

## COSMOS-standard

### COSMOS-standard TECHNICAL GUIDE

Version 3.1 – 1 June 2020

Developed by leading associations and  
certifiers in organic and natural cosmetics

[www.cosmos-standard.org](http://www.cosmos-standard.org)

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# INTRODUCTION

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The information in this Technical Guide is presented in 2 sections:

- SECTION 1 is an overview of key requirements for COSMOS signatures. This is a summary based on all the relevant criteria presented in the COSMOS-standard, the COSMOS-standard Control Manual and the COSMOS-standard Labelling Guide.
- SECTION 2 gives guidance on interpreting technical points and criteria in the COSMOS-standard.

The numbering follows the same numbering as in the COSMOS standard.

## SECTION 1: OVERVIEW KEY REQUIREMENTS FOR COSMOS SIGNATURES: COSMOS ORGANIC, COSMOS NATURAL, COSMOS CERTIFIED AND COSMOS APPROVED

The requirements as summarized here are based on the COSMOS-standard, the COSMOS-standard Control Manual and the COSMOS-standard Labelling Guide. The scheme documents are available on [www.cosmos-standard.org](http://www.cosmos-standard.org).

<i>COSMOS-standard signature</i>	<b>COSMOS ORGANIC</b>	<b>COSMOS NATURAL</b>	<b>COSMOS CERTIFIED</b>	<b>COSMOS APPROVED</b>
<i>Categories</i>	<b>COSMETIC FINISHED PRODUCTS</b>		<b>COSMETIC INGREDIENTS</b>	
<i>Beneficiaries</i>	Subcontractor, Manufacturer and Brand owner of organic products	Subcontractor, Manufacturer and Brand owner of natural products	Subcontractor, Manufacturer and Brand owner of raw materials with organic content	Manufacturer and Brand owner of raw materials without organic content
<i>Scope</i>	Scope 1: Certification of organic or natural cosmetic products, raw materials with organic content, base formulas			Scope 2: Approval of non-organic raw materials that can be used in certified references

<b>Main criteria</b>	<b>Reference scheme documents</b>	<b>COSMOS ORGANIC</b>	<b>COSMOS NATURAL</b>	<b>COSMOS CERTIFIED</b>	<b>COSMOS APPROVED</b>
<i>Labelling and communication</i>	<i>Standard: Chapter 10</i> <i>Labelling guide: Chapter 4 to 8</i>	<p>The following requirements are compulsory on labels:</p> <ul style="list-style-type: none"> <li>• 'COSMOS ORGANIC' signature</li> <li>• Mention of the certification body</li> <li>• Mention of the % of organic and natural origin content</li> <li>• Indication of organic ingredients in the INCI list</li> </ul>	<p>The following requirements are compulsory on labels:</p> <ul style="list-style-type: none"> <li>• 'COSMOS NATURAL' signature</li> <li>• Mention of the certification body</li> <li>• Mention of the % of natural origin content</li> </ul>	<p>The following requirements are compulsory on labels:</p> <ul style="list-style-type: none"> <li>• 'COSMOS CERTIFIED' signature</li> <li>• Mention of the certification body</li> <li>• Mention of the % of organic content</li> </ul>	<ul style="list-style-type: none"> <li>• No claim to an organic certification allowed</li> <li>• The 'COSMOS APPROVED' signature can be used</li> </ul>
<i>Ingredients</i>	<i>Standard: Chapter 5, 6, 7.4 and Appendix I to V, VIII</i>	<ul style="list-style-type: none"> <li>• Precautionary principles: Nanomaterials, GMOs and Irradiation are forbidden</li> <li>• Sustainability: Specific criteria on palm oil, palm kernel oil and derivatives; requirements to be of organic origin or certified sustainable (CSPO) using as a minimum the mass balance supply chain model (not required for complex mixtures, such as perfumes and elements of perfumes or ingredients that are extracted using petrochemical solvents)</li> <li>• All ingredients must be validated according to their category and process (Water, Minerals, PPAI, CPAI, other ingredients)</li> </ul>			

Main criteria	Reference scheme documents	COSMOS ORGANIC	COSMOS NATURAL	COSMOS CERTIFIED	COSMOS APPROVED
Formulations	Standard: Chapter 7, Appendix V, Appendix VI	<ul style="list-style-type: none"> <li>Minimum of 20% of organic content or at least 10% for rinse-off product, non-emulsified aqueous products, and products with at least 80% minerals or ingredients of mineral origin</li> <li>At least 95% of the PPAI must be organic origin</li> <li>The remaining PPAI must be organic if they are listed in Appendix VI</li> <li>The CPAI listed in Appendix VII must be organic</li> <li>Maximum of 2% of petrochemical moieties (Appendix V)</li> </ul>	<ul style="list-style-type: none"> <li>No minimum of organic content</li> <li>Maximum of 2% of petrochemical moieties (Appendix V)</li> </ul>	<ul style="list-style-type: none"> <li>Presence of organic ingredient</li> </ul>	<ul style="list-style-type: none"> <li>No organic content</li> </ul>
Packaging & Fabrics	Standard: Chapter 8.3, 8.4, Appendix IX	<ul style="list-style-type: none"> <li>Primary, secondary packaging and fabric components must be validated and compliant</li> <li>Minimization of direct and indirect environmental impacts of packaging and revision compulsory each 3 years</li> </ul>		<ul style="list-style-type: none"> <li>Primary packaging must be validated and compliant</li> </ul>	N.A.
Manufacturing and storage	Standard: Chapter 8.1, 8.2	<ul style="list-style-type: none"> <li>Avoid any confusion or risk to the integrity of the products</li> <li>Prevent contamination of the ingredients and the products</li> </ul>			N.A.
Environmental Management	Standard: Chapter 9	<ul style="list-style-type: none"> <li>An environmental management plan must be put in place</li> <li>Every cleaning/disinfection product used must be validated and compliant</li> </ul>			N.A.

<i>Main criteria</i>		<i>Reference scheme documents</i>	<b>COSMOS ORGANIC</b>	<b>COSMOS NATURAL</b>	<b>COSMOS CERTIFIED</b>	<b>COSMOS APPROVED</b>
<i>Evaluation process</i>	<i>Application</i>	<i>Control Manual: Chapter 8, 8.3.1</i>	<ul style="list-style-type: none"> <li>Application form completed for every prospective client</li> </ul>			
	<i>Application review</i>	<i>Control Manual: Chapter 8</i>	<ul style="list-style-type: none"> <li>Review of the application form to study the feasibility and the definition of the prospective client</li> <li>If possible, formalization of the commitment</li> </ul>			
	<i>Evaluation</i>	<i>Standard: Chapter 11.1, 11.2 Control Manual: Chapter 8, 8.3.2</i>	<ul style="list-style-type: none"> <li>Documentary evaluation for each Product/Raw Material</li> <li>Initial on-site audit</li> </ul>			Documentary evaluation for each Raw Material
	<i>Review &amp; Certification decision</i>	<i>Control Manual: Chapter 8, 8.3.3</i>	<ul style="list-style-type: none"> <li>Review of the evaluation results to take the appropriate certification decision</li> </ul>			
	<i>Certification documentation</i>	<i>Control Manual: Chapter 8, 8.3.4</i>	<ul style="list-style-type: none"> <li>If the certification decision is positive, certification document edition</li> </ul>			
	<i>Directory of certified products</i>	<i>Control Manual: Chapter 8</i>	<ul style="list-style-type: none"> <li>The list of certified products/raw materials is available on the COSMOS website</li> </ul>			

Evaluation process	Main criteria	Reference scheme documents	COSMOS ORGANIC	COSMOS NATURAL	COSMOS CERTIFIED	COSMOS APPROVED
	Surveillance	Control Manual: Chapter 8, 8.3.6	<ul style="list-style-type: none"> <li>The evaluation process has to be renewed every year</li> <li>Update of the application form if needed to declare any change</li> <li>Annual surveillance audit</li> </ul>			<ul style="list-style-type: none"> <li>The evaluation process has to be renewed every year</li> <li>Update of the application form if needed to declare any change</li> <li>Re-assessment of raw materials at least every 3 years (or as soon as any change)</li> </ul>
	Changes affecting certification	Control Manual: Chapter 8, 8.3.7	<ul style="list-style-type: none"> <li>Information by the client of any change to evaluate the impact on the certification</li> <li>Information of the clients by COSMOS of any change of the requirements of the scheme and the consequences</li> </ul>			
	Termination, reduction, suspension or withdrawal of certification	Control Manual: Chapter 8, 8.3.8	<ul style="list-style-type: none"> <li>Termination, reduction, suspension or withdrawal of certification can be decided following client's demand or a certification body's decision</li> </ul>			
	Complaints and appeals	Control Manual: Chapter 8	<ul style="list-style-type: none"> <li>Everyone can make a complaint or an appeal</li> <li>The complaint/appeal will be processed, and an answer/decision must be sent by the certification body</li> </ul>			



## SECTION 2: GUIDANCE ON INTERPRETING TECHNICAL POINTS AND CRITERIA

### 3. SCOPE

Table 1: In which case should I apply for certification?

- Brand owner: the company owner of a brand that is made by a subcontractor according to the specifications required. Brand owner can be manufacturer as well.
- Distributor: a company who supplies products to sell for consumers. The products sold show the name of the distributor and/or brand owner.
- Handler: the company that only provides services (e.g. packing, filling). The handler does not buy anything.
- Manufacturer: the company that makes products. Manufacturer can be brand owner or sub-contractor.
- Sub-contractor: the company subcontracted for manufacturing activities can purchase raw materials or packaging and sells products to the brand owner.

Category of operator/client	Required to apply for certification	Not required to apply for certification
Distributor/ Brand owner	You are a brand owner and the company in charge of the release to market	<ul style="list-style-type: none"> <li>▪ You are just a distributor and sell other brands' products, but you are not in charge of the release to market</li> <li>▪ You are the brand owner but not the company in charge of the release to market. This company is certified and manages the complete process (production, sale and communication related to certified products).</li> <li>▪ You are already certified by a COSMOS authorised certification body</li> </ul>
Manufacturer/ sub-contractor	You are the company in charge of the release to market of the products you manufacture	<ul style="list-style-type: none"> <li>▪ You manufacture products on behalf of a COSMOS certified brand owner</li> <li>▪ You are already certified as sub-contractor by a COSMOS authorised certification body</li> </ul> <p>Note: in both cases the evaluation of this activity must be included</p>
Handler	<p>Handlers do not have an obligation to be in contract with a COSMOS authorised certification body.</p> <p>Activities of handlers must be audited to check conformity. Exemption accepted if no intervention occurs on the product (storage then re-dispatch of pallets for example).</p> <p>Based on COSMOS authorised certification body risk assessment, there should be regular audits on handler site as well.</p>	

Independent of the obligations in the table, voluntary application for certification is possible.

In any doubt, it is possible to contact the Certification Body to conduct a risk assessment of the commercial set-up in order to decide who should apply for certification.

## 4. DEFINITIONS

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### « *Base formulas* »

Mixtures of ingredients formulated as a basis for making cosmetic products, e.g. shampoo bases, soap bases and cream bases.

### « *Organic* »

Examples of those organic standards and control systems that are considered as complying with the second bullet point in the organic definition (referring to Codex Alimentarius GL 32) are:

- National Program for Organic Production (NPOP), India
- National Organic Program (NOP), USA
- Canada Organic Regime (COR)
- Australian National Food standards
- Brazilian Organic Regulation
- Japanese Agricultural Standard (JAS).

### « *Rinse-off products* » - *precision*

Depilatory waxes and peel-off masks are not considered as rinse-off products: main purpose is the physical removal and the product is not intended to be removed with water.

## 5. GENERAL

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If pesticide or other contamination is detected in an ingredient or product, then the authorised certification body must be informed. The contamination must be investigated to try to establish its cause and extent. The certification body will decide whether the ingredient/product keeps its certified status.

### 5.1.1 Nanomaterials

Particles with a coating (e.g. TiO<sub>2</sub> with coating) are allowed when the minimum particle size without coating is above 100 nm. Otherwise, all nanomaterials, whether required to be labelled or not according to European cosmetic regulations, are not allowed.

TiO<sub>2</sub> and ZnO used as UV-filters are acceptable if the following conditions are met:

- the particle size distribution (number of particles) under 100 nm must be less than 50%
- the mass distribution (weight of particle fraction) under 100 nm must be less than 10%
- the raw material has to fulfill the opinions of the Scientific Committee on Consumer Safety (SCCS) published on, respectively, Titanium Dioxide (nano form)<sup>1</sup>, and Zinc Oxide (nano form)<sup>1</sup>
- in any case, TiO<sub>2</sub> and ZnO as UV filters cannot be used in spray applications, such as aerosol, pump dispenser (but excluding those without spray nozzle), as recommended in SCCS opinion<sup>2</sup>.

<sup>1</sup> SCCS/1516/13 Revision of 22 April 2014 and SCCS/1489/12 Revision of 11 December 2012 [http://ec.europa.eu/health/scientific\\_committees/consumer\\_safety](http://ec.europa.eu/health/scientific_committees/consumer_safety)

<sup>2</sup> Opinion for clarification of the meaning of the term "sprayable applications/products" for the nano forms of Carbon Black CI 77266, Titanium Oxide and Zinc Oxide.

Silica used as coating agent does not need a separate DLS analysis.

### 5.1.2 Genetically Modified Organisms (GMOs)

The COSMOS-standard does not allow the use of GM plants to obtain cosmetic raw materials and ingredients. Therefore, the manufacturer must indicate in the Raw Material questionnaire the name of the plant and the country of origin of the vegetable source which was used to produce that particular cosmetic raw material or ingredient.

Certification bodies will assess the GMO risk according to a common Geographical Risk Matrix developed by the Soil Association. If necessary, they may require additional information from the manufacturer.

The Regulation that COSMOS is referring to when discussing Genetic Modification is Directive 2001/18/EC on the deliberate release into the environment of genetically modified organisms. Article 2 gives definitions of GMO. Annex 1A summarises what techniques are included as genetic modification.

## 6. ORIGIN AND PROCESSING OF INGREDIENTS

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### 6.1.1 Water

Water quality is checked by the certification body when used as single ingredient in COSMOS CERTIFIED products or COSMOS CERTIFIED raw materials (eg. analysis or meets regulation that is equivalent to COSMOS criteria).

There are no specific requirements when water is used in COSMOS APPROVED raw materials.

Chlorinated/dechlorinated water is allowed.

### 6.1.3 Physically processed agro-ingredients (PPAI)

#### Ingredients of animal origin

Milk, honey, beeswax, etc. are ingredients of animal origin that are allowed (as long as the processes comply with Appendices I, and in the case of CPAI also II, and other relevant criteria of the Standard).

Other ingredients of animal origin will be considered after submission of additional documents.

Bee venom is prohibited.

Snail slime is prohibited when produced using salt and electricity but is otherwise permitted if the details are checked by the certification body.

Royal jelly can be allowed if proof is provided that the larva is not killed during the process.

### 6.1.4 Chemically processed agro-ingredients (CPAI)

#### Atom economy – Reaction mass efficiency

If several products are obtained (i.e. the oil is saponified into glycerol and fatty acid) and all products are used at the end of the manufacturing process, the weight of each of the products must be considered for the calculation, even if only one item is submitted as the raw material.

#### Stem cells

Stem cells, used as active ingredients only, are allowed as long as the culture media is also compliant with the standard. The following must be from natural or microbiological origin (and not be synthetic): substrates, culture mediums. The use of inputs (eg. hormones, growth factors or similar components) at low levels (ppm scale) is permitted in stem cell culture mediums. These inputs have to be metabolized/removed and not detectable in the final product. A specific statement from the supplier must be provided.

### Ingredients from biotechnology

The culture medium must be in conformity with the COSMOS-standard. Therefore, each ingredient in the medium must be from mineral, vegetable, microbial, animal or marine origin (meeting the criteria of the Standard) and, where appropriate, must be guaranteed non-GMO origin.

Biotechnological processes are allowed as far as no genetically modified bacteria, fungi, yeast, etc. are used.

If enzymes derived from GMOs are used to produce the cosmetic ingredient, the manufacturer must prove they comply with the following conditions:

- enzymes from GMOs are purified before use
- the GMOs must be used in closed vessel
- the GMOs are deactivated after the process
- risk assessment of impact of GMO release into the environment is made
- risk plan to deal with accidental release of GMOs into the environment is established
- PCR (-) or any other method must be provided to prove that no DNA of the GMO is present in the final raw material.

Defoamers and other auxiliaries can be used in biotechnology (as long as there are removed in final raw material).

### Non-persistent, bio-accumulative and toxic products

Substances, known to be bio-accumulative and not biodegradable are prohibited. Those are substances that do not pass OECD 301; => TEGEWA classification III = high waste water impact.

## **6.2 Calculation rules for organic percentages - examples**

### *6.2.3 Physically processed agro-ingredients (PPAI)*

#### Alcohol as a single ingredient

When validating alcohol as a raw material (from the cosmetic manufacturer) the actual percentage of alcohol is counted as the CPAI % (and CPAI ORG % if the alcohol is organic). So the dilution and purification is taken into account and the organic alcohol content could be various percentages. Note, if organic, % CPAI = % ORG CPAI.

The calculation of CPAI is made by weight. If no water (or other ingredient) is added during the manufacturing process of an organic alcohol, the alcohol content is counted as 100% organic (100% CPAI / 100% ORG CPAI).

Alcohol used in an extract

Organic alcohol (even if completely removed) must be used in organic extracts. If non-organic alcohol is used during the process, the ingredient cannot have an organic contribution.

Alcohol and extracts have to respect Appendix VI and VII for COSMOS ORGANIC certification.

As it is often difficult to obtain information about dilution and purification etc., in organic alcohol for extracts (already certified to organic farming) the alcohol content is counted as 100% organic (100% CPAI / 100% ORG CPAI).

Aqueous extract (including hydrolates, distilled plant)

*Standard:*

Ratio = [organic fresh plant / (final extract - solvents)]

If the ratio is greater than 1, then it is counted as 1.

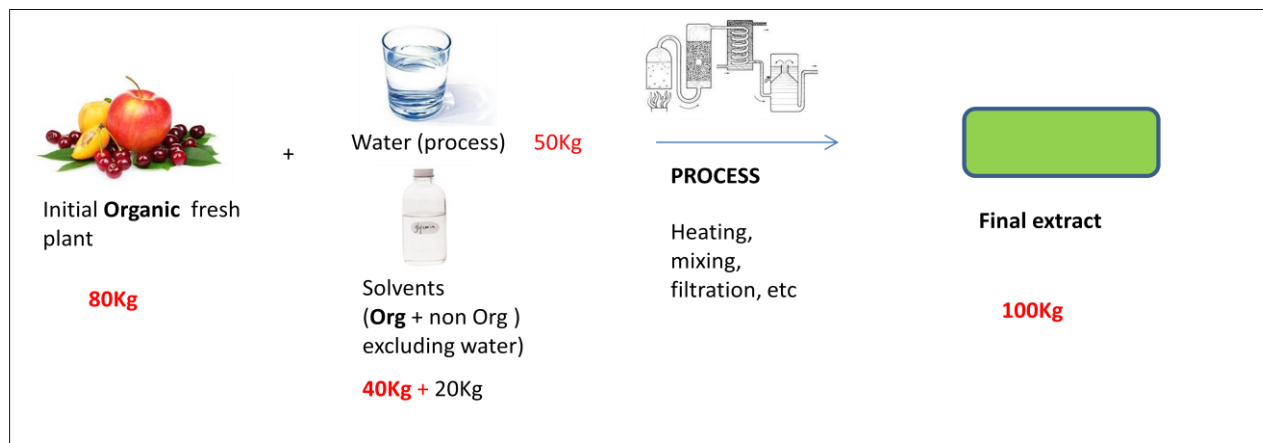
% organic = {[ratio X (extract - solvents) / extract] + [organic solvents / extract]} X 100

•Organic alcohol in organic extract

•No mixture of organic and non organic quality of the same plant

**Example 1:**

Ratio: 80 / (100 - 60); Ratio >1, counted as 1



**% Organic** = {[1 X (100 - 60) / 100] + [40 / 100]} X 100 = **80%**

**Example 2:**

Used:

Organic dried flowers	= 2.5 Kg → equivalent to 11.25 Kg of organic fresh plant
Water	= 95.7 Kg
Citric Acid	= 1.5 Kg (CPAI)
Sodium benzoate	= 0.2 Kg (NNI)
Potassium Sorbate	= 0.1 Kg (NNI)
Total Extract obtained	= 100 Kg

% ORG PPAI = (organic fresh plant / extract) X 100 = 11.25%

% NNI = 0.3%

% CPAI = 1.5%

% ORG = 11.25%

% Natural origin = 100 - NNI = 99.7%

Distillated plant

Used:

Fresh plant	= 90 Kg (PPAI)
Preservative	= 1.1 Kg (NNI)
Total distillated water obtained	= 90 Kg

Ratio = [organic fresh plant / (final extract - solvents)] = 90/90 = 1

% organic = {[ratio X (extract - solvents) / extract] + [organic solvents / extract]} X 100

% organic = {[1 X (90 - 0) / 90] + [0 / 90]} X 100 = 100%

Considering the % of preservative:

Mass of preservatives/mass final extract = 1.1/90 = 1.2%

PPAI = Org PPAI = 100 - 1.2 = 98.8%

The distillated plant will be:

% PPAI = 98.8%

% ORG PPAI = 98.8%

% NNI = 1.2%

Non aqueous extracts (Oleolita/Macerate)

For non water-based extracts, the organic percentage is calculated as follows:

% organic = (organic plant\* + organic starting solvents) / (plant\* + all starting solvents) X 100

\*fresh or dried plant

•Organic alcohol in organic extract

•No mixture of organic and non organic quality of the same plant

**Example 1:**

Used: 45 Kg organic fresh plant and 55 Kg organic oil

$$\% \text{ Organic} = (45 + 55) / (45 + 55) \times 100$$

$$\% \text{ PPAI (oil and plant)} = 100\%$$

$$\% \text{ ORG PPAI (oil and plant)} = 100\%$$

$$\% \text{ NNI} = 0\%$$

$$\% \text{ CPAI} = 0\%$$

$$\% \text{ CPAI ORG} = 0\%$$

$$\% \text{ ORG} = \% \text{ ORG CPAI} + \% \text{ ORG PPAI} = 100\%$$

**Example 2:**

If the plant is not available in organic form and not listed in Appendix VI, it can be permitted in COSMOS Organic products. As well as this, the overall product PPAI percentage minimums need to be met.

Used: 45 Kg non-organic fresh plant and 55 Kg organic oil

$$\% \text{ Organic} = 55 / (45 + 55) \times 100$$

$$\% \text{ PPAI (plant and oil)} = 100\%$$

$$\% \text{ ORG PPAI (oil)} = 55\%$$

$$\% \text{ NNI} = 0\%$$

$$\% \text{ CPAI} = 0\%$$

$$\% \text{ CPAI ORG} = 0\%$$

$$\% \text{ ORG} = \% \text{ ORG CPAI} + \% \text{ ORG PPAI} = 55\%$$

**Example 3:**

If the oil solvent is not in organic form and not listed in Appendix VI, it can be permitted in COSMOS Organic products. As well as this, the overall product PPAI percentage minimums need to be met.

Used: 45 Kg organic fresh plant and 55 Kg non-organic oil

$$\% \text{ Organic} = 45 / (45 + 55) \times 100$$

$$\% \text{ PPAI (plant and oil)} = 100\%$$

$$\% \text{ ORG PPAI (from plant)} = 45\%$$

$$\% \text{ NNI} = 0\%$$

$$\% \text{ CPAI} = 0\%$$

$$\% \text{ CPAI ORG} = 0\%$$

$$\% \text{ ORG} = \% \text{ ORG CPAI} + \% \text{ ORG PPAI} = 45\%$$



**Example 4:**

"Complex mixture" (three or more components, see Technical Guide Appendix VI and VII) in COSMOS ORGANIC products.

Note: "Complex mixture" included in a COSMOS ORGANIC product must have all the components from organic agriculture if all the components are listed in appendices VI/VII. If "complex mixture" contains at least one component not listed in the appendices VI/VII, then none of the components may be from organic agriculture.

Mixture of organic plant and two solvents (solvent A: organic; solvent B: non-organic).

Used: 40 Kg organic fresh plant and 40 Kg organic oil (solvent A) and 20 Kg non-organic oil (solvent B)

$$\% \text{ Organic} = (40 + 40) / (40 + 40 + 20) \times 100$$

$$\% \text{ PPAI (plant and oils)} = 100\%$$

$$\% \text{ ORG PPAI (from plant and one of two oils)} = 80\%$$

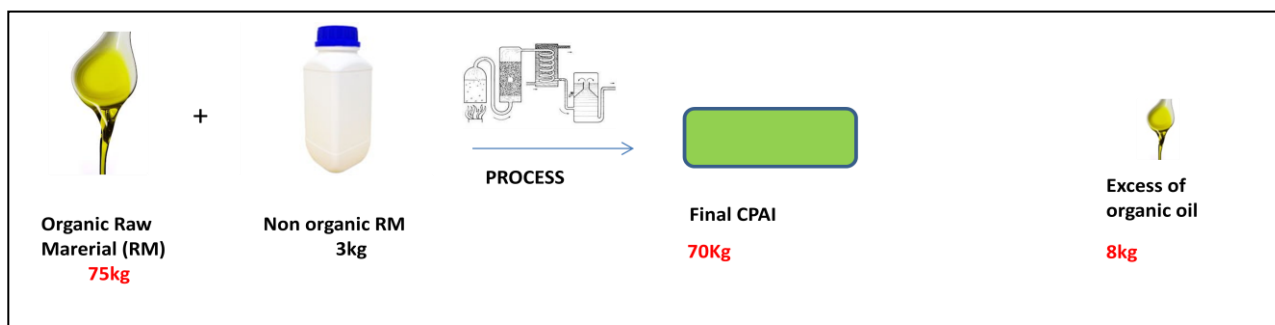
$$\% \text{ NNI} = 0\%$$

$$\% \text{ CPAI} = 0\%$$

$$\% \text{ CPAI ORG} = 0\%$$

$$\% \text{ ORG} = \% \text{ ORG CPAI} + \% \text{ ORG PPAI} = 80\%$$

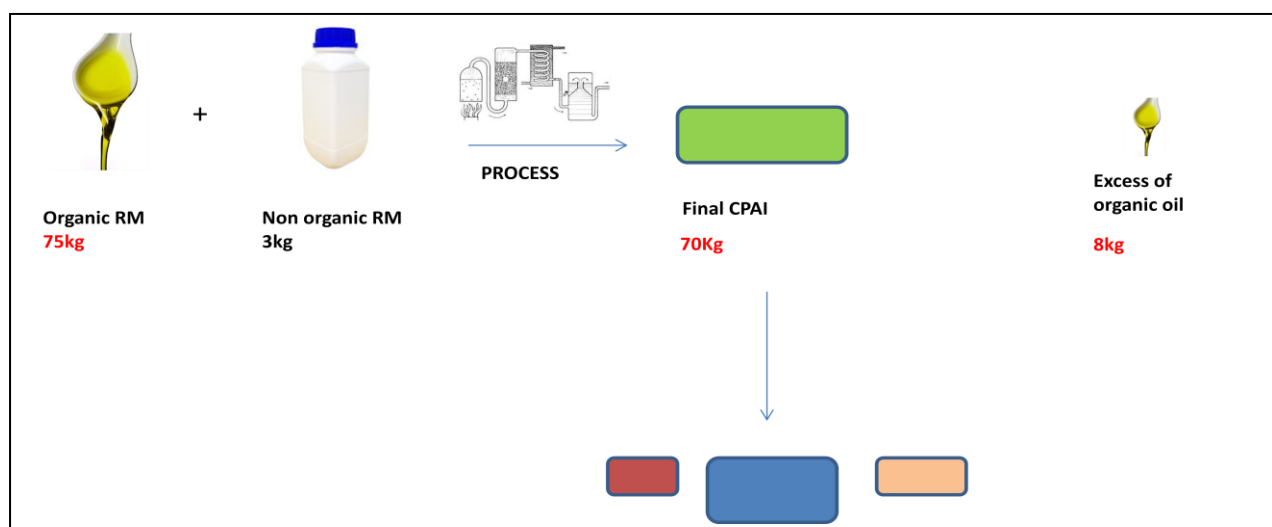
## 6.2.4 Chemically processed agro-ingredients

General case*Standard:*

% organic = [(all organic starting primary raw materials - organic starting primary raw materials in excess) / (all starting primary raw materials - all starting primary raw materials in excess)] X 100

**Example:**

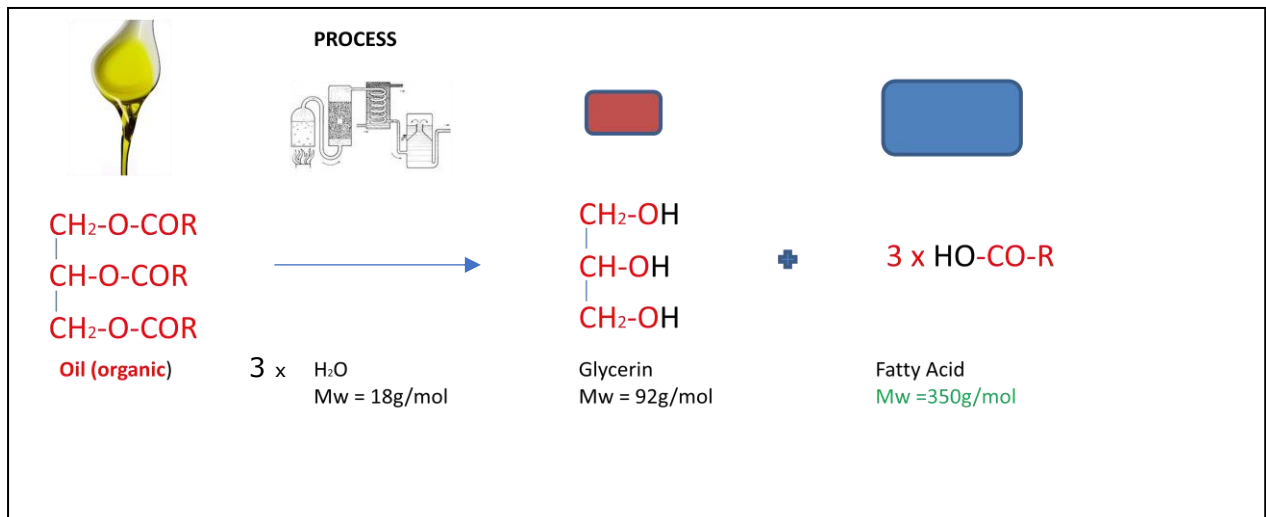
$$\% \text{ Organic} = [(75 - 8) / (75 + 3 - 8)] \times 100 = 95.7\%$$

Specific case

If the final CP AI obtained contains several different molecules, the organic % of each molecule can be different.

The main CP AI calculation can be used if the final product is a single ingredient, OR if the resulting mixture is not separated.

If the result produces more than one material, specific calculations are made based on the molecules obtained (considering the molecular organization, see below).

Hydrolysis example**Example:**

% **organic Glycerin** = Organic part / total = (Mw Glycerin – Mw 3 hydrogen) / Mw Glycerin

$$\begin{aligned} &= (92 - 3) / 92 \\ &= \mathbf{96.7\%} \end{aligned}$$

% **organic Fatty Acid (FA)** = Organic part / total = (Mw FA – Mw OH) / Mw FA

$$\begin{aligned} &= (350 - 17) / 350 \\ &= \mathbf{95.1\%} \end{aligned}$$

Hydroglyceric extracts

To calculate the organic percentage of the total extract, it is necessary to calculate the PPAI organic percentage and CPAI organic percentage separately.

## 1) % ORG PPAI:

First step:

Ratio = [organic fresh plant / (extract - solvents)]

If the ratio is greater than 1, then it is counted as 1.

Second step:

% organic = {[ratio X (extract - solvents) / extract] + [organic solvents / extract]} X 100

## 2) % ORG CPAI:

Glycerin in formula X organic index of the glycerin (0.967)

The total percentage of organic in an hydroglyceric extract is the sum of CPAI ORG% and PPAI ORG %

**Example**

Used:

Organic Plant seed extract (organic fresh plant)	= 0.25 Kg
Organic glycerin	= 0.7 Kg (100% CPAI and 96.7% CPAI ORG)
Water	= 0.75 Kg
Total extract obtained	= 1Kg including: Potassium Sorbate = 0.5 % (NNI) and Sodium Benzoate = 0.5 % (NNI)

% NNI= 1%

% CPAI = % Glycerin in extract = 70%

% CPAI ORG = % Glycerin in extract X 0.967 = 67.7%

R = [org fresh plant/(extract- solvent)] = [0.25Kg / (1Kg - 0.7Kg)] = 0.8

% PPAI = % PPAI ORG = (org fresh plant/extract) X 100 = (0.25Kg / 1Kg) X 100 = 25%

% ORGANIC = % PPAI ORG + % CPAI ORG = 92.7%

% NATURAL ORIGIN = 100 - % NNI = 99%

Hydroalcoholic extracts

To have the organic percentage of the total extract, it is necessary to calculate separately the PPAI organic percentage and CPAI organic percentage.

## 1) % ORG PPAI:

First step:

Ratio = [organic fresh plant / (extract - solvents)]

If the ratio is greater than 1, then it is counted as 1.

Second step:

% organic = {[ratio X (extract - solvents) / extract] + [organic solvents / extract]} X 100

## 2) % ORG CPAI:

% Org Alcohol – % denaturing agent

NB: the percentage of denaturing agent is counted as non-natural ingredient

**Example:**

Used:

Organic fresh plant = 80 Kg

Water = 50 Kg

Total extract obtained = 100 Kg with denaturated organic Alcohol = 60% (including denaturing agent at 1.2%: 58.8% CPAI + 1.2% NNI)

Ratio = 80 / (100 - 60) = 2 --> ratio = 1

% ORGANIC = {[1 X (100-60) / 100] + [58.8/100]} X 100 = % PPAI ORG + % CPAI ORG = 98.8%

% PPAI = 100 – % CPAI – % NNI = 40%

% PPAI ORG = 40%

% CPAI = 58.8%

% CPAI ORG = 58.8%

% NNI = 1.2%

Calculation of synthetic moieties

Example of a reference of cocoamidopropyl betaine at 30% in water:

Molecular weight of the whole molecule = 342 g/mol

Molecular weight of the petrochemical part = 159 g/mol

1) % of petrochemical moiety of the molecule =  $159/342 \times 100 = 46.4\%$

2) % of petrochemical moiety of the reference =  $0.3 \times 0.464 \times 100 = 13.9\%$

→ The reference would be considered 16.1% CPAI and 13.9% synthetic moiety.

Organic CPAI calculation of fermented extract

100g of organic rice + y g of water + z g of yeast + 10g of solvent => 90g of fermented extract

% Organic CPAI = Ratio x (extract – solvent)/extract

With Ratio = ORGANIC RICE /(EXTRACT - SOLVENTS)  
=  $100/(90-10)$   
= 1.25

Ratio is > 1 so is considered as 1

% Organic CPAI = (extract – solvent)/extract  
=  $(90-10)/90$   
= 88.9%

## 7. COMPOSITION

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### 7.1 Rules for cosmetic products under organic certification

#### 7.1.1 Ingredients

##### *For soaps*

As a reminder, the term CPAI soap here in calculation relates to the part of CPAI derived just from the saponification.

#### **Example 1: Soap made with saponification (100 Kg)**

This calculation applies to liquid and solid soap.

Olive oil (org)	50%
Stearic acid (not part of the saponification process)	10%
Water	5%
Citric acid	1%
Diluted Caustic soda (50% active)	32%
Essential oil	2%
Mass of finale soap (after drying)	91%

2 steps have to be considered:

- calculation of the grade (COSMOS ORGANIC / COSMOS NATURAL), and
- final organic % (to be added on the label for COSMOS ORGANIC products)

**Step 1:** Calculation of grade (COSMOS NATURAL / COSMOS ORGANIC) for the total product (7.1.1)

7.1.1: "When making soaps from raw materials into finished product (use of plant oils), no change of the criterion: organic PPAI / all PPAI > 95%"

Here in the example:

organic PPAI / all PPAI = (50) / (50 + 2) = 96% > 95 % ==> **COSMOS ORGANIC** grade

**Step 2:** Calculation of organic percentage of the total product (7.1.2, based on 6.2.4 rules)

7.1.2: As reported in 7.1.2 of COSMOS Standard for soap (rinse-off products) it is required to reach at least 10% org in the total product.

6.2.4: "CPAI % organic = [(all organic starting primary raw materials – organic starting primary raw materials in excess) / (all starting primary raw materials – all starting primary raw materials in excess)] x 100."

Organic CPAI % = (organic olive oil – 0) / (all ingredients – water evaporated)

Excess is water lost during the drying step.

$$\text{Organic CPAI \%} = (50 - 0) / (100 - 9) = 50/91 = 54.9\% \text{ organic}$$

Organic % of the final product = % of organic ingredients introduced of the dried soap weight

There will always be remaining water in soap.

In the case of organic essential oil used, the final organic content will be:

$$\text{Organic CPAI \%} = (50+2 - 0) / (100 - 9) = 52/91 = 57.1\% \text{ organic}$$

### **Example 2: Soap (100 Kg) made with soap noodles**

Organic Essential Oil	2%
Soap noodles	98%
Composition of soap noodles:	
Olive oil (org)	52%
Stearic acid (not part of the saponification process)	10%
Water	5%
Citric acid	1%
Diluted Caustic soda (50% active)	32%

If COSMOS certified noodles are used, please refer to the percentages declared by the suppliers and showed on COSMOS database. If not, please consider the previous example.

$$\text{CPAI: } 52+10+1 = 63\%$$

$$\text{Organic CPAI soap: } 52/52 = 100\%$$

$$\text{Organic CPAI: } 52 / (100+0) = 52\%$$

### **Step 1: Calculation of grade (COSMOS NATURAL / COSMOS ORGANIC) for the total product (7.1.1)**

As reported in 7.1.2 of COSMOS Standard for soap (rinse-off products), it is required to reach at least 10% org in the total product.

$(\text{organic PPAI} + \text{organic CPAI soap}) / (\text{all PPAI} + \text{CPAI soap}) > 95\%$  using the following equations:

$$\text{Grade for final product: } (2+100) / (2+100) = 100\% \Rightarrow \text{COSMOS ORGANIC}$$

Note: CPAI Soap will always be 100%

In the case of non-organic essential oil used, the final organic content will be:

$$\text{Grade for final product: } (100) / (2+100) = 98\% \Rightarrow \text{COSMOS ORGANIC}$$



**Step 2:** Calculation of organic percentage of the total product (7.1.2, based on 6.2.4 rules)

7.1.2: "By exception, for rinse-off products, non-emulsified aqueous products, and products with at least 80% minerals or ingredients of mineral origin, at least 10% of the total product must be organic"

Organic % = organic PPAI + organic CPAI

Organic % = 2+52 = 54%

In the case of non-organic essential oil used, the final organic content will be 52%.

#### **7.4 Palm oil, palm kernel oil and derivatives**

Ingredients from 7.4 do not have to be from palm oil as long as they comply with Cosmos-standard.

**Example:** glycerin from 100% rapeseed oil is acceptable.

*"If a commercial reference/blend contains some of the ingredients from the above list plus other ingredients not from the list (e.g. an extract), none of the ingredients have to be from CSPO)"*

It is considered as a mixture or a blend only if it is a commercial reference and not a mixture made by the cosmetic manufacturer itself.

## 8. STORAGE, MANUFACTURING AND PACKAGING

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A company that fills samples in sachets for 'free giveaway' (eg. at trade shows) does not have to be audited or certified by a COSMOS authorised certification body, provided that the batch has been manufactured by a company that is certified.

### 8.3 Packaging

Each component of the finished product packaging must be compliant with the standard: tubes, bottles, jars, caps, capsules, sachets, boxes, etc.

The following items do not have to be checked:

- accessories sold with a product such as make-up applicator, spatula, spoon, or attached to a product such as ribbon or rope
- elements added inside the secondary packaging such as plastic molds
- labels material, ink, glue
- packaging for free samples, packaging for bulk products (B to B), packaging for COSMOS APPROVED raw materials
- lubricant in the pump, glue in pencils as long as there is no contamination of the cosmetic formula, treatments and lacks
- coatings on card/paper
- all the components working as sealers
- gaskets
- droppers and their specific caps
- external part of a lipstick as long as available compliant alternatives do not exist widely.
- mechanism for Lipsticks: internal part used to turn / push the product
- all technical parts in make-up products such as brush, applicator, flock, rob...
- all the components working as joints
- internal flexible pouch
- multilayers
- pumps and specific associated caps (bottles have to be checked)
- liners
- secondary packaging only used for special event (gift boxes/ end of stocks, etc).
- protection Sleeves; however, it is allowed if around the closure system only. Full sleeve is not allowed. Exceptions could be granted for small products (eg. make-up products).

#### 8.3.1

##### *Minimise the amount of material used*

It must be demonstrated via an appropriate ratio between packaging and product, ratio depending on the type of product, or by avoiding secondary packaging where possible, or any other relevant means.

**Example:** 10ml bottle in a box for 30ml bottle with cardboard inside to protect the bottle

Solutions for change:

- use bigger bottle in order to reduce ratio packaging/product
- use thinner bottle/cap to reduce again ratio packaging/product
- use a 30ml bottle to avoid cardboard inside
- use a 10ml box to avoid cardboard inside
- no box at all

Material that can be recycled

The following points will be considered to assess if a material can be recycled:

- material is easy to separate
- material is a monomaterial
- there is appropriate identification of material

*Material that can be reused*

A material that can be refilled for instance

### 8.3.2

*Packaging review*

Packaging review against 8.3.1 must be demonstrated by any relevant means, such as for instance minutes of meeting regarding packaging impact or packaging materials policy...

## **8.4 Fabrics**

### COSMOS ORGANIC

- fabric must be composed of 100% organic natural fibers;
- the fabric must be certified according to GOTS (Global Organic Textile Standard) or OCS 100 (Organic Cotton Standard).

If pigments are added, they need to be compliant with Cosmos-standard or GOTS.

### COSMOS NATURAL

Besides the rule for Cosmos Natural fabrics in the Standard, the following exemption can be applied.

Fabric and non-woven fabric materials used in cold depilatory wax products can be used for COSMOS NATURAL if they meet the following requirements:

- fabric materials allowed are natural and natural origin fibers;
- fabric materials do not contain any synthetic fibers;
- fabric material binder might contain some petrochemical origin additives for technical reasons, at level of 3% maximum in the binder and 1% maximum in the fabric.

## 9. ENVIRONMENTAL MANAGEMENT

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### 9.2 *Cleaning and Hygiene*

Cleaning products used at any stage of the process of COSMOS certified ingredients / products have to fulfil the requirements (tanks, tools, etc). Cleaning products not involved in the processes (toilets, floors, conventional products, etc.) are not concerned.

Plant based cleaning products certified according to one of the following organic programmes may be used: Ecocert, Ecogarantie, ICEA, Nature & Progress, Soil Association, United States National Organic Program (NOP), or Australian Organic Standards (AOS).

Products endorsed by labels including Nordic Swan or Ecolabel may be used if the natural origin of their active ingredients and surfactants has been confirmed.

Other standards for cleaning products can be submitted to the Technical Committee for assessment.

If national regulations force the use of specific cleaning products, requests for exemption can be submitted to the Technical Committee.

9.2.2 In addition, other materials can be used:

- 1-propanol
- acetic acid (any origin)
- glutaric aldehyde

9.2.4 Certifiers may allow exemptions for companies to use conventional cleaning products after COSMOS certified processing and before conventional processing if required (in this case, the 2 cleanings -ie. before and after manufacture- with compliant cleaning/disinfection products will not be mandatory.

## 10. LABELLING AND COMMUNICATION

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### 10.1 General rules

The use of pseudo organic logos and seals, that might mislead or confuse consumers, must not be used in conjunction with COSMOS certified products or approved ingredients.

A “pseudo” logo can be understood as a logo that confirms certification or quality although there is no standard and no evaluation by a third party. Standard examples are logos created by companies just for their own use and without third party control.

Organic logos are not allowed in conjunction with COSMOS natural products or approved ingredients. For example, a COSMOS natural finished product should not bear a logo with the term “bio” or “organic”. Company names or brands are not considered as logos. If in doubt, request a clarification from the Technical Committee.

10.3 of the standard also provides limitation of the indication of organic ingredients in case of natural products. In case of a product which is organic certified, additional pseudo “bio logos” might be acceptable.

The percentages of natural origin ingredients and organic origin ingredients must be indicated on the label with a precision of maximum 2 decimals. It is possible to round down to the last unit. However, it is forbidden to round up to the next unit.

### 10.5 For raw materials with no organic content

*“Raw materials with no organic content that are approved (as per 6.2.2, 6.2.3 and 6.2.4) must make no reference on the label or on relevant documents to the term certified or to organic.”*

COSMOS has implemented this requirement to avoid confusion to manufacturers of COSMOS CERTIFIED products when the ingredients are selected for the formulations. COSMOS APPROVED raw materials do not have any organic content and are not organic certified.

Thus, providers of non-organic raw materials are asked not to use the words certified (in any language), organic or bio (in any language) on raw material names, on labels and on relevant documents related to COSMOS approved raw materials (except in cases of company names).

## 11. CERTIFICATION AND APPROVAL

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### 11.1 Certification

#### *Documentary evaluation and preparation of on-site audits*

For the certification scope (Scope 1), approval for all ingredients, formulas, labels and packaging used in certified products or ingredients is required.

Assessment of each ingredient is made through a number of different documents including technical data sheet, and a raw material questionnaire summarising all requested compliance points, and/or organic certificates.

During the audit, any non-conformities will be identified (though additional ones may be identified during the evaluation process). They are classified according to 2 categories:

#### *"Minor" non-conformities*

A minor non-conformity is one that does not alter the characteristics of the product to be certified, and/or does not conflict with the principles of the COSMOS-standard and its most important requirements and is not considered to be misleading to consumers.

#### *"Major" non-conformities*

A major non-conformity is one that alters or may later alter the characteristics of the product to be certified, and/or conflicts with the principles of the COSMOS-standard and its most important requirements and/or can be considered as misleading to consumers. Some major non-conformities may lead to critical measures (see correction plan) and de-certification of the product, or in extreme cases withdrawal of certification from the client.

#### *Correction plan*

The correction plan lists non-conformities and classifies them according to their degrees of severity ("major" or "minor"). It also identifies, for each non-conformity, the consequence for the certification, appropriate actions to be taken and any further conditions.

The consequence for the certification is defined according to the nature and severity of the non-conformity as well as its frequency and scale and the risk of fraud.

Appropriate measures may be:

- continuation of certification under conditions
- reduction of the scope of certification
- suspension of the certification
- withdrawal of the certification.

## **11.2 Approval of ingredients**

### *Raw material questionnaire*

For all non-organic raw materials (Scope 2), each certification body will use a questionnaire based on common questions defined by COSMOS for raw material approval. Please note that not all certification bodies are accredited for Scope 2.

### *Non organic raw materials available on the database*

Compliant non-organic raw materials are available on [www.cosmos-standard-rm.org](http://www.cosmos-standard-rm.org).

Ingredients published on the COSMOS database are recognized and accepted by all certification bodies.

NB: this database is password protected and is only available to applicants and clients of authorised certification bodies and to members of COSMOS member associations. Please contact your authorised certifier or association for the password.

Raw materials identified with an asterisk\* relate to Appendix II (petrochemical solvents and/or halogenation processes in activating steps) or Appendix V.2. (petrochemical solvents for extraction of PPAI), Appendix V.3 (ingredients containing petrochemical moieties) or Appendix V.4 (other agro-ingredients under derogation). The same INCI can be with or without this identification depending on the manufacturing process.

On periodical review of the raw material database these raw materials may be removed, when raw materials which do not use these processes become available in sufficient amounts.

Re-assessment of non-organic raw materials needs to be made at least every 3 years (or as soon as any change) in order to confirm any change on process and origins of accepted raw materials. This can be done through a declaration.

### *Ingredients changing of status*

For several reasons (change in process, error, etc), ingredients may change status (become non-compliant or remain compliant but with different percentages that may affect the final ingredients/products percentages). These cases are considered by the Technical Committee who may decide to allow a transition period, depending on the context, impacts and potential alternative. Non-compliant ingredients will be removed from the database and cannot be used in any new formula.



## Appendix II

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BIOTECHNOLOGY PROCESSES (Fermentation, stem cells culture, etc):

Ammonia/Ammonium salts and other Nitrogen sources are allowed; Sodium Selenite is allowed as Selenium source.

NEUTRALIZATION (allowed to obtain Na, Ca, Mg and K salts):

Ammonia is allowed in the neutralization process to form Ammonium Lauryl Sulphate and Ammonium Glycyrrhizate (and any other Ammonium salt – as long as the other criteria including biodegradability and aquatic toxicity are fulfilled).

## Appendix III

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All caustic sodas and potashes (INCI: Sodium Hydroxide, Potassium Hydroxide) are allowed. The decision will be reviewed depending on any technical developments.

## Appendix IV

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Hydroxyapatite can be used in oral cavity hygiene products and in leave-on products.

Metals from natural origin directly obtained from pure metals or from electrolysis are accepted

## Appendix VI and VII

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### PHYSICALLY PROCESSED AGRO-INGREDIENTS THAT MUST BE ORGANIC (Appendix VI)

Ingredients that must be ORGANIC for COSMOS ORGANIC certification (which belong to the lists):

- no mixture (one component)
  - ingredients must be used in organic quality according to Appendix VI (example: Sunflower oil or Wax);
  - this also applies to single ingredients which are stabilized with additives or contain preservatives (example: Sunflower oil, stabilized with Tocopherol);
- non-complex/simple mixture (two components) – Hydrolates with two plants are in this category
  - ingredients must be used in organic quality according to Appendix VI (example: Herbal extract/macerate with Sunflower oil);
  - if one of the ingredients is added as a solvent to other active ingredients, to make them available, the ingredient does not need to be used in organic quality (example: Tocopherol dissolved in Sunflower oil);
- complex mixture (three and more components)
  - the criteria does not apply except when all ingredients of the mixture are listed in Appendices VI/VII.

It is considered as a mixture or a blend only if it is a commercial reference and not a mixture made by the cosmetic manufacturer itself.

### CHEMICALLY PROCESSED AGRO-INGREDIENTS THAT MUST BE MADE FROM ORGANIC ORIGIN AGRO-INGREDIENTS (Appendix VII)

Ingredients that must be ORGANIC for COSMOS ORGANIC certification (which belong to the lists):

- no mixture (one component)
  - this also applies to single ingredients which are stabilized with additives or contain preservatives (example: Ethyl alcohol with denaturing agent);
- non-complex/simple mixture (two components) – Alcoholic extract are in this category
  - ingredients must be used in organic quality according to Appendix VI (example: Herbal extract);
- complex mixture (three and more components)
  - the criteria does not apply except when all certifiable ingredients of the mixture are listed in Appendixes VI/VII.

***Shortage of an organic raw material***

In the case of a shortage of an organic raw material listed in appendix VI and VII certification bodies may grant exemptions according to the rules as laid down in the Control Manual and below.

The client needs to inform the certification body that none is available, why and, if known, provide details of how long (e.g. poor harvest for certain year). The certification body needs to check their records and with the other partners that none is available. The client then needs to provide three written confirmations from reputable organic suppliers that the material is not available organically. Labels and promotional materials have to be changed temporarily so that it is clear at point of sale that the material's organic status has changed (for example by over-stickering of product labels, or a clear indication on the client's website for the product etc.). These indications must be verified by the certification body. Provided all of the above has been followed permission can be granted for a certain period.

## Appendix VIII

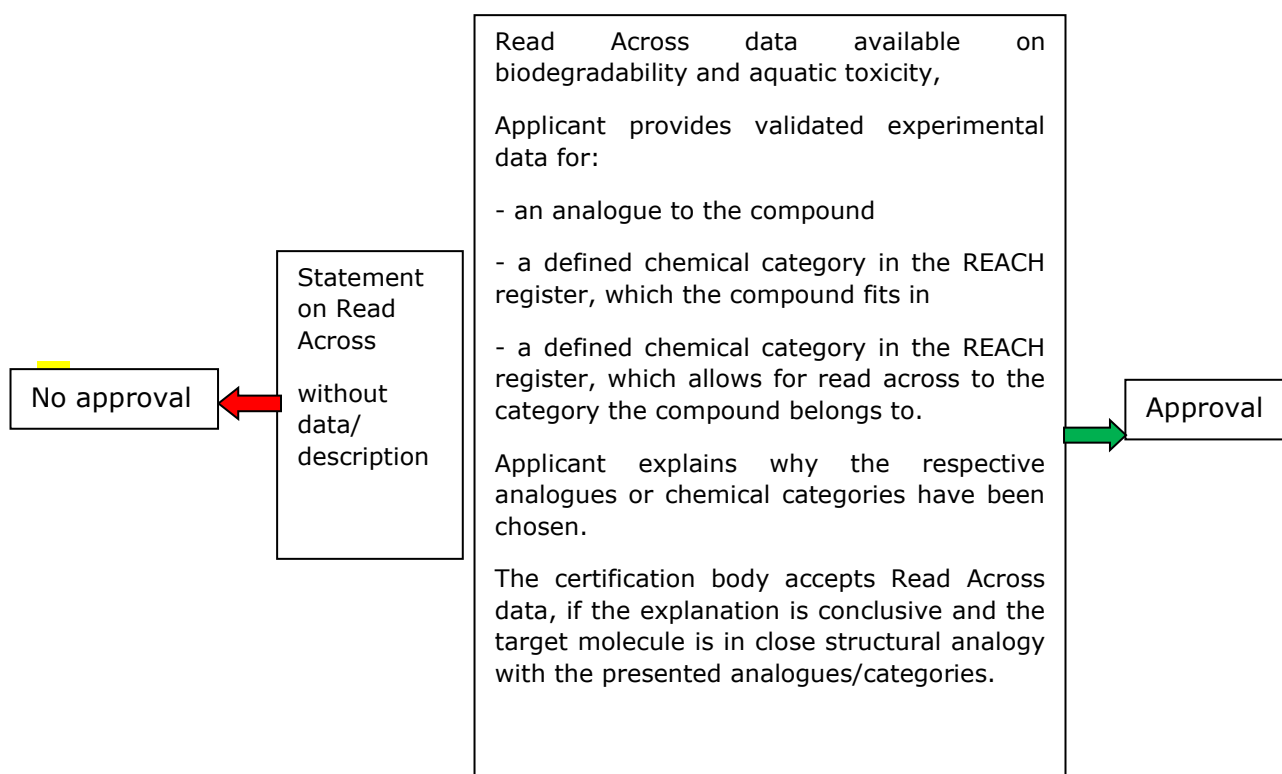
Toxicity and biodegradability data is not required for: naturally occurring molecules obtained by fermentation, biotechnology, bio-enzymatic reaction.

Follow this link for available data of compounds registered for REACH:  
<http://www.echa.europa.eu/web/guest/information-on-chemicals/registered-substances>.

### *What to do if no data is available*

If the required ecological data (biodegradation and aquatic toxicity) is not available in the literature (ECHA database or other publication sources), the following alternative methods can be used:

- Analogy approach - read across:



Structural analogy of molecules can be determined based on:

- the functional groups present in a molecule
- the chemical class the molecule belongs to
- the carbon skeleton of the molecule; the most reactive functional group in the molecule determines the chemical class membership.

With the same functional groups present, properties do not differ too much with slight changes in the carbon skeleton (4 to 8 carbons).

For Read Across data, only really close analogues based on the above basic criteria will be accepted.

### **Example**

Myristyl Myristate: REACH category: Fatty acids, C10-18 and C12-22-unsaturated, C14-18 and C16-18-unsaturated alkyl esters.

- QSAR (Quantitative Structure-Activity Relationship):

Data coming from QSAR computational approach can be accepted under the following conditions:

- the results provided are derived from a validated model ([link to Reach guidance](#))
- the chemical falls under the applicability domain of the validated model.

Both alternative methods have to be well documented to be accepted.

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