International Cosmetic Ingredient Dictionary and Handbook

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The INCI Names presented in the *International Cosmetic Ingredient Dictionary and Handbook* are the result of substantial efforts by the Personal Care Products Council Staff and a committee of experts from the industry, academia and government. INCI Names are developed and assigned on the basis of established nomenclature conventions published by the Personal Care Products Council.

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Foreword

The Personal Care Products Council is pleased to present the new Sixteenth Edition of the

International Cosmetic Ingredient Dictionary and Handbook (Dictionary). This edition represents over 40 years of continuing effort in the development of a unique nomenclature system for the world's cosmetic ingredients.

Through the years, the *Dictionary* has undergone many revisions dictated by changes in the marketplace, in the availability of new and exciting raw materials developed through innovative technologies, and in regulatory requirements in countries that recognize INCI (International Nomenclature Cosmetic Ingredient) labeling names. It is the goal of the cosmetic industry to have a single worldwide reference, based on sound science, which will allow the consistent identification of the composition of personal care products.

The widespread use and international recognition of INCI names can be attributed to the use of uniform, science-based ingredient names that minimize the language barriers that can hinder consumer understanding and international trade. The concept of uniform labeling names has received widespread support from ingredient and finished product manufacturers, the scientific and medical community, and regulatory bodies in the United States and elsewhere. A key element of this acceptance is the establishment of a single ingredient labeling name for each material that promotes a common understanding throughout the world.

The Personal Care Products Council is committed to working with national governments, trade associations, and other organizations to ensure that the *Dictionary* provides the world community with accurate, transparent, and harmonized nomenclature.

Cosmetics Europe representing the national cosmetic trade associations of the European Union Member States, the Japan Cosmetic Industry Association, and other organizations around the world work with the Council to ensure that INCI nomenclature accommodates differing approaches in national laws and regulations.

This edition of the *Dictionary*, as with previous editions, is published by the Personal Care Products Council as a service to the industry, to the scientific community, and to the world's consumers. We hope it proves to be an especially valuable reference.

Lezlee J. Westine, President & CEO, Personal Care Products Council
Beth Lange, Ph.D., Chief Scientist and Executive Vice President – Science, Personal Care Products Council

Preface

The International Cosmetic Ingredient Nomenclature Committee was established by the Council more than forty-five years ago to assign unique, standardized names to cosmetic ingredients (INCI names). While initiated as a U.S. program, within a decade it became an international effort as cosmetic product labeling emerged in other jurisdictions around the world. Today, more than 22,000 globally-recognized INCI names have been developed from submissions by more than 3000 ingredient suppliers in approximately100 countries.

Developing a uniform approach to name a diverse group of thousands of raw materials is no small task. Over time, a set of rules has been developed which have as their foundation that INCI names be based on chemical composition. These guiding principles are well-described in the Introduction as Nomenclature Conventions. Readers are encouraged to consult this section for a full discussion on the rules for the assignment of INCI names.

Substance identification has become increasingly complex as a result of the scientific and technological changes associated with raw material production. In many cases, the naming principles originally set forth are not entirely applicable to handle the complexity and diversity of today's ingredients. Some examples include the challenges presented with naming materials derived through recombinant processes, biotech processes, and tissue culture preparations, not to mention the naming of increasingly complex polymers and protein-polymer conjugates. While the Nomenclature Committee makes every effort to not change established INCI names, revisions to names and changes in approach are sometimes unavoidable.

Included in this edition is the retirement of several INCI names that relate to terms which have a long history of use. While "retired" may imply that the name is no longer in use, such names are considered to be "grandfathered" and have been replaced by more accurate terminology. Both the retired INCI name and its replacement will be published for an interim transition period in order to facilitate ingredient identification, and minimize business disruption until the retired name is eventually removed from publication. In practice, the retirement of an INCI name is considered with discretion.

A new feature introduced in this edition is the identification of the currently accepted scientific name for a large number of plants. Experts in the field of botany were consulted for this task which undoubtedly will be an ongoing project as more plant materials find usage in cosmetics. There are notable differences between INCI names for botanicals and the related accepted scientific names; and to clarify these differences the monograph definitions have been expanded to describe the current scientific nomenclature. Additionally, an index has been included to cross-reference the accepted scientific name with the INCI terms. The accepted scientific names will continually be reviewed and updated consistent with the findings from taxonomic research. At some point in the future, the INCI names may be amended to reflect the current species information.

The Nomenclature Committee, together with the Council, hope that this edition of the Dictionary will be especially informative to the global community, and stand ready to address any questions or recommendations for future improvement.

Joanne Nikitakis
Director, Cosmetic Chemistry

Dedication

The Sixteenth Edition of the *International Cosmetic Ingredient Dictionary and Handbook* reflects the dedication of many talented scientists during the past forty-three years. In recognition of their commitment and expertise, this edition is dedicated to six notable individuals:

John Sanzone, Chairman of the International Cosmetic Ingredient Nomenclature Committee, has been a member of the Committee since 1996, providing leadership as its Chair for the past five years. The majority of John's career has been at the Estee Lauder Company where he serves as Executive Director of Regulatory Affairs. Throughout his tenure, John has provided keen insight on the global impact and harmonization of INCI nomenclature. As Chair, he continues to guide standardized name development through a challenging period of ingredient diversity, consumer awareness, and change in the global landscape.

Eric Abrutyn has been a member of the Committee since 1994, and served as the committee's Chair from 2002-2010. Eric retired from the industry as senior scientist at Kao Brands where he provided expertise in skin and hair care product development. Eric also worked in the raw material sector at Wickhen Products and Dow Corning. He has authored over a dozen patents, and is currently an industry consultant. Eric continues to provide guidance to INCI nomenclature development.

Jim Anderson has been a member of the Committee since 1997, and serves as Chair of the Subcommittee for General Chemistry. Jim is an organic chemist with specific expertise in the synthesis of hair dyes. He recently retired from his position as a senior scientist in the Beauty Care Division of Procter & Gamble. The bulk of Jim's career was spent at Clairol where he served as a senior research investigator and authored over a dozen patents.

Mindy Goldstein, Ph.D., has been a member of the Committee since 1994, and serves as Chair of the Subcommittee for Biotechnology. Mindy is a biochemist with keen expertise in biological skin care and hair care ingredients. For the past 25 years, she has worked in a number of industry research positions, and most recently as Vice President of Research & Development at Atlantic Coast Brands. Mindy has also been a very active leader in the Society of Cosmetic Chemists where she served as President, and chaired the Committee on Scientific Affairs for a number of years.

Mike Starch, has been a member of the Committee since 1997, and serves as Chair of the Subcommittee for Polymers. Mike is a polymer chemist with specific expertise in silicone chemistry. He recently retired after serving 13 years as a research scientist at the Dow Corning Corporation, and 15 years as a group leader in product development at the Andrew Jergens Company (Kao Brands).

Kathleen Corey is the computer scientist, who, for the past thirty-five years, has been solely responsible for creating the software that manages the ingredient data bases, and programming for the Dictionary production. Her commitment, extensive knowledge, expert analytical skills, and keen eye for detail have been an immeasurable asset to this work.

On behalf of the industry and global community of Dictionary users, the Council expresses its appreciation for the talent and commitment of these scientists. A work of this magnitude could not be completed without their invaluable knowledge, dynamic leadership, and the synergy created through their exceptional teamwork. It has been both a privilege and a pleasure to work with each of them over the course of many years.

Joanne Nikitakis

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Introduction

Historical Perspective

In the 1940s, the cosmetic industry recognized a lack of information on the composition of common cosmetic ingredients. To address this problem, a Board of Standards was instituted by the Toilet Goods Association (re-named as the Cosmetic, Toiletry, and Fragrance Association, CTFA, in 1971, and the Personal Care Products Council in November 2008.) The TGA Board worked to develop standards for common ingredients, and sponsored annual scientific meetings to address specific issues of importance to cosmetic chemists.

Two decades later, there was heightened interest in the public sector about the safety of cosmetic products. As the importance of cosmetic ingredient labeling emerged, the industry realized that little public information was available on ingredients used in its products. The Council responded quickly to this need by surveying cosmetic companies for lists of its cosmetic raw materials. This effort revealed that ingredients were identified by multiple, synonymous terms. The Council's effort to clarify the names from this survey marked the beginning of the development of a uniform nomenclature system for cosmetic ingredient identification.

In 1972, the Association presented a formal recommendation to FDA outlining two possible approaches for cosmetic ingredient labeling: one based on generic names for ingredients, and one based on specific names. FDA responded that the names must be specific and based on chemical structure or composition. Shortly thereafter, the Council established a committee charged with creating uniform names for cosmetic ingredients using guidelines recommended by the FDA. The Committee consisted of industry experts in the fields of chemistry and cosmetic science and technology, as well as representatives from the American Medical Association, the U.S. Adopted Names Council, and the U.S. Food and Drug Administration. The compilation of uniform names (CTFA Adopted Names) and related technical information led to the publication of the First Edition of the CTFA Cosmetic Ingredient Dictionary in 1973. Soon thereafter, the FDA published a proposed regulation, under the authority of the U.S. Fair Packaging and Labeling Act, requiring cosmetic ingredient labeling in the United States (U.S. Title 21, Code of Federal Regulations, Part 701.3). When the final regulation was published, the First Edition of the *Dictionary* was cited as the primary source of ingredient names for labeling cosmetic products.

In acknowledgment of the broadening use of this cosmetic nomenclature around the world, the "CTFA Adopted Name" designation was changed to "International Nomenclature Cosmetic Ingredient" or INCI Name in 1993, and the title, *CTFA Cosmetic Ingredient Dictionary*, was revised to *International Cosmetic Ingredient Dictionary*. The title was changed again for the Seventh Edition (1997) to the *International Cosmetic Ingredient Dictionary and Handbook* to recognize the addition of Chemical Classes, Functions, and Reported Product Categories formerly contained in the separate publication, the *International Cosmetic Ingredient Handbook.* While the Dictionary provides a comprehensive international reference of descriptive and technical information about materials which have been identified as potential cosmetic ingredients, to gain insight on the actual usage of ingredients in the United States, in 2011 the Council developed and published the *Compilation of Ingredients Used in Cosmetics in the United States*. The *Compilation* is based on ingredients reported to the U.S. Food and Drug Administration (FDA) through the Voluntary Cosmetics Registration Program (VCRP) and identifies over 6,000 ingredients registered with FDA. Each year the data base for the Dictionary is updated with VCRP information, and this information is available through the Council's online InfoBase.

There are many benefits to a uniform global system of labeling names for cosmetic ingredients, including the transparency provided to consumers regardless of the national origin of the product. In addition, dermatologists and others in the medical community are ensured an orderly dissemination of scientific information, which helps to identify agents responsible for adverse reactions.

Furthermore, scientists are ensured that information from scientific and other technical publications will be referenced by a uniform name and that multiple names for the same material will not lead to confusion, misidentification, or the loss of essential information. Finally, the cosmetic industry is able to track the safety and the regulatory status of ingredients efficiently on a global basis, enhancing its ability to market safe products in compliance with various national regulations.

In 1993, the European Commission (EC or the "Commission") recognized the need to promote cosmetic ingredient labeling in the European Union (EU), and cited the *International Cosmetic Ingredient Dictionary* as a source for ingredient nomenclature. The Council's International Nomenclature Committee worked with a team established by the EU cosmetic industry trade association (Colipa, now called Cosmetics Europe) to ensure that INCI labeling names would be acceptable in both the U.S. and the EU. In 1996, Colipa prepared an inventory of cosmetic ingredients based on the sixth edition of the Dictionary. The Commission first published this inventory on June 1, 1996 (Commission Decision 96/335/EEC) to serve as a reference document for cosmetic ingredient labeling nomenclature for the EU Member States. The inventory and subsequent updates have been replaced by the current regulation, No. 1223/2009.

In March 2000, the Japanese government issued a three year deregulation strategy, and amended the Pharmaceutical Affairs Law (*Ordinance to Partially Amend Enforcement Regulations of the Pharmaceutical Law*), MHLW Notice No. 125 of 2000, Cosmetic Ingredients; MHLW Notice No. 330, of September 2000, the Cosmetic Standard; MHLW Notice No. 331 of September 29, 2000; and MHLW Notice No. 332 of September 2000, Determination of Quasi-drug and Cosmetic Ingredients that are Designated by the Ministry of Health as Ingredients that Require Labeling. These regulations, which were effective April 1, 2001, require full ingredient labeling using INCI names translated or transliterated into the Japanese language. In November 2013, the Japanese government promulgated the Law for Partial Revision of the Pharmaceutical Affairs Law (Act No.84 of 2013), which went into effect on November 25, 2014 with the revised title - *The Law on Securing Quality, Efficacy and Safety of Products including Pharmaceuticals and Medical Devices* (abbreviated as the PMD Act).

In addition to the United States, the EU and Japan, other countries have recognized the need for uniformity in cosmetic ingredient nomenclature and have formally identified the *Dictionary* in their regulations. A current listing by country is provided below:

- Argentina: *ANMAT Disposición 374/2006: Productos de hygiene personal, cosmeticos y perfumes*
- Australia: *Trade Practices (Consumer Product Information Standards, Cosmetics*) Regulations, Statutory Rules 1991
- Canada: Regulations Amending the Cosmetic Regulations of the Canadian Food and Drug Act, 2004.
- China: *Ministry of Public Health Stipulation of the Application and Assessment for Cosmetic Products, Article 9, Paragraph 3, effective May 1, 1999*.
- Colombia: *Decision 516, Andean Community Commission, March 8, 2002*
- Israel: *The Pharmacists' Regulations (Cosmetics) 2011-5772*
- Korea: *KFDA Notification No. 2010-99 as of December 31, 2010*
- Mexico: *NOM-141-SSA1/SCFI-2012 Mexican Official Standard, Labeling prepackaged cosmetics, September 19, 2012.*
- Norway: *European cosmetics regulations (EC) No 1223/2009, effective July 11, 2013*
- Saudi Arabia: *Saudi Arabian Standards Organization (SASO) 1953, 8.17.6*
- South Africa: *South African Standards Act No. 29 of 1993*.
- ASEAN region (Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Lao PDR, Philippines, Singapore, Thailand, Vietnam), *Agreement on the ASEAN Harmonized Cosmetic Regulatory Scheme (AHCRS), January 1, 2008.*

The *Dictionary* is also recognized as a source of ingredient names in Brazil, Costa Rica, Argentina, the Customs Union (Belarus, Kazakhstan, and the Russian Federation).

A. Regulatory and Ingredient Use Information

Notice to Users

This edition of the *International Cosmetic Ingredient Dictionary and Handbook* (*Dictionary*) continues the use of ingredient names established to minimize the differences in the nomenclature recognized by regulatory authorities in the United States and the European Union (EU) and Japan. Users should review the information that follows, and consult applicable national laws and regulations to ensure the INCI (International Nomenclature Cosmetic Ingredient) names used for labeling are appropriate for their intended markets. The types of ingredients, most frequently affected are:

Colorants
Botanicals (Plant-Derived Ingredients)
Denatured Alcohols
U.S. Over-the-Counter (OTC) Drug Ingredients
Trivial Names
Fragrances/Parfum
Flavors/Aromas

Users of the *Dictionary* must note that labeling names for ingredients in the above categories intended for sale in the United States may be different from those intended for sale in the European Union, Japan, or in other countries.

The regulatory and ingredient use descriptions contained in this edition of the *Dictionary* are based on information available to the Council as of September 1, 2015. Changes to regulatory and use information after this date are available from the Council.

1. U.S. Color Additives

The term “color additive” is defined, in part, by U.S. law as a material which:

(A) is a dye, pigment, or other substance made by a process of synthesis, or similar artifice, or extracted, isolated, or otherwise derived, with or without intermediate or final change of identity, from a vegetable, animal, mineral, or other source, and;

(B) when added or applied to a food, drug, or cosmetic, or to the human body or any part thereof, is capable (alone or through reaction with other substances) of imparting color thereto. *Federal Food, Drug, and Cosmetic Act*, (FD&C Act) Section 201(t)(1).

In the United States, a cosmetic containing a colorant (except a coal-tar hair dye) that is not approved by the FDA is regarded as “adulterated” and subject to regulatory action by FDA. *Federal Food, Drug, and Cosmetic Act*, Section 601(e).

> NOTE -*An exception to this requirement exists for “coal-tar” (synthetic organic) colorants used in hair dyes, provided other regulatory requirements are met (see information in this section under U.S. Hair Colorants and the U.S. Hair Dye Exemption)*.

U.S. Color Additives approved for use in the United States are listed in Title 21 of the U.S. *Code of Federal Regulations*, 21 CFR, Parts 74, and 82.

A listing of the INCI names of U.S.-approved colorants may be found in the *Dictionary*, under Chemical Classes, listed under the following headings:

- ColorAdditives -Batch Certified by the U.S. Food and Drug Administration
- ColorAdditive Lakes -Batch Certified by the U.S. Food and Drug Administration
- ColorAdditives -Exempt from Batch Certification by the U.S. Food and Drug Administration

Color Additives Subject to Batch Certification

With the exception of "coal-tar" hair dyes, all "synthetic organic" color additives are subject to batch certification by the FDA. Each batch of an approved synthetic organic colorant must be tested and certified by the FDA as meeting standards and specifications found in 21 CFR 74.

Color Additives Exempt from Batch Certification

Some U.S.-approved colorants are exempt from batch certification by the FDA. In order to be legally used in the U.S., however, these colorants must meet specification and use restrictions stipulated in 21 CFR 74.

Abbreviated Labeling Names for U.S. Colorants

Official names for colorants subject to batch certification may be found in the listing of the color additive in 21 CFR Parts 74, and 82. These names must be used by the colorant manufacturer to identify the color additive product (or raw material) that has been batch certified by the FDA. As discussed below, FDA currently does not object to abbreviated labeling for declaring the presence of certified batches of color additives in cosmetics. See

http://www.fda.gov/ForIndustry/ColorAdditives/ColorAdditivesinSpecificProducts/InCosmetics/ucm110032.htm

FDA originally proposed the use of abbreviated names for U.S. colorants in the *Federal Register* on June 6, 1985 (50 FR 23815). At that time, the FDA stated that firms may use the abbreviated names on product labels. By correspondence, dated June 7, 1999, the FDA reaffirmed its intention to permit cosmetic firms to use the abbreviated names on product labels while a final rule on the matter is pending. The abbreviated labeling names apply only to U.S. color additives that are subject to batch certification. Under this scheme, the cosmetic product manufacturer does not have to include "FD&C" or "D&C," "No.," or the type of lake "Aluminum, Zirconium, etc.," on their product labels. However, for color additive lakes, the term "Lake" must be included in the declaration. Examples of the abbreviated and the original names associated with U.S. colorants are:

Blue 1 or FD&C Blue No. 1
Red 6 or D&C Red No. 6
Ext. Violet 2 or Ext. D&C Violet No. 2
Red 40 Lake or FD&C Red No. 40 Aluminum Lake

Other Restrictions for U.S. Color Additives

There may be specific use restrictions for some U.S. approved colorants, such as: "for external use except eye area." Restrictions for U.S. approved colorants may be found in 21 CFR 74, and 83.

Proposed Use of CI Numbers for Labeling Color Additives in the U.S.

The Council has asked the U.S. FDA to recognize the advantages of allowing the use of Colour Index or CI numbers for labeling color additives on cosmetic products in the U.S. We believe that this would provide greater transparency in labeling and better value comparison under the U.S. FPLA. Current FDA policy specifies the listing of the appropriate U.S. name first, followed by the related CI number in parentheses. Users are instructed to use the formal or abbreviated nomenclature identified in the *Dictionary* for labeling color additives in the U.S. Prior to labeling changes, the user is encouraged to contact the Council for the most recent information on this issue. For additional information, see

http://www.fda.gov/cosmetics/internationalactivities/importers/default.htm

2. EU Colorants

Colorants approved for use in the EU may be found in Annex IV of Regulation (EC) No. 1223/2009 of the European Parliament and the Council on Cosmetic Products. A listing of the INCI names for EU-approved colorants may be found in the *Dictionary*, under Chemical Classes, listed as Colorants - Approved in the EU.

Some approved EU colorants are chemically similar to those approved for the U.S.; however, their specifications and use limitations may differ. With a few exceptions, colorants are listed in Annex IV by their Colour Index numbers. The INCI labeling name for lakes and salts of EU colorants, not otherwise prohibited in Annex II or regulated by Annex V, is the same CI number as the colorant found in Annex IV, without reference to the laking agent or salt. Some EU-approved colorants are subject to use restrictions. For example, use restrictions may prohibit use of a colorant in the eye area or on mucous membranes. The use restrictions for EU-approved colorants may be found in Annex IV.

3. Harmonized INCI Names for Colorants for U.S. and EU Markets

Industry previously proposed that a dual declaration of colorants with both the U.S. name and the EU name be allowed on labels of those cosmetic products intended for sale in both the U.S. and EU markets. Examples of harmonized names are as follows:

- Green 3 (CI 42053)
- Ultramarines (CI 77007)

NOTE: Although the U.S. FDA has indicated a willingness to accept this approach as an interim step while it considers the question of harmonized ingredient labeling, readers are directed to consult with authorities in EU member states to verify EU acceptance.

Persons using harmonized INCI labeling names on products intended for the U.S. and EU markets must ensure that the colorants conform with regulatory requirements for the U.S. and the EU, i.e., batch certification from FDA where required, and/or EU Annex IV limitations and requirements, which may differ.

4. Japan Colorants

Colorants approved for use in Japan include synthetic organic colorants regulated by the *Ordinance to Regulate Coal-Tar Colors Permitted for Use in Drugs, Quasi-drugs, and Cosmetics (Ministerial Ordinance No. 30 of 1966 as amended by MHLW Ordinance No. 126 of 2003*). A listing of the INCI names of Japan-approved colorants may be found in Section 12 of the *Dictionary*, the Japan Index (Coal Tar Colors Permitted for Use in Cosmetics).

While many of these colorants approved for use in Japan are chemically similar to those allowed for use in the U.S. and the EU, their specifications and use restrictions may differ. The INCI names for each type of Japan colorant, the straight colorant and each metal salt or lake of a straight colorant (e.g., sodium, potassium, calcium, barium, including the lakes) are assigned a different Japan colorant name. This is in contrast to EU colorants where the Colour Index Number includes the straight colorant and its salts or lakes. The U.S. colorant INCI names identify the straight colorant and its lakes by separate names, e.g., Red 22 for the straight color and the lake as Red 22 Lake without identification of the type of lake. *These differences must be noted when attempting to correlate colorants approved in Japan with those in the EU and the U.S. To assure proper identification of the colorants, the individual monographs of each colorant should be consulted along with the Colorant Cross Index Section of the Dictionary.*

5. The U.S. Hair Dye Exemption

U.S. laws and regulations prohibit any cosmetic product intended for sale and distribution in the U.S. from containing a colorant that has not been previously approved by the FDA. An exception to this prohibition exists for “coal-tar” (synthetic organic) hair dyes in products whose labels display the following statement:

“Caution - This product contains ingredients which may cause skin irritation on certain individuals and a preliminary test according to accompanying directions should first be made. This product must not be used for dyeing eyelashes or eyebrows; to do so may cause blindness.” *Federal Food, Drug, and Cosmetic Act*, Section 601(a).

In addition to the above caution statement, the labeling must include adequate directions for conducting the “preliminary test.” The term “hair dye” specifically does not include eyelash or eyebrow dyes. *Federal FD&C Act*, Section 601(a).

“Coal-tar” is a historical term used in U.S. regulations that relates most synthetic organic chemicals to their original coal source. Today most of these colorants are synthesized from chemicals derived from petroleum sources. “Coal-tar” dyes do not include colorants derived from vegetable substances or metallic salts, such as henna, lead acetate, and bismuth citrate. Such ingredients do not fall under the “coal-tar” hair dye exemption under U.S. Regulations (U.S. 38 *Federal Register* 2996, January 1, 1973). The use of vegetable substances and metallic salts require FDA approval before use as a colorant for hair.

6. Botanicals

INCI names for plants, fungi and algae are based on the Linnaean binomial system which uses a scientific genus and species name to identify an organism and its place in the biological taxonomy of life. Scientific names of wild botanical species are ruled by the International Code of Nomenclature for Algae, Fungi, and Plants, and cultivated plants are covered under the International Code of Nomenclature for Cultivated Plants. Scientific names have often been called Latin names, but the origin of the words in the name can be Greek as well as modern languages.

There are notable differences between INCI names and scientific names. The special punctuation, formatting, and rules called for in the taxonomic codes for scientific names are not utilized in INCI nomenclature in order to facilitate the ease of creating finished product labels for cosmetic products. For example, the scientific codes call for the scientific genus and species term to appear in italics, with the genus term capitalized and the species name in lower case (e.g., *Cocos nucifera*). In the biological nomenclatures, species can be split into varieties or subspecies, which is indicated by the abbreviation “var.” or “ssp. / subsp.” before the variety or subspecies name. Hybrids resulting from the cross-breeding between species are identified by the symbol “□” between each parent species name or before a special hybrid epithet (e.g., *Mentha* x *piperita*). Particular types of cultivated plants are indicated with group names, cultivar names, patent names, or trademark names, which not always are reflected in the INCI name (e.g., *Brassica oleracea* Italica Group).

Another departure from the scientific binomial system is the inclusion of the English common name in parentheses for many INCI names. Originally, the INCI names for plants were designated by their English common name. During the 1990s when the change was made to follow the Linnaean system, it was decided to retain the English common name in parentheses in order to harmonize the original names with the new science-based names (e.g., Cocos Nucifera (Coconut) Oil). As a matter of practice, the parenthetical term is only included for plants in the INCI system that already had the common name included, or where there may be a health concern associated with a specific plant. Further distinction is the inclusion of plant parts in INCI names (Bambusa Vulgaris Leaf/Stem Extract), and the use of slash marks to separate multiple plant parts, neither of which is indicated in the scientific names, which applies to the organism as a whole. The INCI conventions for botanicals are fully described in Section F, No.30.

Due to the dynamic nature of evolutionary plant classification and research, the scientific nomenclature for plants is continually being updated based on new research results. With the advent of new DNA-based and computer-assisted methods, species relationships can now be investigated in more detail, and the results have shown that many traditional scientific names need to be changed since some plants were not previously classified into natural, evolutionary groups.

In cases where the species has to be placed in a different genus, the genus name changes, and sometimes the species name changes (e.g., from *Butyrospermum parkii* to *Vitellaria paradoxa*). If two species are merged, the younger name becomes a synonym. This has also led to the reclassifying and recircumscription of some families, which in the long run will lead to a more stable system of scientific names, and ultimately related INCI names.

7. Cosmetic Ingredients and BSE

In the past, the issue of bovine spongiform encephalopathy (BSE) has raised concerns as to whether cosmetic ingredients are derived from ruminant animals, and whether these animals may have originated in countries at risk for BSE.

INCI names are based upon the chemistry of raw materials and do not routinely reference the geographical source of ingredients; such information is largely beyond the scope of the *Dictionary*. Users of the *Dictionary* wishing to obtain specific information about the source of an ingredient should contact the supplier of the particular material of interest.

Many suppliers have informed the International Nomenclature Committee (INC) that they no longer offer cosmetic raw materials that have been associated with the risk of BSE infectivity. While the individual trade names have been deleted from the *Dictionary* the INCI names have not been deleted because there may be suppliers of these materials unknown to the INC who are using these ingredients and their INCI names.

8. Denatured Alcohol

"Alcohol Denat." is the established INCI labeling name for ethyl alcohol that is denatured (rendered non-potable) in accordance with national regulations in the EU member states and in the United States.

In the United States, the names and formula specifications for specially denatured (SD) alcohols, e.g., SD Alcohol 40-D, are listed in the U.S. Department of the Treasury Regulations under Title 27, U.S. *Code of Federal Regulations*, Parts 20 and 21 (27 CFR 20 and 21). The monographs for the SD alcohols provide information on the denaturants required to be used in the United States.

For the U.S. market, labelers may use either the "SD Alcohol" names or "Alcohol Denat." on product labels. For products intended to be marketed in the United States and the EU, the name "Alcohol Denat." should be used.

9. Reported Ingredient Functions

The functions for an ingredient listed in the *Dictionary* are primarily those that are provided by the supplier, and are classified on the basis of the function an ingredient may perform in a finished product. Many ingredients have multiple functions in formulation and therefore are included in several functional groupings. The definition and scope of each function listed in the *Dictionary* is provided in the Section 3, Reported Functions. Ultimately, the suitability and intended use of an ingredient is the responsibility of the marketing company. Users interested in updating the function(s) for an ingredient should contact the Personal Care Products Council.

The use of an ingredient for a function other than those listed in the Dictionary may be acceptable. The inclusion of an ingredient under a given function in the Dictionary does not imply that the ingredient is "approved," "certified," or "endorsed" for that use by the Personal Care Products Council or any other organization or governmental body in the U.S., the EU, Japan, or any other country.

Additional information related to drug functions is provided below in 10. The Cosmetic Drug Distinction.

10. The Cosmetic Drug Distinction

Many countries have regulatory requirements for cosmetics that are different from products that may function as drugs or have medicinal properties. Frequently, countries also define cosmetic and drug functions differently. The reader is directed to consult the laws and regulations of the region where a product is intended for market to ensure compliance.

In general, a substance or product that is intended to significantly affect the structure or function of the body, or to treat or cure disease is regulated as a drug. In contrast, a substance or a product that is intended to cleanse, promote attractiveness, or temporarily alter the appearance of the body is regulated as a cosmetic. In the U.S., the intended function for an ingredient or finished product is determined on the basis of claims made by the finished product manufacturer; the claims or other representations made for a product ultimately determine its classification and how it is regulated. The reader is directed to consult the Personal Care Products Council *Labeling Manual*, 9th edition, 2013, for further information, along with FDA's guidance on their website: http://www.fda.gov/Cosmetics/GuidanceRegulation/LawsRegulations/ucm074201.htm

Some functions for ingredients listed in the *Dictionary*, may cause products containing them to be subject to drug, quasi-drug, "functional," or other regulations in addition to the basic regulations required for cosmetics. Examples of such functions in the U.S. are the OTC drug functions published in the *Dictionary*: antiacne, anticaries, antidandruff, antifungals, antimicrobials, antiperspirants, corn/callus/wart removers, drug astringents, oral healthcare drugs, skin protectants, external analgesics, skin bleaching agents, skin protectants, and sunscreens. Furthermore, based on labeling claims, a product may be subject to both the cosmetic and drug regulations in some countries.

The regulatory approach dealing with the distinction of a cosmetic from a drug varies from country to country. In the U.S., Over-the Counter (OTC) drug ingredients are regulated by the FDA under regulations associated with the U.S. OTC Drug Review Process. Products that comply with the final OTC monograph and other general FDA requirements may be marketed as an OTC drug product without specific FDA pre-market approval of a New Drug Application (NDA). The reader is directed to consult the appropriate OTC drug monograph for drug usage requirements.

Some U.S. OTC active drug ingredients have been reported to have a purely cosmetic purpose in cosmetic formulations, in addition to being safe and effective drug ingredients. Also, some U.S. OTC drug functions may be regulated as cosmetics in other countries. *Such functions may therefore be identified for ingredients that are not described as safe and effective by the U.S. OTC Drug Review Process.* The *Dictionary* distinguishes U.S. OTC Category I active drug ingredients in the following manner: an ingredient's monograph definition in Section 1 of the *Dictionary* references the approved U.S. OTC drug usage, along with referencing the OTC category in the Information Sources field of the monograph; Section 3, Functions of the *Dictionary*, identifies with an asterisk those ingredients approved for use as U.S. Category I active drug ingredients. Finally, when the U.S. drug name differs from the INCI name, a notation is included in both Section 1 and Section 3.

In the EU, labeling claims, areas of application, and the purposes of their application define how the product will be regarded by Regulation. Regulation (EC) No. 1223/2009 contains a series of Annexes setting out the lists of substances subject to prohibitions as well as substances that are subject to restrictions or are provisionally allowed. The preamble of the EU Cosmetics Regulation identifies products that belong to the cosmetic category. Medicinal products are regulated in the EU by Directive 2004/27/EC. In Japan, cosmetics are regulated by the Ministry of Health, Labor, and Welfare (MHLW) under the Pharmaceutical Affairs Law and the amended Enforcement Regulations of the Pharmaceutical Law of 2001. Japan has a similar cosmetic and drug distinction as in the U.S. and the EU. In addition, it has a category of products referred to as "quasi-drugs" that by definition have a mild effect on the human body.

Many other countries follow the regulations of the EU, Japan, or the U.S. for selected requirements. Users of the *Dictionary* must consult the regulatory requirements of the country in which they intend to market their products. Sources of additional information for regulatory requirements may be found in the Council's *International Regulatory Resource Manual*, *International Color Handbook*, *Labeling Manual,* and also in the Council's subscription data bases, *International Regulatory Data Base* (IRDB) and the *InfoBase.*

11. EU Trivial Names

The *Dictionary* contains some EU "trivial" names, or common names that should be easily recognized by consumers in the EU where twenty-two different languages are spoken. The trivial names are based primarily on designations taken from the *European Pharmacopoeia*. EU regulations specify that the trivial names must be used for ingredient labeling. See the Section 10, EU Trivial Names, for a complete listing of these names. Examples of INCI labeling names harmonized for the U.S. and EU markets are shown below:

Water (Aqua)
Beeswax (Cera Alba)
Sea Salt (Maris Sal)

a. EU Trivial Names and Canada

In Canada, INCI ingredient labeling requirements only apply to cosmetic products; INCI nomenclature is acceptable for drugs and natural health products for listing non-medicinal ingredients. A list of ingredients, using INCI names, must appear on the outer label of a cosmetic. An ingredient that has no INCI name must be listed by its chemical name. The label must be legible and follow all other labeling requirements of the Canadian Cosmetic Regulations and the Consumer Packaging and Labeling Act.

In addition to names, if an ingredient is listed in the schedule of Subsection 21.2(4) of the Act, it may be listed either by its EU trivial name in column 1 of the schedule or by the appropriate English *and* French equivalents set out in columns 2 and 3. There are 57 such designations. For example, the EU trivial name *Canola* could be listed, or *Canola Oil/Huile de colza* could be listed. Also, *Aqua* or *Water/Eau*. For additional information see Health Canada website at http://www.hc-sc.gc.ca/cps-spc/cosmet-person/labelling-etiquetage/index-eng.php

12. Japan Trivial Names

The *Dictionary* also contains some Japanese "trivial" names, names that have traditional meaning for Japanese consumers. Many of these ingredients may be derived from multiple sources, and thus may refer to more than one INCI name. For example, the trivial name Orange Yu is defined as the essential oil obtained from the peel of the fruit of *Citrus spp*. As such, this Japanese trivial name may correspond to several INCI names including Citrus Aurantium Dulcis (Orange) Peel Oil, Citrus Aurantium Amara (Bitter Orange) Peel Oil, Citrus Grandis (Grapefruit) Peel Oil.

Additionally, some Japanese "trivial" names listed in the *Japanese Cosmetic Licensing Standard* relate to ingredients which are not associated with an INCI name, e.g., Aloe Yohjyu Matsu Ekisu. Section 13, Japan Trivial Names, cross-references Japanese trivial names with associated INCI names, where possible.

13. Fragrance/Parfum

The terms Fragrance and Parfum are used as INCI labeling names in the U.S. and the EU, respectively. These names are used to identify that a product contains a material or combination of materials to produce or to mask a particular odor. In the EU, 26 fragrance materials must be individually labeled, if they are present in the formulation at concentrations greater than 0.001% in leave-on products or greater than 0.01% in rinse-off products. This applies regardless of the source or function of these ingredients. The 26 materials are listed below. The INC will continue to work with the EU to update this list as needed.

Alpha-Isomethyl Ionone
Amyl Cinnamal
Amylcinnamyl Alcohol
Anise Alcohol
Benzyl Alcohol
Benzyl Benzoate
Benzyl Cinnamate
Benzyl Salicylate
Butylphenyl Methylpropionol
Cinnamal
Coumarin
Cinnamyl Alcohol
Citral
Citronellol
Eugenol
Evernia Prunastri (Oakmoss) Extract
Evernia Furfuracea (Treemoss) Extract
Farnesol
Geraniol
Isoeugenol
Hexyl Cinnamal
Hydroxycitronellal
Hydroxyisohexyl 3-Cyclohexene Carboxaldehyde
Linalool
Limonene
Methyl 2-Octynoate

14. Flavor/Aroma

The terms Flavor and Aroma are used as INCI labeling names in the United States and the EU, respectively. These names are used to identify that a product contains a material or combination of materials to produce or to mask a particular flavor.

15. CAS and EINECS/ELINCS Registry Numbers

There are three types of registry numbers that may be available for INCI names listed in the *Dictionary*. These include CAS, EINECS and ELINCS (or EC) numbers which are identified wherever possible in the corresponding ingredient monographs. The CAS and EINECS/ELINCS Registry Numbers Section in the *Dictionary* provides a numerical cross-reference index by CAS (Chemical Abstracts Service) Registry Numbers to their respective INCI names and EINECS (European Inventory of Existing Chemical Substances) Registry Numbers.

CAS Registry Numbers are assigned by the Chemical Abstracts Service (CAS) and are invariant numerical identifiers of a given chemical substance. CAS Registry Numbers serve to index worldwide literature for chemical substances. CAS Registry Numbers are also assigned for reporting purposes under the U.S. Environmental Protection Agency's Toxic Substances Control Act (TSCA).

The relationship between a CAS number and an INCI name is not always one-to-one. In some cases, more than one INCI name may have the same CAS Registry Number, or more than one CAS number may apply to an INCI name. For example, polymers may share a CAS Registry Number that is generic to variable chain lengths of a common monomer mixture. Alternatively, CAS numbers for specific stereoisomers in most cases will be related to a single INCI name. For further information about CAS numbers, please consult the CAS website: https://www.cas.org/.

EINECS Registry Numbers refer to the European Inventory of Existing Chemical Substances. It lists substances, excluding polymers, which were on the European Community market from January 1, 1971 to September 18, 1981. These substances were considered registered under Article 8(1) of the Dangerous Substances Directive (67/548/EEC). They are considered phase-in substances under the REACH Regulation.

ELINCS numbers refer to the European List of Notified Chemical Substances. These substances were notified under the Dangerous Substances Directive Notification of New Substances (NONS) that became commercially available after September 18, 1981. The EINECS and ELINCS numbers have been replaced by EC numbers by the Regulation (EC) 1907/2006 (REACH).

16. MINIMATA Convention

The Minamata Convention on Mercury, which went into effect on January 19, 2013, is a global treaty to protect human health and the environment from the adverse effects of mercury. Consistent with the provisions of the treaty, and by petition from the U.S. Food and Drug Administration, mercuric oxide has been removed from the Dictionary. Soaps and cosmetics containing more than 1 part per million of mercury will be banned by 2020. Eye-area cosmetics are exempt because of concerns that there are no effective and safe substitute preservatives available for these product-types. Respective monographs in the Dictionary have been referenced to Minimata in the Information Sources field.

B. Specific Disclaimers

The ingredients in the *Dictionary* do not represent an approved list of cosmetic ingredients. The inclusion of any ingredient means only that it is offered for sale for use in cosmetic products. It does not imply that the substance is safe for use as a cosmetic ingredient, nor does it indicate that its use as a cosmetic ingredient complies with the laws and regulations of the United States or any other country.

The assignment of an INCI name does not imply that the ingredient is "approved," "certified," or "endorsed" by the Council or any other organization or governmental body. Conversely, the absence of an ingredient from the *Dictionary* does not imply that the ingredient may not or should not be used in finished cosmetic products. INCI names do not imply standards or grades of purity.

> *NOTE: The suitability for use of any ingredient, as a component of a finished cosmetic product or for any other purpose, is solely the responsibility of the cosmetic product manufacturer, the distributor, or other users of this publication.*

Manufacturers intending to produce and/or market cosmetic products in the United States are urged to consult applicable regulations. These regulations may be found in the U.S. *Code of Federal Regulations*, Title 21 (21 CFR). Manufacturers are also urged to check notices in the U.S. *Federal Register* and to familiarize themselves with state laws and regulations that may provide additional information regarding the manufacture and sale of cosmetic products.

Firms marketing products in countries outside the United States should consult the laws and regulations in those countries for information on their legal requirements. For information on the laws and regulations of many countries, see the latest edition of the *International Regulatory/Resource Manual*, or consult the *International Cosmetic Legal and Regulatory Database,* http://irdb.personalcarecouncil.org/, both available from the Council.

The identification of a function in a monograph should not be construed as proof that the ingredient performs such function in a finished cosmetic product. The function of an ingredient is often affected by other ingredients in the formulation. Functions listed for ingredients are identified by the supplier or provided by users of this publication.

The INCI names in the *Dictionary* are recognized by the U.S. Food and Drug Administration as the labeling names that must be used for cosmetic ingredient labeling under U.S. regulation 21 CFR 701.3. This recognition of the *Dictionary* does not imply that the ingredients contained therein are considered to be "safe" or "approved" for use by the FDA.

C. Labeling Reminders

There are some specific conventions used in the *Dictionary* that must be observed when determining INCI names for ingredient labeling purposes. The most important of these are outlined below.

1. **INCI Names: The term "(or)"** - In the Technical/ Trade Names/INCI Names Section of the Dictionary, under the column headed "INCI names" the term "(or)" may appear. This notifies the user that more than one INCI name corresponds to the

particular chemical name or trade name. For example, the INCI name for labeling in the United States may differ from the name required in the EU and both would appear here separated by the term "or". The individual monograph for each of the listed INCI names, and relevant sections of the Introduction must be consulted for information on labeling requirements in each market.

2. **Trade Name Mixtures: The term "(and)"** - In Section 24, Technical/Trade Names/INCI Names, the term "(and)" is used between individual ingredients to identify compounded mixtures or blends of ingredients. When labeling a finished product containing a trade name material that is a mixture or blend, each component of the mixture is required to be listed in descending order of predominance with respect to all ingredients in the formulation. In Section 24, each component of a mixture is listed in the descending order of predominance of the mixture, separated by the term "(and)." *The term "(and)" should not be used when listing the ingredients on the finished product label*. Information on the actual concentration of each component of such mixtures must be obtained from the supplier.

3. **Solvents and Diluents** - Solvents and diluents in raw materials, such as surfactants, polymers, and resins, are not always identified as part of the INCI name (see F. Nomenclature Conventions, Rule 32). However, diluents and/or solvents must be listed on the finished product package label in their proper order of predominance with respect to all other ingredients in the formulation. Information on the concentration of solvents and/or diluents contained in such raw materials must be obtained by the marketing company from the supplier.

4. **Extracts** - The INCI names for extracts represent the "material extracted" (see F. Nomenclature Conventions, Rule 32). Many extracts are supplied with the extracting solvent and/or other diluents. The solvents and/or diluents in extracts must be listed in their proper order of predominance, along with all other ingredients in the formulation, on the package label. The solvents and/or diluents in a specific extract may be found under its trade name in Section 6, Technical/Trade Names/ INCI Names. Information on the concentration of solvents and/or diluents in a specific extract must be obtained by the marketing company from the supplier.

5. **Incidental Ingredients** - Incidental ingredients include antioxidants, preservatives, or processing aids that are present for a specific function in a raw material, but are not intended to have a technical or functional effect in the finished cosmetic, and are typically present at an insignificant level in the finished cosmetic product. Incidental ingredients contained in cosmetic raw materials are often not included in the INCI name. Because some jurisdictions may require that incidental ingredients be included in product information files, finished product manufacturers should work with their ingredient suppliers to ensure the completeness of their product listings. For more information on requirements for incidental ingredients in the U.S., see 21 CFR 701.3 (l)(1) and (2).

Additional information on the labeling requirements for products marketed in the United States may be found in the Council's *Labeling Manual*, Ninth Edition (2013). Information on the regulatory status of colorants in the United States and many other countries may be found in the Council's *International Color Handbook*, Fourth Edition (2007). A reference guide to the cosmetic laws, regulations, and information sources for many countries may be found in the *International Regulatory/Resource Manual*, Sixth Edition (2007). The Council's online data bases are also excellent sources of comprehensive information: *InfoBase,* and the *IRDB.*

D. INCI Name Assignment Procedures

International Nomenclature Cosmetic Ingredient (INCI) names may be assigned only by the International Nomenclature Committee (INC).

Requests for the assignment of an INCI name must be submitted to the Council via the INCI Application site:

http://inci.personalcarecouncil.org/. A general information sheet containing frequently asked questions about the INCI process (INCI FAQs) is available in the quick links box of the Council's home page: http://www.personalcarecouncil.org/.

INCI names are assigned to ingredients based on chemical composition. Because name assignments are based on written information provided by the supplier or manufacturer of the ingredient, it is the supplier's responsibility to ensure that the information submitted is complete and accurate.

Companies wishing to change an INCI name must send a written or email request to the International Nomenclature Committee. Such requests must include information supporting the request, including the rationale for the change, alternate nomenclature, and information on the structure or composition of the material, including analytical data, if applicable, to justify the change.

The INC also reserves the right to amend or delete names from the *Dictionary* when such actions are deemed necessary for technical accuracy or other reasons.

> *NOTE: Listings in the Dictionary are provided by the Personal Care Products Council as a service to the cosmetic and personal care industry. Every effort is made to ensure the accuracy of the listings. In submitting information for inclusion in the Dictionary, persons acknowledge that the Council shall not be responsible for errors or omissions in any listing, and that any errors or omissions that do occur will be remedied by updating the data base in a timely fashion.*

Questions related to INCI name assignments should be directed to:

inci@personalcarecouncil.org

International Nomenclature Committee c/o Personal Care Products Council Science Department 1620 L Street, NW, Suite 1200, Washington, D.C. 20036-4702, USA Fax: 202.331.1969

E. Ingredient Sources

The Monographs in the *Dictionary* contain an information field that identifies the source(s) of the ingredient. These sources are:

- Animal
- Plant
- Mineral
- Synthetic
- Bacteria, Fungi, or other Single-Celled Organism

The selection of source(s) for cosmetic ingredients is based, in general, on the following criteria:

1. The source of an ingredient is determined from information found in the definition of the ingredient contained in each monograph, or based on information provided by the supplier of the ingredient. In some cases, the source information is obtained from the *Merck Index* or other compendia.

2. All hydrocarbons and other substances derived from coal, coal tar, or refined from "crude oil" extracted from the earth are identified as *synthetic*.

3. Where the source of an ingredient is identified as animal, the type of animal is not identified.

4. The source for botanical ingredients is identified as plant.

5. Extracts are identified by the source of the material extracted.

6. Hydrolysates are identified by the source of the material hydrolyzed.

7. One or more sources may apply to a given INCI name when that material may be derived from more than one source. Different trade materials related to the same INCI name may be obtained from different sources.

8. Synthetic is assigned as a source for ingredients that are prepared ("synthesized") by the reaction of a substance with one or more other substances to form a new chemical entity.

9. In cases when it is very clear that a raw material used to synthesize an ingredient is plant or animal derived, that source may be listed. For example, *animal* and *synthetic* are both listed as sources for Lanolinamidopropyl Betaine to indicate that one of the starting materials is derived from an animal source, in this case lanolin, and that the material is derived by a synthetic process. Similarly, *plant* and *synthetic* are both listed as sources for Soyamide DEA to indicate that the starting materials are derived from a plant source and a synthetic one.

10. If a supplier of an ingredient has information to document that an ingredient is obtained from a source different than the one(s) listed in the Monograph, they are requested to contact the editors of the *Dictionary* at the Council to update the source selection.

Additional sources for raw materials not cited in this reference are possible, e.g., ingredients derived through microbial processes. Moreover, newer sources may be possible for ingredients traditionally made available through synthetic processes. It is not the intent of this publication to identify all possible sources for raw materials.

F. Nomenclature Conventions

The conventions used to determine INCI names for cosmetic ingredients are listed below and are divided into three areas: General Conventions, Specific Conventions (which are grouped primarily by chemical class), and Miscellaneous Conventions. These conventions are continually reviewed and modified when necessary to reflect changes in the industry, technology, and new ingredient developments. Every effort is made to ensure ingredients are named consistent with these principles. As new conventions are developed that give rise to INCI names that are different from those previously published, the older nomenclature is sometimes retained and considered to be "grandfathered". Grandfathered names are generally published for reference only.

GENERAL CONVENTIONS

1. Nomenclature assignments are based on the chemical composition of the intended product without qualification, and simple chemical names are used wherever possible. These assigned names are generally based on an ingredient's final composition and purity irrespective of the type of manufacturing process (e.g., chemical synthesis, biotechnology, etc.). An ingredient is considered a single constituent or well-defined substance, in accordance with the criteria outlined in the Guidance for Identification and Naming of Substances under REACH and CLP, Version 1.3, Feb. 2014 (ECHA-11-G-10.2-EN). Exceptions include organic and silicone polymers, botanical extracts, fermentation products and minerals, which are typically named by their starting materials and can include the process by which they are manufactured. For additional information, see Botanicals, Convention 30; Minerals, Convention 42; Polymers, Convention 44; Silanes and Siloxanes, Convention 52.

2. Recognized chemical abbreviations are used where applicable. A list of the abbreviations used in the *Dictionary* may be found in Part G.

3. Traditional stem names are retained as combining forms when consistent with other conventions. Commonly recognized trivial names will be utilized where appropriate, e.g., acylated derivatives of amino acids, Lauroyl Lysine, or acylated derivatives of hormones, N-Caffeoyl Serotonin. See also Rules 28a and 57.

4. Name/number combinations are used as INCI names for cosmetic ingredients only where the complexity and/or similarity of ingredients precludes assignment of reasonable nomenclature by any other means. The stem names are suggestive of the structure or the composition of the material; e.g., rh-Oligopeptide-6, Quaternium-27,

Polyurethane-5, Polysilicone-1. Where descriptive terminology is desired for a particular component of a raw material that would fall under these classifications, alternate nomenclature may be provided. Established name/number or name/acronym combinations are also utilized, e.g., Red 4, CI 10020, HC Blue No. 10, Ceramide EOP.

5. Specific names previously established by the U.S. Pharmacopoeia (USP), National Formulary (NF), the Food Chemicals Codex (FCC), Merck Index, International Non-Proprietary Names for Pharmaceutical Substances (INN), World Health Organization (WHO), the Research Institute for Fragrance Materials (RIFM), and United States Adopted Names (USAN) are retained in many cases. Furthermore, established abbreviations and criteria are utilized for simplifying the nomenclature of families of complex ingredients where applicable. For example, the root word "alkonium" from the USAN convention to denote N,N-dimethyl N-alkyl benzyl in Benzalkonium Chloride is utilized to name other cosmetic ingredients such as Cocoalkonium Chloride. Compounds that are similar to materials described in recognized sources are given analogous names whenever possible. Examples include the Research Institute for Fragrance Materials (RIFM) names for the fragrance compounds, Linalool, Longifolene. See also the discussion on OTC drug nomenclature, "The Cosmetic-Drug Distinction" in Appendix II.

6. USAN abbreviations and criteria are utilized for simplifying the nomenclature of families of complex ingredients where applicable; e.g., Poloxamer, Nonoxynol, "alkonium" to denote N, N'-dimethyl N-alkyl benzyl in Benzalkonium Chloride.

7. Compounds that are similar to materials described in recognized sources are given analogous names whenever possible, e.g., Cocoalkonium Chloride.

8. Names of ingredients that contain terminal numbers are generally hyphenated, (see Convention 4), and names for derivatives of hyphenated materials retain the original hyphenated term, e.g., Quaternium-18 Hectorite.

9. Hydration states are not usually expressed, with the exception of Hydrated Silica and a few other cases such as Dicalcium Phosphate Dihydrate. For information on process terms, see Convention 72.

10. Compounded mixtures created by blending materials are named by listing each component in descending order of predominance. See Labeling Reminders for further information on labeling mixtures. On a case-by-case basis, materials containing a significant amount of unintended product may be named as a mixture.

11. Water, ethyl alcohol and other common diluents or solvents contained in commercially available raw materials, except extracts and products derived by fermentation, have not historically been identified as part of the INCI Name. In recent years, the INC has included the identification of non-aqueous solvents in an effort to provide further transparency. See Labeling Reminders in the Introduction for additional information on the labeling of solvents and/or diluents that may be present in raw materials.

    a. The INCI name for water, regardless of source is Water. The only exception is the INCI name Sea Water because it is sufficiently different in composition from fresh water. Botanical waters are named in accordance with Convention 30.

    b. Purity standards or processes associated with water are not identified in the INCI name, e.g., purified water, deionized water, sterilized water.

12. For products marketed in the United States, the phrase "and other ingredients" may only be used in the label declaration when confidentiality has been granted by the U. S. Food and Drug Administration in accordance with procedures established in 21 CFR 701.3 and 720.8(a). Currently, there are no similar exclusions in the European Union *Regulation (EC) No 1223/2009*. For products marketed in Japan, the phrase "and other ingredients" may only be used in the label declaration when confidentiality has been granted by MHLW in accordance with procedures established in MHLW Notice No.990 (Sept/29/2000).

13. In order to facilitate clarity and ease of use when labeling, INCI names have been designed to require a minimum of punctuation and capitalization.

    Slashes are used to designate compounds (not blends) that are produced as a mixture or are composed of more than one entity, e.g., Dipentaerythrityl Dicaprylate/Caprate, Glyceryl Cocoate/Citrate/Lactate, Styrene/MA Copolymer, Silicon/Cerium/Titanium/Zinc Oxides. Additionally, slashes are used to identify botanical materials that are hybrids (see also Convention 30b). The terms are described in alphabetical order, separated by a slash. For additional information, see Convention 21 on the identification of alkyl groupings, and Convention 44(b) on the listing of monomers.

14. Wherever new nomenclature has been adopted, every effort has been made to use the shortest name consistent with these rules. Shorthand abbreviations will be considered for names with exceedingly long character length.

15. The International Cosmetic Ingredient Nomenclature Committee, in conjunction with the Personal Care Products Council, reserves the right to provide specific nomenclature in certain cases to make the nomenclature more informative to the consumer. In particular, terminology for ingredients related to drug active substances may be retained, (e.g., see Convention 50, Prostaglandin Derivatives).

SPECIFIC CONVENTIONS

Alkanolamides

16. Alkanolamides are named by the specific alkyl amide stem and the appropriate abbreviation; e.g., "*Acetamide MEA*," "*Lauramide DEA*," "*Cocamide DIPA*."

Alkoxylated Materials

17. Alkoxylated materials are named by including the alkoxylation level as the average number of moles of ethylene oxide and/or propylene oxide, and/or ethyleneimine. Ethoxylates, propoxylates, and ethyleneimine are commonly expressed by the degree of polymerization. Mixed alkoxylated ethers (i.e., contain both EO and PO) are named based on the order of addition. For example, PPG-y Glycereth-x means glycerin is first treated with x moles EO then y moles PO. PEG/PPG-x/y means that a material is treated simultaneously with EO and PO, e.g., PEG/PPG-52/32 Dimethyl Ether. PPG-x-PEG-y indicates that the material is first ethoxylated, and then propoxylated.

18. a. Ethoxylated alcohols are named by adding the suffix "eth" to the conventional stem name followed by the average number of moles of ethylene oxide, e.g.,Steareth-10. Historically, where the moles of ethoxylation is 1,2, or 3, the numerical designation is sometimes omitted, e.g., Sodium Laureth Sulfate, and the definition specifies the average number of moles as 1 to 3.

    b. The term Alkoxynol-n refers to an ethoxylated alkyl phenol where n is the average ethoxylation value e.g., Nonoxynol-10. The following table references the alkoxynol stem to its alkyl group:

Alkoxynol	**Alkyl Group**
Octoxynol	Tetramethylbutyl
Nonoxynol	Nonyl
Dodoxynol	Dodecyl or Tributyl
Pentadoxynol	Pentadecyl

19. a. The polyethylene glycol fraction of all ethoxylated compounds not named as above is abbreviated as the acronym “PEG.” This combining form is followed by the average number of moles of ethylene oxide. When the ethoxylating agent is 2-chloroethanol, names are generally designated by the term “hydroxyethyl.”. See Convention 39e(3).

b. Polypropylene glycol is abbreviated as the acronym “PPG.” This combining form is followed by the average number of moles of propylene oxide, e.g., PPG-24 Butyl Ether. When the propoxylating agent is 2-chloropropanol, names are generally designated by the term “hydroxypropyl.” See Convention 39e.i and 39e.ii.

c. Polyethylene imine is abbreviated as the acronym “PEI”. This combining form is followed by the average number of moles of ethylene imine (aziridine), e.g., Hydroxyethyl PEI-10.

d. Homopolymers of ethylene glycol and propylene glycol are named as PEG-X and PPG-Y, respectively, with X or Y equal to the average total number of moles of alkoxylate in the material. Homopolymers of aziridine are named as PEI-X, with X equal to the average total number of moles of ethylene imine in the material.

e. Alkoxylated esters are named as PEG and PPG derivatives; e.g., PPG-10 Stearate, PEG-40 Stearate. Mixed alkoxylation esters are named in the order of addition of the alkoxylating agent. An example of the random simultaneous addition of the alkoxylating agent is e.g.,PEG/PPG-8/3 Diisostearate, PEG/PPG-10/2 Ricinoleate. An example of the ordered sequential addition of the alkoxylating agent is PEG-4 PPG-13 C13-15 Alcohol.

f. PEG and PPG polymers or their derivatives in which one of the terminal primary alcoholic groups (CH2OH) has been oxidized to the carboxy group (-COOH), are named by adding the terms “carboxylic acid” or “carboxylate” to the parent name of the original polymer, e.g. Steareth-10 oxidized to carboxylic acid would be named Steareth-10 Carboxylic Acid.

g. Poloxamers, Meroxapols, Poloxamines and Minoxapols are named in accordance with convention 6 above. The term “Poloxamer” denotes a block copolymer consisting of polypropylene glycol terminated with polyethylene glycol. The term “Meroxapol” denotes a block copolymer consisting of polyethylene glycol terminated with polypropylene glycol. The term “Poloxamine” denotes a block copolymer of ethylene diamine reacted first with polypropylene glycol and then polyethylene glycol, e,g, $[(PEG)_X\text{-}(PPG)_Y]_2\text{-}NCH_2CH_2N\text{-}[(PPG)_Y\text{-}(PEG)_X]_2$. “Minoxapol” is the reverse of “Poloxamine”, e.g., $[(PPG)_X\text{-}(PEG)_Y]_2\text{-}NCH_2CH_2N\text{-}[(PEG)_Y\text{-}(PPG)_X]_2$. The numerical suffix designation is obtained by the following rule: The first two digits multiplied by 100 correspond to the approximate average molecular mass of the poly(oxypropylene) portion; the third digit multiplied by 10 corresponds to the percentage by weight of the poly(oxyethylene) portion.

h. Block and random copolymers of polyethylene glycol and polypropylene glycol not named in 19g. are named as PEG-X/PPG-Y Copolymer (block), and PEG/PPG-X/Y (random) where X is the average ethoxylation value and Y is the average propoxylation value, e.g., PEG/PPG-240/60 Copolymer. The sequence (block or random) and the terminal groups are described in the monograph definition of each ingredient.

i. Terpolymers with a center anchor, in which there is further block or random alkoxylation of an alkoxylated polymer, are named, for example, as PEI-y PEG-x/PPG-y Copolymer. (e.g., PEI-14 PEG-10/PPG-7 Copolymer)

j. Ethoxylated glycerin is named as “Glycereth-x” where x denotes the average moles of ethylene oxide. Esters formed by the reaction of a fatty acid with an ethoxylated glycerin molecule are named by adding the suffix “ate” to the fatty acid grouping, e.g., Glycereth-5 Cocoate. When glycerin is derivatized prior to ethoxylation, (e.g., esterified with a fatty acid), the ethoylation is designated by PEG-x, e.g., PEG-7 Glyceryl Cocoate, PEG-3 Glyceryl Trioleate.

Alkyl Groupings

20. The nomenclature for ingredients which are inherent mixtures (e.g., unfractionated fatty acids, or fatty alcohols from natural oils) is determined on the basis of the chemical identity of the raw material as purchased, (i.e., source and purity). Inherent mixtures that reflect the original distribution of components (i.e., when there is no fractionation) are named according to the common name of the source, e.g., Coconut Acid, Coconut Alkane, Soy Acid, Tallow Alcohol. Derivatives of these materials are named in a similar manner, e.g., Ammonium Palm Kernel Sulfate, PEG-5 Avocadoate, Tallowaminopropylamine. If the original natural distribution has been significantly cut or enriched, the mixture is named on the basis of the predominant component, e.g., Sodium Myreth-3 Sulfate. The predominant component is defined as one that is clearly present at the highest concentration in relation to the other components.

21. Nomenclature for materials that result from feedstocks that are mixtures, and where a single component does not predominate, (e.g., mixtures of fatty acids), is designated by the names of the major alkyl groups separated by a slash, e.g., Caprylic/Capric Glycerides, Glyceryl Isostearate/Myristate, Pentaerythrityl Stearate/Caprate/Caprylate/Adipate., Coconut/Palm Kernel Alkanes, Coco/Sunfloweramidopropyl Betaine, Palm/Stear/Behenamidoethyl Diethonium Hydrolyzed Wheat Protein. When a mixture is constituted by a broad range of alkyl groups, “C” type nomenclature is used to designate a name, e.g., C14-30 Alkyl Beeswax, C10-16 Alkyl Glucoside.

    An exception to this convention is the historical usage of the terms “cetearyl” and “cetoleyl” to identify a feedstock mixture of cetyl/stearyl alcohol and cetyl/oleyl alcohol, respectively. Also, the term “vegetable” has been historically applied to a limited number of ingredient names, e.g., Vegetable Oil, Hydrogenated Vegetable Glycerides, Hydrolyzed Vegetable Protein, and their derivatives, and these names have been “grandfathered”. Current conventions stipulate the identification of the specific oil source(s) in the name, see Convention 43a.

22. Materials containing mixtures of even-carbon, straight-chain length fractions in which there is a predominant component are named by the common name for the predominant fatty stem. Materials containing mixtures of even- and odd-carbon chain length fractions are designated by alternative nomenclature when there is not a predominant component, e.g., C12-15 Pareth-3. See Conventions 21 and 23.

23. The term “Pareth” applies to ethoxylated paraffinic alcohols containing both even- and odd-carbon chain length fractions, e.g., C12-15 Pareth-3.

24. Straight-chain alkyl groups are described by their common stem names. The following table describes the nomenclature applied to straight-chain acids and alcohols.

    Saturated:

Chain Length	**Acid**	**Alcohol**
C6	Caproic	Hexyl
C7	Heptanoic	Heptyl
C8	Caprylic	Caprylyl
C9	Pelargonic	Nonyl
C10	Capric	Capryl
C11	Undecanoic	Undecyl
C12	Lauric	Lauryl
C13	Tridecanoic	Tridecyl
C14	Myristic	Myristyl
C15	Pentadecanoic	Pentadecyl
C16	Palmitic	Cetyl
C17	Margaric	Heptadecyl
C18	Stearic	Stearyl
C20	Arachidic	Arachidyl
C22	Behenic	Behenyl

Unsaturated:

Chain Length	Acid	Alcohol
C11	Undecylenic	Undecylenyl
C16	Palmitoleic	Palmitoleyl
C18	Oleic	Oleyl
C18	Linoleic	Linoleyl
C18	Linolenic	Linolenyl
C20	Arachidonic	Arachidonyl
C22	Erucic	Erucyl

25. Branched-chain alkyl groups are described in INCI names by the prefix “iso” followed by the common stem name for the comparable straight-chain group. In such cases, usage of the term “iso” implies the isomeric nature of the carbon chain, (i.e., the same number of carbons in a nonlinear structure) rather than methyl substitution on the second carbon (i.e., in the *iso* position.)

26. The following table has been included to clarify the nomenclature for derivatives of caproic, caprylic, and capric acids.

Chainlength	Stem Name	Acid	Ester
C6	Capro	Caproic	Caproate
C8	Capryl	Caprylic	Caprylate
C10	Capr	Capric	Caprate

Chainlength	Acyl	Alkyl	Ampho
C6	Caprooyl	Caproyl	Caproo
C8	Capryloyl	Caprylyl	Caprylo
C10	Caproyl	Capryl	Capro

Amphoteric Compounds

27. The term “ampho” has been used as a combining term in the nomenclature for amphoteric surfactants derived from imidazoline intermediates. In naming these compounds, “ampho” denotes N-hydroxyethyl ethylenediamine and is combined with the names for the substituent groupings, e.g., Sodium Cocoamphoacetate.

Biological Materials

28. Biological materials are named by a specific component (e.g., Hyaluronic Acid, Phosphatidyl Choline, Sphingosine) when the material has been isolated, purified and chemically characterized. General nomenclature for biological materials (e.g., Glycosaminoglycans, Fish Serum Extract) is utilized to name materials in accordance with the extent of their purification.

    a. Trivial names for biological compounds are generally utilized in INCI names rather than systematic nomenclature, e.g., lysine, melatonin, lecithin. Trivial names are also used for derivatives where possible, e.g., N-Feruloyl Serotonin, N-Nicotinoyl Dopamine, Palmitoyl Arginine. See also Convention 3.

    b. Ingredients derived from human tissue contain “human” as part of the INCI name, e.g., Human Umbilical Extract. See also Convention 60g and 60h.

    c. Materials derived from animal sources are named, in most cases, by the common name of the animal, rather than the genus/species of the animal, e.g., Donkey Milk. Genus/species information may be included in the definition. For mammalian derived cells, the name of the organ is typically used unless a specific cell type has been isolated, e.g., Liver Cell Extract, Leukocyte Extract, Human Keratinocytes,

d. INCI names for fungi are identified by genus and species, e.g. Mucor Circinelloides Oil, Ganoderma Lucidum (Mushroom) Extract. Historically, the term "mushroom" is also included in the relevant INCI names since it is a term recognized by the consumer.

e. Yeast has historical usage as an INCI name and is a grandfathered term. Products derived by yeast fermentation are named by the genus term "Saccharomyces" (see Convention 29b.)

f. Extracts of algae have historically been named as Algae Extract, in addition to being named by genus terms, e.g., Ascophyllum, Laminaria, etc. These names are grandfathered; the current naming practice is to include both the genus and species terms in the name. The INCI name "Plankton" is also a grandfathered term, and the current practice is to also identify these materials by genus/species.

g. Coral, jellyfish, and sea anemone are invertebrates of the phylum, *Cnidaria*, and are named by their common name in accordance with Convention 28(c).

h. Historically, proteins were named by the common name of the source, and either "hydrolyzed", "peptide" or "amino acids" in accordance with the extent of hydrolysis, e.g., Hydrolyzed Oat Protein, Avena Sativa (Oat) Peptide, Oat Amino Acids. Current names for protein hydrolysates are not distinguished by size, or extent of hydrolysis; however, ingredients where evidence of complete hydrolysis is given may be named as amino acid mixtures, e.g. Oat Amino Acids

Biotech Materials and Ferments

29. Generally speaking, biotechnology involves the usage of microorganisms, or single cells in culture, for the industrial production of a material. (See also Synthetic Peptides, Convention 56 h-k, for the nomenclature of peptides derived by recombinant technology.)

    Biotech materials may be derived by the action of microorganisms, such as bacteria or yeasts, on a substrate to produce materials by fermentation, metabolism, hydrolysis, lysis, or other process. The process may involve the use of nutrients and other materials such as enzymes. The resulting product is referred to as a "culture" or "ferment." The "ferment" may be further processed by extraction, filtration, or other procedure to yield the final product. The conventions used to provide INCI Names for biotech materials are as follows:

    a. When the end product produced from a given "ferment" or "culture" has a common or usual name, such name may be used, e.g., Yogurt, Gellan Gum, Xanthan Gum, Wine.

    b. When the end product does not have a common or usual name, the product is named using the genus of the microorganism followed by a slash, and the name of the substrate (if applicable), followed by the word "ferment." Typical fermentation substrates (i.e. glucose, peptone) are not included as part of the INCI name. On a case-by-case basis, the genus and species name of the microorganism may be used when the use of the genus only may be misleading and the species is needed for clarity, particularly where pathogenic organisms are involved, e.g., Candida Bombicola Ferment, Escherichia Coli/Glucose Ferment Filtrate, Bifida/Enterococcus Faecium/Lactobacillus/Streptococcus Thermophilus/Soymilk Ferment Curd.[1] Substrates will be identified by their common, usual, or other technical name, e.g., Lactococcus/Carrot Ferment. In the absence of a common name, the substrate may be named by the Latin genus/species term, e.g., Aspergillus/Camellia Sinensis Leaf Extract Ferment.

    c. If a component(s) of the fermentation process has been isolated and purified to a significant extent and analytical evidence is provided, the name for one or more of the components may be used, e.g., Glycosphingolipids, Beta-Glucan, Dextran, Sodium Hyaluronate.

    d. Products derived by fermentation and further processed by extraction or filtration are named accordingly, e.g., Lactobacillus/Oat Ferment Extract Filtrate. When cells are lysed by mechanical treatment, heat treatment, osmotic pressure, by the use of chemicals, or enzymes, the term "lysate" is included in the name, e.g., Lactobacillus Ferment Lysate.

[1] The FDA Bad Bug Book is often used as a reference for foodborne pathogenic organisms.

e. Conditioned Media is the growth media collected from eukaryotic cell cultures and are named according to the source of cells being cultured, e.g., Human Cord Blood Cell Conditioned Media, Camellia Sinensis Callus Culture Conditioned Media. No distinction is made regarding the growth conditions or manufacturing method, (e.g., cells grown under hypoxia or induced by ozone). Further distinction is given to indicate the presence of stem cells when the material is confirmed by appropriate analytical methodology.

f. Ingredients derived by plant tissue culture are named according to their method of production as follows:

i. "Plant Callus Extract" is an extract of a callus, or any plant cells that are forced to go through a callus stage in culture unless re-differentiated, (see ix. below)

ii. "Plant Callus Extract Powder" is an extract of callus cells which have been dried, and ground

iii. "Plant Callus Culture Extract" is an extract of a whole culture (cell + media) of callus cells.

iv. "Plant Callus Powder" is a callus (or callus cells), that has been dried and ground without extraction.

v. "Plant Cell Culture" is a cell suspension obtained using high shear and enzymatic treatment and without a callus formation.

vi. "Plant Cell Culture Extract" is the extract of a whole cell suspension culture (cell + media).

vii. "Plant Cell Culture Conditioned Media" is the isolated conditioned media from a Plant Cell Culture.

viii. "Plant Cell Extract" is an extract of the cells (without the media).

ix. Callus cells which are caused to differentiate into a specific plant part after callus formation are named by the plant part rather than callus term.

g. When the material is derived from a microorganism culture (with no additive), the name will consist of the genus and/or species term followed by the relevant term to indicate post-fermentation processing, (e.g., Lactobacillus Ferment Filtrate.)

h. Products derived by spontaneous fermentation (i.e., where a microorganism is not utilized) are named on the basis of the material being fermented followed by the relevant term to indicate post-fermentation processing, (e.g., Sapindus Mukorossi Fruit Ferment Extract). The definitions for these ingredients indicate that the fermentation occurs spontaneously.

i. Materials produced through the cultivation of algae (or other microorganisms) are named on the basis of their composition and purity. The name is based on the identity of the species and the end-product, e.g., Mortierella Oil, Chlorella Protothecoides Oil, Euglena Gracilis Polysaccharide. See also 29 (a), and 43 (j).

Botanicals

30. Botanicals are cosmetic ingredients directly derived from plants. Generally, these ingredients have not undergone chemical modification and include extracts, juices, waters, distillates, powders, oils, waxes, saps, tars, gums, unsaponifiables, and resins. Where evidence of isolation is presented, a botanical ingredient may be named as a chemical entity, e.g., Genistein, or other appropriate terminology, e.g., Soy Isoflavones, depending on the extent of isolation.

a. The INCI names for botanicals are based on the Linné system or Latin binomial, whereby the Genus and species of the plant is used. In limited cases, the term related to the sub-species or variety has been historically used to differentiate materials that relate to the same Genus/species, e.g., *Brassica oleracea captitata.*

b. If an ingredient is derived from an interspecies botanical hybrid with no recognized Linnean name, the INCI name will reflect the Linnean names of both plants used to create the hybrid separated by a slash, e.g. Ru-

bus Fruticosus/Idaeus Extract. If an ingredient is derived from an intraspecies botanical hybrid, the genus/species of the phenotypic parent will be used, e.g. Helianthus Annuus (Sunflower) Seed Oil. In cases where an ingredient is derived from a cultivated hybrid in which the species name is unclear (e.g., the parentage of the species is from one or more hybrids), a cultivar name may be used in conjunction with the genus term, e.g., Phalaenopsis Charm Sun Big Red Robe Flower Extract.

c. Historically, the primary reference used by the INC to establish the Latin binomial names for botanicals was Penso, G., *Index Plantarum Medicinalium Totius Mundi Eorumque Synonymorum*, O.E.M.F. Milano (1983) - ISBN No. 88-7076-027-8.

d. Due to the dynamic nature of plant identification, the scientific nomenclature for plants is continually being updated. In order to provide accurate information, and minimize the impact of INCI name changes, the current accepted scientific plant names, where they differ from the INCI name, are described in the monograph definition. Notable botanical authorities are consulted in this effort, along with the various sources listed below:

- AlgaeBase, http://www.algaebase.org/search/species/
- Flora of China, http://www.efloras.org/
- Index Fungorum, http://www.indexfungorum.org/
- Integrated Taxanomic Information Systems, http://www.itis.gov/
- International Plant Names Index, http://www.ipni.org/ipni/plantnamesearchpage.do
- Missouri Botanical Garden, http://www.tropicos.org/
- MycoBank, http://www.mycobank.org/
- Royal Botanical Garden, KEW, http://www.kew.org/
- The Plant List, http://www.theplantlist.org/
- United States Department of Agriculture Germplasm Resources Information Network (GRIN), http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl
- United States Department of Agriculture Plants Database, http://plants.usda.gov/java/nameSearch

e. INCI names for botanicals include the part(s) of the plant from which the material is derived. When more than one part is utilized, the plant parts are listed in alphabetical order, separated by a slash. When the material is derived from the entire plant, no part is specified and the material is defined as being from the whole plant.

f. The INCI names for plant extracts prepared by solvent extraction are assigned labeling names that identify the name of the plant and the solvent. When the extraction solvent is carbon dioxide, carbon dioxide is not included in the INCI name since it evaporates. Additionally, solvents are not identified in the INCI name in cases where the solvent has been driven off and not present in the final preparation.

g. Essential oils prepared by a steam distillation process yields two distinct fractions, a water-insoluble fraction and a water-soluble fraction. The water-insoluble fraction contains the term oil in the name, e.g., Eucalyptus Globulus Leaf Oil. The water-soluble fraction contains water in the name, e.g., Camellia Japonica Leaf Water. When an ingredient is prepared by adding water to a material prepared by solvent extraction, the ingredient is named as a mixture, e.g., Water (and) Juniperus Communis Fruit Extract. The term “water” is typically

utilized for materials that are derived from plants; although “water” may be used to name non-botanical materials that are produced by steam distillation, e.g., Caviar Water, Royal Jelly Water.

h. The term “powder” is applied to the names for botanical materials that have been mechanically ground, irrespective of particle size. The term “meal” and “flour” are commonly recognized consumer terms, and are utilized accordingly in names such as Corn Cob Meal, Soybean Flour, etc.

i. Where several botanical materials are combined before processing, e.g., extraction or distillation, the ingredient is named by the genus, species and part of each plant separated by a slash followed by the preparation term, e.g., Aesculus Hippocastanum Bark/ Daucus Carota Root/Foeniculum Vulgare Fruit Extract. Exceptions to this convention are the INCI names Rose Extract and Rose Flower Oil which have historical usage and are grandfathered; along with Camellia Seed Oil defined as the oil expressed from one or more species of *Camellia* and named in accordance with information obtained from JCIA.

j. The term “soybean” has historical usage in INCI names to describe both Glycine soja and Glycine max.

k. Botanicals are named by a specific component, e.g., Apigenin, Isoquercetin, when the material has been isolated, purified and chemically characterized. General nomenclature for botanicals (e.g., Soy Isoflavones, Hydrolyzed Ginseng Saponin, Cassia Angustifolia Seed Polysaccharide) is utilized to name materials in accordance with the extent of their purification. See 54d for Conventions related to optical isomers.

l. Gums of natural origin are designated by common name that identifies the source, e.g., Acacia Senegal Gum, Ghatti Gum, Natto Gum. Common names for gums derived by fermentation include Gellan Gum, Xanthan Gum. Ingredients derived by reaction with a gum generally do not include the term “gum” in the INCI name, e.g., Hydroxypropyl Guar.

m. Ingredients derived from plant tissue culture are named in accordance with their process; the naming principles are fully described in Biotechnological Materials and Ferments, 29f.

n. The term “defatted” is used for materials which have been treated appropriately to remove most or all of the lipid. For example, Defatted Hydrangea Macrophylla Flower refers to a plant extract in which the final preparation is the remaining plant material as opposed to the extract.

31. Harmonized INCI names for botanicals are designated by the Latin binomial as determined above, followed by the common name (where historically used) in parentheses, followed by the plant part (if applicable) and the type of preparation, e.g., Prunus Persica (Peach) Leaf Extract.

    In general, Latin binomial names are not used for botanicals that have been chemically modified. Botanicals that have a widely recognized common name (e.g., Olive Oil), and have undergone chemical modification may be named by common name and type of process, e.g., Acetylated Castor Oil, Hydrogenated Rapeseed Glycerides, Hydrolyzed Corn Starch, Oxidized Hazel Seed Oil, Ozonized Olive Oil, Saccharomyces/Grape Ferment Extract. In the absence of a previously monographed common name, or common name not widely known, the genus/species name may be utilized to name derivatives, e.g., Schinziophyton Rautanenii Oil Polyglyceryl-6 Esters.

    In the EU, botanicals are named by the Latin binomial as explained above, followed by the plant part (if applicable) and type of preparation, e.g., Prunus Persica Leaf Extract. (See the discussions on International Harmonization, and Botanicals in the Introduction.)

    When several materials relate to the same genus/species are used, the variety or sub-species in the Linné system may be identified, e.g., Citrus aurantium dulcis, Citrus aurantium amara.

There are a few cosmetic ingredients of herbal medicine origin in Japan in which the medicinal effect of the plant is specific to the sub-species. For these ingredients, the sub-species is included in the name, e.g., Coix Lacryma-Jobi Ma-Yuen Seed, Coix Lacryma-Jobi Ma-Yuen Seed Oil.

32. The INCI names for extracts represent the "material extracted". The extracting solvent(s) if present in the final preparation is included in the INCI name assignment for the specific trade name material, in descending order of concentration.

Ceramides

33. The term ceramide as part of an INCI is assigned to those classes and structures of natural lipids derived from skin as reported by Philip W. Wertz, Ph.D., Marion C. Miethke, M.D., Sherri A. Long, M.D., John M. Strauss. M.D., and Donald T. Downing, Ph.D., "The composition of ceramides from human stratum corneum and from comedones," *The Journal of Investigative Dermatology*, 84 410-412 (1985). The term "ceramide" is also utilized in accordance with the naming system proposed by Motta, S., et al (1993) Biochimica et Biophysica Acta, 1182, 147-151.

    a. A synthetic N-acylated sphingoid base that is identical to any one of the many constituents of the natural ceramides as reported by Wertz, has historically been assigned an INCI labeling name in accordance with the Wertz system, e.g., Ceramide 1, Ceramide 1A, Ceramide 2, Ceramide 3, Ceramide 4, Ceramide 5, Ceramide 6II. The term ceramide as part of the INCI name will be assigned to a N-acylated sphingoid base that contains, as the predominant component, the D-erythro isomer of at least one of the many natural ceramides described by Wertz. A predominant component is one that is present at the highest concentration in relation to other synthetic materials of similar structure and related compositions present in a mixture. The Motta system for naming ceramides is also incorporated into INCI nomenclature. The Motta system utilizes a series of acronyms to designate the various fatty acid/sphingoid base combinations. The sphingoid base is typically 6-hydroxy sphingosine, phytosphingosine, sphinganine or sphingosine, and the fatty acid can be saturated or unsaturated, and normal, or contain an alpha- or omega- hydroxyl grouping. Ceramides containing an omega-hydroxy fatty acid can exist in the free form or be esterified with either linoleic acid or a mixture of predominantly linoleic acid in combination with oleic acid and stearic acid. A number of different combinations of fatty acid/sphingoid base exist which give rise to a variety of INCI names, e.g., Ceramide NS, Ceramide EOS, etc. The chart below identifies the acronyms used in Motta-based ceramide nomenclature:

        N normal fatty acid

        A alpha-hydroxy fatty acid

        O omega-hydroxy fatty acid

        E esterified omega-hydroxy fatty acid

        S sphingosine base

        P phytosphingosine base

        H 6-hydroxysphingosine base

        G sphinganine base (or dihydrosphingosine)

    b. Synthetic N-acylated sphingoid bases that do not have the D-erythro configuration, or otherwise are not constituents of natural ceramides as described by Wertz or Motta, will not be named using the term ceramide. In such cases, a chemical, or other appropriate name, to be determined by the International Nomenclature Committee (INC) on a case-by-case basis, will be assigned as the INCI labeling name.

Color Additives

34 a. Color additives permitted for products to be marketed in the United States are identified in Title 21 of the *U.S. Code of Federal Regulations* (21 CFR). The INCI Names for color additives subject to batch certification are abbreviated names as identified in the *Federal Register* on June 6, 1985 (50 FR 23815). The abbreviated labeling names do not include "FD&C" or "D&C," "No.," or the type of lake "Aluminum, Zirconium, etc.," on their product labels, e.g., Blue 1 Lake is the INCI name for the batch certified colorant FD&C Blue No. 1 Aluminum Lake.

b. For U.S. FDA batch certified colorants, additional names have been added as synonyms in order to identify the non-certified commodity, e.g. Pigment Red 57 instead of Red 7.

c. Alternative Color Index (CI) names have been established for those color additives appearing in Annex IV of *Regulation (EC) No 1223/2009 on cosmetic products* and are required to be used on products labeled for the European Union.

d. Alternate INCI names have been established for synthetic organic color additives permitted in Japan, regulated by the Ordinance to Regulate Coal-Tar Colors Permitted for Use in Drugs, Quasi-drugs, and Cosmetics (MHLW Ordinance No. 30 of August 31, 1966 as amended by MHLW Ordinance No. 55 of December 13, 1972, by MHLW Ordinance No.1126 of July 29, 2003 and by MHLW Ordinance No. 59 of May 2004

e. Coated pigments are named as blends, e.g., Polyethylene Terephthalate (and) Aluminum Powder. Epoxy Resin Coated Aluminum Powder is contained in the Dictionary as one of the Japan Trivial Names.

35. Oxidative hair coloring intermediates are named as described in 21 CFR. Those intermediates not appearing in 21 CFR are named according to their chemical structure.

36. Preformed hair colors are named as described in 21 CFR. Those preformed hair colors not appearing in 21 CFR are given the Colour Index Name. Preformed hair colors not appearing in either 21 CFR or the Colour Index are assigned chemical names based on their structure. In the event that the chemical name is very complex, these colors are assigned an arbitrary color/number designation, prefixed by the letters "HC."

Denatured Alcohol

37 a. Specially Denatured (SD) Alcohols used in products marketed in the United States are named in compliance with Title 27 of the *U.S. Code of Federal Regulations* (27 CFR). The denaturants used in the manufacture of each SD Alcohol formula are specified in the monograph in Section 1. Manufacturers using these SD Alcohols should consult 27 CFR and the *Federal Register* for permitted uses, restrictions and proposed changes.

b. An alternate INCI name, Alcohol Denat., has been established for products marketed in European Union (EU) Member States. Alcohol Denat. is ethyl alcohol that is denatured in accordance with the national legislation of each EU Member State. The INCI Name Alcohol Denat. may also be used in the United States for ethyl alcohol denatured in accordance with 27 CFR. For additional information see "Regulatory and Ingredient Use Information," Introduction, Part A.

Glycerides

38 a. The term "Glyceride" has been utilized to describe a monoglyceride. (e.g., Acetylated Lard Glyceride, Canola Oil Glyceride, C10-40 Isoalkyl Acid Glyceride, Palm Glyceride.)

b. The term “Glycerides” is used to designate mixtures of mono-, di- and/or triglycerides, (e.g., Acetylated Palm Kernel Glycerides, Caprylic/Capric Glycerides, Corn Glycerides, Isostearic/Myristic Glycerides, PEG-12 Palm Kernel Glycerides.)

c. Triglycerides are designated by the term “triglyceride”. Alternate nomenclature is utilized when triglycerides are formed utilizing a single fatty acid, (e.g., Trilaurin, Trimyristin, Tristearin.) See also 43(j).

Glycols

39 a. Glycol is the INCI name for ethylene glycol, and is used as a combining term for derivatives of ethylene glycol, e.g., Glycol Distearate, Glycol Salicylate.

Alkylene 1,2-diols are usually named by the common name of the alkyl group followed by the term glycol, e.g., Lauryl Glycol. One exception is Hexylene Glycol which is 2-methyl-2,4-pentanediol. See Convention 44f for the naming of polyethylene glycol.

b. Diglycol is the INCI name for diethylene glycol, and is used as a combining term for derivatives of diethylene glycol, e.g., Ethoxydiglycol, Diglycol/Isophthalates/SIP Copolymer. See also 39c.

c. PEG-2 is the INCI name for diethylene glycol when the reaction mechanism occurs through the use of an average of 2 moles of ethylene oxide. The exception to this principle is the usage of the suffix “-eth-2” to describe a 2-mole ethoxylate of a fatty alcohol, (see Convention 18a).

d. Butylene glycol is the INCI name for 1,3-butanediol. The numbers are omitted from the INCI name for the parent compound and its derivative, e.g., Butylene Glycol Myristate. INCI names for all other configurations include the numerical prefix to specify the position of the hydroxyl groups, e.g., 1,2-Butanediol, 2,3-Butanediol, 1,4-Butanediol, PEG/Poly(1,2-Butanediol)-52/32 Dimethyl Ether, 1,4-Butanediol Bisdecanoate. See also Convention 4.

e. “Propylene Glycol” is used as a combining term in INCI names when it is a starting material, e.g., Propylene Glycol Behenate, Dipropylene Glycol Caprylate, Tripropylene Glycol Citrate.

Imidazolines

40. Common fatty stem terms are used to designate the alkyl portion of alkyl imidazoline compounds (e.g., Lauryl Hydroxyethyl Imidazoline) even though one carbon atom of the fatty radical becomes a member of the heterocyclic ring during the materials’ manufacture.

Lanolin Derivatives

41. Names of lanolin derivatives usually contain the stem “lan”, e.g., Laneth-10 Acetate. When fractionated, derivatives are named utilizing “lan” as a stem name unless a specific component has been isolated, e.g., Cholesterol.

Minerals

42 a. Naturally occurring minerals with a definite chemical composition and/or physical properties (which may include x-ray diffraction data) are named according to the established, published nomenclature. Some reference sources include:

- Cornelis Klein and Cornelius S. Hurlbut, Jr., *Manual of Mineralogy* (after James D. Dana), Twenty-First Edition (1985), John Wiley & Sons, Inc., New York.

- Carmichael, Robert S., *CRC Practical Handbook of Physical Properties of Rocks and Minerals*, (1989), CRC Press, Inc., Boca Roton, FL 33431.

- Schumann, Walter, *Gemstones of the World*, (1997), Sterling Publishing Co., Inc., New York.
- www.mindat.org
- http://minerals.usgs.gov/

b. Naturally occurring materials that are mixtures of mineral species are named on the basis of particle size using common names such as sand, clay, silt, and other similar terms. Historically, some inorganic materials have been named according to geographic origin when the composition and properties with regard to origin were properly documented and supported in the literature, e.g., Moroccan Lava Clay. See also 42(k).

c. The term "synthetic" is applied to the names of inorganic materials such as rocks, gems, and minerals, (e.g., Synthetic Ruby) to indicate that the material is synthesized. These materials, while generally physically indistinguishable from their natural counterparts, are chemically similar but may vary in chemical composition. Bureau of Standards and X-ray diffraction pattern data must be supplied to support the characterization of compositional similarities between natural and synthetic materials.

d. Rocks, gems and minerals that are mechanically ground (i.e., not ground by natural processes) are named by the common geological term followed by the term "powder", (e.g., Ruby Powder).

e. Doped minerals obtained via calcination are considered solid solutions and are named as a single entity by the constituent mineral oxides, e.g., Silicon/ Titanium/Cerium/Zinc Oxides.

f. Mineral extracts are designated by the name of the mineral and the term "extract", e.g., Loess Extract, Lignite Extract, Malachite Extract, when the manufacturing information indicates the mineral is extracted.

g. Allotropes of carbon are named according to their structural form, e.g., Diamond, Graphite, Fullerenes,Carbon.

h. Plant Ash is the name designated for ingredients composed of ash produced by the combustion of any plant material or mixture of plants.

I. Carbonaceous material obtained by heating wood or other organic matter in the absence of oxygen is named as Charcoal.

j. Clays have historically been designated INCI names based on geographic region; these names have been "grandfathered", e.g., Heilmoor Clay. The current naming practice is to designate clay materials by the INCI name, "Clay". See also 42 (b).

k. Loose pieces of minerals and rocks are sediment and further characterized by particle size as follows:

   i. Sand is a naturally occurring granular material composed of finely divided rock and mineral particles based on silica in the form of quartz, with a typical particle size between 0.0625 to 2.00 mm.

   ii. Silt is sediment from inland bodies of water**.** It is a naturally occurring inorganic material whose origins are based on quartz and feldspar with typical particle sizes between 0.0625 to 0.00400 mm, e.g., Sea Silt.

   iii. Mud is a mixture of water and some combination of soil, silt, and clay, e.g., Alluvial Mud, Salt Mine Mud.

l. Volcanic Soil is a mixture of minerals derived from volcanic deposits which are of varying size including but not limited to sand, silt and clay. Volcanic Sand is loose, granular particles of disintegrated lava deposits. Volcanic ash is the residue obtained from volcanic eruption.

m. Glass is an amorphous inorganic material based on silica (SiO_2) that is combined with various additives, usually metal oxides (e.g., sodium oxide, calcium oxide, magnesium oxide). Glasses are produced by fusing silica together with the additives, then rapidly cooling to eliminate formation of a crystalline structure.

n. INCI names do not generally include descriptive terms related to particle size. Materials that result from milling are named as powders or flours irrespective of size. See Convention 67 for usage of the term colloidal . Additionally, "nano" is not used in the assignment of INCI names to trade materials. See Convention 73.

Oils, Fats, Lipids and Triglycerides

43. a. Triglycerides of plant or animal origin that are liquid at room temperature are generally known as fixed oils and are named by their source followed by the term oil, e.g., Olea Europea (Olive) Oil, Elaeis Guineensis (Palm) Oil, Elaeis Guineensis (Palm) Kernel Oil, Canola Oil, Cod Liver Oil. Oils which have been chemically modified by acetylation, hydrogenation, isomerization or oxidation are named in a similar fashion, e.g., Acetylated Castor Oil, Hydrogenated Palm Kernel Oil, Isomerized Palm Oil, Oxidized Corn Oil, (see Convention 31.)

b. Triglycerides of animal origin that are solid at room temperature are generally known as fats, and are named by their source followed by the term fat e.g., Deer Fat, Goat Fat, Buffalo Fat.

c. Essential oils that are water insoluble fractions of plant materials obtained by steam distillation are named by their source followed by the term oil, e.g., Rose Flower Oil, Salvia Officinalis (Sage) Oil. Water soluble fractions of essential oils are named as waters, (see Convention 30g.)

d. The term "oil" may be used to name non-triglycerides when it applies to ingredients that are commonly recognized, (e.g., Simmonsia Chinensis (Jojoba) Oil, Lanolin Oil, Mineral Oil, Tall Oil, Tar Oil.)

e. Plant butters derived by mechanically pressing the seeds are generally semi-solids at room temperature and are named by the genus/species term of the plant in accordance with Convention 30, e.g., Garcinia Indica Seed Butter. Exceptions include the common name "Butter" which refers to the fat recovered from cow's milk, and "Goat Butter" which refers to the fat recovered from goat's milk.

f. Lipids isolated from plant or animal origin are named by the common name of the animal, e.g., Shark Lipids, Silkworm Lipids, or genus/species name of the plant, e.g., Oryza Sativa (Rice) Lipids. See also Convention 33, Ceramides.

g. Lipids produced by various strains of algae are named in accordance with the composition of the final product. If the product is constituted by a mixture of fatty acids, approximately 80% of the fatty composition is identified in alphabetical order separated by a slash, e.g., Capric/Lauric/Myristic/Oleic Triglyceride.

Polymers

44. Polymeric materials are named according to the name in common usage if it is well known, or by the structure if well-defined, e.g., polyethylene terephthalate. Typically, polymers are named by the starting monomer instead of the composition of the final polymer, e.g., Polydecene instead of polydecane. Exceptions include copolymers named with vinyl alcohol as one of the monomers, e.g., Sodium MA/Vinyl Alcohol Copolymer, in which the starting monomer, vinyl acetate is hydrolyzed to form the alcohol. If no common name exists, and the structure is not well-defined, the polymers are named according to their composition as described below. Homopolymers (consisting of one constituent monomer) are named by placing the term "poly" before the constituent monomer, e.g., Polyisobutene.

a. Copolymers consisting of two or more constituent monomers are named by listing the monomers in alphabetical order separated by a slash (/) followed by the word "Copolymer," e.g., Acrylates/Acrylamide Copolymer.

b. Copolymers consisting of four or more monomers may be given an INCI name according to the predominant

monomer, or resultant polymer class followed by an arbitrary number, e.g., Polyester-1, Polyquaternium-1, etc., with the monomers listed in the monograph definition in alphabetical order of the material. Copolymers with less than four monomers and with an excessive name length may also be considered for "poly-type" names as described above. Such nomenclature is granted at the discretion of the INC.

c. Crosspolymers consisting of two or more constituent monomers are named by listing the monomers in alphabetical order separated by a slash (/) followed by the word "Crosspolymer," e.g., Acrylates/VA Crosspolymer.

   i. The crosslinking agent will be included in the INCI name if the crosslinking agent is a polymer. In these cases, the crosslinking agent will appear as the last component of the INCI name followed by the word "Crosspolymer"; e.g., Lauryl Dimethicone/PEG-15 Crosspolymer, where the crosslinker is diallyl PEG-15. When the crosslinking agent is not a polymer, it will not be included in the INCI name, but will be included in the monograph definition of the material, e.g., Acrylic Acid/Isopropylacrylamide/ MIBK Acrylamide Crosspolymer-is a copolymer of acrylic acid, isopropylacrylamide, methyl isobutyl ketone (MIBK) acrylamide crosslinked with methylene bis-propenamide. Carbomer is an exception to this Convention because of its historic usage.

   ii. In cases where a polymer cannot be formed in the absence of a crosslinking monomer, i.e. the crosslinking monomer is essential for the formation of the polymer repeating structure, the crosslinking monomer will be included in the INCI Name. For example, the crosslinked polyester formed by the condensation of Propanediol and Citric Acid would be named Propanediol/Citrate Crosspolymer. Exceptions include polymers named in accordance with Convention 44(c).

45. The term "Acrylates" is used to describe linear, non-crosslinked copolymers that contain combinations of acrylic acid, methacrylic acid, and their simple esters. They are described as simple alkyls ranging from C1 to C4 (linear or branched). Similarly, the term "Crotonates" is used to describe copolymers that contain combinations of crotonic acid and its simple esters.

46. The term "Aminoacrylates" refers to simple aminoacrylates, in which the substituted alkyl groups attached to amino nitrogen range from C1-4, and acrylates conforms to the definition as described above.

47. The name "Carbomer" is used to describe high molecular weight crosslinked homopolymers of acrylic acid. The crosslinking agent(s) are identified in the ingredient monograph definition.

48. A "Dendrimer" polymer is named from the core to the outside by the monomer layers. If a monomer unit is repeated, the number of generations or layers is indicated. If a previous convention exists for naming the core, then it is utilized. An example is PEG-5 Pentaerythrityl (the core) Dimethylol (the layer) Propionate-2 (generations) in which there are 5 repeating units of polyethylene glycol attached to pentaerythritol as the core. Dimethylol propionic acid is reacted to the core for two generations.

    A dendron attached to a polymer backbone is named by the backbone polymer with the added dendron side group described, e.g., Acrylates/HEMA Copolymer (the core) Dimethylol Propionate-4 (the layer and generation) Dendron.

49. The term Polyurea is used to name polymers typically formed by the condensation of a diisocyanate with a diamine.

Prostaglandin Derivatives

50. Ingredients which are analogues of prostaglandin compounds utilize the drug stem term as part of the corresponding cosmetic ingredient name, e.g., Bimatroprost and Cyclopropylbimatoprost; Closprostenol and Isopropyl Cloprostenate; Noralfaprostol and Isopropyl Dihydro Noralfaprostal; Travoprost and Ethyl Travoprostamide. The use of common drug stem names for related cosmetic substances is considered by the INC on a case-by-case basis.

Quaternary Ammonium Salts

51. Quaternary ammonium salts usually have the suffix “ium” in the stem of the cation. The term “monium” describes a monomethyl-substituted quaternary nitrogen; “dimonium” describes a dimethyl-substituted quaternary nitrogen; “trimonium” describes a trimethylsubstituted quaternary nitrogen.

Silanes and Siloxanes

52. Silanes and Siloxanes are named according to the following subcategories:

    a. Silanes are monomeric compounds containing one silicon atom, or two or more silicon atoms bonded directly to each other. Silanes are named by listing substituents in alphabetical order, and then the term ‘silane’ with the appropriate numerical prefix, e.g., Dimethyldisilane.

    b. Silanols [silanes containing hydroxyl group(s)] are named according to the number of hydroxyl groups attached to the silicon atom, e.g., silanediol, silanetriol.

    c. Hydroxyl group(s) occurs in the terminal position of a polysiloxane are named as Methiconol or Dimethiconol, see Convention 52(f).

    d. Cyclic dimethyl siloxane was historically named ‘Cyclomethicone’ to represent mixtures of species containing three to seven siloxane units. For pure components (>99%), the nomenclature is based upon the number of siloxane units, cyclotrisiloxane, cyclotetracyclosiloxane, cyclopentasiloxane, and cycloheptasiloxane.

    e. Linear polysiloxanes (trimethylsiloxy end-blocked) are named as derivatives of methicone or dimethicone, and when containing 2-4 silicon atoms are they are named chemically (e.g., Trisiloxane, Disiloxane.

    f. Methicone refers to linear siloxane polymers where each silicon atom in the siloxane chain has one methyl group and one hydrogen atom. Dimethicone is the name for siloxane polymers where each silicon atom has two methyl groups. Methicone is often the starting material for making alkyl siloxanes where the hydrogen atoms are replaced with the alkyl group (e.g. C26-28 Alkyl Methicone). Dimethicones that have some of the methyl groups replaced by other substituents are named accordingly, e.g. Stearyl Dimethicone, PEG-12 Dimethicone, Phenyl Dimethicone. Methicones and Dimethicones normally have methyl groups on the ends of the siloxane chains. When the siloxane chains are terminated by other groups, these are included in the name with the prefix “Bis-“, e.g. Bis-Aminopropyl Dimethicone, Bis-Hydrogen Dimethicone, Bis-PEG-8 Dimethicone

    g. Silsesquioxanes are highly branched siloxanes that conform to the general formula $[RSiO_{3/2}]x$, where R is an organic substituent. They are sometimes referred to as Polyhedral Oligomeric SilseSquioxanes (POSS). They are named as polysilsequioxanes with the name of the substituent included, e.g. Polyphenylsilsesquioxane, Polypropylsilsesquioxane. When the silsesquioxane is copolymerized with other siloxanes, the substituent is not named when it is methyl. Other types of substituents are included in the name, e.g. Dimethicone/Silsesquioxane Copolymer, Amodimethicone/Morpholinomethyl Silsesquioxane Copolymer.

    h. Silsesquioxanes are a family of oligomeric or polymeric polysiloxanes in which each silicon atom is connected to three oxygen atoms. The fourth position on each silicon atom in a silsesquioxane is occupied by an organic group so the empirical formula for silsesquioxanes is RSiO3/2, where R represents the organic

group. The nomenclature understood to include oligomeric silsesquioxanes that only contain 4-6 silsesquioxane units. If the organic group for the silsesquioxane has a short, simple name then the INCI will be a single word, e.g. Polyphenylsilsesquioxane, Polypropylsilsesquioxane. For more complex organic groups, they will be used with the term Polysilsesquioxane, e.g. Acryloyloxypropyl Polysilsesquioxane, Glycidoxypropyl Polysilsesquioxane.

i. Silicates are named as such, with any substituents and/or terminal groups appropriately named, e.g., Trimethylsiloxysilicate.

j. The term 'Polysilicone' followed by an arbitrary number is used to describe complex silicone polymers that cannot be named by common names or established conventions for silicone compounds (e.g., Polysilicone-10).

Substituted Compounds and Prefix/Suffix Terms

53. Singly substituted derivatives usually do not include the prefix "mono." This term is used only when required to prevent ambiguity. The absence of a suitable prefix implies "mono," e.g., Glyceryl Stearate represents glyceryl monostearate, and Glyceryl Oleate/Laurate represents a monoester of glycerin with a blend of oleic and lauric acids.)

54. Multiple substitution is routinely described with the appropriate prefix, such as "di-," "tri-," or "tetra-" e.g., Glyceryl Distearate, Propylene Glycol Dilaurate, Pentaerythrityl Tetrabenzoate.

    a. Where there is substitution with a mixture of components, i.e., alkyl groups, the prefix is used only once, wherever possible, and the moieties are separated by a slash, e.g., Ditrimethylolpropane Tetraisostearate/Hydroxystearate to denote the tetraester of ditrimethylolpropane and a mixture of isostearic and hydroxystearic acids.

    b. The simple numerical prefixes "di-", "tri-", "tetra-" etc. are used to indicate a multiplicity of simple (i.e., unsubstituted) substituents provided that there is no ambiguity, e.g., Propylene Glycol Dilaurate, Triethyl Citrate.

    c. The numerical prefixes "bis"-, "tris-"are generally utilized to denote multiple identical structural features of a compound, e.g., Tris-Biphenyl Triazine, Bis-Aminopropyl Dimethicone.

    d. Optical isomers are usually not designated in INCI names although this information may be included in the monograph definition. However, there may be circumstances whereby it is necessary to identify the optical properties of the isomer, e.g., d-limonene under EU regulation 111/1.88, and the INC will address these situations as they arise.

    e. The numbering of substituents is only employed where necessary to prevent ambiguity, e.g., 1,4-Butanediol, 2,3-Butanediol.

    f. The prefixes *o-, m-, p- t-, n-*, N, N', etc. are used only when necessary to prevent ambiguity.

    g Locants are included in the INCI name when there is more than one possible site for the reaction. e.g., N-Feruloyl Dopamine

55. Mixtures of mono-, di- and tri-esters of glycerin are designated by the suffix "-ates", (e.g., Glyceryl Stearates.)

56. The dimethyl term is omitted and is assumed in all alkyl dimethyl amine oxide names (e.g., Stearamine Oxide). Tertiary amine oxides with different substituent groups are named completely (e.g., Dihydroxyethyl Stearamine Oxide).

57. Amino acids substituted on nitrogen are named by the identity of the substituent group and the trivial name of the amino acid. Since N-2 is the atom most easily modified, N-can be omitted from the name without ambiguity, e.g., Acetyl Tyrosine.

    a. The suffix “ate” is added to the amino acid name when the substance is a salt, e.g., Sodium Glutamate, Potassium Aspartate, or an ester, e.g., Ethyl Glutamate, Acetylated Cetyl Hydroxyprolinate, Methyl Undecenoyl Leucinate.

    b. When the hydroxyl group of the carboxyl has been replaced by an amino group, the “amide” suffix is added to the trivial name of the amino acid, e.g., Hexacarboxymethyl Lysinyl Lysinamide, Hydroxyphenyl Glycinamide, Prolinamidoethyl Imidazole.

    c. When amino acids are derivatized, amino acid stem names are used as a combining term rather than chemical names, e.g., Glutamyl Hydroxyphenylhydrazide, Prolyl Histamine HCl, Palmitoyl Lysyl Aminovaleroyl Lysine.

58. The prefix “dimer” precedes the term “dilinoleic” to designate materials that are C36 di-acids; it has historical usage in INCI nomenclature, e.g., Dicetearyl Dimer Dilinoleate.

59. The prefix “nor” is used to designate “de-methyl” which means one methyl group removed relative to the parent compound for the purposes of nomenclature, e.g., Norvaline.

Synthetic and Recombinant Peptides

60. a. Synthetic peptides consisting of two to ten amino acid residues are named using the appropriate prefix, di-, tri-, tetra-, etc., followed by the term peptide and an arbitrary number, e.g., Dipeptide-2, Decapeptide-4, Acetyl Pentapeptide-3. The constituent amino acids are identified in the monograph definition. There are a few peptides that are historically named by their amino acids, e.g., Glycyl Glycine,and these names have been grandfathered. Additionally, Glutathione is a grandfathered name for the peptide, glutamyl cysteinyl glycine; whereas Tripeptide-35 is composed of the same amino acids but of possible differing sequence.

    b. Synthetic peptides consisting of 11 to 100 amino acids are designated by the term oligopeptide, followed by an arbitrary number, and the constituent amino acids are identified in the monograph definition; e.g., Oligopeptide-13.

    c. Synthetic peptides consisting of more than 100 amino acids are designated by the term polypeptide, followed by an arbitrary number, and the constituent amino acids are identified in the monograph definition; e.g., Polypeptide-5.

    d. The amino acid residues composing the peptide are listed alphabetically in the monograph definition. The amino acid residues may include the following: Alanine, Arginine, Asparagine, Aspartic Acid, Cysteine, Glutamic Acid, Glutamine, Glycine, Histidine, Isoleucine, Leucine, Lysine, Methionine, Phenylalanine, Proline, Serine, Threonine, Trptophan, Tyrosine, Valine.

    e. When the peptide contains an amino acid that is not one of the natural amino acids identified above, (e.g., D-isomers or gamma amino acids) it is identified in the peptide name, e.g., Tripeptide-9 Citrulline, Palmitoyl Dipeptide-28 D-Serine Dipeptide-7 Palmitamide.

    f. Peptide derivatives are named utilizing the parent peptide name, and the name of the modifying group as follows:

        i. When the N-terminus is modified, the name of the modifying group precedes the peptide name, e.g., Myristoyl Hexapeptide-5.

ii. When the C-terminus is modified, the name of the modifying group is identified after the peptide name according to its composition, e.g., Tripeptide-9 Citrulline, Caffeoyl Tetrapeptide-19 Caffeamide, Tetrapeptide-29 Argininamide, Acetyl Octapeptide-17 Amide.

iii. When any hydroxyl group or amine group along the peptide chain is modified, it is named according to the composition of the reacting species,

g. Ingredients originating from human tissue, including materials starting with human cells in tissue culture, contain "human" as part of the INCI name. See 60 (h) for ingredients made by recombinant technology.

h. Ingredients derived from recombinant technologies are identified by the term "r" as a prefix to the INCI name. The prefix "rh" is used to identify "recombinant human" peptides in which the original gene is derived from a human cell. Peptides derived by recombinant technologies in which the gene is derived from another organism are identified by "r-" followed by the name of the organism, e.g. r-Mussel Polypeptide-1. When the gene source is a synthesized copy from an organism other than human, and the peptide is produced through recombinant technology, the prefix "sr-" is used to indicate synthetic recombinant, followed by the name of the organism, e.g., sr-Bovine Oligopeptide-x.

i. Peptides which are synthesized to be identical to human proteins or portions of human proteins, e.g., small peptides, are designated by the term "sh" for synthetic human, e.g., sh-Oligopeptide-X. This term is identified in the definition as synthetic human.

j. Proteins or peptides that are derived from two or more different proteins are considered fusion proteins. They are named by combining the INCI names of each appropriate individual peptide name, e.g., r-Clostridium Histolyticum Collagenase sh-Oligopeptide-60; r-Mussel Polypeptide-1 r-Mussel Oligopeptide-1 sh-Polypeptide-1.

k. Antibodies are immunoglobulins (Ig), composed of 4 polypeptide chains (2 "heavy" and 2 "light" chains) bound to each other by disulfide bonds. The heavy chains are typically glycosylated. The immunoglobulins are named according to the antigen they specifically bind, the organism where they are raised or hybridoma cells are isolated from and their type, whether monoclonal or polyclonal. The basic naming convention is as follow: Anti-Protein/Antigen Organism Type Antibody. The common name for the antigen is used when available. For instance, a monoclonal antibody raised against Collagenase-1 in murine hybridoma is named Anti-Collagenase-1 Mouse Monoclonal Antibody.

Transesters

61. Transesters are materials derived by the process of the transesterification of esters, usually triglycerides (fats and oils), and alcohols. They are generally identified by the term "esters", e.g., Apricot Kernel PEG-8 Esters, when the alcohol is less than a stoichiometric amount, there is no purification, and the material consists of a complex mixture of products, including mono- and di-glycerides and alcohols. Transesters can also be obtained by the transesterification of an oil with another oil, e.g., Moringa Oil/Hydrogenated Moringa Oil Esters.If a stoichiometric amount or excess of alcohol is used and the reaction driven to completion followed by removal of the glycerin, the material will be named using Ester nomenclature, e.g. Ethyhexyl Cocoate.

    A similar process is carried out by the process of the transamidation of esters, usually triglycerides (fats and oils), and amines. They are generally identified by the term "amides", e.g., Coconut Oil MIPA Amides, when the amine is less than a stoichiometric amount, there is no purification, and the material consists of a complex mixture of products, including mono- and di-glycerides and amides. If a stoichiometric amount or excess of amine is used and the reaction driven to completion followed by removal of the glycerin, the material will be named using Amide nomenclature, e.g. Cocamide MIPA.

MISCELLANEOUS CONVENTIONS

62. Amidino is the root used to designate the structure R-C(NH2)=NH, e.g. Amidinoproline.

63. “Esylate” is the term used to designate ethanesulfonate, e.g., Sodium Esylate. “Tosylate” is the term used to designate toluenesulfonate, e.g., Cetrimonium Tosylate.

64. Estolides are esters formed by the polymerization of 2 or more hydroxyl fatty acids (e.g., 12-hydroxystearic acid), or by the acid-catalyzed condensation of 2 or more unsaturated fatty acids (e.g., oleic acid) to form oligomeric esters. The product is named “estolide” preceded by the name of the fatty acid which makes up the oligomer backbone.

65. The compound known as conjugated CLA is named as Isomerized Linoleic Acid.

66. Encapsulated materials are named as mixtures with the components identified in order of predominance.

67. Solutions that are characterized as the dispersion of very small particles in a continuous phase that remain suspended are named colloids, e.g., Colloidal Silver, Colloidal Platinum.

68. Zwitterions are internal salts and are identified as “betaines” and “sultaines”, e.g., Cocamidopropyl Betaine, Cocamidohydroxypropyl Sultaine.

69. Hydrocarbons derived by the complete hydrogenation of an unfractionated fatty acid are named according to the source of the fatty acids, e.g., Coconut Alkanes. See also Conventions 20 and 21.

70. “Lactylate” is the combining term used to describe the ester formed between two moles of lactic acid, e.g., Sodium Stearoyl Lactylate, Sodium Cocoyl Lactylate.

71. “Ascorbate” is used in INCI names for ingredients produced by the reaction of an alcohol with ascorbic acid, e.g.,Glyceryl Ascorbate, or when a salt of ascorbic acid is formed, e.g., Calcium Ascorbate. “Ascorbyl” is used for esters between ascorbic acid and a fatty acid or phosphoric acid. “Ascorbic” is used when an ether is formed with ascorbic acid, e.g., 2-O-Ethyl Ascorbic Acid.

72. Process terms are not usually utilized in INCI nomenclature, e.g., “heat-induced”. Exceptions include terms such as acetylated, epoxidized, extract, ferment, hydrolyzed, hydrogenated, lysate, ozonized.

73. For products marketed in the EU which contain ingredients that meet the definition for a nanomaterial as identified by the EC Regulation No. 1223/2009, the INCI name (Nano) may be applied as a suffix to the corresponding INCI name. For example, usage of titanium dioxide that meets the EC definition for nano would be declared on the finished product label as Titanium Dioxide (Na**G. Abbreviations**

G. Abbreviations and Acronyms

The following is a compilation of abbreviations used in this reference:

CAS	Chemical Abstracts Service
CE	Cosmetics Europe (formerly Colipa)
CFR	Code of Federal Regulations (U.S.)
CIR	Cosmetic Ingredient Review
CN	Chinese Character Translation of INCI Name
Colipa	The European Cosmetic, Toiletry, and Perfumery Association, now known as Cosmetics Europe
CosIng	European Commission Cosmetic Ingredient Data Base
CTFA	Cosmetic Toiletry and Fragrance Association, now known as the Personal Care Products Council

EC	European Commission
ECHA	European Chemical Agency
EINECS	European Inventory of Existing Chemical Substances
ELINCS	European List of Notified Chemical Substances
EU	European Union
FDA	Food and Drug Administration (U.S.)
INC	International Nomenclature Committee
INCI	International Nomenclature Cosmetic Ingredient
JPN	Japanese Character Translation of INCI Name
OTC	Over-the-Counter
q.v.	quod vide (Latin for “which see”)
REACh	Registration, Evaluation, Authorization and Restriction of Chemicals
spp.	non-specified species
U.S.	United States

The following is a list of acronyms used in INCI names and monograph definitions:

AEEA	Aminoethylethanolamine
AMP	Aminomethylpropanol
AMPD	Aminomethylpropanediol
AMPS	2-Acrylamido-2-Methylpropane Sulfonic Acid (Acryloyldimethyltaurate)
BHA	Butylated Hydroxyanisole
BHT	Butylated Hydroxytoluene
CD	Completely Denatured
CHDM	Cyclohexanedimethanol
CI	Colour Index
DATEM	Diacetyl Tartaric Acid Esters of Mono- and Diglycerides
DBM	Dibutylmaleate
D&C	Drug and Cosmetic
DEA	Diethanolamine
DEDM	Diethylol Dimethyl
DIBA	Dihydroxyisobutylamine
DIPA	Diisopropanolamine
DM	Dimethyl
DMAP	Dimethyl Aminopropyl
DMAPA	Dimethyl Aminopropylamine
DMDM	Dimethylol Dimethyl Dimethyl Hydantoin
DMHF	Formaldehyde Resin
DMPA	Dimethylolpropionic Acid
DMSO	Dimethyl Sulfoxide
DNA	Deoxyribonucleic Acid
ds	Double-stranded
DVB	Divinylbenzene
EDTA	Ethylenediamine Tetraacetic Acid
EDTHP	Ethylenediamine Tetrahydroxy Propylene
EDTMP	Ethylenediamine Tetramethylene Phosphonate
Ext. D&C	External Drug and Cosmetic
FD&C	Food, Drug, and Cosmetic
GLY	Glycine
HBr	Hydrobromide
HC	Hair Color
HCl	Hydrochloride
HDI	Hexamethylene Diisocyanate
HEA	Hydroxyethyl Acrylate

HEDTA	Hydroxyethyl Ethylenediamine Triacetic Acid
HEMA	Hydroxyethyl Methacrylate
HPMA	Hydroxypropyl Methacrylate
IPDI	Isophorone Diiisocyanate
MA	Maleic Anhydride
MDI	Methylene Diphenyl Diisocyanate
MDM	Monomethylol Dimethyl
MEA	Monoethanolamine
MEK	Methyl Ethyl Ketone
MIBK	Methyl Isobutyl Ketone
MIPA	Monoisopropanolamine
NTA	Nitrilotriacetic Acid
PABA	para-Aminobenzoic Acid
PCA	Pyrrolidone Carboxylic Acid
PEG	Polyethylene Glycol
PEI	Polyethylenimine
PG	Propylene Glycol
PPG	Polypropylene Glycol
PTFE	Polytetrafluoroethylene
PVM/MA	Polyvinyl Methyl Ether/Maleic Anhydride
PVP	Polyvinylpyrrolidone
RNA	Ribonucleic Acid
SD	Specially Denatured
SE	Self-Emulsifying
SIP	Sulfoisophthalate
SMDI	Saturated Methylene Diphenyldiisocyanate
TAED	Tetraacetylethylenediamine
TBHQ	tert-Butyl Hydroquinone
TDI	Toluene Diisocyanate
TEA	Triethanolamine
TIPA	Triisopropanolamine
TMHDI	Trimethylhexanediisocyanate
TMMG	Tetramethoxymethylglycouril
TMP	Trimethylolpropane
VA	Vinyl Acetate
VP	Vinyl Pyrrolidone

H. Information Sources

The following references have been cited as Information Sources in the monographs when information on a specific ingredient was found in these texts. Although an attempt was made to provide representative coverage, these listings should not be considered complete. Additional information may be obtained from other compendia and from the suppliers of the specific trade name ingredients.

BAN	British Approved Names as noted in USAN.
BP	British Pharmacopoeia, BPC
CCIH	Canadian Cosmetic Ingredient Hotlist of Health Canada
21 CFR	Title 21 of the U.S. Code of Federal Regulations, Food and Drugs
27 CFR	Title 27 of the U.S. Code of Federal Regulations, Alcohol, Tobacco Products and Firearms, Part 20 - Distribution and Use of Denatured Alcohol and Rum, and Part 21 - Formulas for Denatured Alcohol and Rum
40 CFR	Title of the U.S. Code of Federal Regulations, Protection of Environment

CI	The Colour Index
CIR	Cosmetic Ingredient Review, 1620 L St., NW, Washington, DC 20036-4702; ingredients included in a published Final Report. Journal citations include: Journal of the American College of Toxicology (JACT), Journal of Environmental Pathology and Toxicology (JEPT), and International Journal of Toxicology (IJT). Final Reports published by CIR, prior to inclusion in a scientific journal, are noted without a journal citation. The letter in brackets [ ] indicates the category of conclusion reached by the CIR Expert Panel for a particular ingredient.
CIR: [I]	CIR conclusion: "insufficient data to determine safety for use in cosmetics"
CIR: [I-UNS]	CIR conclusion: "use not supported by the data and information submitted to CIR"
CIR: [I-Z]	CIR conclusion: "insufficient data and no reported use in the FDA data base"
CIR: [S]	CIR conclusion: "safe for the uses identified and included in the Report at the time of the review"
CIR: [SQ]	CIR conclusion: "safe for use subject to specific qualifications enumerated in the conclusion"
CIR: [U]	CIR conclusion: "unsafe for use in cosmetics
CIR: [R]	CIR conclusion: "re-review for which the previous conclusion was confirmed"
CLP	Classification of Substances in Annex VI, Regulation (EC) No., 1272/2008
CTFA D	CTFA Compendium, Descriptions (4th Edition, 1990)
CTFA S	CTFA Compendium, Specifications (4th Edition, 1990)
EC	Regulation (EC) No. 1223/2009 of the European Parliament, Annexes II through VII
ECHA-R	European Chemicals Agency-Registered
Entrez GENE	NCBI Data Base for Gene-Specific Information
EP	European Pharmacopeia
FCC	Food Chemicals Codex
INN	International Nonproprietary Names for Pharmaceutical Substances, World Health Organization (WHO) Geneva
JAN	Japanese Accepted Names as noted in USAN
JCIC	Japanese Cosmetic Ingredients Codex,1993; and Supplements 1995 and 1997
JCLS	The Comprehensive Licensing Standards of Cosmetics by Category, 1994, and draft Ninth Amendment, 1996.
JID-1	Journal of Investigative Dermatology, 84, 410-412 (1985)
JP	The Pharmacopoeia of Japan
JSCI	Japanese Standards of Cosmetic Ingredients, 1985; Second Edition Supplement, 1986; Second Edition Supplement II, 1992.
JSQI	Japanese Standards of Quasi-Drug Ingredients, 1991
M3	Mitteilung 3, Third Report of the Dye-Stuff Commission of Colors for Cosmetics, German Research Association, 1968, Amended 1971
MF	Japan Ministry of Finance (MF) Ordinance No. 11/1937, on Regulation on the Sales of Alcohol
MHLW	Japan Ministry of Health, Labor, and Welfare (MHLW) Ordinance No. 30 (August 31, 1966) as amended by MHLW Ordinance No. 55 (December 13, 1972), On Coal-Tar Colors Permitted for Use in Drugs
MHLW-331	Japan Ministry of Health, Labor, and Welfare (MHLW) Ordinance No. 331
MI	Merck Index
MINIMATA	MINIMATA Convention Treaty on Mercury
NF	National Formulary
NFJ	National Formulary of Japan
OTC-I-AA	Antacid Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 331
OTC-I-AC	Anticaries Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 355
OTC-I-AF	Topical Antifungal Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 333.201
OTC-I-AK	Topical Acne Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 333.301
OTC-I-AL	Topical Antimicrobial Drug Products for Over-the-Counter Human Use; Tentative Final Monograph for Healthcare Antiseptic Drug Products; U.S. FR 31402-52
OTC-I-AM	Topical Antimicrobial Drug Products for Over-the-Counter Human Use; Tentative Final Monograph for First Aid Antiseptic Drug Products; U.S. 56 FR 33644-80; Topical Antimicrobial Products, 43 FR 1210
OTC-I-AP	Antiperspirant Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 350

OTC-!-AR	Anorectal Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 346
OTC-I-AS	Skin Protectant Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 347
OTC-I-CR	Corn and Callus Remover Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 358.501
OTC-I-CT	Cough, Cold, Allergy Bronchodilator and Antiasthamatic Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 341
OTC-I-CV	Vaginal Contraceptive Drug Products for Over-the-Counter Human Use; See notice U.S. 55FR46919 (November 7, 1990) and U.S. 21 CFR 310.545 (28)
OTC-I-DE	Deodorant Drug Products for Internal Use for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 357.801
OTC-I-DP	Dandruff, Seborrheic Dermatitis, and Psoriasis Drug Products for Over-the-Counter Human Use; Final Monograph; 21 CFR 358.
OTC-I-EA	External Analgesic Drug Products for Over-the-Counter Human Use, 21CFR 346.3, 346.10, and 346.16.
OTC-I-IA	Internal Analgesic, Antipyretic, and Antirheumatic Drug Products for Over-the-Counter Human Use; U.S. 21 CFR. 343
OTC-I-LX	Laxative Drug Products for Overthe-Counter Human Use; Tentative Final Monograph; US 50 Federal Register 2124-58 (January 15, 1985), amended 58 Federal Register 46598-96 (September 2, 1993), amended 59 Federal Register 15139-42 (March 31, 1994)
OTC-I-MD	Orally Administered Menstrual Drug Products for Over-the-Counter Human Use; Tentative Final Monograph; US 53 Federal Register 46194-202 (November 16, 1988)
OTC-I-OD	Oral Health Care Drug Products for Over-the-Counter Human Use; Tentative Final Monograph; 59 Federal Register 6084-124 (February 9, 1994) oral antiseptic drug products; Amendment to Tentative Final Monograph to Include OTC Relief of Oral Discomfort Drug Products; US 56 Federal Register 48302-47 (September 24, 1991)
OTC-I-OH	Oral Health Care Drug Products for Over-the-Counter Human Use; Tentative Final Monograph; US 53 Federal Register 2436-61 (January 27, 1988)
OTC-I-OP	Ophthalmic Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 349
OTC-I-OR	Orally Administered Drug Products for Relief of Symptoms Associated With Overindulgence in Food and Drink for Over-the-Counter Human Use; Tentative Final Monograph; US 56 Federal Register 66742-51 (December 24, 1991), amended 58 Federal Register 26886-88 (May 5, 1993)
OTC-I-TO	Topical Otic Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR Part 344
OTC-I-SB	Skin-Bleaching Drug Products for Over-the-Counter Human Use; Tentative Final Monograph; US 47 Federal Register 39108-17 (September 3, 1982)
OTC-I-SK	Skin Protectant Drug Products for Over-the-Counter Human Use; Final Monograph; U.S. 21 CFR 347
OTC-I-ST	Stimulant Drug Products for Overthe-Counter Human Use; Final Monograph; U.S. 21 CFR 340
OTC-I-SU	Sunscreen Drug Products for Overthe-Counter Human Use; Final Monograph; 21 CFR 352
OTC-I-WR	Wart Remover Drug Products for Over-the-Counter Human Use; Final Monograph, U.S. 21CFR358
REACh	Registration, Evaluation, Authorization and Restriction of Chemicals, (EC No. 1907/2006), Annexes IV, V and XIV
RIFM	Research Institute for Fragrance Materials
TSCA	Toxic Substances Control Act Chemical Substance Inventory
USAN	United States Adopted Names
UNII	Unique Ingredient Identifier; FDA/ USP Substance Registration System (SRS) for substances in drugs, biologics, foods and devices
Uniprot	Universal Protein Resource
USP	The United States Pharmacopoeia
WHO	World Health Organization

I. Retired INCI Names, and INCI Name Changes and Deletions

In order to keep current with technology, the approach for designating INCI names is continually reviewed and updated. Consequently, INCI names are subject to change even though the International Cosmetic Ingredient Nomenclature Committee makes every effort to provide consistent nomenclature with as few amendments over time as possible. Beginning in 2013, some INCI names subject to revision that have a long history of usage have been designated as "retired". These INCI names are identified as "retired" in the monograph title, with the new nomenclature, when needed, described in the monograph definition. The "retired" term is intended for descriptive purposes only, and should not be used as part of the INCI name for product ingredient labeling.

Retired INCI names will be retained for publication for an interim period of time. Both the Retired INCI name, and any new INCI name related to the retired name, is available for use for product labeling during this transition period. Additionally, trade names maintain their assignment to retired names, but are also designated by the new nomenclature so that users may update product labels, documentation, and technical literature when economically feasible.

Retired INCI names differ from the names listed in the INCI Name Change Table. Unlike retired INCI names which often relate to "grandfathered" terms, name changes are usually more current (i.e., a change between editions), and relate to ingredient names that were misspelled, misnamed, or reassigned as a result of a name change petition.

Users should consult the specific monographs for retired INCI names for further information.

Retired INCI Name	Date Initiated	New INCI Name
Ceramide 1	May 2014	Ceramide EOP
Ceramide 1 A	May 2014	Ceramide EOP
Ceramide 2	May 2014	Sphinogsine base: Ceramide NS Sphinganine base: Ceramide NG
Ceramide 3	May 2014	Ceramide NP
Ceramide 4	May 2014	Ceramide AS
Ceramide 5	May 2014	Ceramide AS
Ceramide 6 II	May 2014	Ceramide AP
Myristoyl Glycine/Histidine/Lysine Polypeptide	September 2013	Myristoyl Tripeptide-1
Palmitoyl Oligopeptide	September 2013	Palmitoyl Tripeptide-1 or Palmitoyl Hexapeptide-12
Ahnfeltia Concinna Extract	March 2015	Ahnfeltiopsis Concinna Extract
Algae	March 2015	(Relevant genus/species term)
Algae Exopolysaccharides	March 2015	(Relevant genus/species term)

Retired INCI Name	Date Initiated	New INCI Name
Algae Extract	March 2015	(Relevant genus/species term)
Algae Oligosaccharides	March 2015	(Relevant genus/species term)
Algaeoyl Phytosphingosine	March 2015	(Relevant genus/species term)
Dictyopteris Membranacea Extract	March 2015	Dictyopteris Polypodioides Extract
Hydrolyzed Algae Extract	March 2015	(Relevant genus/species term)
Lactobacillus/Algae Extract Ferment	March 2015	(Relevant genus/species term)
Laminaria Angustata Extract	March 2015	Saccharina Angustata Extract
Laminaria Ochotensis Extract	March 2015	Saccharina Japonica Extract
Synechococcus Elongatus/Algae Ferment	March 2015	(Relevant genus/species term)
Ulva Pertusa Extract	March 2015	Ulva Australis Extract

INCI Name Changes:

15th Edition	*16th Edition*
Acetyl Pentapeptide-1	Acetyl sh-Pentapeptide-1
Aphanothece Sacrum Polysaccharide	Aphanothece Sacrum Exopolysaccharides
t-Butylphenoxy Ethoxy Isopropanol	t-Butylphenyl Ethyl Glyceryl Diether
Sec-Butylphenoxy Propanediol	Sec-Butylphenyl Glyceryl Ether
t-Butylphenoxy Propanediol	t-Butylphenyl Glyceryl Ether
Caproyl 2-Glyceryl Ascorbate	Hexyl 2-Glyceryl Ascorbate
Caproyl 3-Glyceryl Ascorbate	Hexyl 3-Glyceryl Ascorbate
Capryl 2-Glyceryl Ascorbate	Hexyl 2-Glyceryl Ascorbate
Capryl 3-Glyceryl Ascorbate	Hexyl 3-Glyceryl Ascorbate
Crataeva Nurvala Bark/Root/Stem Extract	Lupeol
HC Red No. 16	HC Red No. 18
Hydroxymethyl Dioxolanone	Hydroxypropylene Carbonate
Panax Ginseng Cambium Cell Culture	Panax Ginseng Meristem Cell Culture
Panax Ginseng Cambium Cell Extract	Panax Ginseng Meristem Cell Extract
Phaseolus Vulgaris (Kidney Bean) Callus Extract	Phaseolus Vulgaris Callus Extract
Phaseolus Vulgaris (Kidney Bean) Extract	Phaseolus Vulgaris Extract
Phaseolus Vulgaris (Kidney Bean) Phytoplacenta Conditioned Media	Phaseolus Vulgaris Phytoplacenta Conditioned Media
Phaseolus Vulgaris (Kidney Bean) Phytoplacenta Extract	Phaseolus Vulgaris Phytoplacenta Extract
Phaseolus Vulgaris (Kidney Bean) Seed Powder	Phaseolus Vulgaris Seed Powder
Phaseolus Vulgaris (Kidney Bean) Sprout Extract	Phaseolus Vulgaris Sprout Extract
Prunus Cerasus (Cherry) Fruit Water	Prunus Cerasus (Bitter Cherry) Fruit Water
Rubus Deliciosus (Boysenberry) Fruit Juice	Rubus Deliciosus Fruit Juice
r-Spider Polypeptide-1	sr-Spider Polypeptide-1
r-Spider Polypeptide-2	sr-Spider Polypeptide-2
Tetracarboxymethylchalcone	Tetracarboxymethyl Naringeninchalcone

15th Edition	*16th Edition*
Transgenic Barley sh-Oligopeptide-1	Barley sh-Oligopeptide-1
Transgenic Barley sh-Oligopeptide-2	Barley sh-Oligopeptide-2
Transgenic Barley sh-Polypeptide-1	Barley sh-Polypeptide-1
Transgenic Barley sh-Polypeptide-3	Barley sh-Polypeptide-3
Transgenic Barley sh-Polypeptide-8	Barley sh-Polypeptide-8
Transgenic Barley sh-Polypeptide-9	Barley sh-Polypeptide-9
Transgenic Barley sh-Polypeptide-17	Barley sh-Polypeptide-17
Transgenic Barley sh-Polypeptide-25	Barley sh-Polypeptide-25
Transgenic Barley Seed Extract	sh-Barley Seed Extract
Transgenic Nematode rh-Polypeptide-47	Nematode rh-Polypeptide-47
Transgenic Nicotiana Benthamiana sh-Polypeptide-7	Nicotiana Benthamiana sh-Polypeptide-7
Transgenic Nicotiana Benthamiana sh-Polypeptide-45	Nicotiana Benthamiana sh-Polypeptide-45
rh-Transgenic Rice Extract	rh-Rice Extract
Transgenic Rice rh-Oligopeptide-2	Rice rh-Oligopeptide-2
Transgenic Rice rh-Polypeptide-45	Rice rh-Polypeptide-45
Transgenic Silkworm rh-Oligopeptide-2	Silkworm rh-Oligopeptide-2
Transgenic Silkworm sh-Oligopeptide-1	Silkworm sh-Oligopeptide-1
Transgenic Silkworm sh-Oligopeptide-2	Silkworm sh-Oligopeptide-2
Transgenic Silkworm rh-Polypeptide-47	Silkworm rh-Polypeptide-47
Transgenic Silkworm rh-Polypeptide-69	Silkworm rh-Polypeptide-69
Transgenic Tobacco rh-Oligopeptide-1	Nicotiana Benthamiana rh-Oligopeptide-1
Transgenic Tobacco r-Jellyfish Polypeptide-1	Nicotiana Benthamiana r-Jellyfish Polypeptide-1

Typographical Corrections to INCI Names:

INCI Name	Corrected INCI Name
Atractyloides Japonica Root Oil	Atractylodes Japonica Root Oil
Acetobacter/(Acanthopanax Sessiliflorum/Ailanthus Altissima/Albizia Julibrissin/Betula Alba/Betula Platyphylla Japonica/Eucommia Ulmoides/Melia Azadirachta/Morus Alba) Bark/(Adenophora Stricta/Angelica Acutiloba/Angelica Koreana/Angelica Tenuissima/Astragalus Membranaceus/Atractyloides Macrocephala/Bupleurum Chinensis/Bupleurum Falcatum/Cnidium Officinale/Cyperus Rotundus/Dioscorea Japonica/Gastrodia Elata/Ledebouriella Seseloides/Ophiopogon Japonicus/Paeonia Albiflora/Paeonia Lactiflora/Panax Ginseng/Platycodon Grandiflorum/Pueraria Lobata/Rehmannia Chinensis/Rehmannia Glutinosa/Saposhnikovia Divaricata/Scrophularia Buergeriana/Scutellaria Baicalensis/Trichosanthes Kirilowii/Ulmus Davidiana/Vitis Vinifera/Zingiber Officinale) Root/Akebia Quinata Stem/(Artemisia Capillaris/Biota Orientalis/Morus Alba/Perilla Frutescens/Thuja Orientalis) Leaf/(Carthamus Tinctorius/Chrysanthemum Indicum/Gardenia Florida/Lonicera Japonica) Flower/(Cassia Obtusifolia/Cassia Tora/Coix Lacryma-Jobi Ma-yuen/Glycine Max/Glycine Soja) Seed/(Chaenomeles Sinensis/Cornus Officinalis/Forsythia Suspensa/Gardenia Jasminoides/Lycium Chinense/Schizandra Chinensis/Zizyphus Jujuba) Fruit/Morus Alba Twig/Pterocarpus Santalinus Wood/(Atractyloides Japonica/Cnidium Officinale) Rhizome/Alisma Orientale Tuber/Gingko Biloba Nut/Poria Cocos Sclerotium/Ganoderma Lucidum/Inontus Obliquus/Tremella Fuciformis/(Leonurus Sibiricus/Pueraria Thunbergiana) Flower/Leaf/Stem/Bambusa Vulgaris Leaf/Stem/Polygonatum Multiflorum Rhizome/Root/Rheum Palmatum Root/Stalk/Acorus Gramineus Root/Stem/Achyranthes Japonica/Agastache Rugosa/Anthriscus Sylvestris/Aralia Cordata/Chrysanthemum Sibiricum/Citrus Unshiu/Cordyceps Sinensis/Dianthus Chinensis/Dryopteris Crassirhizoma/Geranium Thunbergii/Houttuynia Cordata/Mentha Arvensis/Orostachys Japonica/Phellinus Linteus/Pinus Densiflora/Polygonum Aviculare/Salicornia Herbacea/Saururus Chinensis/Schizonepeta Tenuifolia/Selaginella Tamariscina/Sorbus Commixta/Taraxacum Platycarpum/Trametes Versicolor/Velvet/Honey/Malt Ferment Filtrate	Acetobacter/(Acanthopanax Sessiliflorus/Ailanthus Altissima/Albizia Julibrissin/Betula Alba/Betula Platyphylla Japonica/Eucommia Ulmoides/Melia Azadirachta/Morus Alba) Bark/(Adenophora Stricta/Angelica Acutiloba/Angelica Koreana/Angelica Tenuissima/Astragalus Membranaceus/Atractylodes Macrocephala/Bupleurum Chinensis/Bupleurum Falcatum/Cnidium Officinale/Cyperus Rotundus/Dioscorea Japonica/Gastrodia Elata/Ledebouriella Seseloides/Ophiopogon Japonicus/Paeonia Albiflora/Paeonia Lactiflora/Panax Ginseng/Platycodon Grandiflorus/Pueraria Lobata/Rehmannia Chinensis/Rehmannia Glutinosa/Saposhnikovia Divaricata/Scrophularia Buergeriana/Scutellaria Baicalensis/Trichosanthes Kirilowii/Ulmus Davidiana/Vitis Vinifera/Zingiber Officinale) Root/Akebia Quinata Stem/(Artemisia Capillaris/Biota Orientalis/Morus Alba/Perilla Frutescens/Thuja Orientalis) Leaf/(Carthamus Tinctorius/Chrysanthemum Indicum/Gardenia Florida/Lonicera Japonica) Flower/(Cassia Obtusifolia/Cassia Tora/Coix Lacryma-Jobi Ma-yuen/Glycine Max/Glycine Soja) Seed/(Chaenomeles Sinensis/Cornus Officinalis/Forsythia Suspensa/Gardenia Jasminoides/Lycium Chinense/Schizandra Chinensis/Zizyphus Jujuba) Fruit/Morus Alba Twig/Pterocarpus Santalinus Wood/(Atractylodes Japonica/Cnidium Officinale) Rhizome/Alisma Orientale Tuber/Ginkgo Biloba Nut/Poria Cocos Sclerotium/Ganoderma Lucidum/Inontus Obliquus/Tremella Fuciformis/(Leonurus Sibiricus/Pueraria Thunbergiana) Flower/Leaf/Stem/Bambusa Vulgaris Leaf/Stem/Polygonatum Multiflorum Rhizome/Root/Rheum Palmatum Root/Stalk/Acorus Gramineus Root/Stem/Achyranthes Japonica/Agastache Rugosa/Anthriscus Sylvestris/Aralia Cordata/Chrysanthemum Sibiricum/Citrus Unshiu/Cordyceps Sinensis/Dianthus Chinensis/Dryopteris Crassirhizoma/Geranium Thunbergii/Houttuynia Cordata/Mentha Arvensis/Orostachys Japonica/Phellinus Linteus/Pinus Densiflora/Polygonum Aviculare/Salicornia Herbacea/Saururus Chinensis/Schizonepeta Tenuifolia/Selaginella Tamariscina/Sorbus Commixta/Taraxacum Platycarpum/Trametes Versicolor/Velvet/Honey/Malt Ferment Filtrate
Acetobacter/Bacillus/Lactobacillus/Saccharomyces/Streptococcus/(Cornus Officinalis/Euterpe Oleracea/Lycium Chinense/Plum/Prunus Mume/Schizandra Chinensis) Fruit/Imperata Cylindrica Root/(Vigna Aconitifilia/Phaseolus Angularis) Seed/Apple/Barley/Blueberry/Cabbage/Citrus Unshiu/Cranberry/Cymbopogon Schoenanthus/Eriocephalus Punctulatus/Grape/Lettuce/Mistletoe/Raspberry/Rice/Rosa Canina/Rosemary/Soybean/Spinach/Strawberry/Thyme/Vaccinium Myrtillus Ferment Filtrate	Acetobacter/Bacillus/Lactobacillus/Saccharomyces/Streptococcus/(Cornus Officinalis/Euterpe Oleracea/Lycium Chinense/Plum/Prunus Mume/Schisandra Chinensis) Fruit/Imperata Cylindrica Root/(Vigna Aconitifilia/Phaseolus Angularis) Seed/Apple/Barley/Blueberry/Cabbage/Citrus Unshiu/Cranberry/Cymbopogon Schoenanthus/Eriocephalus Punctulatus/Grape/Lettuce/Mistletoe/Raspberry/Rice/Rosa Canina/Rosemary/Soybean/Spinach/Strawberry/Thyme/Vaccinium Myrtillus Ferment Filtrate
Alisma Plantago Aquatica Extract	Alisma Plantago-Aquatica Extract
Alsidum Helminthocorton Extract	Alsidium Helminthocorton Extract

INCI Name	Corrected INCI Name
Angelica Acutiloba Root/Citrus Aurantium Amara (Bitter Orange) Fruit/Coptis Japonica Root/Forsythia Viridissima Fruit/Gardenia Florida Fruit/Glycyrrhiza Glabra (Licorice) Root/Mentha Arvensis Leaf /Paeonia Lactiflora Root/ Platycodon Grandiflorum Root/Rehmannia Glutinosa Root/ Scutellaria Baicalensis Root Extract	Angelica Acutiloba Root/Citrus Aurantium Amara (Bitter Orange) Fruit/Coptis Japonica Root/Forsythia Viridissima Fruit/Gardenia Florida Fruit/Glycyrrhiza Glabra (Licorice) Root/Mentha Arvensis Leaf /Paeonia Lactiflora Root/ Platycodon Grandiflorus Root/Rehmannia Glutinosa Root/ Scutellaria Baicalensis Root Extract
Aniba Rosaeodora (Rosewood) Wood Extract	Aniba Rosodora (Rosewood) Wood Extract
Aniba Rosaeodora (Rosewood) Wood Oil	Aniba Rosodora (Rosewood) Wood Oil
Anona Muricata Fruit	Annona Muricata Fruit
Anona Reticulata (Custard Apple) Juice	Annona Reticulata (Custard Apple) Juice
Anogeissus Leiocarpus Bark Extract	Anogeissus Leiocarpa Bark Extract
Arctostaphylos Uva Ursi Leaf Extract	Arctostaphylos Uva-Ursi Leaf Extract
Arctostaphylos Uva Ursi Leaf Powder	Arctostaphylos Uva-Ursi Leaf Powder
Artemisia Carvifolia Extract	Artemisia Caruifolia Extract
Artemisia Carvifolia Powder	Artemisia Caruifolia Powder
Aspergillus/Lactobacillus/Saccharomyces/Actinidia Arguta/ Aloe Barbadensis/Angelica Utilis/Artemisia Princeps/Aster Scaber/Beet/Brassica Oleracea Viridis/Crepidiastrum Sonchifolium/Dioscorea Batatas/Ganoderma Lucidum/Ginger/ Hizikia Fusiformis/Houttuynia Cordata/Laminaria Japonica/ Lentinula Edodes/Morus Alba Leaf/Oenanthe Javanica/Pinus Densiflora/Plantago Asiatica/Porphyra Tenera/Pueraria Lobata/Saururus Chinensis/Sedum Sarmentosum/Taraxacum Mongolicum/Undaria Pinnatifida/(Apple/Pear/Prunus Mume/Pumpkin/ Tomato) Fruit/(Carrot/Codonopsis Lanceolata/Platycodon Grandiflorum) Root/(Bambusa Vulgaris/ Hordeum Vulgare) Sprout Ferment Filtrate Extract	Aspergillus/Lactobacillus/Saccharomyces/Actinidia Arguta/ Aloe Barbadensis/Angelica Utilis/Artemisia Princeps/Aster Scaber/Beet/Brassica Oleracea Viridis/Crepidiastrum Sonchifolium/Dioscorea Batatas/Ganoderma Lucidum/Ginger/ Hizikia Fusiformis/Houttuynia Cordata/Laminaria Japonica/ Lentinula Edodes/Morus Alba Leaf/Oenanthe Javanica/Pinus Densiflora/Plantago Asiatica/Porphyra Tenera/Pueraria Lobata/Saururus Chinensis/Sedum Sarmentosum/Taraxacum Mongolicum/Undaria Pinnatifida/(Apple/Pear/Prunus Mume/Pumpkin/ Tomato) Fruit/(Carrot/Codonopsis Lanceolata/Platycodon Grandiflorus) Root/(Bambusa Vulgaris/ Hordeum Vulgare) Sprout Ferment Filtrate Extract
Atractyloides Chinensis Rhizome Extract	Atractylodes Lancea Rhizome Extract
Atractyloides Japonica Extract	Atractylodes Japonica Extract
Atractyloides Japonica Rhizome Extract	Atractylodes Japonica Rhizome Extract
Atractyloides Japonica Root Extract	Atractylodes Japonica Root Extract
Atractyloides Lancea Root Extract	Atractylodes Lancea Root Extract
Atractyloides Macrocephala Rhizome Extract	Atractylodes Macrocephala Rhizome Extract
Atractyloides Macrocephala Root Extract	Atractylodes Macrocephala Root Extract
Atractyloides Macrocephala Root Powder	Atractylodes Macrocephala Root Powder
Bacopa Monniera Extract	Bacopa Monnieri Extract
Bacopa Monniera Leaf Extract	Bacopa Monnieri Leaf Extract
Bacopa Monniera Leaf Powder	Bacopa Monnieri Leaf Powder
Carpinus Turczaninovii Extract	Carpinus Turczaninowii Extract
Carya Illinoensis (Pecan) Seed Extract	Carya Illinoinensis (Pecan) Seed Extract
Carya Illinoensis (Pecan) Seed Oil	Carya Illinoinensis (Pecan) Seed Oil
Carya Illinoensis (Pecan) Shell Extract	Carya Illinoinensis (Pecan) Shell Extract
Carya Illinoensis (Pecan) Shell Powder	Carya Illinoinensis (Pecan) Shell Powder
Caulerpa Okamurai Extract	Caulerpa Okamurae Extract

INCI Name	Corrected INCI Name
Celastrus Paniculata Seed Extract	Celastrus Paniculatus Seed Extract
Chondracanthus Teedii Powder	Chondracanthus Teedi Powder
Cimicifuga Dahurica Root/Forsythia Virdissima Fruit/Glycyrrhiza Glabra (Licorice) Root/Paeonia Lactiflora Root/Platycodon Grandiflorum Root/Pueraria Lobata Root Extract	Cimicifuga Dahurica Root/Forsythia Virdissima Fruit/Glycyrrhiza Glabra (Licorice) Root/Paeonia Lactiflora Root/Platycodon Grandiflorus Root/Pueraria Lobata Root Extract
Cimicifuga Dahurica Root/Forsythia Virdissima Fruit/Glycyrrhiza Glabra (Licorice) Root/Paeonia Lactiflora Root/Platycodon Grandiflorum Root/Pueraria Lobata Root Extract	Cimicifuga Dahurica Root/Forsythia Virdissima Fruit/Glycyrrhiza Glabra (Licorice) Root/Paeonia Lactiflora Root/Platycodon Grandiflorus Root/Pueraria Lobata Root Extract
Cinnamomum Loureirii Bark Extract	Cinnamomum Loureiroi Bark Extract
Dictamnus Desycarpus Root Extract	Dictamnus Dasycarpus Root Extract
Dioscorea Opposita (Wild Yam) Root	Dioscorea Oppositifola (Wild Yam) Root
Dracontium Longpipes Extract	Dracontium Longipes Extract
Duboisia Leichardtii Leaf Extract	Duboisia Leichhardtii Leaf Extract
Durvillaea Antarctica Extract	Durvillea Antartica Extract
Equisetum Hiemale Leaf/Stem Extract	Equisetum Hyemale Leaf/Stem Extract
Equisetum Hiemale Extract	Equisetum Hyemale Extract
Eschscholtzia Californica Flower/Leaf/Stem Extract	Eschscholzia Californica Flower/Leaf/Stem Extrac
Eschscholtzia Californica Leaf Cell Extract	Eschscholzia Californica Leaf Cell Extract
Eschscholtzia Californica Leaf Extract	Eschscholzia Californica Leaf Extract
Gardenia Tahitensis Callus Extract	Gardenia Taitensis Callus Extract
Gardenia Tahitensis Callus Powder	Gardenia Taitensis Callus Powder
Gardenia Tahitensis Flower	Gardenia Taitensis Flower
Gardenia Tahitensis Flower Extract	Gardenia Taitensis Flower Extract
Gaylusaccia Baccata Extract	Gaylussacia Baccata Extract
Germinated Carthamus Tinctorius (Safflower) Seed/Plantago Asiatica Seed/Nelumbo Nucifera Seed/Psoralea Corylifolia Seed/Allium Tuberosum Seed/Brassica Campestris (Rapeseed) Seed/Zizyphus Jujuba Fruit/Astragalus Membranaceus Root/Platycodon Grandiflorum Root/Polygonum Multiflorum/Angelica Gigas/Velvet/Poria Cocos/Lycium Chinense Fruit/Panax Ginseng Root/Eucommia Ulmoides Bark/Tribulus Terrestris Fruit/Polygala Tenuifolia Root/Dendrobium Nobile/Achyranthes Japonica/Epimedium Koreanum/Rehmannia Glutinosa Root/Cornus Officinalis Fruit/Rubus Coreanus Fruit/Morinda Citrifolia/Alpinia Oxyphylla Seed Extract	Germinated Carthamus Tinctorius (Safflower) Seed/Plantago Asiatica Seed/Nelumbo Nucifera Seed/Psoralea Corylifolia Seed/Allium Tuberosum Seed/Brassica Campestris (Rapeseed) Seed/Zizyphus Jujuba Fruit/Astragalus Membranaceus Root/Platycodon Grandiflorus Root/Polygonum Multiflorum/Angelica Gigas/Velvet/Poria Cocos/Lycium Chinense Fruit/Panax Ginseng Root/Eucommia Ulmoides Bark/Tribulus Terrestris Fruit/Polygala Tenuifolia Root/Dendrobium Nobile/Achyranthes Japonica/Epimedium Koreanum/Rehmannia Glutinosa Root/Cornus Officinalis Fruit/Rubus Coreanus Fruit/Morinda Citrifolia/Alpinia Oxyphylla Seed Extract
Gloiopeltis Aenax Powder	Gloiopeltis Tenax Powder
Gloiopeltis Aenax Powder	Gloiopeltis Tenax Powder
Haematoxylon Brasiletto Wood Extract	Haematoxylum Brasiletto Wood Extract
Haematoxylon Brasiletto Wood Extract	Haematoxylum Brasiletto Wood Extract
Haematoxylon Campechianum Powder	Haematoxylum Campechianum Powder
Haematoxylon Campechianum Wood Extract	Haematoxylum Campechianum Wood Extract
Hydrolyzed Phyllostachis Bambusoides	Hydrolyzed Phyllostachys Bambusoides

INCI Name	Corrected INCI Name
Hypochoeris Radicata Extract	Hypochaeris Radicata Extract
Hypochoeris Radicata Flower Extract	Hypochaeris Radicata Flower Extract
Lactobacillus/Angelica Gigas Root Extract/Panax Ginseng Root Extract/Rubus Coreanus Fruit Extract/Schizandra Chinensis Fruit Extract Ferment Filtrate	Lactobacillus/Angelica Gigas Root Extract/Panax Ginseng Root Extract/Rubus Coreanus Fruit Extract/Schisandra Chinensis Fruit Extract Ferment Filtrate
Lactobacillus/Honeysuckle Flower/Licorice Root/Morus Alba Root/Pueraria Lobata Root/Schizandra Chinensis Fruit/Scutellaria Baicalensis Root/Sophora Japonica Flower Extract Ferment Filtrate	Lactobacillus/Honeysuckle Flower/Licorice Root/Morus Alba Root/Pueraria Lobata Root/Schisandra Chinensis Fruit/Scutellaria Baicalensis Root/Sophora Japonica Flower Extract Ferment Filtrate
Ligularia Fishceria Leaf Extract	Ligularia Fishceri Leaf Extract
Mallotus Philippinensis Bark Extract	Mallotus Philippensis Bark Extract
Marsdenia Condurango Bark Extract	Marsdenia Cundurango Bark Extract
Marsdenia Condurango Root Extract	Marsdenia Cundurango Root Extract
Narcissus Pseudo-Narcissus (Daffodil) Flower Extract	Narcissus Pseudonarcissus (Daffodil) Flower Extract
Narcissus Pseudo-Narcissus (Daffodil) Flower Water	Narcissus Pseudonarcissus (Daffodil) Flower Water
Narcissus Pseudo-Narcissus (Daffodil) Root Extract	Narcissus Pseudonarcissus (Daffodil) Root Extract
Nymphaea Coerulea Flower Extract	Nymphaea Caerulea Flower Extract
Nymphaea Coerulea Flower Oil	Nymphaea Caerulea Flower Oil
Nymphaea Coerulea Flower Water	Nymphaea Caerulea Flower Water
Nymphaea Coerulea Leaf Cell Extract	Nymphaea Caerulea Leaf Cell Extract
Nymphaea Coerulea Seed Extract	Nymphaea Caerulea Seed Extract
Pachyrrhizus Erosus Root Extract	Pachyrhizus Erosus Root Extract
Pachyrrhizus Erosus Seed Extract	Pachyrhizus Erosus Seed Extract
Panax Quinquefolium Root Extract	Panax Quinquefolius Root Extract
Peltophorum Dasyrachis Bark Extract	Peltophorum Dasyrhachis Bark Extract
Peltophorum Dasyrachis Bark Powder	Peltophorum Dasyrhachis Bark Powder
Phalaenopsis Lobbi Extract	Phalaenopsis Lobbii Extract
Phragmites Kharka Extract	Phragmites Karka Extract
Phyllostachis Bambusoides Extract	Phyllostachys Bambusoides Extract
Phyllostachis Bambusoides Juice	Phyllostachys Bambusoides Juice
Phyllostachis Bambusoides Leaf Extract	Phyllostachys Bambusoides Leaf Extract
Phyllostachis Bambusoides Rhizome Extract	Phyllostachys Bambusoides Rhizome Extract
Pinus Tabulaeformis Bark Extract	Pinus Tabuliformis Bark Extract
Platycodon Grandiflorum Root Extract	Platycodon Grandiflorus Root Extract
Pleiogynium Timorense Fruit Extract	Pleiogynium Timoriense Fruit Extract
Polystichum Retroso-Palaceum Extract	Polystichum Retrosopalaceum Extract
Quercus Mongolia Leaf Extract	Quercus Mongolica Leaf Extract
Rauwolfia Serpentina Root Extract	Rauvolfia Serpentina Root Extract
Renealmia Guyanensis Leaf Extract	Renealmia Guianensis Leaf Extract
Sabbatia Angularis Extract	Sabatia Angularis Extract
Salvia Lavandulaefolia Leaf Oil	Salvia Lavandulifolia Leaf Oil
Satureia Hortensis Extract	Satureja Hortensis Extract

INCI Name	Corrected INCI Name
Satureia Hortensis Leaf Extract	Satureja Hortensis Leaf Extract
Satureia Hortensis Oil	Satureja Hortensis Oil
Saxifraga Caespitosa Extract	Saxifraga Cespitosa Extract
Schinus Terebinthifolius Fruit Extract	Schinus Terebinthifolia Fruit Extract
Schinus Terebinthifolius Fruit Oil	Schinus Terebinthifolia Fruit Oil
Schinus Terebinthifolius Leaf Extract	Schinus Terebinthifolia Leaf Extract
Schinus Terebinthifolius Seed Extract	Schinus Terebinthifolia Seed Extract
Schinus Terebinthifolius Seed Oil	Schinus Terebinthifolia Seed Oil
Schizandra Chinensis Callus Extract	Schisandra Chinensis Callus Extract
Schizandra Chinensis Fruit	Schizandra Chinensis Fruit
Schizandra Chinensis Fruit Extract	Schisandra Chinensis Fruit Extract
Schizandra Chinensis Fruit Oil	Schisandra Chinensis Fruit Oil
Schizandra Chinensis Fruit Powder	Schisandra Chinensis Fruit Powder
Schizandra Chinensis Fruit Water	Schisandra Chinensis Fruit Water
Schizandra Chinensis Seed Extract	Schisandra Chinensis Seed Extract
Siparuna Guaianensis Leaf Oil	Siparuna Guianensis Leaf Oil
Smilax Aristolochiaefolia Root Extract	Smilax Aristolochiifolia Root Extract
Spirodela Polyrrhiza Extract	Spirodela Polyrhiza Extract
Stephania Cepharantha Root Extract	Stephania Cephalantha Root Extract
Streptococcus Thermophilus/Angelica Gigas Root/Cimicifuga Racemosa Root/Pueraria Lobata Root/Punica Granatum Fruit/Schizandra Chinensis Fruit Extract Ferment Filtrate	Streptococcus Thermophilus/Angelica Gigas Root/Cimicifuga Racemosa Root/Pueraria Lobata Root/Punica Granatum Fruit/Schisandra Chinensis Fruit Extract Ferment Filtrate
Telphairia Pedata Oil	Telfairia Pedata Oil
Thymus Satureioides Oil	Thymus Saturejoides Oil
Thymus Serpillum Extract	Thymus Serpyllum Extract
Thymus Serpillum Leaf Extract	Thymus Serpyllum Leaf Extract
Vaccinium Oldhami Fruit Extract	Vaccinium Oldhamii Fruit Extract
Vitex Agnus Castus Extract	Vitex Agnus-Castus Extract
Vitex Agnus Castus Leaf Cell Extract	Vitex Agnus-Castus Leaf Cell Extract
Vitex Agnus Castus Leaf Oil	Vitex Agnus-Castus Leaf Oil
Xanthoceras Sorbifolia Seed Oil	Xanthoceras Sorbifolium Seed Oil
ziziphus Sativa Extract	Ziziphus Sativa Extract
Zizyphus Joazeiro Bark Extract	Ziziphus Joazeiro Bark Extract
Zizyphus Jujuba Fruit Extract	Ziziphus Jujuba Fruit Extract
Zizyphus Jujuba Leaf Extract	Ziziphus Jujuba Leaf Extract
Zizyphus Jujuba Seed Extract	Ziziphus Jujuba Seed Extract

INCI Names Deleted:

Adipic Acid/Methyl DEA Crosspolymer
Anona Muricata Fruit Extract
Bis-Stearoxy Dimethicone
Caulerpa Okamurai Extract
Caulerpa Racemosa Fruit Extract
Eryobotrya Japonica Leaf Extract
Lactobacillus/Ginseng Root Ferment Filtrate
Lactobacillus/Ulkenia Amoeboidea Ferment Extract Filtrate
Mercuric Oxide
Methylrosanilinium Chloride