there is no need to be constantly reviewing and updating the published lists, which can be time-saving and allows for an agile way to stay on top of human safety conditions.

As for labelling requirements, again, there is no significant change with respect to the items to include according to the European Directive, the Chinese regulation or the Saudi Standards. Items like the name and address of the manufacturer or person responsible for its marketing and particular precautions that the consumer must be informed about have to be included. The language of choice is Spanish, and all precautionary text or instructions must be included at least in this language. There is one different item to be incorporated which is exclusive to the Andean Standard and that is the NSO number. Each time a notification is submitted and approved, the product is assigned a unique code into which the initials of the country of first market entry are included. This code must be placed on the product label and is one more element that helps in the in-market control of the cosmetic product.

One other element that has been incorporated into the Colombian regulatory setting is the compliance with GMP methods of production. Control over GMP implementation is accomplished through the operating licence that local manufacturers or distributers need to obtain in order to be able to produce cosmetic products. Through Resolution 3774, Colombia encompasses the GMP standards issued by CAN and includes it into their own requirements. INVIMA, which is the corresponding health authority in Colombia, upon request to register a cosmetic production facility, would perform an on-site inspection to guarantee that the minimum hygienic standards are being met.

Animal testing restrictions have not been included into the regulatory framework neither in Colombia nor the CAN. This, like in Saudi Arabia, implies that it is not necessarily a requirement to assuring product safety, but it is not banned either and as such it can be used to determine the health risk the cosmetic product might pose.

Without any considerable addition to the global framework, we see here how Colombia and CAN adapt international standards into their own regulatory setting, with big reliance on the European Directive and acceptance of other relevant standards.

4.2.5. The Philippines

The last country to be reviewed in this international comparison is the Philippines, which has been chosen as a representative selection of the countries that together form the ASEAN. The ASEAN or Association of Southeast Asian Nations is a political and economic organization similar to the European Community. Among the member states are the Philippines, Indonesia, Malaysia, Singapore, Thailand and Vietnam. All these countries have adopted a common standard in order to,

like in the case of the EU and CAN, allow for a smoother trade and movement of cosmetic products through their borders.

The ASEAN Directive, which is currently in its 4th amendment, is another instance of a regulatory text heavily influenced by the European Directive (33). We can find overwhelming proof of this in the very first element we have been comparing, the definition of a cosmetic product. According to the ASEAN definition, a cosmetic is "*any substance or preparation intended to be placed in contact with the various external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance and/or correcting body odours and/or correcting them or keeping them in good condition*". This stated definition is almost word-for-word the European definition of a cosmetic product. So, in the ASEAN countries, products are clearly defined as Cosmetics or drugs, with no double or borderline products.

Once established the scope of a cosmetic product, the ASEAN lays down the bases for product control. Like in many other countries of the world, as we have seen done before for cosmetic products under several standards, cosmetic products must be notified to the relevant authorities. Within the Philippines, this control is exercised by the corresponding FDA However, as with the CAN standards, the notification system is also a method of product approval, in which there is administrative response as to whether the product conforms to the required standards or not. There is also a recognition system in place for the notification in all the member states of the ASEAN community, through which product approval may be granted for market access in more than one country.

As per usual, the product formula is one of the most relevant pieces of information when submitting the cosmetic notification to the health authorities. Cosmetic ingredients are once again directly derived from the European Directive. So much so that Article 4 of the Directive bears the following sentence: "*Member States shall adopt the Cosmetic Ingredient Listings of the EU Cosmetic Directive 76/768/EEC including the latest amendments*". Following this statement is a complete review of the ingredient annexes that are to be used or prohibited in cosmetic products. As we have seen before, this is allows for easy and effective ingredient listing and update without the need for a constant revision and modification of the text.

Product labelling is another unsurprising part of the ASEAN Directive; it has no new elements to be included in the cosmetic label. All elements that are to be included have been mentioned in other regulatory texts we have reviewed before. However, if we are looking for an element to difference it

from the others, it might be the extensive lists that the Philippine FDA has published of particular precautions that must be included depending on the type of cosmetic product and for some specific ingredients (34) (35). In its last amendment of the ASEAN Directive, a special precautionary message is advised to be included on sunscreen products.

As far as GMP implementation in production facilities for cosmetics goes, the ASEAN has published within its Directive a GMP guide to be followed (33). The way in which the authorities supervise the production of cosmetic products in hygienic conditions is through a manufacturing authorisation or warehousing operations authorisation in which an inspection takes place to ensure that minimum requirements are being met. The Philippine FDA in an effort to help local manufacturers comply with ASEAN GMP standards has published a small guidance documents in which common questions posed by the industry are answered (36).

Finally, the Philippine FDA and the ASEAN community have not issued any kind of legal ban or statement neither condoning nor allowing testing on animals for cosmetic ingredients and products. With the deep reliance there is from the ASEAN directive on the European legislation, great efforts have been made in order to ensure full homogenisation. A meeting has taken place between ASEAN Heads of Delegation and animal-rights activists in order to formally ask for the introduction of a ban on animal testing. So far, Vietnam is the best supporter of this cause and has agreed to introduce a program to boost valid alternatives (37).

Vietnam, where animal testing was openly conducted, has recently agreed to meet with animal activist groups whose aims are to stop animal testing.

5. A COMPARATIVE CONCLUSION

We have seen here a total of six examples of regulatory frameworks that are current and in force at the moment of this review and one that has already been derogated and replaced. With them we have covered a big part of the world's legislative bases and examined good and valid examples of different aspects included in the laws that control and limit the cosmetic industry. Tables 1 and 2 contain a summarised compilation of the differences and similarities in the elements that have been reviewed. For a few of these elements it is worth drawing a final line in order to better make a point.

Product classification is a major issue when dealing with different regulations and countries. What is a cosmetic in one place might be a drug in another or a borderline product in yet another. This is better explained through Figure 1. We have seen how the European Directive clearly makes this

separation, so that there are two related but clearly separate categories: drugs and cosmetics. This maintains continuity in that no product is left unclassified, and there are no borderline products; it is always a cosmetic or a drug. In contrast, in the United States, under the FDA definition, there is a certain degree of overlap in product categories. A product can be clearly a cosmetic, clearly a drug, or be both at the same time, like we have seen for sunscreen products. The third kind of product classification entails the addition of a new category as a bridge between a cosmetic and a drug. A general cosmetic product will have basic properties, functions and claims. A special-use cosmetic will have some kind of function or claim that makes it more susceptible to present a health risk, while a drug will have its own set of characteristics. There is also continuity, but distinguishing a general cosmetic from a special-use cosmetic can sometimes be just a matter or a sentence on the label.

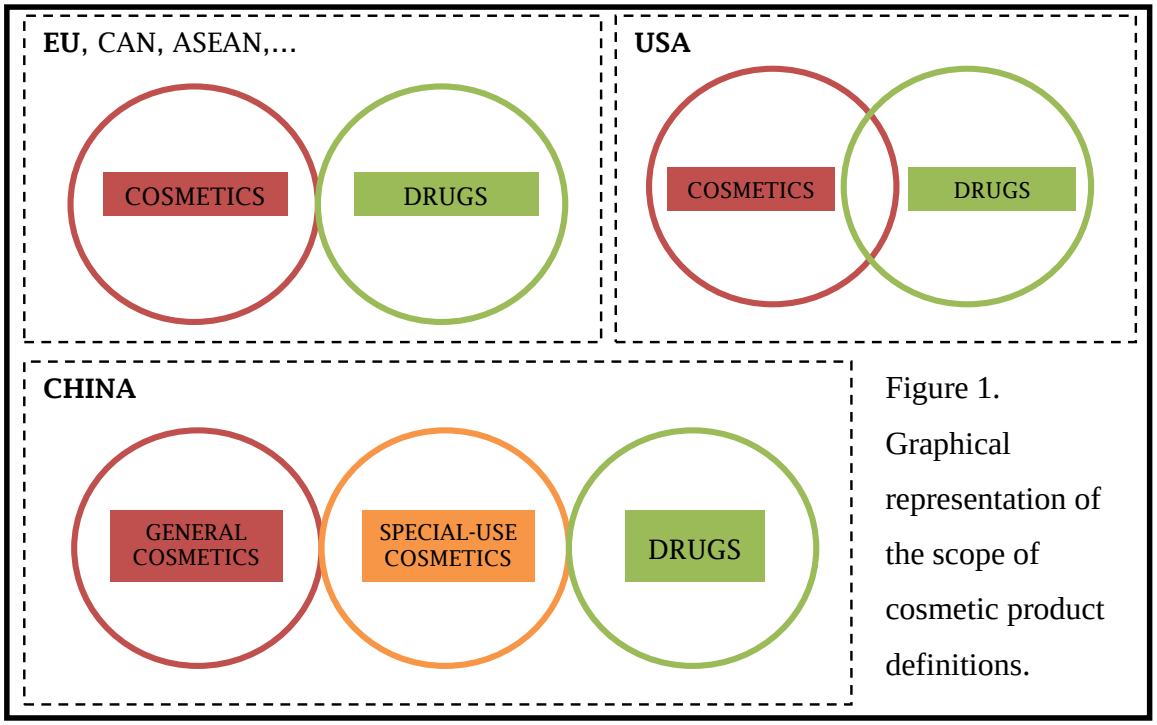

Figure 1. Graphical representation of the scope of cosmetic product definitions.

Another possible source of confusion is product control. There are a set number of product control processes from the authorities, and a set number of names, but the combinations of both used are plentiful. Products can be freely manufactured and sold, they may have to be communicated the authorities of their intended production/commercialisation or they may need to apply for an authorisation on the cosmetic product. These are the three possibilities to which product control is limited. Confusion derives when the term “notification” is used in any other meaning than the communication to the authorities, and “registration” is not used to indicate product approval. Europe and China are examples of well used terms, in that in Europe you notify the cosmetic product but the

product is not approved or rejected, and in China the product must be registered in a process that involves product and information review. For CAN and ASEAN directives, the term notification is used probably to set it aside from a typical registration procedure which is usually long and complicated, but even a simplified registration is not the same as a notification while it still needs an administrative response.

The next three elements, ingredients, labelling and GMP, do not present much room for confusion. European composition lists are exhaustive, while US is in contrast quite thrifty, leaving ample room to move around in, and China is in itself quite restrictive as new ingredients have to be registered too. Labelling requirements do not vary that much, leaving the same information to be added in all countries, with language variations and certain particularities, such as alcohol information in Saudi Arabia. For GMP, all regulatory texts agree that product safety is the main concern and reflect that in the publishing or acceptance of a GMP Standard. It is understood that for a product to be safe it needs to be manufactured in adequate and hygienic conditions. However, there does not seem to be any kind of consensus as to how these GMP are verified. In Europe, ISO 22716 is in force as the standard, but there is no requirement for certification and the authorities do not always inspect for compliance. In other countries, a licence of operations must be obtained for which inspections are carried out in order to assure GMP compliance before the manufacturer begins commercial activity.

Finally, animal testing is an important topic from a legal and ethical point of view. Europe has proved that the cosmetic industry can be safe without the use of animals for testing, and opting instead for in-vitro methods. This has convinced other countries to join in and also ban animal testing, two of the latest being India and New Zealand. However, while most countries lean towards the use of in vitro alternatives, they do not introduce a ban on animal testing and so it continues to be a common practice throughout the world, especially when considering the possibility of marketing in China. As we have seen, China’s regulation is in direct contrast to Europe’s, not recognising the validity of alternative tests and making animal testing a compulsory step in order to register cosmetic products. While the interest for cruelty-free cosmetics increases, the authorities are more interested in introducing a ban also is at a rise, but to this moment, most of the regulatory world is still in neutral ground and will not take a step either way.

6. A PRACTICAL APPROACH

Some things are better explained or seen through a practical example and this case is no different. This section aims to sum up some of the concepts that have been set and explained in the previous regulatory analysis and to show how changes in legislation apply to a real cosmetic product and not just the theory behind it.

In order to undertake this practical approach, two cosmetic products have been selected, the first is a moisturizing cream and the second a sunscreen oil. These two products will be checked for compliance both within the European Union, for which they should be found correct as they are currently available in the market, and international compliance within the countries that have been examined. The products will remain unidentified throughout, but the main product characteristics have been detailed in Table 3.

Table 3. Descriptive table of the two compared cosmetic products.

PRODUCT TYPE	**Oil-free moisturiser**	**Dry oil sunscreen SPF20**
PRESENTATION	Plastic tube with screw-on lid, 50ml	Plastic bottle with spray, 200ml
INGREDIENTS	Detailed in Composition Review	Detailed in Composition Review
LABEL CONTENTS	- Name of product and brand - Function - Ingredients - PAO - Net content - Directions for use - Cautionary messages - Product Claims - Country of Origin - Name and address of the responsible person	- Name of product and brand. - SPF indication - Net contents - Method of use - Cautionary messages - PAO - Product Claims - Name and address of the responsible person

Now that we have the relevant information about the product we can move on to the compliance verification. This will be done in three stages of verification: product type and control, composition and labelling. These three elements constitute the first barriers when exporting cosmetic products, and the first stage in ensuring product conformity

In order to introduce a cosmetic product into a foreign market, most countries and authorities expect and regulate cosmetic products before they can be accessible to the end consumer. As it has been shown before, these processes are usually named “registration” or “notification”. The information on product control for each of the two products is reflected in Table 4 of Annex I. It is apparent from the

table which regulations segregate cosmetics into more than one kind of products and what that means in regards to product control. It exemplifies the relationship between a cosmetic product in the broader sense, between a general-use cosmetic and a special-use cosmetic, and between a cosmetic and a drug.

Further, Table 5, also in Annex I, contains the identification of the cosmetic composition. The qualitative formula of the oil-free moisturiser has been included and contrasted against the existing composition lists in the corresponding countries to look for non-compliant ingredients. Since there is no quantitative data as to the concentration of each ingredient, we will base the analysis on a three-colour indicator. A green indicator means the cosmetic ingredient is free to use in any concentration. An exception to this will be made in China's revision, in which the cosmetic ingredient is sometimes approved for use giving a MUCAP value. If the presence of this ingredient is above the MUCAP value, a new registration for cosmetic ingredient must be presented before registering the cosmetic. For China, a green indicator has been given to those ingredients without a MUCAP value or which the MUCAP value is well above the concentration used normally in cosmetics. For all countries, a yellow indicator will mean a cosmetic ingredient that has a certain restriction, but we will not be studying the particular restrictions that have been laid down. A red indicator will be for a prohibited ingredient present in the formulation. Also collected in Table 5 is the function of the cosmetic ingredient, which will give us an idea of the reason behind the presence of the ingredient and also hint at the reasons behind the restriction that may have been put in place. It is very likely that a preservative will have a restriction in place, while a solvent will be accepted at most concentrations. Also, for multi-purpose ingredients, restrictions might be in force for one of the uses, but not for the rest.

Finally, Table 6 contains the information included in the Dry Sun Oil SPF20. The items that are present have been arranged also into a compliance-checklist. Again, a green indicator means a certain item is found to be compliant, as it is with most of them. Yellow indicators have been given to those items which need special attention, in particular, the name and address of the responsible person, while present, must change from one country to another as the local authorities will only recognise a responsible person within the limits of their jurisdiction or country. Also, there is no indication of the country of origin, which is not in itself a non-compliance if it is not an imported cosmetic. However, if this cosmetic were to be exported, it should be included. A red indicator has been given to two specific items in three countries. Being an alcohol-based product, it should bare a special indication of the concentration for Saudi Arabia. In China and Colombia, the labelling has to

include the number assigned to the cosmetic as a result of the respective registration/notification process.

7. FINAL CONCLUSIONS AND THEME INTEGRATION

Throughout this review there has been a conscious effort to scale down a subject which is far from being brief, and all the effort has been put into being able to provide a wide vision of what the global scheme of regulations that affect directly or indirectly all cosmetic products. We move in a globalised world where little attention is sometimes given to what it takes to move things across the planet. We have seen how China demands animal testing which invalidates a product for European commercialization, where these practices are banned. We have also seen how a product might have to be registered in the USA if it contains a sunscreen ingredient even if it is not the product's primary claim to protect against sunburns. And yet there are a lot of subjects which have had to be set aside in order to reduce the scale of analysis, such as product claims which are another big issue within the cosmetic industry, or toxicological/safety assurance testing. Additionally, a practical example was given in order to illustrate many of the points which were exposed during the review and to bring home the conclusion that, while many items of the regulations and laws are similar, there are still those which remain different and open the door to possible non-compliances.

The subject of the review has been specific, a law is a law after all, and it is mainly based in the abilities and competences derived from the Legislation and Deontology scope. However, there is a background theme that carries along the review which is related to the Pharmaceutical Management area. After all, the direct application of the analysis of these laws correlates perfectly with the private sector and cosmetic industry, both with its merits and challenges. Furthermore, there is the need for regulatory experts to work hand in hand with all the areas of the industry, either with research in order to determine the allowed composition, with the design team in order to design compliant labels or with the sales department to see which countries are available for distribution. Regulatory knowledge means little without the practical applications. Finally, by bringing the subjects of good manufacturing practices and the analysis of the function of the cosmetic ingredients, Pharmaceutical/Cosmetic Technology has been included as a present theme in several parts of the review.

8. BIBLIOGRAPHY

1. Kummar S. Exploratory analysis of global cosmetic industry: major players, technology and market trends. Technovation 25. 2005;: p. 1263-1272.

2. Cosmeticsdesign. ww.cosmeticsdesign.com. [Online].; 2012 [cited 2015 May. Available from: http://www.cosmeticsdesign.com/Market-Trends/Global-beauty-market-to-reach-265-billion-in-2017-due-to-an-increase-in-GDP.

3. Stanpa. Stanpa: Asociación Nacional de Perfumería y Cosmética. [Online]. [cited 2015 May. Available from: http://www.stanpa.es/estadistica/40/ContenidosGenerales.aspx.

4. European Council. Directive 76/768/EEC on the approximation of the laws of the Member States relating to cosmetic products. Official Journal of the European Union. 1976 Jul;(L262, pp. 169-200).

5. European Council. Regulation (EC) No 1223/2009. Official Journal of the European Union. 2009 Dec;(L342/59).

6. European Commission. Commission Regulation (EU) No. 655/2013, laying down common criteria for the justification of claims used in relation to cosmetic products. Official Journal of the European Union. 2013 Jul;(L190/31).

7. Federal Food, Drug, and Cosmetic Act. United States Code. 1938;(Public Law 75-717).

8. Food and Drug Administration, US. Is It a Cosmetic, a Drug, or Both? (Or Is It Soap?). [Online].; 2015 [cited 2015 May. Available from: http://www.fda.gov/Cosmetics/GuidanceRegulation/LawsRegulations/ucm074201.htm.

9. Food and Drug Administration, US. Warning Letter Related to Cosmetics. [Online].; 2014 [cited 2015 05. Available from: http://www.fda.gov/Cosmetics/ComplianceEnforcement/WarningLetters/ucm2005169.htm .

10. European Commission. Market Access Database: Notice of FDA Action. [Online].; 2015 [cited 2015 05. Available from: http://madb.europa.eu/madb/viewPageIFPubli.htm?datasetid=MAIF-US15-

03v001&filename=act_fda.html&hscode=3304&path=/data/website/madb/egif/prod/MAIF-US15-03v001/&imagepath=/egif/prod/MAIF-US15-03v001/&page=&country=United%20States%20of%20America&countryid=U.

11. Food and Drug Administration, US. Voluntary Cosmetic Registration Program. [Online].; 2015 [cited 2015 05. Available from: http://www.fda.gov/Cosmetics/RegistrationProgram/default.htm.

12. Food and Drug Administration, US. Draft Guidance for Industry: Cosmetic Good Manufacturing Practices: US FDA; Last revised, 2013.

13. Subpart B, Requirements for Specific Cosmetic Products. Code of Federal Regulations. ; Title 21(Chapter I, Part 700).

14. Food and Drug Administration, US. Nanotechnology. [Online].; 2015 [cited 2015 May. Available from: http://www.fda.gov/Cosmetics/ScienceResearch/Nanotech/default.htm.

15. Food and Drug Administration, US. Animal testing and Cosmetics. [Online].; 2014 [cited 2015 May. Available from: http://www.fda.gov/Cosmetics/ScienceResearch/ProductTesting/ucm072268.htm.

16. CIRS-REACH. Cosmetics and Cosmetic Ingredient Law. [Online].; 2013 [cited 2015 May. Available from: http://www.cirs-reach.com/China_Chemical_Regulation/China_Cosmetics_Cosmetic_Ingredient_Law.html.

17. Chinese Food and Drug Administration. Requirements for Application and Acceptance of Administrative Licensing for Cosmetics. 2009.

18. Chinese Food and Drug Administration. Inventory of Existing Cosmetic Ingredients in China. 2014.

19. CIRS-REACH. Regulatory Status of Animal Testing in Cosmetics in China (Webinar Content). 2014..

20. National Standardization Technical Committee. GB 5296.3-2008 General Labeling for Cosmetics. 2009.

21. Chinese Food and Drug Administration. Hygienic Standard for Production Enterprises of

Cosmetics. 2007.

22. Executive Directorate of Cosmetics Products Safety. Requirements and Documents for Clearing Cosmetic Products from Custom Ports. 2012..

23. Saudi Standards, Metrology and Quality Organization. SASO 1953/2009: Cosmetic Product (Safety) Regulations - Draft.

24. Saudi Food and Drug Administration. eCosma. [Online].; 2015 [cited 2015 May. Available from: https://ecosma.sfda.gov.sa/home.aspx?enc=9Zo/OcjXLUTAdEFdDlLN8A==.

25. Saudi Standards, Metrology and Quality Organization. SASO 585/2000, labelling requirements for products containing alcohol.; 2001.

26. Comisión de la Comunidad Andina. Decisión 516, de Armonización de Legislaciones en materia de Productos Cosméticos. Gaceta Oficial del Acuerdo de Cartagena. 2002 Marzo;(771).

27. Comisión de la Comunidad Andina. Decisón 777, por el que se modifica la Decisión 516. Gaceta Oficial del Acuerdo de Cartagena. 2002 Noviembre;(2113).

28. Comisión de la Comunidad Andina. Resolución 797, Reglamento de la Decisión 516 sobre Control y Vigilancia Sanitaria de Produc-. Gaceta Oficial del Acuerdo de Cartagena. 2004 Febrero;(1032).

29. Comisión de la Comunidad Andina. Resolución 1333,Adiciones a la Resolución 797 – Criterios de homologación de la codificación en materia de cosméticos. Formatos para la Notificación Sanitaria Obligatoria (NSO) de productos cosméticos, su renovación, reconocimiento y cambios. Gaceta Oficial del Acuerdo de Cartagena. 2010 Julio;(1848).

30. Ministerio de Salud Pública. Resolución 3132, por la cual de reglamentan las Normas sobre protectores solares. Diario Oficial de Colombia. 1998 Agosto;(43367).

31. Ministerio de la Protección Social. Resolución 3774, por la cual de adopta la Norma Técnica Armonizada de Buenas Prácticas de Manufactura Cosmética y la Guía de Verificación de Buenas Prácticas de Manufactura Cosmética. Diario Oficial de Colombia. 2004 Noviembre;(45735).

32. Dirección General INVIMA - Instituto Nacional de Vigilancia de Medicamentos y Alimentos.

Circular externa 100-00493, sobre vigencia de notificaciones sanitarias obligatorias. 2013 Septiembre.

33. ASEAN. Agreement on the ASEAN Harmonized Cosmetic Regulatory Scheme Phnom Penh; 2003.

34. Philippines FDA. Comsetic Regulations - Administrative Order No.21, list of permissible claims for cosmetic preparations; 1995.

35. Philippines FDA. Cosmetics Regulations - Administrative order No. 19, labelling requirements; 1992.

36. Philippines FDA. Questions and Answers on the interpretation of ASEAN GMP ; Unspecified.

37. Cruelty-Free International. ASEAN to consider Cruelty Free International proposal to ban animal testing for cosmetics - See more at: http://www.crueltyfreeinternational.org/en/a/ASEAN-to-consider-Cruelty-Free-International-proposal-to-ban-animal-testing-for-cosmetics#sthash.ysAf9HH8. [Online].; 2013 [cited 2015 May. Available from: http://www.crueltyfreeinternational.org/en/a/ASEAN-to-consider-Cruelty-Free-International-proposal-to-ban-animal-testing-for-cosmetics.

38. Fair Packaging and Labeling Act. United States Code. 1966;(Public Law 89-755).

39. Chinese Foor and Drug Administration. Regulations concerning the Hygiene Supervision over Cosmetics. 1989.

40. Chinese Food and Drug Administration. Hygienic Standard for Cosmetics. 2007.

ANNEX I. Product compliance

Table 4. Product type and control in the different countries included in the review

Country / Product type	**Europe**	**USA**	**China**	**Saudi Arabia**	**Colombia**	**Philippines**
Oil-free moisturiser	Compulsory product notification prior to commercial distribution, no approval needed	Voluntary Notification after the product is placed in the market, no approval needed	General cosmetic registration for product.	Electronic notification and product verification through CAP.	Obligatory product notification before product is placed in the market, approval must be granted.	Product notification prior to product entering the market, approval must be granted.
Dry oil sunscreen SPF20	*(as above)*	OTC Drug Product Registration and Voluntary Notification.	Special use cosmetic registration for product.	*(as above)*	*(as above)*	*(as above).*

Table 5. Qualitative formula for oil-free moisturizer, including function of the ingredients and compliance checklist for each country. Countries are named according to the three letter code included in ISO 3166.

INGREDIENT LIST	FUNCTIONS	EUR	USA	CHN	SAU	COL	PHL
Aqua	Solvent						
Glycerin	Humectant, Masking, Protection, Vistosity Control						
Propylene Glycol	Humectant, Skin Conditioning, Solvent, Viscosity Control						
Cetyl alcohol	Emollient, Emulsifier, Opacifyer, Surfactant, Viscosity Control						
C12-15 Alkyl Benzoate	Emollient, Skin Conditioning, Antimicrobial						
Stearyl Alcohol	Emollient, Emulsifier, Opacifying, Surfactant, Viscosity Control						
Glyceryl Stearate	Emollient, Emulsifying						
PEG-100 Stearate	Surfactant						
Salicylic acid	Keratolytic, Masking, Preservative, Skin Conditioning.						
Aloe Barbadensis Leaf Extract	Emollient, Humectant, Skin Conditioning						
Chamomilla Recutita Extract	Skin Conditioning						
Menthyl Lactate	Masking, Refreshing						
Cetyl Lactate	Emollient, Skin Conditioning						
Cocamidopropyl PG-Dimonium Chloride Phosphate	Antistatic						
C12-15 Alkyl Lactate	Emollient, Skin Conditioning						
Dimethicone	Emollient, Skin Conditioning, Skin Protection, Antifoaming						
Sodium Isostearoyl Lactylate	Cleansing, Emulsifying, Surfactant						
Propylene Glycol Isostearate	Skin Conditioning, Surfactant						
Alcohol Denat	Antimicrobial, Astringent, Solvent, Masking						
Isopropyl Alcohol	Antifoaming, Perfuming, Solvent						
Myristyl Alcohol	Emollient, Emulsion Stabiliser, Skin Conditioning, Viscosity Control						
Palmitic Acid	Emollient, Emulsifying						
Stearic Acid	Cleansing, Emulsifying, Surfactant, Emulsion Stabilizer						
Carbomer	Emulsion Stabilising, Viscosity Controling						

Acylates/C10-30 Alkyl Acrylate Crosspolymer	Emuslion Stabilising, Film Forming, Viscosity Control						
Sodium Chloride	Bulking, Masking, Viscosity Control						
Disodium EDTA	Viscosity Controlling						
Sodium Hydroxide	Buffering, Denaturant						
Lactic Acid	Buffering, humectant, skind conditioning						
Benzalkonium Chloride	Antimicrobial, antistatic, deodorant, preservative, surfactant						
Methylparaben	preservative						
Propylparaben	perfuming, preservative						
Ethylparaben	preservative						
Phenoxyethanol	preservative						
Parfum	-						

Table 6. Label for the Sunscreen Dry Oil SPF 20, including compliance checklist. Countries are named according to the three letter code included in ISO 3166.

LABEL ITEM	CONTENT	EUR	USA	CHN	SAU	COL	PHL
Name of the product	(Brand name) Dry Sun Oil						
Name and address of the responsible person	Visible						
Nominal content	200mL						
Expiry date/ PAO	PAO 12M						
Precautions	"Excessive exposure to sun is dangerous to health. Keep babies and young children out of direct sunlight. Avoid contact with clothing- Avoid contact with eyes. Do not spray near a naked flame or any incandescent material. FLAMMABLE. CONTAINS ALCOHOL."						
Batch number	Present						
Function	From presentation						
Ingredient list	Present						
Country of Origin	Not included						
Alcohol declaration content	Not included						
Registration/Notification number	Not included						