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**Mercury**

**in cosmetics**

**in ASEAN Community**

**UNIDO Viet Nam Country Office**

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*It consists of an overall analysis of mercury in cosmetics regulations in Viet Nam and in some countries belonging to the Southern East Asian Region.*

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## II. List of Acronyms

<b>ACA</b>	ASEAN Cosmetic Association
<b>ACC</b>	ASEAN Cosmetic Committee
<b>ACD</b>	ASEAN Cosmetic Directive
<b>ASEAN</b>	Association of South-East Nations
<b>BAT</b>	Best Available Techniques
<b>CCO</b>	Chemical Control Order
<b>IPEN</b>	International POPs Elimination Network
<b>EU</b>	European Union
<b>MC</b>	Minamata Convention
<b>UNEP</b>	United Nations for Environmental Protection



# 1. Introduction

Mercury is a heavy elemental metal that exists in a liquid form at ambient temperature. In nature, mercury rarely exists in its pure form and must be extracted from cinnabar ore. The existence of mercury has been known since antiquity, with the ancient Indians and Chinese being credited with its discovery. Throughout history mercury has been utilized as medicine, cosmetic, and to create pigments for clothes and paint. This report will focus on the use of mercury in cosmetics in South East Asia and more specifically in Vietnam.

Regarding its use in cosmetics, mercury is a common ingredient found in skin lightening soaps and creams. It is also found in other cosmetics, such as eye makeup cleansing products and mascara. Mercury in cosmetics exists in two forms:

- Inorganic mercury (ammoniated mercury) used in skin lightening soaps and creams.
- Organic mercury compounds (thiomersal and phenyl mercuric salts) used as cosmetic preservatives in eye makeup cleansing products and mascara.

Mercury salts inhibit the formation of melanin, resulting in a lighter skin tone. The use of mercury in commercial skin bleaching creams and soaps goes back to the early 1900s. Before 1970, commercial bleaching creams would normally use ammoniated mercury to produce a lightening effect on the skin. These bleaching creams were aggressively marketed to black people in the US. Skin lightening soaps and creams are also commonly used in certain African and Asian nations.

However, mercury and its vapor are now known to be highly toxic to humans. Indeed, inorganic salts of mercury are corrosive to the skin, eyes and gastrointestinal tract, and may induce kidney toxicity if ingested. In spite of the hazard, mercury continues to have irreplaceable uses in society. In cosmetics, despite the risks and judging by the rapidly growing market for skin lighteners, many people are either unaware of the risks mercury poses or willing to use them anyway. However, there is a growing international concern about mercury use especially in cosmetic industry. In 1976, after some scandals, the use of mercury in cosmetic products was banned in the EU.



Mercury in cosmetics remains an issue in some parts of the world. As an example Cambodia banned in April 2010 the import and sale of a particular Vietnamese skin-whitening cream linked to the death of a 23-year-old woman. Thailand also banned dozens of skin whiteners containing mercury.

## ***2. International regulations about mercury in cosmetics***

In order to control use, production and availability of cosmetics containing mercury, several countries implemented national and regional regulations: the European Union and numerous African nations banned distribution of mercury-containing creams and soaps.

Moreover, a European Union Directive specifies that mercury and mercury compounds are not allowed as ingredients in cosmetics (including soaps, lotions, shampoos and skin bleaching products). However, phenyl mercuric salts for use as a preservative in eye makeup and eye makeup removal products are allowed at small concentrations.

The United States Food and Drug Administration allows mercury compounds in eye area cosmetics at concentrations at or below 65 mg/kg expressed as mercury. All other cosmetics must contain mercury at a concentration less than 1 mg/kg. Health Canada’s draft guidance on heavy metal impurities in cosmetics specifies a limit of 3 mg/kg for mercury as an impurity in cosmetic products.

The Association of Southeast Asian Nations (ASEAN) Cosmetic Directive allows only cosmetics with zero mercury content to be sold in ASEAN markets. The Philippines is reported to have banned skin lightening products with mercury levels exceeding the national regulatory limit of 1 mg/kg in 2011. All those regulations are reported in the table below:

<b>Regulatory body</b>	<b>Limits for cosmetics other than eye area products</b>
European Union	Banned
Many African nations	Banned
US Food and Drug Administration	< 1 mg/kg
Health Canada	≤ 3 mg/kg
Philippines Food and Drug Administration	≤ 1 mg/kg
<b>Regulatory body</b>	<b>Limits for eye area products</b>
European Union	≤ 0.007% by weight
US Food and Drug Administration	≤ 65 mg/kg expressed as mercury (approximately 100 mg/kg expressed as phenyl mercuric acetate or nitrate)

**Table 1: Limits of mercury for cosmetics products in different countries**

Source: World Health Organization, 2013



Many countries do not have regulations on mercury in cosmetics and produce and export contaminated cosmetics. Skin lightening products are for example manufactured in many countries. Consumer protection agencies (RAPEX, 2015) in the European Union and the United States of America (USA) have identified mercury-containing products made in China, the Dominican Republic, Lebanon, Mexico, Pakistan, the Philippines, Thailand and the USA even if some of those countries such as the Philippines or the USA have regulations.

### ***3. ASEAN Cosmetic Directive***

Following the demands of the cosmetics industry, ASEAN gathered to hear the cosmetics issues that have affected the ASEAN countries. One of their main apprehensions was the use of illegal substances such as mercury in cosmetic products by certain companies. This has raised several concerns as it involves the question of safety to consumers in ASEAN. Another issue concerns the fake and counterfeit cosmetics that are sold everywhere and that are easily available to consumers (Zakaria, 2012).

In relation to the safety of cosmetics, the problem of unsafe cosmetics is a global one and ASEAN is not exempt. Specifically the problem lies in the sale of unsafe cosmetics or those whose safety is uncertain. It is noted that ASEAN people are more interested in having whiter/fairer skin. Many producers use potentially harmful substances in the cosmetic formulations because it saves money and gives quicker effects. In addition, there are also problems concerning counterfeit cosmetic products being sold in many countries.

In addition, the industry complained about the difficulties in selling their cosmetic products to other countries in the region due to the differing requirements and safety standards. They claimed that cosmetics that have been tested in ASEAN for ASEAN people are better for them as they have a similar type of skin, and the weather is also relatively similar, therefore it is good if they can market their products across other ASEAN countries (Zakaria, 2012). However, they could not do that since trading between ASEAN countries was difficult due to many barriers. Overall it was felt that these issues were present due to the differing legislation in each ASEAN country. This ultimately resulted in barriers to trade.





Response to above issues took the form of the ASEAN Cosmetic Directive (ACD) which is in force in all 10 ASEAN member countries. ACD provides a better standard of safety of cosmetic products to consumers and harmonized product standards. The ACD is modeled after the EU Directive (6th amendment). Definition is same as EU. Ingredients are regulated by the annexes as follows:

- Annex II: banned ingredients
- Annex III: restricted ingredients
- Annex IV: positive list of colors
- Annex VI: positive list of preservatives
- Annex VII: positive list of UV filters

Under Annex II, mercury and its compounds are banned except those special cases including eye make-up and eye make-up remover only with allowed concentrations of 0.007% mercury.

#### ***4. Mercury in cosmetics in ASEAN Community***

This section will focus on cosmetics in four countries in ASEAN Community, namely Thailand, the Philippines, Cambodia and Vietnam. Countries in South-East Asia tend to be the most affected countries because products for whitening skin are really common. Indeed, white skin is a sign of higher social position and people believe it is easier to get a job or earn more money if they look whiter.

##### ***4.1. Thailand***

Mercury is either a limited or prohibited ingredient according to international standards. In Thailand, the Food and Drug Administration (Thai FDA) has legislated that mercury and mercury compounds are prohibited cosmetic ingredients since 1989, and again in 2008 released the Ministry of Public Health Notice on Prohibited Cosmetic Ingredients, of which mercury and mercury compounds are prohibited ingredient number 221.

Mercury contamination in face whitening cream is a dangerous issue of increasing importance, considering the widespread and growing popularity of face whitening products. In Thailand, face whitening cream holds a 60 per cent share of the national market for facial lotion, with an approximate value of 2,100 million baht (70 million USD), according to a market study released in July 2004 by Beiersdorf.



The results of the study of mercury contamination in face whitening products in Thailand conducted in 2012 (EARTH Ecological Alert and Recover Thailand, 2012) shows that out of the 47 face whitening products sampled from 8 provinces across Thailand, 1 in 5 of all face whitening creams sampled are contaminated with mercury. The highest level of contamination is 99,070 ppm, while the legal standard for cosmetic products in Thailand is 0 ppm of mercury. Moreover, contaminated products contain incomplete labeling according to Thai law. In particular, none of the contaminated products reveal the “notification number” on product labels, meaning that these contaminated products do not exist in the Thai FDA’s database and cannot be traced to the manufacturer should consumers encounter problems from use.

Moreover, 7 of 10 contaminated products have appeared on the Thai FDA’s list of “dangerous cosmetics, banned from use.” However, they remain widely available on the market across the country and through online stores. Equally alarming is that a number of face whitening creams contaminated with mercury do not yet appear on the Thai FDA’s list of dangerous products.

## **4.2. *Philippines***

EcoWasteCoalition with support from IPEN recently published a report entitled “Beauty and the Risk” (EcoWasteCoalition & IPEN, 2015). The report documents the results of the three-month market investigation conducted in 50 cities in the Philippines on the availability of mercury-containing skin whitening cosmetics in the country. It provides evidence confirming the illegal importation, distribution and sale of skin whitening cosmetics with mercury.

This study allowed highlighting the fact that the problem with illegal trade of mercury-containing skin whitening products affects not only the Philippines, but other members of the ASEAN as well. Research shows that the health authorities of Brunei, Cambodia, Indonesia, Malaysia, Singapore and Thailand have, on various instances, banned or recalled skin whitening cosmetics for containing mercury and other prohibited substances such as hydroquinone.



### **4.3. Cambodia**

Last study in Cambodia on mercury contamination was conducted in 2009 (Murphy, T & Others, 2009). This study shows that 11 of 41 brands of skin whiteners that were collected in Phnom Penh and processed with a screening kit contained more than 2000 µg/g mercury. Risk analysis indicates that these 11 brands were toxic. Nine of 19 of these skin whiteners analyzed exceeded Association of Southeast Asian Nations guidelines for cosmetic good manufacturing practice limit on mercury of 1 µg/g.

### **4.4. Vietnam**

There is currently no data available about the extent of the phenomenon of high concentration of mercury in cosmetics. However, some studies conducted in neighboring countries (Murphy & Al, 2009) show that some products identified as that from Vietnam and exported in those countries have high concentrations of mercury. Such facts may suggest that Vietnam is affected by the problem of cosmetics contaminated with mercury.

Moreover, in many countries, civil society groups are involved in fighting illegal use of mercury in cosmetics. Balifokus in Indonesia, Consumers Association of Penang in Malaysia and Ecological Alert and Recovery-Thailand in Thailand are one with the Eco Waste Coalition in seeking effective action against the illegal trade in mercury-added skin lightening cosmetics nationally and at the ASEAN level. However, it seems there are no mediatized national society groups in Vietnam to increase awareness and produce data on that subject.

## **5. Recommendations and way forward in Vietnam**

All those studies tend to show that mercury in cosmetics within the ASEAN Community is a main problem. Despite some attempts to overcome the problem of mercury by implanting stronger regulations with the ASEAN Cosmetic directive, cosmetics containing mercury are common in the countries of ASEAN community. Studies show that some of them are produced in ASEAN countries including Vietnam and then traded in the area.



As one member state of ASEAN, Vietnam fully implemented the ASEAN Harmonized Cosmetic Directive (ACD). However, it is unlikely that such regulations are really enforced in Vietnam. Unlike other countries in ASEAN Community, lack of data is a critical issue to measure the scale of the phenomenon in Vietnam. Vietnamese governments and concerned ministries should therefore **conduct surveys** about the amount of mercury in cosmetics in Vietnam.

According to main trends in the region, such survey could focus on **skin whitening cosmetics**. It seems that this kind of cosmetics is more likely to contain illegal amount of mercury. Ministry of Health or Vinachemia could take the lead of this project. Such surveys could find out how common mercury in cosmetics is, if contaminated products are produced in Vietnam or imported, and if products are manufactured by big national companies or small and local producers.

To **increase public awareness** about mercury contamination in products, particularly in the case of face whitening cream is another critical issue. It's not always possible to control local production and increasing awareness of customers could encourage them to avoid buying products which are not certified "without mercury".

From a regional perspective and because trade of cosmetics in the region is important, some stakeholders might be contacted. The ASEAN Cosmetics Association (ACA) consists of organizations from different countries that aim to harmonize and maintain cosmetics regulations, upgrade the standards of technical competence and scientific expertise in the local industries and expand the cosmetics trade in ASEAN.

The ASEAN Cosmetic Committee (ACC) might be another interesting representative. Scope of activities of ACC are coordinating, reviewing and monitoring the implementation of the Agreement on ASEAN Harmonized Cosmetic Regulatory Scheme, including the ASEAN mutual Recognition Arrangement of Product Registration Approvals for Cosmetics and the ASEAN Cosmetic Directive.



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