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### OVER DOSE OF COSMETIC IS INJURIOUS TO HEALTH

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#### ABSTRACT

A cosmetic plays an important role in the enhancement of beauty to the mankind but it is used in the wrong way it causes hazardous to the mankind around 82,000 ingredients used in personal care products are industrial chemicals, including carcinogens, pesticides, reproductive toxins, and hormone disruptors. Many products include plasticizers, degreasers, and surfactants (they reduce surface tension in water, like in paint and inks) so we can stop the used of hazardous chemical in the cosmetic preparation. The recent interest of consumers is cosmetics have been stimulated by the decline of faith.

**Key Words:** Pesticides, Hazardous chemical, Surfactants.

#### INTRODUCTION

The 21st century woman uses as many as 515 chemicals every day. Her humble nail varnish contains up to 31 chemicals and her perfume, a whopping 400. Soaps, creams, lotions, gels, mousse, colours, sprays, foams, oils, serums - she uses up to nine on an average day and 15 or more on a vanity affair. But like 73% of her counterparts around the world, she does not know what the ingredients in her make-up are. And like 90 per cent, she doesn't care. Now her everyday beauty kit is under the scanner. Cosmetics are found to contain chemicals they shouldn't. A cosmetic maker can sell products without FDA approval. FDA does not review or approve cosmetics, or their ingredients, before they are sold to the public. But FDA urges cosmetic makers to do whatever tests are needed to prove their products are safe. Cosmetics makers must put a warning statement on the front labels of products that have not been safety testing, which reads, "WARNING-The safety of this product has not been determined." FDA does require safety testing for color additives used in cosmetics. Cosmetics may only contain approved and certified colors. You'll find FD&C, D&C, or external D&C listed on cosmetic labels.

✓ FD&C – color that can be used only in foods, drugs, and cosmetics

✓ D&C – color that can be used only in drugs and cosmetics

✓ External D&C – color that can be used only in drugs applied to the surface of the skin and cosmetics.

A cosmetic maker also does not have to report product injuries. FDA collects this information on a voluntary basis only. Cosmetic makers that want to be a part of this program send reports to the FDA. Product recalls are voluntary actions taken by cosmetic makers too. FDA cannot require cosmetics recalls. But FDA does monitor cosmetic makers that do a recall. FDA must first prove in court that a cosmetic product is a danger or somehow breaks the law before it can be taken off the market. Toxic Ingredients in Personal Care Products the US Food Drug & Cosmetic [1] Act defines cosmetics as articles intended to be rubbed [30], 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 [2] articles intended for use as a component of any such articles except that such term shall not include soap. This definition includes a great number of products used by men and women: skin-care creams, lotions, powders and sprays, perfumes, lipsticks, fingernail polishes, eye and facial makeup, permanent waves, hair colors, deodorants, baby products, bath oils, bubble baths, and mouthwashes. According to industry estimates, on any given day a consumer may use as many as 25 different cosmetic products containing more than 200 different chemical

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compounds. Over dose of cosmetics is injurious to health like the foundation you put on your face every morning? Full of parabens known to cause breast cancer and hormone disruption, they say. Your lipstick? A “poison kiss,” loaded with lead [3]. In the event you’ve been scared away from bathing and using underarm deodorant. In swimming phthalates cause asthma and infertility. Who is a victim of “cancer-causing chemicals” every time you apply baby shampoo. People for the most part do not get hurt by using cosmetics and other skin care products, save the occasional allergic reaction which can occur among people with sensitive skin or allergies-regardless of whether they are using products with preservatives or so-called “natural” products. Nor is there scientific evidence that chemicals present in personal care products-typically, in trace amounts- can cause cancer, endocrine disruption, asthma, or allergens.

### **The toxicity of product ingredients is evaluated almost exclusively by a self-policing industry safety committee, the Cosmetic Ingredient Review**

Because testing is voluntary and controlled by the manufacturers, many ingredients in cosmetics products are not safety tested at all. In fact, 89% of 10,500 ingredients used in personal care products have not been evaluated for safety by the CIR or anyone else (FDA 2000, CIR 2003). In the Skin Deep investigation [3] by the Environmental Working Group, 99.6 percent of the 7,500 products examined contain one or more ingredients never assessed for potential health impacts by the CIR. The absence of government oversight [4] for this industry leads to companies routinely marketing products with ingredients that are poorly studied, not studied at all, or worse, known to pose potentially serious health risks: cancer, birth defects, reproductive and developmental problems, allergies and respiratory ailments, and other health problems on the rise in the U.S. Many of these chemicals have been detected in our bodies and children, even human breast milk. While exposure from one cosmetic product might seem small, daily use of a host of cosmetic products applied directly on the skin can lead to significant exposure and potential harm. Toxic Ingredients according to the FDA's Office of Cosmetics and Colors, the government agency that regulates cosmetics, a cosmetic manufacturer may use almost any raw material as a cosmetic ingredient and market the product without an approval from FDA" (FDA 1999). While some cosmetic ingredients are benign, others can cause or are suspected to cause harmful health effects such as cancer, mutations, allergic reactions, respiratory problems as well developmental and reproductive problems. The CDC found that everyone is exposed to phthalates [5], a family of chemicals commonly used in cosmetic products. Evidence from animal studies indicates that phthalates may affect reproduction and development. Both these heavy metals are allowed for use in cosmetics in the U.S. Recently, the European Food

Safety Authority Scientific Panel reviewed propyl paraben and was unable to determine a safe level for this chemical that has been shown to have effects on sperm production at a relatively low dose in male juvenile rats [6]. For one out of ten ingredients that the CIR reviewed, it was unable to determine if the ingredient was safe for use in cosmetics and rendered a finding of “insufficient data [7]” Nearly one of every 20 products (4.7 %) contains one or more ingredients that the CIR found had insufficient testing data.[8]. The EU Cosmetics Directive In February 2003, the European Union adopted an amendment to the Cosmetics Directive 76/768/EEC that prohibits the use of known or suspected carcinogens, mutagens and reproductive toxins (a.k.a. CMRs) from cosmetics [9]. September 2004, cosmetics sold in European Union countries must be free of these CMR chemicals, including two phthalates, DEHP and DBP. This is in addition to 451 substances already covered by the Directive – bringing the list of substances banned in cosmetics to over 1000 in the Europe. Examples of banned substances include formaldehyde and its releasers (common in shampoos), lead and its compounds (an ingredient in Grecian formula), acrylamide polymers (found in foundation and skin lotions), and some phthalates (commonly found in a large variety of products).

There is no regulating body that [9]:

- Reviews and approves cosmetics ingredients prior to their use in production.
- Requires companies to conduct safety testing of cosmetics products before marketing them (a safety warning may be required)
- Requires manufacturers to register their cosmetic establishments, file data on ingredients, or report cosmetic-related injuries.
- Approves cosmetic products or ingredients (except for color additives [10]).

### **The US FDA limits only nine chemicals**

Halogenated salicylanilides, Bithionol, Methylene chloride, Hexachlorophene (HCP), Chloroform (limited to 0.1%), Mercury compounds (can only be used as a preservative in eye area cosmetics provided no other effective and safe preservative is available for use, Chlorofluorocarbon propellants (prohibited in cosmetic aerosol products to protect the ozone layer), Vinyl chloride and Zirconium containing complexes (banned only in aerosol cosmetic products).

### **TATTOOS AND PERMANENT MAKE-UP SAFE**

FDA is looking into the safety of tattoos and permanent make-up since they are now more popular. The inks, or dyes, used for tattoos are color additives. Right now, no color additives have been approved for tattoos, including those used in permanent make-up. You should be aware of these risks of tattoos and permanent make-up: Tattoo needles and supplies can transmit diseases, such as

**hepatitis C and HIV.** Be sure all needles and supplies are sterile before they are used on you tattoos and permanent make-up are not easy to take off. Removal may cause a permanent change in color. Think carefully before getting a tattoo. You could have an allergic reaction. You cannot make blood donations for a year after getting a tattoo or permanent make-up.

### **Compact for Global Production of Safer Health and Beauty Products [29]**

A Wild Texas Soap Bar, Akamuti, Arganat Inc., Aroma Naturals, Avalon Natural Products, Bath Petals, Canary Cosmetics, Carrot Tree Soaps and Essentials, Clearly Natural, LLC, Dead Sea Warehouse, Dr. Bronner's Magic Soaps, Drop wise Essentials, Earth Mama & Angel Baby, Eco-Beauty Organics, Ecco Bella Botanicals, Eufora International, Exuberance, Farmaesthetics, Garden of Eve, Hedgerow Herbals, Herbaria, Highland Heart Ltd.

### **Hazardous Chemicals in Cosmetics**

Over 10,000 ingredients are used in personal care products. Some of these chemicals are linked to cancer, birth defects, developmental and reproductive harm, and other health problems that are on the rise. While the US FDA bans 5 ingredients from cosmetics- the EU has banned over 1,000 due to health concerns. The table 1 below shows a sample of ingredients contained in cosmetics which harm the skin.

### **Heavy Metal Test - Flouting lead content (permissible limits: 20ppm)**

- Lipstick Revlon 20.3, Elle 18 24.2
- Talcum Cinthol 21, Dermicool 21.9
- Shampoo Head & Shoulders 24.2, Clinic All Clear 32.8
- Kajal Revlon Streetwear 136.3, Lakme 123.1 Biotique 28.1
- Hair colour Godrej Expert Powder 71.9, Super Vasmol 33.3

### **LIST OF COSMETIC INGREDIENT WHICH IS INJURIOUS TO HEALTH**

#### **1. Shampoo**

Shampoo are the preparation is used for cleaning and conditioned of the hair they remove the grease, dirt, accumulated sebum, scalp debris from the hair. In the shampoo preparation check the following chemical is listed below in the proper proportion otherwise is causes the skin damages and further it leads to carcinogenic cancer, check sodium lauryl sulphate or laureth sulfafe.

#### **2. Eye Shadow**

It is the preparation is used to decorate the eyes background and eyes become most attractive they are applied to the eye lids. There are large number of shade but if it is regularly use it cause irritating to the eyes hormonal

disruption, potentially carcinogenic cancer.

### **3. Foundation**

Foundation is a skin colored cosmetic applied to the face to create an even, uniform color to the complexion, to cover flaws and, sometimes, to change the natural skin tone. It is applied to the body is generally referred as body painting in the foundation cream polymethyl methacrylate is in the proper proportion substandard material of improper proportion causes the allergies immune system.

### **4. Blusher [Rouge]**

Rouge is a cosmetic preparation used for enhancing the checks and face beauty, it imparts rosy freshness to the skin rouge are of solid, compact, cream, and liquid form. Over use of rouge it causes the irritation and rashes to the checks. In these preparation check the parabens is in the proper proportion.

### **5. Lipstick**

Lipstick is a cosmetic product containing pigments, oils, waxes, and emollients that apply color, texture, and protection to the lips. Many varieties of lipstick exist. As with most other types of makeup, lipstick is typically, but not exclusively, worn by women. The use of lipstick dates back to ancient times. It has been noticed that excessive use of lip balm or lipstick can cause breakouts around the lips which cause irritation and social self esteem as one is unable to talk properly. This is one of the common disadvantage as lipsticks are mostly used as a result of which they lose the tendency to moisturize themselves thus dryness occur and breakouts.

### **6. Perfume**

Perfume preparation is used in the human being for reduce the bad odor from skin these kind of preparation is good but if it can be used in the over dose form it causes the chances of irritation, nausea, kidney damage, potentially carcinogenic, Allergies Airline, Travel Issues Can cause global warming.

### **7. Nail Paint**

Nail polish is used to color the fingernails and toenails. Transparent, colorless versions may be used to strengthen nails, or used as a top or base coat to protect the nail or polish. It contains phthalates, formaldehyde infertility, hormonal disruption, skin rashes, potentially carcinogenic.

### **8. Thinning eyelashes**

There are teenagers who mostly use mascara and kajal to make their eyes look beautiful and attractive but they forgot that they are using artificial substances which contain chemicals and in the end they often suffer from side effects. Excessive uses of mascara or kajal can thinner

their lashes at some point of life. Loss of eyelashes is quite common due to allergic reactions of cosmetics thus these cosmetic products should be done careful and less.

### 8. Lead

Lead found in the pigments of some lipsticks, typically red-based lipsticks. Lead is a natural, ubiquitous substance. We are exposed to it every day in the air we breathe, the water we drink, and the foods we eat. In large doses, it is linked to damage to the nervous system and the brain. In trace amounts, it is present in chocolate, vegetables, bottled water, and other items we digest, as well as some tubes of lipstick.

### 9. Parabens

Parabens are class of chemicals used as preservatives in many deodorants, moisturizers, shampoos, and body creams and are an integral component in preventing bacteria, fungi, and mold from growing in the product [16]. Without it, users would run the risk of applying creams, deodorants, and foundations highly susceptible to *E. coli*, salmonella, and other contaminants that can cause serious infections or irritations [17].

### 10. Formaldehyde

Formaldehyde is a chemical preservative that has been used for over a century. It is an essential component of a wide range of industrial products, including building materials, fertilizers, wood-pressed products, and household products, including glues, adhesives, and disinfectants. Over uses of formaldehyde is causes diseases such as *Clostridium* [18], influenza, and diphtheria.

### 11. Talcum powder

Breathing in talcum powder can lead to very serious lung problems, even death. Use caution when using talcum powder on babies [19]. Talc-free baby powder products are available. Serious lung damage and cancer

have also been reported in workers who have breathed in talcum powder many times over long periods of time. Intravenous use of street heroin that contains talc may lead to heart and lung infections and serious organ damage and death [20].

### 12. ALLERGIC REACTIONS ON SKIN

By applying makeup one can look and feel beautiful but the actual fact of using artificial things can never be denied as these artificial products causes various skin and body problems. Dermatitis is the part of allergies on the other hand synthetic fragrances in perfumes and deodorants can cause asthma and cancer [21]. Usage of facial creams and moisturizers can lead to rashes on the face which gives negative feeling to the one which have used thus every person while using cosmetic product should be vigilant and decrease its usage.

### 13. Blemishes

Blemishes can occur due to hormonal imbalance and due to some other physical health problem and excessive use of cosmetics [22]. Most of the ladies try to conceal their pimples with overuse of makeup but this is something really harmful for them as it may further cause the occurrence of blemishes which make on skin look bad. Blemishes are nothing but dark spots on skin it can be cured by eating more of vitamin food and if required one can apply cream recommended by a Doctor.

### 13. CAUSE ACNE, PIMPLES

This is one of the most common problems which is caused due to makeup or cosmetic products. The other cause of pimples or acne can be one hormonal changes which is quite common and natural thus one cause can be cured even be eliminated [23]. One way to save from acne cosmetic is to buy those products which are non comedogenic which will decrease the tendency of clogging of pores thus less formation of oil and pimples.

Figure 1. Tatoos



Figure 2. Adulterant of shampoo



Figure 3. Eye Shadow and its different shade



Figure 4. Foundation



Figure 5. Rouge



Figure 6. Lipstick



Figure 7. Perfume



Figure 8. Nail Paint



Figure 9. Eyelashes



**Figure 10. Talcum Powder result****Figure 11. Allergic Reactions on Skin****Figure 12. Blemishes****Figure 13. Acne & Pimples**

CHEMICAL	PRODUCTS	HEALTH IMPACTS
Diethanolamine (DEA)	Widely used in shampoo	A suspected carcinogen (cancer)
Coal Tar Colors	Make-up and hair-dye	Applied to the skin. Allergens and irritants.
Lead	Hair dyes and in eye makeup	Lead damages the nervous system.
Parabens	baby product, shaving cream, make-up, etc.	Methyl-, ethyl-, propyl-, butyl-, isobutyl- and other parabens, have shown hormonal activity. It is most common preservatives used in cosmetics. Recently found in tissue samples from human breast tumors.
Phthalates most used in cosmetics:	Fragrance, perfume, deodorant, nail polish, various hair products, cream and lotion, etc.	Liver and kidney lesions: reproductive abnormalities altered development of reproductive tissues and effects on sperm production.
Mercury	Skin-lightening cream and in eye makeup (as a preservative).	Mercury is toxic to development, as well as to the nervous system and is suspected to have harmful effects on the respiratory system, the kidneys and gastrointestinal and reproductive systems.
Phenylenediamine (PPD)	Hairdyes (oxidation dyes, amino dyes para dyes, or peroxide dyes)	PPD is mutagenic and reasonably anticipated to be a human carcinogen. It has been banned in Europe. It is also linked with skin irritations, and respiratory disorders.
Phthalates Most used in cosmetics: DBP, DMP, and DEP.	Fragrance, perfume, deodorant, nail polished, various hair products, cream and lotion, etc.	Liver and kidney lesions: reproductive abnormalities, including testicular atrophy, altered development of reproductive tissues and subtle effects on sperm production (maybe through endocrine disruption); cell line transformations; and cancers, including those of the liver, kidney, and mononuclear cell leukemia.

## CONCLUSION

There is no credible evidence linking cancer and cosmetics or any other of the activists' outrageous health claims.<sup>41</sup> Instances where consumers have been injured by using a personal care product are minute to nonexistent. The largest risks to consumers come from non-synthetic preservatives that have not withstood the test of time, or from avoiding products like sunscreen, intended to protect us from real environmental hazards. Efforts in the past to

further regulate cosmetics have not been supported by health advocacy organizations, for good reason. The American Cancer Society, for example, chose not to support California's Safe Cosmetics Act, which is similar to the pending federal legislation. They also are used to protect us from cancer, as is the case with oxybenzone, which is used in sunscreens to protect users from ultraviolet rays that can cause skin cancer. The anti-chemical green groups' push for "green consumerism,"

couched in fear-mongering and pseudoscience, comes at the expense of human health. The appendix of this paper offers detailed case studies on just a few of the chemicals that activists maintain appear in dangerous levels in our cosmetics. In addition to a fuller exposition on chemicals already discussed in this paper- parabens and formaldehyde it addresses lead and phthalates. These case studies show that activists not only fail to offer sound science to warrant the fears they raise, they refuse to

recognize the risks associated with elimination of these valuable products.

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