

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 1 of 15

Table of Contents

1. Introduction and Scope

- 1.1 Preamble
- 1.2 Purpose
- 1.3 Scope of Application
- 1.4 International Regulatory Alignment
 - 1.4.1 Key Standards Followed

2. Definitions and Classifications

- 2.1 Key Terms (Khamr, Ethanol, Istihalah)
- 2.2 Ethanol Classification & Product Types
 - 2.2.1 Category A: Khamr-Derived (Prohibited)
 - 2.2.2 Category B: Non-Khamr Fermentation (Conditionally Permissible)
 - 2.2.3 Category C: Synthetic Ethanol (Permissible)

3. General Principles and Requirements

- 3.1 Foundational Rules
- 3.2 Natural vs Added Ethanol
 - 3.2 The 0.5% Scholarly Basis

4. Ethanol in Flavors and Extraction

- 4.1 Usage Context
- 4.2 Requirements

5. Ethanol in Fragrances and Cosmetics

- 5.1 External Application
- 5.2 Requirements
- 5.3 Appearance and Branding

6. Ethanol in Fruit Juices and Beverages

- 6.1 Naturally Occurring Ethanol
- 6.2 Evaporation Fallacy

7. Ethanol in Chocolates and Confectionery

- 7.1 Spirit-Based Center

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 2 of 15

7.2 Chocolate Liquor

7.3 Limits

7.4 Verification of Permissible Ethanol

8. Detailed Regulatory Limits Summary Table

8.1 Certification Decision Matrix – HCS

9. Verification and Testing Requirements

9.1 Documentation

9.2 Analytical Testing

10. Ethanol Use and Cleaning Validation

10.1 Ethanol use in production equipment

10.2 Cleaning procedure validation

10.3 Residual ethanol in first production batch

10.4 Verification of residue levels

10.5 Documentation of validation results

10.6 Scope of high-risk products

11. References and Scholarly Basis

11.1 Technical Standards for Ethanol

11.2 Shariah / Scholarly Basis on Ethanol

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 3 of 15

1. Introduction and Scope

1.1 Preamble

The presence of ethyl alcohol (ethanol) in food and consumer products remains one of the most critical and complex issues in the global Halal industry. While the prohibition of Khamr (intoxicants) is absolute in Islamic Law, modern food science recognizes that trace amounts of ethanol can occur naturally through fermentation or may be required as a technical processing aid (solvent/carrier).

This policy serves to bridge the gap between strict **religious** requirements and industrial necessity, providing a clear scientific and regulatory framework for Halal Certification Services Switzerland (HCS).

1.2 Purpose

The primary objective of this policy is to establish clear, non-negotiable directives for manufacturers. It defines:

- The distinction between prohibited **Khamr-derived alcohol** and **permissible industrial ethanol**.
- Strict limits for ethanol **residues** across various product categories.
- **Mandatory documentation** and analytical testing protocols to ensure consumer safety and religious integrity.
- Ensuring consumer **medical safety** through strict adherence to Swiss regulatory food standards and Shariah principles of wholesomeness (Tayyib).

1.3 Scope of Application

This policy is a mandatory requirement for all existing and new clients seeking HCS certification.

It covers the following sectors:

- **Food & Flavors:** Extracts, concentrates and flavor carriers.
- **Beverages:** Fruit juices, nectars, soft drinks and flavored waters.
- **Confectionery:** Fine chocolates, truffles and bakery products.
- **Cosmetics & Personal Care:** Fragrances, perfumes and sanitizers.

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 4 of 15

- **Pharmaceutical:** Syrups, oral liquids, tinctures, topical solutions, sprays, gel formulations, excipients, and medicinal carriers containing ethanol as an active ingredient, solvent, preservative, or processing aid.
- **Industrial Intermediates:** Raw materials, processing aids and cleaning agents.

1.4 International Regulatory Alignment:

This policy is harmonized with international Halal standards and leading global Halal authorities to ensure that HCS-certified products fully comply with ethanol-specific regulatory and Islamic requirements.

1.4.1 Key Standards Followed:

- GSO 2538:2021 – Ethanol limits in food (Gulf Standard)
- Halal Certification Services - Ethanol and its Halal Status in Food Industries
- OIC/SMIIC 1:2019 – General Halal food requirements, including ethanol
- OIC/SMIIC 24:2020 – Halal requirements for food additives (ethanol as carrier/solvent)
- JAKIM MS 1500:2019 – Malaysian Halal Standard (ethanol in foods and consumer products)
- MUI HAS 23201 / BPJPH HAS 23201 – Indonesian Halal Assurance System (ethanol limits and verification)
- MUIS Halal Certification Guidelines – Ethanol usage in Halal-certified products (Singapore)
- CICOT Halal Certification Guidelines* – Ethanol thresholds in food and consumer products (Thailand)
- IIFA (Jeddah) – Resolutions on alcohol and Istihalah

*CICOT limits are practical thresholds; full official tables are not publicly published.

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 5 of 15

2. Definitions and Classifications

2.1 Key Terms

2.1.1 Khamr:

Any intoxicating beverage or substance. It is considered Najs (ritually impure) and prohibited in any quantity.

2.1.2 Ethanol (C₂H₅OH):

Ethyl alcohol. While it is the intoxicant in **Khamr**, it's status as Najs depends on its source.

2.1.3 Istihalah:

A complete chemical or biotransformation that changes the nature of a substance (e.g. alcohol transforming into vinegar) thereby rendering it halal.

2.1.4 Najis:

Substances that are considered ritually impure according to Shariah law, such as Khamr which require specific purification or a complete chemical transformation to be deemed permissible.

2.1.5 Intermediate Product:

Ingredients, such as flavor concentrates, carriers, or solvents used during the manufacturing process that are not intended for direct consumption in their current state.

2.1.6 Final Product:

The finished goods (food, beverages, pharmaceuticals, or cosmetics) in the specific form and packaging intended for distribution or sale to the consumer.

2.2 Ethanol Classification based on source

2.2.1 Category A: Khamr-Derived (Prohibited)

- **Definition:** Ethanol produced with the specific intent of creating an intoxicant or obtained directly as a byproduct of the alcoholic beverage industry.
- **Legal Status:** Classified as Haram (Prohibited) and Najs (Ritually Impure).

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 6 of 15

- **Yeast Recovery:** Yeast separated from this category is permitted only if it has been thoroughly washed to ensure the complete removal of the taste, smell and color of the original Khamr.

2.2.2 Category B: Non-Khamr Fermentation (Conditionally Permissible)

- **Definition:** Ethanol produced via natural fermentation of agricultural sources (e.g., sugarcane, grains, tapioca, or molasses) not intended for the liquor industry.
- **Legal Status:** Classified as Halal and non doubtful (Permissible) for technical use as solvent, extract or carrier provided residual limits in the final product are strictly met.
- **Sensory Criteria:** Use is permitted only if the ethanol content remains "insignificant" meaning it is not visible, not testable (by sensory perception) and the final product is not sellable as an intoxicant.

2.2.3 Category C: Synthetic Ethanol (Permissible):

- **Definition:** Ethanol manufactured through petrochemical processes, such as the direct hydration of ethylene.
- **Legal Status:** Classified as ritually pure and permissible for technical, industrial, and external applications (e.g. fragrances and sanitizers)

3. General Principles and Requirements

3.1 Foundational Rules

3.1.1 Source Integrity:

Ethanol must **NOT** originate from the alcoholic beverage industry.

3.1.2 Technological Necessity:

Use must be limited to technical purposes (carrier, solvent), not for intoxicating effects.

3.1.3 Strict Prohibition of Addition:

Wine, beer, or spirits shall never be added to products, regardless of whether they are cooked or evaporated.

3.1.4 Medical Safety:

All products and ingredients must be safe for human consumption or application. HCS certification requires strict compliance with Swiss food safety

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 7 of 15

regulations (FSVO/BLV), as the concept of Halal is inseparable from the concept of Tayyib (wholesomeness and safety).

3.1.5 Nomenclature:

Names associated with Khamr (e.g. non-alcoholic beer) are rejected.

3.2 Natural vs Added Ethanol

3.2.1 Naturally occurring ethanol:

Present due to natural fermentation of fruits (e.g. ripe fruits, juices). This is generally permissible within the limits specified in Clause 3.3.

3.2.2 Intentionally added ethanol:

Ethanol added as an ingredient or processing aid. This requires strict source verification and limit compliance.

3.3 The 0.5% Scholarly Basis:

3.3.1 Naturally fermented fruit juices containing up to 0.5% ethanol do not become intoxicating, providing a scientifically grounded precautionary limit for beverages.

3.3.2 For any product containing up to 0.5% residual ethanol, the alcohol is considered insignificant. This means it is not visible, not detectable by smell or taste, and the final product cannot be sold as an intoxicating beverage.

4. Ethanol in Flavors and Extraction

4.1 Usage Context:

Flavors often require ethanol as a solvent to carry aromatic compounds.

4.2 Requirements:

4.2.1 Only Category B (Non-Khamr Fermentation) or Category C (Synthetic Ethanol) shall be utilized, as specified in Section 2.2. The use of Category A (Khamr-derived) ethanol is strictly prohibited.

4.2.2 Ethanol must be used only at the minimum functional level required for technological necessity. Furthermore, it shall be evaporated to the greatest extent possible during the manufacturing process.

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 8 of 15

4.2.3 Propylene Glycol is recognized as the preferred Halal alternative.

4.2.4 Suppliers are required to provide a formal source declaration and a technical data sheet (TDS) to justify the ethanol's use and verify its origin.

5. Ethanol in Fragrances and cosmetics

5.1 External Application

Synthetic ethanol is permissible for external use (perfumes, deodorants, cosmetics) as it is not intended for consumption and is not derived from khamr sources.

5.2 Requirements

5.2.1 Ethanol Classification:

Fragrances and perfumes must use ethanol from Category C (Synthetic Ethanol) only as specified in Section 2. Synthetic ethanol is required because it has no khamr association and permissible for external use.

5.2.2 Source Verification:

Suppliers must provide a formal declaration of the ethanol source (Synthetic) and a technical confirmation that the final product is intended for external use only.

5.3 Appearance & Branding

5.3.1 To prevent consumer doubt, the marketing, branding, and packaging must have **no resemblance to khamr products**.

5.3.2 Packaging:

Prohibits bottle shapes or imagery that imitates the alcoholic beverage industry.

5.3.3 Naming:

Prohibits product names (e.g. cocktail or liquor names) that create an **intoxicating association**.

5.3.4 Intent:

There must be **no intoxicating intent** in the product's positioning. This includes a prohibition on bottle shapes, product names (e.g. names of cocktails or

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 9 of 15

liquors or imagery that imitates the alcoholic beverage industry.

6. Ethanol in Fruit Juices & Beverages

6.1 Naturally occurring Ethanol HCS recognizes trace levels intrinsic to raw materials:

- **Fresh Citrus:** ~0.02% w/w
- **Orange Concentrate:** Up to 0.68% w/w
- **Orange Juice:** Typically 0.02%–0.05% v/v
- **Grape Juice:** 0.009%–0.08% v/v

6.2 Evaporation Fallacy

6.2.1 Retention Risk:

Manufacturers are strictly notified that thermal processing (cooking, baking, or simmering) does not guarantee the total removal of ethanol.

6.2.2 Reference Data:

Based on standardized research, the following retention rates must be considered during the Halal Risk Assessment:

- **Simmering (2 hours):** 10% of the initial ethanol remains in the product.
- **Baking (25 minutes):** 25% of the initial ethanol remains in the product.
- **Storage (Overnight):** Up to 70% of the ethanol remains if not properly evaporated.

6.2.3 Compliance Requirement

- Because alcohol does not fully evaporate, the addition of any Category A: Khamr-Derived (Prohibited) substance is strictly prohibited even if the product is cooked.
- For Category B: Non-Khamr Fermentation (Conditionally Permissible) and Category C: Synthetic Ethanol (Permissible), the final ethanol content must be verified through laboratory analysis (see Section 9 for analytical verification) to ensure it does not exceed the applicable halal limit specified in Section 8.

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 10 of 15

7. Ethanol in Chocolate and Confectionery

7.1 Spirit-Based Centers:

Chocolates containing liqueur, whiskey, rum, or brandy fillings cannot be certified as halal.

7.2 Chocolate Liquor:

Chocolate liquor (also known as cocoa liquor) is a non-alcoholic product consisting of ground cocoa nibs and does not contain ethanol therefore, it is inherently halal.

7.3 Limits:

Ethanol present as a residual from flavor extracts in solid chocolate shall not exceed the applicable halal limit for confectionery products (<0.02% w/w) as specified in Section 8.

7.4 Verification of Permissible Ethanol (Category B/C):

For permissible ethanol (Category B/C) from flavor carriers, final quantification must be verified via laboratory analysis to ensure that ethanol levels do not exceed the applicable halal limit specified in Section 8.

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 11 of 15

8. Detailed Regulatory Limits Summary Table

This table merges the technical thresholds from GSO, SMIIC 1, JAKIM, MUI/ BPJPH, CICOT and HCS halal standards.

Product Category (Type)	Maximum Ethanol Limit	HCS Approved Limit	Regulatory Standard Reference
Natural Grape Vinegar	< 1.0%	< 1.0%	GSO 2538 / SMIIC 1
Other Vinegars	< 0.5%	< 0.5%	GSO 2538 / SMIIC 1
Sauces / Ketchup	< 0.5%	< 0.05%	GSO 2538 / SMIIC 1
Flavor Concentrates / Raw Materials	< 0.5%	< 0.5%	SMIIC 1 / MUI/ CICOT*
Aromatic Essential Oils	< 0.5%	< 0.5%	GSO 2538:2021// CICOT*
Meat, Milk, Cereals, Seafood, Eggs	< 0.3%	< 0.05%	GSO 2538 / SMIIC 1/ CICOT*
RTD Beverages (Juices, Nectars, Water)	< 0.1%	< 0.05%	GSO 2538 / SMIIC 1/ CICOT*
Confectionery / Chocolate / Sweets	< 0.02%	< 0.05%	GSO 2538 / SMIIC 1/ CICOT*
Consumer Goods (Malaysia)	< 0.01%	< 0.01%	JAKIM MS 1500
Consumer Goods (Indonesia)	< 0.5%	< 0.01%	MUI
Consumer Goods (Singapore)	< 0.5%	< 0.01%	MUIS
Consumer Goods (Thailand)	< 0.5%	< 0.01%	CICOT*
Pharmaceuticals (Oral / Ingestible)	< 0.1%	< 0.01%	SMIIC 1 / GSO 2538 / MUI / BPJPH / JAKIM/CICOT*
Pharmaceuticals (Topical / External)	Verified non khamr source documented	Verified non khamr source documented	SMIIC 1 / MUI / BPJPH / JAKIM / MUIS/ CICOT*
Cosmetics & Fragrances (Topical / External)	Verified non khamr source documented	Verified non khamr source documented	SMIIC 1 / MUI / BPJPH / JAKIM / MUIS/ CICOT*

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 12 of 15

8.1 Certification Decision Matrix -HCS

This matrix serves as a technical reference for HCS certification decisions, reflecting ethanol type, source, and product category. It applies to food, beverages, confectionery, pharmaceuticals, and cosmetics and is used in conjunction with the regulatory limits specified in Section 8 and analytical testing protocols specified in Section 9.

Scenario	HCS Decision	Condition
Product with added wine/spirits	Reject	Haram regardless of quantity
Liqueur-filled chocolates	Reject	Intentional Khamr addition
Beverage with $\leq 0.5\%$ ethanol (non Khamr source)	Accept	Verify Source
Beverage with $\leq 0.5\%$ ethanol (unknown source)	Require verification	Source documentation required
Food product with trace ethanol from flavors	Accept	Verify source check limits
Perfume with synthetic ethanol	Accept	External use only
Non-alcoholic beer/wine	Reject	Imitates Khamr contains alcohol

9 Verification and Testing Requirements

9.1 Documentation

Manufacturers must maintain source declarations, technical data sheets confirming Category B or C origin, and process flow diagrams for all products (food, beverages, pharmaceuticals, and cosmetics).

9.2 Analytical Testing

9.2.1 Final Product Testing:

All high-risk products, including flavored beverages, confectionery, pharmaceuticals (oral and topical) and cosmetic products must be tested for residual ethanol in the final product to ensure compliance with the applicable halal limit. Appropriate analytical methods, such as Gas Chromatography–Mass Spectrometry (GC-MS) must be used.

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 13 of 15

9.2.2 Cleaning Validation Testing:

Products that may be affected by ethanol used in cleaning or sanitizing production equipment must be tested to verify that residual ethanol does not exceed halal limits.

9.2.3 Laboratory Standards:

All testing must be performed in ISO 17025 accredited laboratories. Results must be documented and available for halal audits.

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 14 of 15

10. Ethanol Use and Cleaning Validation:

10.1 Ethanol may be used as a cleaning or sanitizing agent in production equipment.

10.2 Cleaning procedures must be validated to ensure no excessive ethanol residues remain in the product.

10.3 Residual ethanol in the first production batch must not exceed the applicable halal limit typically <0.1% in the final product.

10.4 Residue levels must be verified using appropriate analytical methods as specified in Section 9.

10.5 Validation results must be documented or shared and available for document evaluation on request.

10.6 This applies to all high-risk products, including flavoured beverages, confectionery, pharmaceuticals (oral and topical), and cosmetic products, to ensure that no chemical or ethanol residues remain that could compromise medical safety or exceed the established halal limits.

	Document Title: Regulatory Policy for Ethanol residues across Food, Cosmetics and Pharmaceutical Products	Document No.:	HCS 087
		Revision No.:	00
		Effective Date:	25 FEB 2026
		Page No.:	Page 15 of 15

11. References and Scholarly Basis

11.1 Technical Standards for Ethanol

- Halal Certification Services - Ethanol and its Halal Status in Food Industries
- GSO 2538:2021 – Ethanol limits in food (Gulf Standard)
- OIC/SMIIC 1:2019 – General Halal food requirements, including ethanol considerations
- OIC/SMIIC 24:2020 – Halal requirements for food additives (ethanol as carrier/solvent)
- JAKIM MS 1500:2019 – Malaysian Halal standard (ethanol limits for food, beverages, cosmetics)
- MUI HAS 23201 – Indonesian Halal Assurance System (ethanol in food, beverages, and consumer products)
- BPJPH HAS 23201 – Indonesian Halal Assurance System (ethanol compliance verification)
- MUIS Halal Certification Guidelines – Ethanol usage in Halal-certified products (Singapore)
- CICOT Halal Certification Guidelines* – Ethanol thresholds in food and consumer products (Thailand)

*CICOT limits are practical thresholds, full official tables are not publicly published.

11.2 Scholarly Basis on Ethanol

- IIFA Resolutions on Alcohol and Istihalah – International Islamic Fiqh Academy (Jeddah)
- MUIS Fatwa (2025) – Natural Ethanol – Singapore