Name of protected food, drink, or agricultural product

Spirit drink distilled from the agave “MISKE”

Protected Designation of Origin (PDO)

Responsible country Ecuador

Competent authority

Name: NATIONAL SERVICE OF INTELLECTUAL RIGHTS (SENADI)

Address: Avenida de la República E7-197 and Diego de Almagro – FORUM 300 Building

Phone: (+593) 2 394 0000

E-mail: ig-ecuador@senadi.gob.ec

Applicant group

Name: NATIONAL ASSOCIATION OF PRODUCTIVE CHAINS OF PENCO AND LA CABUYA (ANAGAVEC)

Address: Cañar, Biblián railway line and Sucre esq.

Phone: +593 98241 8638

Fax:

E-mail: anagavec@gmail.com

Product type (as in Annex XI Implementation of Regulation 668/2014)

Class 2.4. Drinks based on plant extracts.

1. Product name(s)

MISKE

2. Description

Description of spirit drink MISKE

Miske is the Ecuadorian alcoholic beverage, which must be obtained by the distillation of fermented tzawarmishky, whose sugars are 100% from ripe tzawar and conditions given

by the DOPM. The transformation of sugars to alcohols is carried out exclusively with microorganisms native of the zone, whether this process is spontaneous or cultivated by microorganisms.

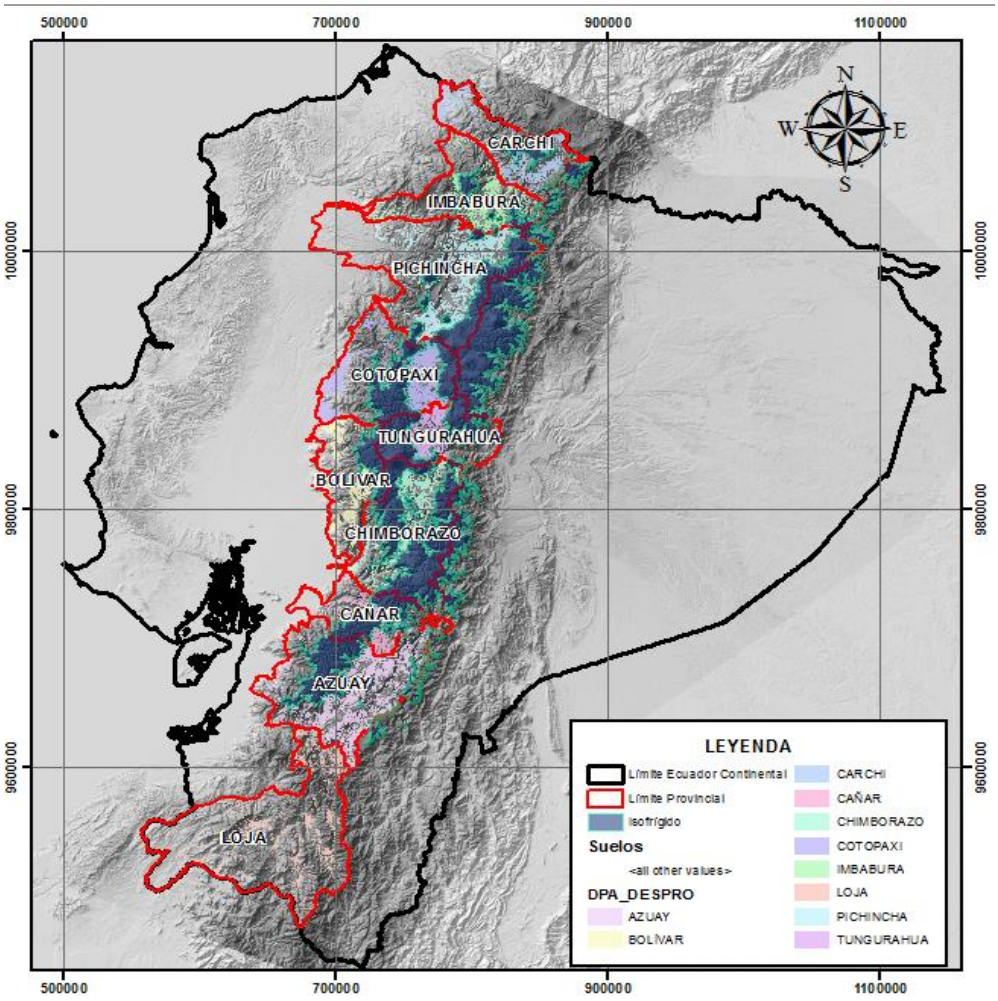
3. Geographic area

Protected production area

The production area protected by the "MISKE" Denomination is made up of the following cantons, located in the Provinces of:

PROVINCE	CANTON
CARCHI	BOLÍVAR, MIRA, MIRROR, MONTUFAR
IMBABURA	ANTONIO ANTE, OTAVALO, IBARRA, URCUQUI, COTACACHI, PIMAMPIRO
PICHINCHA	CAYAMBE, MACHACHI, PEDRO MONCAYO, RUMIÑAHUI, QUITO
COTOPAXI	LATACUNGA, PUJILI, SAQUISILI, SALCEDO, SIGCHOS
CHIMBORAZO	RIOBAMBA, PENIPE, GUANO, CHAMBO, COLTA, CAJABAMBA, GUAMOTE, ALUASI, CHUNCHI
TUNGURAHUA	AMBATO, PELILEO, CEVALLOS, QUERO
BOLIVAR	GUARANDA, SAN MIGUEL, CHIMBO, CHILLANES
CAÑAR	CAÑAR, BIBLIAN, AZOGUES, SUSCAL, DELEG, TAMBO
AZUAY	CUENCA, SEVILLA DE ORO, PAUTE, GUACHAPALA, EL PAN, GUALACEO, CHORDOLEG, SIGSIG, NABÓN, GIRON, OÑA, SAN FERNANDO, SANTA ISABEL, PUCARA
LOJA	LOJA, SARAGURO, CATAMAYO

The tzawar plantations in the protected geographic area are established between a minimum elevation of 1,600 m and a maximum elevation of 3,300 m above sea level.



Map 1. Geographical area of the PDO

4. Proof of origin

The fulfillment of the specifications will be in charge of the Office of Control and Administration of the DOPM according to the regulations of use, which will respond to the following scheme:

Level Responsibilities:

IP office: Authority in charge of delegating the administration of the appellation of origin.

Stakeholder: To whom DOPM declaration is granted.

OCAM: Office of Control and Administration of the DOPM.

Operators: Comply with the conditions of the technical specifications and regulations for use of the DOPM, request authorization to use the MISKE DOP from the administrative body.

The control and inspection will be carried out as follows:

Self-controls: They will be carried out by each of the Operators in their facilities, to comply with the technical specifications, which consists of the registration and control of conditions and productive activities to obtain the "Miske", which must be carried out according to the frequency of production.

Inspections: They will be carried out by the OCAM to operators who: request authorization for the use of “Miske”; who have authorization for use; and to products on the market that contain the word "Miske" under request of the DOPM Administrative Body.

Audits: They will be carried out by the DOPM Administrative Body to the OCAM to verify compliance with its responsibilities.

GSP: Participatory Guarantee System based on a series of technical standards and procedures that are linked to compliance with the technical specifications.

There are 14 control points and the allocation of quotas will be reviewed and approved annually after a report on the productive capacity and market study.

The points obtained are the average of the sum of the stars obtained in the 14 control points.

COMPONENT	OPERATOR	POINTS TO CONTROL
Agronomic part (Nursery)	Producer	**C1. Tzawar selection (seed/suckers)**: At least 1 per year. **C2. Collection of green material**: 1 per year. **C3. Phytosanitary control:** Up to one month before planting. **C4. Nutrition**: One edaphic application per year.
Agronomic part (Plantation)	Producer	**C1. Cleaning of agave:** At least 1 every 3 years. **C2. Pruning of basal levels**: 1 in each period. **C3. Phytosanitary control:** Up to a month before harvesting the sap. **C4. Nutrition**: One edaphic application per year.
Harvest	Producer	**C5. Collection / selection of ripe agave**, up to 70% of mature agaves. **C6. Collection of sap and transport to collection or storage centers**, must be done in clean containers, free of foreign odors.
Agronomic-Productive Part Post-harvest and storage	Producer	**C7: Cooking and cooling benefits**: • Process the agave sap the same day it is collected. • Use clean water in the process. • Uses appropriate tools and equipment for food processing. • Keeps equipment, machinery, and processing infrastructure neat. **C8. Storage of agave sap:** • Sap is not in direct contact with plastic; • Storage temperature does not exceed 10 degrees Celsius. • Agave sap with a min pH of 5.5 and a min sugar concentration of 10 °Bx. Cooking temperature 70 °C. • Agave sap stored in well ventilated spaces, protected from sun and rain, without other products that may cause contamination or strange odors. • Stored agave sap, duly registered by each producer in the logbook with the following information: name of the producer, province, canton, and producer code.
Part Transformation Pasteurization Fermentation Distillation Maturation	Transformer	**C9. Agave sap pasteurization (tzawarmishky)**: • Process in which the sap is selected and homogenized. • The agave sap must be free of live or dead insects, unpleasant odors not characteristic of a current harvest tzawarmishky. • pH 5 content and sugars content min 10 °Bx. • Firing temperature 70 °C. • Cooling temperature from 4 °C to 10 °. • Use clean water in the process.

		• Uses appropriate tools and equipment for food processing. • Maintain equipment, machinery, and processing infrastructure clean. **C10. Fermentation of agave sap (guarango)**: • Fermentation equipment allows controlling the temperature and exposure time of the sap. • The yeasts used are spontaneous and/or controlled. • Use clean water in the process. • Uses appropriate tools and equipment for food processing. • Maintain clean equipment, machinery, and processing. **C11. Distillation of agave ferment (miske)**. • Distillation equipment allows the temperature of the agave ferment to be controlled and has a maximum capacity of 1 hl. • The bulk Miske is min. 30% Alc. Vol., first distillate for bulk use and not for sale to the public. • Miske for release to the public min. 35% Alc. Vol., double distilled. • Miske free of impurities, unpleasant uncharacteristic odors. • Use clean water in the process. • Uses appropriate tools and equipment for food processing. • Maintain clean equipment, machinery, and processing infrastructure. **C12. Maturation of miske:** • Uninterrupted process in permitted containers, materials, and capacity. • Minimal variations in light, temperature, and humidity. • For release to the consumer at least one year matured in the geographical area.
Selection Packaging Labeling		**C13. Selection, packaging, and labeling:** • Miske with sensory characteristics specific to each maturation batch; • They meet the physical and chemical requirements. • Distilled agave in glass, wood or stainless steel containers, free of pests and foreign odors. • Containers provided with pre-numbered guarantee stamps.

		For the national and international market. • Logo <<MISKE>>. • Packaging marked with the following information: Product of the Republic of Ecuador. Type of agave distillate: MISKE Lot Number: Exporter: Code:
Hanger	Marketer	**C14.Origin and traceability of miske** • Packages provided with pre-numbered guarantee stamps. • Origin validation and traceability

Example: In the 14 control points the following qualifications were obtained: in 3 control points 3 stars, in 5 control points 4 stars and in the rest of the control points 2 stars.

$$Puntos = \frac{3+3+3+4+4+4+4+4+2+2+2+2+2+2}{14} = 2.93$$

The points obtained in Table 4 show that it corresponds to a 3-star level with the Luna-Plata logo and a maximum marketing quota of 60% of its annual production.

Table 4. Assignment of level and quota

WEIGHTING	LOGO DO MISKE	LEVEL	MARKETING QUOTA (max)
4.6 to 5.0	LIFE-PLATINUM	★★★★★	unlimited
3.6 to 4.5	SUN-GOLD	★★★★	85%
2.6 to 3.5	MOON-SILVER	★★★	60%
1.6 to 2.5	EARTH-BRONZE	★★	40%
1.0 to 1.5	WATER-COPPER	★	twenty %

FREQUENCY AND CONTROL RESPONSIBLE

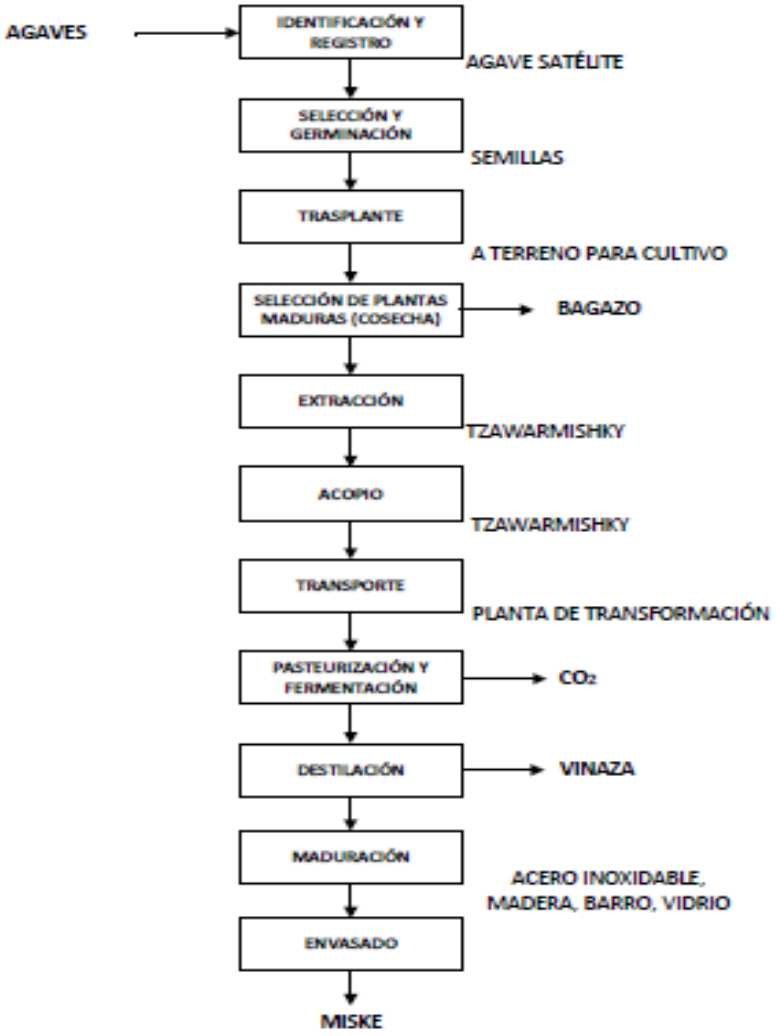
POINTS TO CONTROL	REFERENCE PARAMETERS	EVALUATION METHODS	CONTROL FREQUENCY	RESPONSIBLE FOR CONTROL
1. PROPAGATION COMPONENT				
1.1 Propagation by seeds	Geographic area	Document / Visual - Mother plant records - Nursery authorization and certificates	Annual	MAG ANAGAVEC/OCAM
1.2 Propagation by suckers	Geographic area	Documentary / Visual - Records of mother plants - Technical report - Authorization and certificates of nurseries and batches -	Annual	MAG ANAGAVEC/OCAM
1.3 Micro propagation	Geographic area	Documentary / Visual - Authorization	Annual	MAG ANAGAVEC/OCAM ACADEMY
2. GROWING COMPONENT				
2.1 Andean chakra	Geographic area 600 to 1400 tzawar / hect Related to Polyculture.	Documentary / Visual - Certificates of origin	Annual	MAG ANAGAVEC/OCAM
2.2 Forest agave	Geographic area 2000 tzawar / hect Related to native forest species	Documentary / Visual Certificates of origin	Annual	MAG ANAGAVEC/OCAM
2.3 Wild Systems	Geographic area	Documentary / Visual Certificates of origin	Random	MAG ANAGAVEC/OCAM MAE
3 EXTRACTION COMPONENT				

3.1 location of the tzawar	Geographic area	Documentary / Visual - plant records - Batch authorization and certificates	Annual by request	ANAGAVEC/OCAM
3.2 CharacteristicPhysical tics and management of the tzawar	Geographic area	Documentary / Visual - maturity results List of plants covered	Annual by request	ANAGAVEC/OCAM
3.3 Characteristicphysical tics and handling of the sap or tzawarmishky	Geographic area extraction zone	Documentary / Visual - sap production records - Record of collection conditions - storage logs - transport record	Annual	MAG ANAGAVEC/OCAM
5. **TRANSFORMATION COMPONENT**				
4.2 Reception **4.3 Cooking** 4.4 **fast cooling** **4.5 Fermentation**	Production and transformation area	Documentary / Sensory / Analytical - operating permit - Registration of reception conditions, cooking conditions, rapid cooling conditions, fermentation conditions	2 times a year randomly	ANAGAVEC/OCAM *ARCSA
4.6 Distillation, handling, characteristics and classification	Production area mix of miskes	Documentary / Sensory / Analytical - operating permit - Distillation log, maturation	2 times a year randomly	ANAGAVEC/OCAM ARCSA
4.7 Organoleptic description of miske in general	Production area	Documentary / Sensory	2 times a year randomly	ANAGAVEC/OCAM

4.8 Physical and chemical specifications for the miske	Production area	Documentary film According to Table 1 of the Technical Specifications.	By start of registration / or by recipe change	ANAGAVEC/OCAM
4.9 additional tasks	Production area	Documentary / Sensory	By order	ANAGAVEC/OCAM
4.10 Packing **4.12 Labeling**	Production area	Documentary / Sensory Packaging record, label	annual / random	ANAGAVEC/OCAM
5 MARKETING COMPONENT	Hanger	Visual	annual / random	ANAGAVEC/OCAM

5. Method of production

Flowchart of the miske process.



EXTRACTION COMPONENT

For the DOPM, the tzawar plant as well as the tzawarmishky (sap or photosynthetic product of photosynthesis) must come from the DOPM area and be authorized by OCAM after a technical report and corresponding quota.

Production will begin on March 21 and end on December 21 of the current year.

The methods of extracting the jimado and crushing the pineapple to extract the sap, which are considered non-traditional methods, are prohibited.

The Tzawar will have the following considerations for its use:

Chart 3. Origin of tzawar for extraction of tzawarmishky

ORIGIN OF TZAWAR (cultivation)	★	★★	★★★	★★★★	★★★★★
Andean chakra (min)	**25%**	**40%**	**55%**	**70%**	**80%**

Chart 4. Geographic origin of the tzawar

ORIGIN OF TZAWAR	★	★★	★★★	★★★★	★★★★★
Geographical	**Regional**	**Zonal**	**Provincial**	**Cantonal**	**Parochial**

Physical characteristics and management of the tzawar for the tzawarmishky extraction

Tzawar Maturity

It is the set of morphological and phenological characteristics of each plant that determines the right time to make use of it. A tzawar should only be used when the beginning of flowering is identified (from 7 to 15 years), change of coloration of the bud stalks, widening of the base of the tzawar, as well as low saponin levels, pH 6- 7, sugar levels of approximately to 10 °Bx extracted with a punch from the inner part of the tongon.

Cap or capping of the tzawar

It is a practice at the discretion of the master (a) Mishkero (a) whose cut can be: lateral cut (on the third leaf) or apical cut (at the base of the bud, tzawarquero or floral apex), to prevent flowering takes place. The tzawar after being "capped" should wait a minimum of 3 months and a maximum of 1 year to reach conditions are favorable to proceed with the chopping and scraping of the tzawar.

Chopping and scraping the tzawar

It should be done manually until reaching the polongo and make the hole or bowl of the tzawar to a diameter suitable for the extraction of the tzawarmishky and according to the size of the plant. The aspina chikchina or churo should be used to perform the scraping. The bowl can be left to rest with water and bagasse until the tzawarmishky is secreted. According to the knowledge and practices of each zone, the use of water at this stage is optional.

Physical characteristics and handling of the sap or tzawarmishky

Chart 1. Collection in liters and its origin of tzawarmishky given by DOPM

COLLECTION OF TZAWAR MISHKY	★	★★	★★★	★★★★	★★★★★
Number of liters per person per year	**+100hl**	**100hl**	**80 hl**	**40 hl**	**20 hl**

Chart 2. Geographical collection of the tzawar

COLLECTION OF TZAWAR MISHKY	★	★★	★★★	★★★★	★★★★★
Geographic origin	**Regional**	**Zonal**	**Provincial**	**cantonal**	**Parochial**

Proper management of the tzawar

Proper handling of the tzawar, which includes activities before, during and after the extraction process, is essential to guarantee the purity of the tzawarmishky and thus the quality of the Miske.

Chart 3. Proper management of the tzawar

PROPER HANDLING OF TZAWAR	★	★★	★★★	★★★★	★★★★★
tzawarmishky (max)	**5 %**	**10%**	**20%**	**30%**	**40%**

★ Lowly recommended★★★★★ Highly recommended

TRANSFORMATION COMPONENT

Reception**:** The reception will be the one that will determine the initial conditions of the tzawarmishky for the elaboration of the "Miske" whose harvesting and collection would start from March 25 and ends on December 21 of the current year. The processes and equipment used in the handling of the tzawarmishky will guarantee the quality and the place of origin of the “Miske”.

Cooking**:** The artisanal cooking of tzawarmishky is to transform the raw polysaccharides of the tzawar to a monosaccharide concentrate suitable for fermentation to take place and eliminate pathogenic microorganisms, preserving the appropriate characteristics of the sap for the start of fermentation.

Fast cooling: The process to prevent the growth of undesirable microorganisms within the tzawarmishky, creating the proper conditions for yeast growth and optimal fermentation.

Fermentatio: The process by which it allows native microorganisms to convert 100% cooked tzawarmishky sugars into alcohols and other complex aldehydes in a fermented drink also called guarango.

Table 1. Parameters and efficient conversion from tzawarmishky to guarango

Parameters	Start	End
°Bx or equivalent	Greater than 10	0 - 3
pH	Greater than 4.5	Less than 3.5
Alc. Vol. % 20 °C	0	12
Capacity	10 hl	10 hl

Chart 4. Sugar transformation yield

TRANSFORMATION	★	★★	★★★	★★★★	★★★★★
Conversion sugar-alcohol (min)	**30%**	**40%**	**50%**	**65%**	**80%**

1.1.1. Notes:

a) The efficient use of the monosaccharides of the tzawarmishky promotes a friendly development with the environment.
b) The percentage of conversion of monosaccharides to alcohol is calculated: Brix degrees or its initial equivalent with respect to the final measurement.

$$\% \, CM = 100 - \frac{(100 * °Brix_f)}{°Brix_0}$$

Where:

%CM = Is the percentage of conversion of monosaccharides to alcohol.
Brixf = Is the final sugar concentration found in the mixture after fermentation.
Brix0 = Is the initial sugar concentration found in the mixture before fermentation.
Distillation, handling, characteristics, and classification

Distillation period

Spirits obtained from the distillation of 100% tzawar guarango are entitled to the protected designation of origin “Miske”. Distillation must be completed no later than March 21 of the year following the harvest of the previous year's miske batches.

Classification of the miske

By distillation number (TYPE)

1st Distillation (Yanga), cannot be released for human consumption because it contains a greater quantity of higher alcohols, impurities, undesirable physical and sensory characteristics, it is for exclusive use as raw material (bulk).

2nd Distillation (kurak), equal or higher than 35% Vol. Alc. To be released for human consumption, the corresponding dilution must be made to obtain the permitted degree of between minimum 35% Vol. Alc. and maximum 55% Vol. Alc.

3rd Distillation (Aya), higher or equal to 80% Vol. Alc. To be released for human consumption, the corresponding dilution must be made to obtain the permitted degree of between minimum 35% Vol. Alc. and maximum 55% Vol. Alc.

a) Description of distillation materials.

The still or distiller is made of suitable materials such as clay, copper, stainless steel, and a combination of these is permitted. The total capacity of the mash kettle must not exceed 10 hectoliters (with a tolerance of 5%) and the volume of the charge is limited to 75% of the total capacity.

The materials of which the distiller is composed must be free of traces of heavy metals (lead, cadmium).

Chart 5. Miske Production Efficiency

TRANSFORMATION	★	★★	★★★	★★★★	★★★★★
Consumption in liters of water per liter of Miske produced	**Max twenty**	**≤12**	**≤10**	**≤8**	**≤6**

Chart 6. Percentage transformation of the sap

TRANSFORMATION	★	★★	★★★	★★★★	★★★★★
Usage in liter sap/alcohol at 40% vol. Alc.	**≤4%**	**6%**	**8%**	**10%**	**+10%**

By maturation (CATEGORY)

Tabla 2. Classification by maturation

lullu	**Musu**	**Yuyak**	**khatun**
1 year to 3 years	3 years 1 day to 6 years	6 years 1 day to 12 years	+ 12 years

The batches of tzawarmishky extracted up to December 21 of the year harvest and distilled up to March 21 of the following year are considered year 0 and the annual count by maturation every March 21.

a) Description of maturation materials

The maturation of the "Miske", will be carried out without interruption exclusively in earthenware containers (certified free of heavy metals), noble wood, glass or stainless steel in a contact surface of 600 liters of maximum capacity and in a space with minimum variations of luminosity (550 to 590 nm), temperature (maximum 20 °C) and humidity (60% to 70%). To be released for direct human consumption, at least the first year of maturation will take place in the geographical area of the DOPM.

The materials used for maturation must be certified to be free of heavy metals (lead, cadmium).

The addition of pieces of wood from the tzawar that is part of the authorized traditional methods will be allowed.

The weighted average of years which is the sum of all the years of the participating miskes divided by the number of miskes, but taking into account the percentage of participation of each one referring to the same alcoholic graduation, will be the authorized method for determining the maturation of the mix of miskes.

$$VT = \frac{V1 * C1}{Cref} + \frac{V2 * C2}{Cref} + \cdots n = VP1 + VP2 + \cdots n$$

$V1 = Volume\ 1$ $\qquad$ $VT = Volume\ Total$
$C1 = Concentration\ Alcoholic$ $\qquad$ $Cref = Concentration\ Referential\ Alc.$

$$\overline{EP} = (VP1 * E1 + VP2 * E2 + \cdots n)/VT$$
$E1 = AGE\ IN\ YEARS$ $\qquad$ $\overline{EP} = WEIGHTED\ AVERAGE\ AGE\ IN\ YEARS$

Chart 11. Characterization of the Miske.

DISTILLATION	★	★★	★★★	★★★★	★★★★★
Maturation Years	< 1 year	1 year to 3 years	3 years 1 day to 6 years	6 years 1 day to 12 years	+ 12 years

Chart 7. Water added

DISTILLATION	★	★★	★★★	★★★★	★★★★★
Water added to the Miske (Max)	20%	15%	10%	5 %	0%

Chart 8. Geographical origin of the miske

DISTILLATION	★	★★	★★★	★★★★	★★★★★
Origin	Regional	Zonal	Provincial	cantonal	Parochial

General Description Organoleptic of Miske

The organoleptic properties of miske are:

Sensory specifications:

Visual phase

Transparent, clean with no residue. Bright clear with silvery hues, medium tears.

In those matured in noble wood, its dark amber color, which shows its aging in wood. Full-bodied, thick, and silky. It forms a precise waist and very marked legs.

Olfactory phase

Notes of ripe fruit and tzawar, grass or green grass, white and violet flowers, slight vegetal and citrus notes, wood, smoke.

Delicate sweet tzawar, citrus and herbal notes, honeyed profile with botanical nuances, cooked tzawar notes sprout, tender fig, with hints of ripe orange peel, anise, menthol and eucalyptus, almonds, olives, myrtle, vanilla notes, chamomile flower and honey, with a long peppery finish.

Taste phase

Persistent ripe fruit, twazar and herbal, with the presence of white and violet flowers, brief vegetal and citrus notes, low lactic presence, smoked cooked tzawar.

Mellow and botanical impact with aniseed character, silky on the palate, medium warming and slight astringency, easy to drink predominate notes of green agave, candied fig, prune, vanilla, orange peel nuances appear, prickly pear, earth and accompanied by notes of nuts, almonds with traces of pepper and cloves, the finish is fresh and liquor, creamy and smooth on the palate.

It has a slight spicy flavor, notes of mineral salt, a touch of acidity from the citrus aromas that allow salivation, it is a little bitter in the aftertaste.

General description

Distillate with light fruity, herbal, and floral notes with pleasant warming, medium bodied, silky on the palate.

1.2. Physical and Chemical Specifications for Miske

Miske for human consumption must comply the following physical-chemical specifications (see Table):

Board3. Physicochemical specifications for the Miske

Requirements	**Unit**	**Minimum**	**Maximum**	**Testing method**
Alcohol Content (20°C)	%Alc. Vol.	35	55	NTE INEN 340
Furfural	mg/100 ml (*)	-	10	NTE INEN 2014
Methanol	mg/100 ml (*)	-	25	NTE INEN 2014
Higher alcohols **	mg/100 ml (*)	-	1000	COVENANT 3045 NTE INEN 2014
Sugars	g/L	-	50	NTE INEN 358
Esters	mg/100 ml (*)		80	NTE INEN 2014
Aldehydes	mg/100 ml (*)		20	NTE INEN 2014

Dry extract	mg/100 ml (*)		400	NTE INEN 2014
* The volume of 100 ml corresponds to absolute alcohol ** Higher alcohols include: isopropanol, propanol, isobutanol, isoamyl, amyl. *Products covered in the classification				

Additional tasks
Assembly will be carried out hot in the 2nd distillation with the first distillate.

Distilled with... in the 2nd distillation and only with natural substances.

Added with... in the maturation of the miske, not more than 1% of the volume and only with natural substances.

Added with... of hardwood pieces in the maturation is part of the authorized traditional methods, not subject to maturation category.

Food and beverages may refer to the DOPM indicating on the main label "Product made with Miske", clearly indicating the content expressed as a percentage of the total weight of the ingredients at the time of preparation and in accordance with the Miske regulations.

Packaging

The finished product must be packaged manually or mechanically and must comply with at least 5 stages and be authorized by OCAM.

a) Bottle washing should be carried out with disinfecting agents and must be gauged withmiske and/or quality water for human consumption.
b) Filtration of the finished product must use filter(s) to capture solids.
c) Filling
d) Capping, and
e) Sealing.

Considerations

- The packaging must be carried out in accordance with the corresponding and current INEN standard in force.

- More than two miskes of a different category or type can be bottled as long as they have their respective registrations.

- Recycled bottles cannot be used, the material of the bottles must be approved by the OCAM and the regulatory entity of Ecuador.

- The 1st distillate that complies with TABLE 3, may be bottled only in bulk for commercialization as raw material, as long as it has not received an alcoholic strength adjustment, in which case it must be subject to a second analysis only of % Alc. Vol., in terms of the specifications of TABLE 3 (see, Table 3).

- The packaging must be carried out exclusively in the geographical area of the controlled designation of origin of the Miske. Miske will be referred to as "bottled in

origin" if it belongs to the same Provincial jurisdiction and outside of this it will be referred to as "bottled in Ecuador".

- When the bottler carries out the packaging of other products other than Miske; it must have in its facilities differentiated bottling lines, previously authorized by OCAM, ensuring that the Miske does not come into contact with lines, containers or infrastructure that could be used for the process, transport or containment of another beverage or alcoholic product.

- For the category of maturation for more than 3 years, added with and distilled with, addition of..., prior to bottling, a second analysis must be performed out to demonstrate compliance with all the established parameters.

6. Link to the geographic area

The tzawar plantations in the protected geographical area are established between a minimum elevation of 1,600 m and a maximum of 3,300 m above the sea level, due to the fact that in these areas there are: flowering cangahuas, arid soils, average rainfall of 180 mm that coincide with the soil and climate conditions for the adequate growth of the tzawar.

In which the plant has grown in wild and semi-domesticated form next to which are the zones of production, bio-knowledge, native towns among others.

In the components of the Miske production chain, the human factor plays an important role, so that in each component the quality of product is generated.

Propagation Component

Quality to select the best plant or seed according to characteristics.

1. **PROPAGATION COMPONENT**

For the Protected Designation of Origin "Miske" the tzawar (Andean Equatorial Agave americana spp.) will be propagated in the following ways of reproductions:

1.3. Kind of tzawar-. The Agavacea family has species in almost all environments, vegetation types and altitudes distributed from the southern common names: penco, tzawar (kichwa), chuchao (quechua) , chaguar (Spanish), tawka (aymara), pita, maguey, cabuyo, sanca, fique. In Ecuador, the tzawar are located in the inter-Andean alley from 1600 m to 3300 m above sea level, and at least 7 subspecies for their uses, practices and knowledge (yana, yurak, jary, warmi, ishtado, guasca, guayco) belonging to the next classification:

Kingdom:	Plantae
Division:	Magnoliophyta
Class:	Liliopsida
Subclass:	Liliidae
Order:	Asparagales
Family:	Asparagaceae

Subfamily: agavoideae
Gender: Agave
Species: A. American

1.4. Propagation be seeds-. Germination of seeds that come from sexual reproduction of elite, healthy and vigorous tzawar plants whose characteristics conserve the genetic fidelity of the species in the geographical area of extraction.

1.1.1. Conditions:

a) Origin: Wild, Andean Chakra, forest agave in the DOPM prior authorization and registration.
b) Propagation: Certified nurseries and authorized by OCAM and relevant entity.
c) Quantity: Unlimited
d) Destination: The different cultivation systems contemplated in the PDO and its geographical area.

1.5. Propagation by tillers**-.** The tillers come from the asexual or vegetative reproduction of the tzawar and conserve the characteristics of the mother plants.

1.5.1. Conditions:

a) Origin: Wild, Andean Chakra, forest agave in the DOPM area prior authorization and registration.
b) Propagation: Certified nurseries and cultivation with authorization of use.
c) Quantity: Limited, the amount of offspring extraction will be authorized annually according to a technical report and agroecological process of extraction, this will have a limit of 60% of the entire productive unit in order to conserve its existence and sustainable use; applies to all cultivation systems.
d) Destination: Different cultivation systems contemplated in the DOPM.

1.6. Micro propagation**-.** Techniques and methods of tissue culture for asexual reproduction using parts of the tzawar such as leaves, stem and root. The tzawar must have a registration and source descriptor.

1.6.1. Conditions:

a) Origin: In the area of the DOPM prior technical report and authorization.
b) Propagation: Nurseries and authorized research lots.
c) Quantity: Maximum 5% of the entire production unit and authorized according to a technical and favorable report issued by OCAM, being its purpose research and conservation of endangered twazar variants and conservation of genetic material.
d) Destination: Authorized lots

Table 9. Proportion of Agave Americana spp Andean Equatorial plants given by DOPM

SPREAD	★	★★	★★★	★★★★	★★★★★
by seeds (min)	**35%**	**fifty %**	**60%**	**75%**	**85%**

★Lowly recommended, ★★★★★Highly recommended

- Each level (represented by stars) must add 100% of the component between the 3 or 2 forms of propagation according to the amounts allowed. (See numerals 1.2.1 and 1.3.1).

1.6.2. Notes:

a) The propagation components in reason of promoting sustainable management of the tzawar will be considered different proportions and verified annually.
b) Sexual propagation is the one with the greater conservation and genetic variety, reason why it is highly recommended.

Cultivation Component

The lands of the arid zones of the Ecuadorian Sierra, both in the Inter-Andean Valley, and on the western slopes, are especially favorable to the development of agave cultivation. The harsh climatic conditions, the lack of irrigation, but the existence of very eroded surfaces, and the agricultural culture of the rural populations are a formidable base for the industry of cabuya, fique or sisal and the miske industry.

CROP COMPONENT

For the DOPM, the monoculture production system and the tzawar planted as new crops will be carried out and classified in the following cultivation systems:

Andean Chakra is an ancestral and integral polyculture and associated with the agroecological practices typical of the Ecuadorian inter-Andean corridor which are cultivated.

Forest agave**,** system that, according to the characteristics of the property and the availability of resources, is associated or not to the cultivation of agaves with forest species.

Wild Systems are native tzawar of Ecuador distributed in the inter-Andean alley in a natural way and without the intervention of the farmer, whose specimens in free life are found forming part of the characteristic landscapes of the equatorial inter-Andean corridor.

Its use is 25%, for research, conservation, characterization and for family consumption.

Table 10**.** Proportion of plants in cultivation of Agave Americana spp Andean Equatorial given by DOPM

CROP	★	★★	★★★	★★★★	★★★★★
andean chakra (min)	15 %	30%	50%	70%	100%

★Lowly recommended, ★★★★★Highly recommended

Socioeconomic and Environmental impact of productive activity

The activities and natural resources of each one of the components of the productive chain have an impact on the quality of the Miske, sustainability and durability of the denomination of origin.

Chart 11. Environmental socioeconomic impact matrix

FACTOR	SUBFACTOR	ENVIRONMENTAL FACTOR	SPREAD	CROP	EXTRACTION	TRANSFORMATION	COMMERCIALIZATION
ABIOTIC	Physical	soil quality					
		air quality					
		water quality					
		sound quality					
		Landscape / Visual impact					
BIOTIC	Flora	Vegetation cover					
		Protected species					
	Fauna	Protected species					
	Ecosystem	sensitive ecosystems					
SOCIO-ECONOMIC AND CULTURAL	Socioeconomic	Quality of life and well-being					
		Citizen perception					
		Employment					
		fair trade					
	Cultural	Cultural heritage					
		Archaeological Heritage					

Notes:

a) The socioeconomic environmental impact matrix will evaluate each component separately, placing a positive sign (+) indicating compliance, or a negative sign (-) indicating non-compliance.

b) The assignment of stars will be the result of the sum of positive signs divided by 3.

7. Inspection bodies

Name: Office of Control and Administration of the DOPM

Address: Cayambe, Juan Montalvo Parish, April 13th street and Velasco Ibarra

Phone: 0987400124

Fax: N/A

E-mail: ocam.miske@gmail.com

The inspection body conforms to the principles of ISO 17065 (in process).

8. Labeling

Specific rules regarding labeling

Trademark on the Main Label.

The brand that in terms of the Intellectual Property Law and that has valid registration before SENADI as a mixed or nominative brand in class 33, which must be exempt in its denomination the use of categories, types, names referring to tzawar, its varieties and/or parts mentioned in this document, as well as the rights and intellectual property of the native peoples in its use as a brand. Likewise, it must be exempt from denominations, legends, commercial names, classes, and categories associated or corresponding to other alcoholic beverages.

The legend: According to its type, in the Main Label, having to incorporate only one of them.

The legend: LLullu, Musu, Yuyak, Jatun, may refer to its category and/or state the maturation time in years completed using only whole numbers on the Main Label, and must include only one of them.

The legend: "Assembly", "Abocado con", "Distilled with" or "Added with" according to its class, on the Main Label, and only one of the must be included.

The logo of the DOPM and its stars according to its level, on the Main Label, and only one of the must be included.

The legend: "100% Tzawar", on the Main Label.

Net content, per percent of alcohol by volume at 20 °C, must appear in plain sight and must be abbreviated % Alc. Vol. on the Main Label, in accordance with the INEN regulations.

The legend: MISKE PROTECTED DESIGNATION OF ORIGIN, in capital letters, in a size of 5% of the label. The authorization code granted by the OCAM in a size of 5% of the label.

The name of the Province - Canton of the Ecuadorian Republic where the Miske was

distilled.

Name or company name, address and of the Bottler.

Each container must be engraved or marked with the identification of the lot to which it belongs, which must be expressed on the label or on the bottle and it is allowed to be presented by handwriting.

The legend Made in Ecuador.

The legend “bottled in origin" if it belongs to the same Provincial jurisdiction and outside this it will be called "bottled in Ecuador".

Other sanitary or commercial information required by other legal provisions applicable to alcoholic beverages.

END