

Contents lists available at ScienceDirect

Regulatory Toxicology and Pharmacology

journal homepage: www.elsevier.com/locate/yrtph



Safety evaluation of metal exposure from commonly used moisturizing and skin-lightening creams in Nigeria



Chukwujindu M.A. Iwegbue ^{a,e,*}, Francisca I. Bassey ^b, Godswill O. Tesi ^a, Sunday O. Onyeloni ^c, Grace Obi ^d, Bice S. Martincigh ^e

- ^a Metals and Trace Organics Research Group, Department of Chemistry, Delta State University, P.M.B. 1, Abraka, Nigeria
- ^b Department of Chemistry, University of Calabar, P.M.B. 1115, Calabar, Cross-Rivers State, Nigeria
- ^c Faculty of Pharmacy, Delta State University, P.M.B. 1, Abraka, Nigeria
- ^d Department of Chemistry, Federal University of Petroleum Resource, Effurun, Delta State, Nigeria
- e School of Chemistry and Physics, University of KwaZulu-Natal, Westville Campus, Private Bag X54001, Durban, South Africa

ARTICLE INFO

Article history: Received 2 August 2014 Available online 8 February 2015

Keywords: Metals Exposure Contact dermatitis Body creams Nigeria

ABSTRACT

The concentrations of ten metals (Cd, Pb, Ni, Cr, Cu, Co, Fe, Mn, Zn and Al) were measured in some commonly used moisturizing and skin-lightening creams in Nigeria with a view to providing information on the risk of exposure to metals from the use of these products. The metal concentrations in these products were measured by atomic absorption spectrometry after acid digestion of the samples. The measured concentrations of metals in the skin moisturizing creams ranged from <0.15 to 6.3 µg/g Cd, <0.02 to $17.5 \mu g/g$ Cu, 2.25 to $6.25 \mu g/g$ Cr, 2.25 to to $372.0 \,\mu\text{g/g}$ Zn, $<0.02 \text{ to } 1.0 \,\mu\text{g/g}$ Co, $17.75 \text{ to } 28.8 \,\mu\text{g/g}$ Mn, $<0.1 \text{ to } 89.8 \,\mu\text{g/g}$ Fe while the concentrations of metals in the skin-lightening products ranged from <0.15 to 16.5 µg/g Cd, <0.02 to 10.0 µg/g Cu, 4.25 to 8.0 μ g/g Cr, <0.25 to 128.0 μ g/g Al, 0.5 to 4.5 μ g/g Pb, <0.03 to 1.65 μ g/g Ni, 24.7 to 267.5 μ g/g Zn, <0.02 to 2.5 μ g/g for Co, 19.3 to 31.8 μ g/g Mn, 9.5 to 211.63 μ g/g Fe. In a significant number (>93%) of the samples investigated the concentrations of Pb, Cd, Ni and Co were below the specified limit, or the maximal limit for impurities in colour additives in cosmetics for external use. However, Cr was found at concentrations above the allergenic limit of 1 µg/g. The results also showed that skin-lightening creams contained higher concentrations of the studied metals than the moisturizing creams, except for Ni, which indicates that persons who uses skin-lightening creams in preference to moisturizing ones, are exposed to higher concentrations of metals.

© 2015 Elsevier Inc. All rights reserved.

1. Introduction

The use of cosmetics as a part of routine body care is as old as man. The demand for cosmetic products across the globe has increased rapidly because of the increasing awareness of the need for beautification of the human body (Ullah et al., 2013) and due to the sharp rise of product advertisements in the mass media (Gondal et al., 2010). Despite the high global demand for cosmetic products, the safety of these products is of major concern and has attracted the attention of researchers, toxicologists, as well as regulatory agencies, with a common goal to ensure safe levels of the ingredients in the products (Linsey and Milnes, 2011; Al-Saleh and Al-Enazi, 2011). Modern brands of cosmetics are

being manufactured from natural products as well as synthesized products. The active ingredients of cosmetic products depend on the specific use of these products. Some of the components of these cosmetics are inadvertent, in that they are not meant to be used, such as some toxic metals and other elements, which are found in cosmetic products as a result of the manufacturing process. On the other hand, some metals are intentionally used as ingredients of cosmetics as exemplified by the use of inorganic mercury compounds in whitening creams and tattoo inks, and lead acetate in progressive hair dyes (Ababneh et al., 2013; Omolaoye et al., 2010). The intentional use of metals as active ingredients in cosmetic products is prohibited in most countries of the world due to their toxic and persistent nature, but these substances are still found in today's cosmetic products as a result of contamination during the production process. Annex II of the directive 76/768/ EEC listed more than 1000 chemical substances which must not form part of the composition of cosmetic products due to their

^{*} Corresponding author at: Metals and Trace Organics Research Group, Department of Chemistry, Delta State University, P.M.B. 1, Abraka, Nigeria.

E-mail address: maxipriestley@yahoo.com (C.M.A. Iwegbue).

toxicological profiles. According to this Annex, metals such as antimony (Sb), arsenic (As), cadmium (Cd), chromium (Cr), cobalt (Co), mercury (Hg), nickel (Ni) and lead (Pb) are prohibited ingredients in cosmetics because they are considered unsafe.

The use of cosmetic products could represent a possible source of population-wide daily and often long-term exposure to a variety of chemicals (Piccinini et al., 2013). Most of these cosmetic products are applied directly to human skin. While skin serves as a protective barrier against the external environment, some of the ingredients in cosmetic products can penetrate the skin and reach vital internal organs via the systemic circulation (Gondal et al., 2010) where they can exhibit short- and long-term toxicities. The exposure scenarios of cosmetics may vary from one product type to another. In some instances, the cosmetics are rinsed shortly after application (e.g., shampoos, hair relaxers, aftershaves, toothpastes), while in other cases, the products are "left on" (e.g., body creams, deodorants, nail polish) and may remain in contact with the skin for several hours or even days (e.g., nail polish). Unlike other cosmetic products that are applied to restricted parts of the body, body creams are applied to the entire body surface of humans thereby making exposure to contaminants in these products much greater.

Exposure to low concentrations of Pb can cause disorders such as behavioural abnormalities, decreased learning and hearing, permanent neurological damage, and may have adverse effects on the reproductive, hepatic and renal systems. Cadmium is a cell poison, which causes different types of damage, including cell death or an increase in cell proliferation. For this reason, the International Agency for Research on Cancer (IARC) has categorized Cd as a group 2A carcinogen (WHO, 2004). Other metals such as Ni, Cr, Fe, Mn, Zn and Al are essential to humans since they are involved in many biological processes, even though, there are still some controversies surrounding Cr. For example, iron is important in oxygen transport and storage, electron transport, in hydrogenase and many other redox active enzymes, while manganese is present in superoxide dismutases as well as catalases. Cobalt is a component of vitamin B12 which is essential for many processes including various rearrangement and methylation reactions. Copper is essential for electron transfer (azurin and plastocyanin), oxygen atom transfer (e.g., oxygenases), and respiration (cytochrome C oxidase). Nickel is essential for the function of acetyl coenzyme synthase, urease, and many hydrogenases. Zinc plays important roles in many enzymes including carbonic anhydrase and a group of proteases, such as carboxypeptidase A. Zinc is involved in the transfer of genetic information through the zinc finger protein (Ababneh et al., 2013). Despite the importance of these metals to humans and other organisms, the presence of some of these metals in cosmetic products constitutes a serious health challenge, one of which is allergy. Nickel, chromium and cobalt are well known allergens, while copper, manganese and zinc are regarded as weak allergens.

The objective of this study was to determine the concentrations of metals in some popular types of moisturizing and skin-lightening creams in Nigeria with a view to providing information on the health hazards associated with the use of these cosmetic products.

2. Materials and methods

2.1. Samples and sample collection

Samples of commonly used body creams (that is, moisturizing and skin-lightening creams) were purchased from markets in Abraka, Warri, Benin-City and Lagos, Nigeria. A total of 60 brands were collected; these included brands manufactured in Nigeria as well as those imported from other countries. The choice of brands was carefully made to reflect the brands used by different income

classes. Within each type or brand, a total of 5 samples with different batch numbers and dates of manufacture were collected in order to study the variations in elemental concentrations within a particular brand. The studied samples were within their specified usage periods (shelf-life). Information regarding the creams analyzed and their country of origin is displayed in Table 1.

 Table 1

 Information regarding the sampled body creams and skin-lighteners.

Body creams Familia cream White UK Vellow Nigeria Sways body cream Light pink China Swiss collagen Pink Switzerland Nigeria Light pink Nigeria Pink P	Brand name	Colour	Country of origin
Dove body cream Zenon coca butter Zenon coca butter S ways body cream Swiss collagen Venus lotion Passion body lotion Passion body lotion Passion body lotion Passion body lotion White Salila beauty cream White Nigeria Body treat cream Uight pink Nigeria Dooking good body cream Vaseline lotion for men Vinte Vaseline lotion Vinte Vigeria Vaseline Vanilla essence lotion Vinte Vigeria Vanilla essence lotion Vinte Vigeria Vanilla essence lotion Vinte Vigeria Vaseline Vigeria Vaseline Vigeria Vigeria Vigeria Vigeria Vigeria Vise Vise Vise Vise Vise Vise Vise Vise	Body creams		
Zenon cocoa butter 5 ways body cream 5 ways body cream 5 ways body cream 5 ways body cream 5 wiss collagen Pink Swist collagen Pink Pink Switzerland Venus lotion Light pink Nigeria Estee skin care Light pink Balila beauty cream Balila beauty cream Body treat cream Cussion body lotion Light pink Nigeria Nite Nigeria Nite Light of Light or	Familia cream	White	Togo
Swiss collagen Pink Switzerland Swiss collagen Pink Switzerland Venus lotton Light pink Nigeria Passion body lotion White Nigeria Balila beauty cream White Nigeria Body treat cream Light pink Nigeria Looking good body cream Light pink Nigeria Looking good body cream Light pink Nigeria Looking good body cream Light pink Nigeria Tony montana White Nigeria Revion body lotion White Nigeria Revion body lotion White Nigeria Revion body lotion White USA Te' body line lotion White Nigeria Vanilla essence lotion White Nigeria Aloe vera lotion White USA Active woman cream White USA Rejevenating cream White USA Rejevenating cream White USA Rejevenating cream White USA Rejevenating cream White Nigeria Skin success lotion White Nigeria Mise and body lotion White Nigeria Skin glighteners Lightening body lotion White Spain Imperio affection lotion Lemon green Nigeria Skin lighteners Lightening body lotion White Abidjan Miss caroline White Abidjan Miss caroline White Switzerland Maxi light White Cote d' Ivoire Tempovate gel White Nigeria White Nigeria White Nigeria White Nigeria White Nigeria White Cote d' Ivoire Tempovate gel White Nigeria Diva White Nigeria White Cote d' Ivoire Carotone nature White Cote d' Ivoire Carotone nature White Cote d' Ivoire Carotone mature White Cote d' Ivoire Carotone white White Cote d' Ivoire Cote d' Ivoire Cote d' Iv	Dove body cream		UK
Swiss collagen Venus lotion Light pink Nigeria Passion body lotion Light pink Nigeria Sigeria Balila beauty cream Body treat cream Light pink Nigeria Body treat cream Light pink Nigeria Light pink Nigeria Body treat cream Light pink Nigeria Looking good body cream Light pink Vaseline lotion for men Vhite Argentina Vaseline lotion for men Vhite Vaseline lotion for men Vhite Viseria Revion body lotion Light pink Nigeria Vaseline lotion White Viseria Vaseline lotion Vhite Viseria Vanilla essence lotion Vhite Viseria V	Zenon cocoa butter		Nigeria
Venus lotion Passion body lotion Passion body lotion Passion body lotion Passion body lotion Balila beauty cream Balila beauty cream Body treat cream Cussion body lotion Light pink White Nigeria Body treat cream Light pink Nigeria Cussion body lotion Looking good body cream Vaseline lotion for men Vaseline lotion for men Vaseline lotion of men Vhite Vaseline lotion Revion body lotion Vhite Voanila essence lotion Vanila essence lotion Va		0 1	
Passion body lotion Estee skin care Estee skin care Estee skin care Estee skin care Ballia beauty cream White Nigeria Body treat cream Light pink Nigeria Body treat cream Light pink Nigeria Looking good body cream Vaseline lotion for men Vaseline lotion Vinite Vaseline lotion Vinite Vaseline lotion Vinite Vinite Viseria Vaseline lotion Vinite Viseria Vaseline Vaseline Viseria	•		
Este skin care Balia beauty cream Balia beauty cream Body treat cream Cussion body lotion Looking good body cream Viet Vaseline lotion for men Viet Vaseline lotion White Viet Vaseline lotion Viet Vaseline lotion Viet Vaseline lotion Viet Volva Viet Vanilla essence lotion Viet Viet Viet Vist Vanilla essence lotion Viet Vist Vanilla essence lotion Viet Vist Vanilla essence lotion Viet Vist Vist Vanilla essence lotion Viet Vist Vist Vist Vist Vist Vist Vist Vis			•
Balila beauty cream Body treat cream Light pink Nigeria Sussion body lotion Looking good body cream Vaseline lotion for men Vaseline lotion Vaseline lotion Vanite Vaseline lotion Vanite Vaseline lotion Vanite Vijeria Revion body lotion Vanite Voly line Vanite Voly line Voly lin	-		•
Body treat cream Cussion body lotion Unite Cusion body lotion Vaseline lotion for men Vaseline lotion for men Vaseline lotion for men Vaseline lotion Vanille Spain Varille Spain Varille Sesnee lotion Vanille USA Varille USA Vaseline Vaseline Vaseli			•
Cussion body lotion Looking good body cream Light pink Nigeria Vaseline lotion for men Tony montana Revion body lotion Light pink Nigeria Nigeria Nigeria White Nigeria Revion body lotion Light pink Nigeria Revion body lotion Light pink Nigeria Revion body lotion Light pink Nigeria Nigeria Nigeria Vanilla essence lotion Vanilla essence lotion Vanilla essence lotion Pink Nigeria Aloe vera lotion Aloe vera lotion Active woman cream Porever living product with aloe vera lotion Rejuvenating cream White USA Active woman cream Vivea body lotion with almond oil Queen Elizabeth cocoa butter One love body cream Pears moisturizing cream White Nigeria Skin success lotion Nivea body lotion White Spain Imperio affection lotion Lemon green Nigeria Skin lighteners Lightening body lotion Peau claire White Miss caroline White Miss caroline White China Peau claire White Miss caroline White Visita plus Diva White Nigeria Nivea body lotion Peau claire White China Maxi light White Cote d' Ivoire Tempovate gel White Nigeria Nivea White Nigeria Nivea White Nigeria White Cote d' Ivoire Light pink Cote d' Ivoire Light pink Cote d' Ivoire Carotone nature White Nigeria Nivea White Cote d' Ivoire Carotone nature White Cote d' Ivoire Carotone nature White Cote d' Ivoire Carotone white White Cote d' Ivoire Skin white Nigeria Nigeria Nigeria Nigeria Nigeria Nigeria Carrot oil White Nigeria	•		
Looking good body cream Vaseline lotion for men Vaseline lotion Vanite Revion body lotion Vanite Vanitla essence lotion Vanite Visa VoxA Varea		0 1	•
Vaseline lotion for men Tony montana Revion body lotion Jergens body lotion White Spain Jergens body lotion White Voad White Wigeria Aloe vera lotion White USA Active woman cream White Wise Forever living product with Aloe vera lotion Rejuvenating cream White Wise Wive abody lotion with almond oil Queen Elizabeth cocoa butter One love body cream White White Wise Wise Nigeria Skin success lotion White Nigeria Skin lighteners Lightening body lotion White China White Otentika White White China Otentika White White Cote d' lvoire White Light pink Cote d' lvoire White Light pink Cote d' lvoire Carotone nature White White Cote d' lvoire Carotone nature White Swiss collagen White Cote d' lvoire Carotone nature White Cote d' lvoire Carotone nature White Cote d' lvoire Carotone mature White Cote d' lvoire Carotone white Cote d' lvoire Carotone white White Cote d' lvoire Cote d' lvoire Carotone white White Cote d' lvoire Carotone white White Cote d' lvoire Carotone white White Cote d' lvoire Cote d' lv			•
Revion body lotion			•
Revion body lotion White USA Jergens body lotion White USA Vanilla essence lotion White England Pears lotion White USA Aloe vera lotion White USA Active woman cream White USA Aloe vera lotion Rejuvenating cream White South Africa Nivea body lotion with almond oil White Thailand Queen Elizabeth cocoa butter Light orange Cote d' Ivoire One love body cream White Nigeria Pears moisturizing cream White Nigeria Skin success lotion White Nigeria Skin success lotion White Nigeria Skin lighteners Lightening body lotion White China Peau claire White Abidjan Miss caroline White Cote d' Ivoire Otentika White Cote d' Ivoire Tempovate gel White Nigeria Visita plus White Nigeria Visita plus White Nigeria Visita plus White Abidjan Pure skin Light pink Cote d' Ivoire Lait edguard White Cote d' Ivoire Lait edguard White Cote d' Ivoire Lait edguard White Cote d' Ivoire Carotone nature White Cote d' Ivoire Carotone nature White Cote d' Ivoire Carotone white White Cote d' Ivoire Cote d' Iv			•
Jergens body lotion te' body line lotion White White Nigeria Vanilla essence lotion Pears lotion Aloe vera lotion Aloe vera lotion Active woman cream Porever living product with Aloe vera lotion Rejuvenating cream Nivea body lotion with almond oil Queen Elizabeth cocoa butter One love body cream Vhite Nigeria Skin success lotion Nivea body lotion Nivea body lotion White Nigeria Nivea body lotion Nivea bod	•		•
te' body line lotion Vanilla essence lotion Vanilla essence lotion Pears lotion Aloe vera lotion Aloe vera lotion Active woman cream White USA Porever living product with aloe vera lotion Rejuvenating cream Nivea body lotion with almond oil Queen Elizabeth cocoa butter One love body cream Pears moisturizing cream White Nigeria Skin success lotion Nivea body lotion Imperio affection lotion Lemon green Nigeria Skin lighteners Lightening body lotion White Spain Imperio affection lotion White Otentika White Otentika White Otentika White Otentika White Otentika White Visita plus Diva Pure skin Light pink Cote d' Ivoire Carotone nature White Chana Swiss collagen White Cote d' Ivoire Carotone white White Cote d' Ivoire Cote d' Ivoire Skin white White Cote d' Ivoire Cote	•		•
Vanilla essence lotion Pears lotion Pears lotion Aloe vera lotion Active woman cream Forever living product with aloe vera lotion Rejuvenating cream Nivea body lotion with almond oil Queen Elizabeth cocoa butter One love body cream Pears moisturizing cream Nivea body lotion Nivea body lotion Nivea body lotion Pears moisturizing cream White Nigeria Nivea body lotion Nivea body lotion Pears moisturizing cream Nivea body lotion Nimerio affection lotion Nimerio affection lotion Nimerio affection Nivea body lotion Nise caroline Nhite Nigeria Niss caroline Nhite Nite Novite Novi			
Pears lotion Aloe vera lotion Active woman cream Forever living product with aloe vera lotion Rejuvenating cream Nivea body lotion with almond oil Queen Elizabeth cocoa butter One love body cream Pears moisturizing cream Nivea body lotion Rejuvenating cream White Nigeria Pears moisturizing cream Pears moisturizing cream Nivea body lotion Pear smoisturizing cream Nivea body lotion Nivea body lotion Pears moisturizing cream Nivea body lotion Nivea body lotion Nivea body lotion Nivea body lotion Pear smoisturizing cream Nigeria Nivea body lotion Nivea body lotion Nivea body lotion Pear claire Nigeria Niseria Skin lighteners Lightening body lotion Peau claire White China Pear China Otentika White Otentika White Switzerland Maxi light White Cote d' Ivoire Tempovate gel White Nigeria Visita plus White Cote d' Ivoire Carotone nature White Cote d' Ivoire Carotone nature White Cote d' Ivoire Carotone white White Cote d' Ivoire Skin white Nigeria	•		
Aloe vera lotion Active woman cream Active woman could white Active woman could woman could white Active woman could woman could woman could woman could white Active woman could woman cou			
Active woman cream Forever living product with aloe vera lotion Rejuvenating cream Nivea body lotion with almond oil Queen Elizabeth cocoa butter One love body cream White Nigeria Skin success lotion Nivea body lotion Nivea body lotion One love body cream White Nigeria Skin success lotion Nivea body lotion Nibea China Nigeria Skin lighteners Lightening body lotion Peau claire White Nigeria Niss caroline Otentika White Otentika White Switzerland Maxi light White Nigeria Niseria Noire Cote d' Ivoire Lait edguard White Light pink Cote d' Ivoire Lait edguard White Cote d' Ivoire Carotone nature White Swiss collagen White Nite Cote d' Ivoire Carotone nature White Cote d' Ivoire Carotone white White Cote d' Ivoire Nigeria			•
Forever living product with aloe vera lotion Rejuvenating cream Nivea body lotion with almond oil Queen Elizabeth cocoa butter One love body cream Pears moisturizing cream Nivea body lotion Imperio affection lotion Skin lighteners Light orange Skin lighteners Lightening body lotion Peau claire Otentika Maxi light Vhite Visita plus Vhite Visita plus Vhite Light orange Cote d' Ivoire Nigeria Nigeria Nigeria Skin success lotion White Spain Imperio affection lotion Lemon green Nigeria Skin lighteners Lightening body lotion White China Otentika White Otentika White Otentika White Otentika White Otentika Maxi light White Cote d' Ivoire Tempovate gel White Nigeria Diva White Nigeria Diva White Abidjan Pure skin Light pink Cote d' Ivoire Lait edguard Carotone nature White Swiss collagen White Swiss collagen White Swiss collagen White Swiss collagen White Cote d' Ivoire Carotone nature White Swiss collagen White Cote d' Ivoire Carotone white Dermatone White Cote d' Ivoire Carotone white Dermatone White Cote d' Ivoire Carotone white Dermatone White Cote d' Ivoire Carotone white White Cote d' Ivoire Carotone white White Cote d' Ivoire Carotone white White Cote d' Ivoire Skin light White Cote d' Ivoire Nigeria Nigeria Nigeria Nigeria Carrot oil White Nigeria			
aloe vera lotion Rejuvenating cream Nivea body lotion with almond oil Queen Elizabeth cocoa butter One love body cream Pears moisturizing cream Skin success lotion Nivea body lotion White Pears moisturizing cream White Nigeria Nivea body lotion Nigeria Skin lighteners Lightening body lotion Peau claire Nhite Nhite Nigeria Nives caroline Nhite Otentika Nhite Nigeria Nives caroline Nhite Nigeria Niveir Nigeria Nhite Nigeria Nigeria Nhite Noid Nhite Cote d' Ivoire Carotone nature Nhite Cote d' Ivoire Carotone nature Nhite Nhite Cote d' Ivoire Nhite Nhite Noidjan Nhite Nhite Noidjan Nhite Noidjan Nhite Nhite Cote d' Ivoire Carotone white Nhite Nhite Cote d' Ivoire Nhite Cote d' Ivoire Nhite			
Rejuvenating cream Nivea body lotion with almond oil Queen Elizabeth cocoa butter One love body cream Pears moisturizing cream White Nigeria Skin success lotion Nivea body lotion White Nigeria Skin success lotion Nivea body lotion Nivea body lotion White Nigeria Skin ilghteners Lightening body lotion Peau claire White Otentika White Otentika White Cote d' Ivoire White Nigeria White Nigeria White China Peau claire White White Otentika White Cote d' Ivoire Visita plus White Nigeria White Ote d' Ivoire Ush Lait edguard White Cote d' Ivoire Carotone nature White Carotone nature White Carotone nature White Cote d' Ivoire Carotone white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin light White Cote d' Ivoire Skin light White Nigeria Carrot oil White Nigeria Carrot oil White Nigeria Skineal White Nigeria Skineal	- · ·	Willie	03/1
Nivea body lotion with almond oil Queen Elizabeth cocoa butter One love body cream Pears moisturizing cream White Nigeria Nivea body lotion White Spain Imperio affection lotion Skin lighteners Lightening body lotion Peau claire White Othina Otentika White Switzerland Maxi light White Cote d' Ivoire Tempovate gel White Nigeria White Nigeria White Othina Otentika White Switzerland Maxi light White Cote d' Ivoire Tempovate gel White Light pink Cote d' Ivoire Lait edguard White Light pink Cote d' Ivoire Lait edguard White Cote d' Ivoire Carotone nature White Swiss collagen White USA H ₂ O jours White Total claire White Cote d' Ivoire Carotone white White Cote d' Ivoire Carotone white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin light White Cote d' Ivoire Skin light White Cote d' Ivoire Skin light Nigeria Carrot oil White Paris France Frair and white White France Frair and white Nigeria Skineal		White	South Africa
Queen Elizabeth cocoa butter Light orange Cote d' Ivoire One love body cream White Nigeria Pears moisturizing cream White Nigeria Skin success lotion White Nigeria Nivea body lotion White Spain Imperio affection lotion Lemon green Nigeria Skin lighteners Lightening body lotion White China Peau claire White Abidjan Miss caroline White China Otentika White Switzerland Maxi light White Cote d' Ivoire Tempovate gel White Nigeria Visita plus White Abidjan Diva White Abidjan Pure skin Light pink Cote d' Ivoire Lait edguard White Cote d' Ivoire Carotone nature White Ghana Swiss collagen White Abidjan Body white White Cote d' Ivoire Total claire White			
One love body cream Pears moisturizing cream Skin success lotion White Nigeria Nivea body lotion Imperio affection lotion Skin lighteners Lightening body lotion White Otentika Maxi light Vhite Visita plus Vhite Lait edguard Carotone nature Swiss collagen Body white White Carotone white Carotone white White Carotone white Carotone white White Cote d' Ivoire Carotone white White Cote d' Ivoire Carotone white White Cote d' Ivoire Carotone white White White Cote d' Ivoire Skin white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin light White Cote d' Ivoire Skin light White Cote d' Ivoire Skin light White Nigeria Carrot oil White DR Congo G & G White Paris Fair and white White Nigeria Skineal			
Pears moisturizing cream Skin success lotion White Nigeria Nivea body lotion Imperio affection lotion White Spain Imperio affection lotion Lemon green Nigeria Skin lighteners Lightening body lotion Peau claire White Mhite Otentika White Switzerland Maxi light White Tempovate gel White Indonesia Visita plus White Lait edguard Carotone nature Swiss collagen White White Carotone White Carotone White Cote d' Ivoire Carotone white White Cote d' Ivoire Skin light White Cote d' Ivoire Skin light White Cote d' Ivoire Nigeria Carrot oil White Nigeria Skineal White Nigeria Skineal			Nigeria
Nivea body lotion		White	•
Imperio affection lotion Skin lighteners Lightening body lotion Peau claire White China Peau claire White China Otentika White Switzerland Maxi light White Indonesia Visita plus White Abidjan Visita plus White Nigeria Diva White Abidjan Pure skin Light pink Cote d' Ivoire Lait edguard White Ghana Swiss collagen White USA H ₂ O jours White Abidjan Body white White Cote d' Ivoire Total claire White Cote d' Ivoire Carotone white White Ghana Epiderm creame White Cote d' Ivoire Carotone white White Cote d' Ivoire Carotone white White Cote d' Ivoire Total claire White Cote d' Ivoire Carotone white White Cote d' Ivoire Total claire White Cote d' Ivoire Carotone white White Cote d' Ivoire Dermatone White Ghana Epiderm creame White Togo Glow and white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White Paris Fair and white Paris Fair and white White Paris	Skin success lotion	White	Nigeria
Skin lighteners Lightening body lotion Peau claire White Miss caroline Otentika White China Otentika White Switzerland Maxi light White Cote d' Ivoire Tempovate gel White Diva White Lait edguard Carotone nature Swiss collagen White White White Cote d' Ivoire White Light pink Cote d' Ivoire Carotone nature White Swiss collagen White USA H ₂ O jours White White Cote d' Ivoire Carotone white White Cote d' Ivoire Carotone white White Cote d' Ivoire White Cote d' Ivoire Carotone white White Cote d' Ivoire Clow and white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin light White Cote d' Ivoire Skin light White Cote d' Ivoire Nigeria Carrot oil White Spain Precious skin White Nigeria Carrot oil White Paris Fair and white White Prance France Erato White Nigeria Skineal	Nivea body lotion	White	Spain
Lightening body lotion Peau claire White Abidjan Miss caroline Otentika Maxi light White Cote d' Ivoire Tempovate gel White Nigeria Diva White Abidjan White Nigeria Diva White Abidjan Pure skin Light pink Cote d' Ivoire Lait edguard Carotone nature White Ghana Swiss collagen White USA H ₂ O jours White Abidjan Body white White Cote d' Ivoire Total claire Carotone white White Cote d' Ivoire Carotone white White Total claire Dermatone White White Cote d' Ivoire Carotone white White Cote d' Ivoire Total claire Carotone White White Cote d' Ivoire Total claire Carotone White White Cote d' Ivoire Carotone white White Paris Dermatone White Ghana Epiderm creame White Togo Glow and white White Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White Paris Fance Erato White Nigeria Skineal	Imperio affection lotion	Lemon green	Nigeria
Peau claire Miss caroline Otentika White Otentika White Otentika White Otentika White Otentika White Cote d' Ivoire Tempovate gel White Diva White Diva White Lait edguard Carotone nature Swiss collagen White White White White White White White White White Cote d' Ivoire Carotone nature White White White Cote d' Ivoire USA H ₂ O jours White White Cote d' Ivoire Carotone white White Cote d' Ivoire Skin white White White Cote d' Ivoire Skin white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin white White Spain Precious skin White Nigeria Carrot oil White Paris Fair and white France Frair and white Nigeria Skineal	Skin lighteners		
Miss caroline Otentika White Switzerland Maxi light White Cote d' Ivoire Tempovate gel White Indonesia Visita plus Diva White Light pink Light pink Cote d' Ivoire Lait edguard White Carotone nature White Carotone nature White White White Cote d' Ivoire Carotone nature White Cote d' Ivoire Carotone nature White Cote d' Ivoire Carotone white White Dermatone White Cote d' Ivoire Carotone white White Dermatone White Cote d' Ivoire Skin white White White Cote d' Ivoire Skin white White White Spain Precious skin White Nigeria Carrot oil White Paris Fair and white White France Erato White Nigeria Skineal	Lightening body lotion	White	China
Otentika White Switzerland Maxi light White Cote d' Ivoire Tempovate gel White Indonesia Visita plus White Nigeria Diva White Abidjan Pure skin Light pink Cote d' Ivoire Lait edguard White Ghana Swiss collagen White USA H2O jours White Abidjan Body white White Cote d' Ivoire Carotone nature White Ghana Swiss collagen White Cote d' Ivoire USA H2O jours White Abidjan Body white White Cote d' Ivoire Total claire White Cote d' Ivoire Garotone white White Ghana Epiderm creame White Ghana Epiderm creame White Ghana Epiderm creame White Togo Glow and white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White Paris Fair and white Paris Fair and white White France Erato White Nigeria Skineal		White	Abidjan
Maxi light Tempovate gel White White Indonesia Visita plus White Nigeria Diva White Abidjan Pure skin Light pink Cote d' Ivoire Lait edguard White Carotone nature White Ghana Swiss collagen White USA H ₂ O jours White Cote d' Ivoire Carotone white White Cote d' Ivoire Carotone white White Cote d' Ivoire Cote d' Ivoire Cote d' Ivoire Total claire White Cote d' Ivoire Carotone white White Cote d' Ivoire Carotone white White Carotone white White Carotone white White Carotone white White Carotone White Cote d' Ivoire Carotone white White Cote d' Ivoire White Cote d' Ivoire Skin white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White Paris Fair and white White France Erato White Nigeria Skineal	Miss caroline		
Tempovate gel Visita plus Diva White Nigeria Diva White Abidjan Pure skin Light pink Cote d' Ivoire Lait edguard White Carotone nature White White USA H ₂ O jours White White Cote d' Ivoire Total claire Carotone white Dermatone White White Carotone white Dermatone White Ghana Epiderm creame White Ghana Epiderm creame White Ghana Epiderm creame White Cote d' Ivoire Togo Glow and white White White Cote d' Ivoire White Cote d' Ivoire Togo Glow and white White White Cote d' Ivoire Skin light White Cote d' Ivoire Skin light White Cote d' Ivoire Skin light White Foce d' Ivoire Skin light White Fore d' Ivoire Skin light White Fore of Ivoire Skin light White France Fair and white France Frair and white Nigeria Skineal			
Visita plus Diva White Abidjan Pure skin Light pink Cote d' Ivoire Lait edguard White Carotone nature White Ghana Swiss collagen White USA H ₂ O jours White Gote d' Ivoire Total claire Carotone white White Cote d' Ivoire Total claire White Carotone white Dermatone White Paris Dermatone White Ghana Epiderm creame White Glow and white White White Cote d' Ivoire Carotone white White Dermatone White Cote d' Ivoire Skin white White Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White Paris Fair and white France Erato White Nigeria Skineal	•		
Diva White Abidjan Pure skin Light pink Cote d' Ivoire Lait edguard White Ghana Swiss collagen White USA H ₂ O jours White Abidjan Body white White Cote d' Ivoire Total claire White Cote d' Ivoire Carotone white White Cote d' Ivoire Total claire White Cote d' Ivoire Carotone white White Paris Dermatone White Ghana Epiderm creame White Togo Glow and white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin light White Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White DR Congo G & G Fair and white White France Erato White Nigeria Skineal			
Pure skin Light pink Cote d' Ivoire Lait edguard White Carotone nature Swiss collagen White USA H ₂ O jours White Total claire Carotone white White Cote d' Ivoire White White Cote d' Ivoire Cote d' Ivoire White Cote d' Ivoire Carotone white White Cote d' Ivoire Carotone white White Dermatone White Cote d' Ivoire White Cote d' Ivoire Caloure White Cote d' Ivoire White Cote d' Ivoire White White Cote d' Ivoire Skin white White White Dawmy Milky white Cote d' Ivoire Skin light White Cote d' Ivoire Skin light White White Spain Precious skin White White Nigeria Carrot oil White Paris Fair and white White France Erato White Nigeria Skineal	•		
Lait edguard White Cote d' Ivoire Carotone nature White Ghana Swiss collagen White USA H ₂ O jours White Abidjan Body white White Cote d' Ivoire Total claire White Cote d' Ivoire Carotone white White Ghana Epiderm creame White Ghana Epiderm creame White Togo Glow and white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin ight White Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White DR Congo G & G Fair and white White France Erato White Nigeria Skineal			•
Carotone nature Swiss collagen H ₂ O jours Body white White Carotone white Carotone white Dermatone Epiderm creame Glow and white Skin white Dawmy Milky white Mite White White Cote d' Ivoire Cota d' Ivoire Cota d' Ivoire White Cota d' Ivoire White Cota d' Ivoire White Cota d' Ivoire White Cota d' Ivoire Skin white White White Cote d' Ivoire Skin light White Cote d' Ivoire Idole White White Spain Precious skin White Carot oil White Carot oil White Carot White Paris Fair and white White France Erato White Nigeria Skineal			
Swiss collagen H ₂ O jours Body white Total claire Carotone white Dermatone Epiderm creame Glow and white Dawny Skin light Idole Precious skin Carrot oil G & G Fair and white Cote d' Ivoire Skin white White Cote d' Ivoire Skin white White Cote d' Ivoire Skin light White White Spain Precious skin White White Spain White White Spain Precious skin White France Erato White White Nigeria Skineal	•		
H ₂ O jours Body white White Cote d' Ivoire Total claire Carotone white Dermatone Epiderm creame Glow and white Skin white Dawmy Milky white White White White White White Cote d' Ivoire Cote d' Ivoire White White White White Cote d' Ivoire Skin white White White Cote d' Ivoire Skin light White White Spain Precious skin White White Nigeria Carrot oil White Fair and white White White Farance Fair and white White Nigeria White Skin light White Skineal			
Body white White Cote d' Ivoire Total claire White Cote d' Ivoire Carotone white White Paris Dermatone White Ghana Epiderm creame White Togo Glow and white White Philippines Dawmy Milky white Cote d' Ivoire Skin white White Philippines Dawmy Milky white Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White DR Congo G & G Fair and white White France Erato White Nigeria Skineal White China			
Total claire White Cote d' Ivoire Carotone white White Paris Dermatone White Ghana Epiderm creame White Togo Glow and white White Philippines Dawmy Milky white Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White DR Congo G & G Fair and white White France Erato White Nigeria Skineal White Nigeria Chronic White Paris Skineal China			•
Carotone white White Paris Dermatone White Ghana Epiderm creame White Togo Glow and white White Cote d' Ivoire Skin white White Philippines Dawmy Milky white Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White DR Congo G & G Fair and white White France Erato White Nigeria Skineal White Nigeria	•		
Dermatone White Ghana Epiderm creame White Togo Glow and white White Cote d' Ivoire Skin white White Philippines Dawmy Milky white Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White DR Congo G & G Fair and white White France Erato White Nigeria Skineal White Nigeria			
Epiderm creame Glow and white White White White Philippines Dawmy Milky white Cote d' Ivoire Skin light White Cote d' Ivoire White Spain Precious skin White Nigeria Carrot oil White Paris Fair and white White White Prace White White Precious skin White White Nigeria White Paris Fair and white White Pirance White Nigeria White France White Nigeria White China			
Glow and white Skin white Dawmy Milky white White Cote d' Ivoire Milky white Spain Precious skin White Nigeria Carrot oil G & G White Fair and white White White White France Fair and white Migeria White Migeria Skineal White China			
Skin white White Philippines Dawmy Milky white Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White DR Congo G & G Fair and white White Farice Erato White Nigeria Skineal White China			
Dawmy Milky white Cote d' Ivoire Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White DR Congo G & G Fair and white White France Erato White Nigeria Skineal White China			
Skin light White Cote d' Ivoire Idole White Spain Precious skin White Nigeria Carrot oil White DR Congo G & G White Paris Fair and white White France Erato White Nigeria Skineal White China			
Idole White Spain Precious skin White Nigeria Carrot oil White DR Congo G & G Fair and white White France Erato White Nigeria Skineal White China			
Precious skin White Nigeria Carrot oil White DR Congo G & G White Paris Fair and white White France Erato White Nigeria Skineal White China			
Carrot oil White DR Congo G & G White Paris Fair and white White France Erato White Nigeria Skineal White China			
Fair and white White France Erato White Nigeria Skineal White China	Carrot oil	White	
Erato White Nigeria Skineal White China	G & G	White	Paris
Skineal White China	Fair and white	White	France
	Erato		
Doctor clear White Cote d' Ivoire			
	Doctor clear	White	Cote d' Ivoire

Download English Version:

https://daneshyari.com/en/article/5856661

Download Persian Version:

https://daneshyari.com/article/5856661

<u>Daneshyari.com</u>