

## About this material list

- This list contains all raw materials, intermediate products and final products (i.e., CORSIA eligible SAF) that can be certified under ISCC CORSIA and ISCC CORSIA PLUS.
- This list contains one table for raw materials (Table 1) and another table for intermediate and final products (Table 2).
- It is obligatory to use the wording on this list for ISCC CORSIA and ISCC CORSIA PLUS certificates, on Sustainability Declarations and Proofs of Sustainability as well as on ISCC CORSIA and ISCC CORSIA PLUS self-declarations.
- There shall be no brand names or technical characteristics of the material or the production process (e.g. bleached, deodorized, industrial grade, etc.) on the ISCC CORSIA or ISCC CORSIA PLUS certificate.

## Adding new materials to this list

- ISCC CORSIA and ISCC CORSIA PLUS certification can cover all types of raw materials eligible for the production of CORSIA eligible fuels.
- The determination as to which raw materials are eligible for certification under CORSIA is done by ICAO, not by ISCC. Raw materials are eligible for certification under CORSIA if ICAO has defined default values<sup>1</sup> for them or if they are included in ICAO's positive list for waste, residues and by-products<sup>2</sup>. ISCC includes all eligible raw materials from these two sources in the ISCC CORSIA list of materials.
- The inclusion of additional raw materials for certification under CORSIA is also done by ICAO. Applications for new raw materials to be considered for CORSIA certification can be addressed to ICAO. Please contact ISCC for more information.

## Specifications for table 1

- Please be aware that the eligibility of raw materials for certification under CORSIA may be limited by certain pathway specifications or the availability of default values for a given pathway or region. Next to each raw material included in the list of materials below, it is indicated which conditions and limitations, if any, must be considered with regard to its eligibility and certification.
- Table 1 features different columns, as follows:
  - o **“Declaration of material under ISCC CORSIA/CORSIA PLUS”**: Indicates how a particular raw material is to be declared on ISCC CORSIA/ISCC CORSIA PLUS certificates, sustainability declarations, proofs of sustainability, self-declarations.
  - o **“Classification of raw material under CORSIA”**: Indicates how a particular raw material is classified by ICAO under CORSIA.
  - o **“Raw material is eligible if cultivated/generated in”**: Indicates the country/region in which a particular raw material must be cultivated/generated to be eligible for certification – based on the availability of default ILUC values. The denomination “global” indicates that there is a global default ILUC value available, meaning there is no limitation with regard to the country/region the raw material is

<sup>1</sup> Default values can be found in the [ICAO document for default values](#).

<sup>2</sup> Please find the positive list in the [ICAO document for calculating actual values](#), chapter 4.

cultivated/generated in. Please note that for some crops, both global default ILUC values as well as region-specific default ILUC values are available. If in doubt please contact ISCC for clarification.

- **“Additional specifications”**: Indicates whether there are any other specifications or limitations to be taken into account concerning the eligibility of the raw material for certification.
- Raw materials marked with either one (\*) or two (\*\*) asterisks may be certified as waste, residue or by-product materials under ISCC CORSIA or ISCC CORSIA PLUS, provided the material meets the applicable definition under CORSIA (please see ISCC CORSIA System Document 201-1, chapter 3). For other certification schemes (e.g. ISCC EU, ISCC PLUS) please refer to their relevant definitions, as these may vary between systems.
- **Raw material marked with one asterisk (\*)**: Raw material classified as agricultural or forestry residue according to ICAO’s positive list. Emissions during the production step (i.e., life cycle step 1) of the raw material’s life cycle are assumed to be zero. Emissions generated during the collection, recovery, extraction, and processing of these residues however must be included (i.e., life cycle step 2). Sustainability criteria according to ISCC CORSIA System Document 202 ‘*Sustainability Requirements*’ are subject to evaluation (i.e., application of ISCC CORSIA w/r/b process is not possible).
- **Raw material marked with two asterisks (\*\*)**: Material classified as processing residue, waste or by-product according to ICAO’s positive list. Emissions during the production step (i.e., life cycle step 1) of the raw material’s life cycle are assumed to be zero. Emissions generated during the collection, recovery, extraction, and processing of these wastes, residues, and by-products, however, must be included (i.e., life cycle step 2). Certification according to the ISCC CORSIA w/r/b process is possible (i.e., sustainability criteria according to ISCC CORSIA System Document 202 ‘*Sustainability Requirements*’ are not subject to evaluation).

### **Specifications for table 2**

- Intermediate and final products shall be stated with the raw materials of Table 1 from which they are derive

Table 1: Raw material			
Declaration of material under ISCC CORSIA / ISCC CORSIA PLUS	Classification of raw material under CORSIA	Raw material is eligible if cultivated or generated in	Additional specifications
Bagasse*	Agricultural residue	Global	Only eligible for certification if residue removal does not necessitate additional nutrient replacement on the primary crop.
Bark*	Forestry residue	Global	
Beef tallow**	<b>Processing by-product</b>	Global	This includes also “Tallow”. The default value for “Beef Tallow” was an update to the default value initially calculated for “Tallow” in the first edition of the ICAO document “CORSIA default life cycle values for CORSIA eligible fuels”.
Branches*	Forestry residue	Global	
Brassica carinata	Crop	USA, Brazil, Global	Only eligible for certification if grown as a secondary crop that avoids other crops displacement.
Camelina	Crop	Global	Only eligible for certification if grown as a secondary crop that avoids other crops displacement.
Cobs*(or **)	Agricultural residue or Processing residue	Global	Only eligible for certification if residue removal does not necessitate additional nutrient replacement on the primary crop.
<b>Coconut Testa**</b>	<b>Processing residue</b>	<b>Global</b>	<b>Please see Annex VI</b>
<b>Construction and demolition waste of biogenic origin**</b>	<b>Waste</b>	<b>Global</b>	<b>Please see Annex XI</b>
Corn grain	Crop	USA, Brazil, Global	
Crude glycerine**	Processing residue	Global	
Crude tall oil (CTO)**	Processing residue	Global	
Cutter shavings*	Forestry residue	Global	

Table 1: Raw material			
Declaration of material under ISCC CORSIA / ISCC CORSIA PLUS	Classification of raw material under CORSIA	Raw material is eligible if cultivated or generated in	Additional specifications
<b>Dry Coconut Pulp**</b>	<b>Processing residue</b>	<b>Global</b>	<b>Please see Annex VII</b>
Empty Palm Fruit Bunches (EFB)**	Processing residue	Global	<b>For certification, we strongly recommend considering the guidance provided in the ISCC Guidance Document “Waste and Residues From Palm Oil Mills”, available on the ISCC website.</b>
Forestry processing residues	Processing residue	Global	
Husks*	Agricultural residue	Global	Only eligible for certification if residue removal does not necessitate additional nutrient replacement on the primary crop.
<b>Industrial waste of biogenic origin**</b>	<b>Waste</b>	<b>Global</b>	<b>Please see Annex XI</b>
Jatropha	Crop	India	Only eligible for certification if meal is used as fertilizer, electricity input or animal feed. In other cases, please contact ISCC for clarification.
Lard fat**	<b>Processing by-product</b>	Global	
Leaves*	Forestry residue	Global	
Manure*	Agricultural residue	Global	Only eligible for certification if residue removal does not necessitate additional nutrient replacement on the primary crop.
Miscanthus	Crop	USA, EU, Global	
Mixed animal fat**	<b>Processing by-product</b>	Global	Only refers to mixed animal fats from slaughterhouses (Beef tallow, Poultry Fat and Lard Fat)
Molasses	Co-product	Brazil, Global	

Table 1: Raw material			
Declaration of material under ISCC CORSIA / ISCC CORSIA PLUS	Classification of raw material under CORSIA	Raw material is eligible if cultivated or generated in	Additional specifications
Municipal solid waste (MSW)**	Waste	Global	<p>Only eligible for certification if the non-biogenic content (NBC) is not greater than 50%.</p> <p>Plastics are not included in the list of wastes, residues, or by-products approved by ICAO to produce SAF and claim emissions reductions under CORSIA. Under MSW, plastics will be considered as non-biogenic content.</p> <p><b>Please see Annex XI</b></p>
Needles*	Forestry residue	Global	
Non-Standard Coconuts**	<b>Agricultural by-products or Processing by-product</b>	Global	<p>Please see Annex I</p> <p>Non-standard coconuts are classified as agricultural by-products when collected in coconut farms, and as processing by-products otherwise.</p>
Nut shells (specification of nut)*	Agricultural residue	Global	<p>Only eligible for certification if residue removal does not necessitate additional nutrient replacement on the primary crop.</p>
Palm Fatty Acid Distillate (PFAD)**	<b>Processing by-product</b>	Global	<p><b>For certification, we strongly recommend to consider the guidance provided in the ISCC Guidance Document “Waste and Residues From Palm Oil Mills”, available on the ISCC website.</b></p>

Table 1: Raw material			
Declaration of material under ISCC CORSIA / ISCC CORSIA PLUS	Classification of raw material under CORSIA	Raw material is eligible if cultivated or generated in	Additional specifications
Oil Palm Fresh Fruit Bunches (FFBs)	Crop	Malaysia, Indonesia	
Palm oil mill effluent (POME) oil**	Processing residue	Global	<b>For certification, we strongly recommend considering the guidance provided in the ISCC Guidance Document “Waste and Residues From Palm Oil Mills”, available on the ISCC website.</b>
<b>Pangasius fish scrap</b>	<b>Processing by-product</b>	<b>Global</b>	<b>Please see Annex X</b>
Poplar	Crop	USA, Global	
Poultry fat**	<b>Processing by-product</b>	Global	
Pre-commercial thinnings*	Forestry residue	Global	
Rapeseed/Canola	Crop	EU, Global	
Residue gases**	Processing residue	Global	Please see Annex III
Sewage sludge**	Processing residue	Global	
Slash*	Forestry residue	Global	
Soybean	Crop	USA, Brazil, Global	
<b>Spent Bleaching earth**</b>	<b>Processing residue</b>	<b>Global</b>	<b>Please see Annex V</b>
Stalks*	Agricultural residue	Global	Only eligible for certification if residue removal does not necessitate additional nutrient replacement on the primary crop.
Stover*	Agricultural residue	Global	Only eligible for certification if residue removal does not necessitate additional nutrient replacement on the primary crop.

Table 1: Raw material			
Declaration of material under ISCC CORSIA / ISCC CORSIA PLUS	Classification of raw material under CORSIA	Raw material is eligible if cultivated or generated in	Additional specifications
Straw (specification of crop)*	Agricultural residue	Global	Only eligible for certification if residue removal does not necessitate additional nutrient replacement on the primary crop.
Sugarcane	Crop	Brazil, Global	Please note: SAF produced via the ETJ conversion process is currently only eligible for certification if produced via integrated conversion design. <sup>3</sup> Please contact ISCC for further clarification.
Sugar beet	Crop	EU, Global	
<b>Sugarcane Filter Cake**</b>	<b>Processing residue</b>	<b>Global</b>	<b>Please see Annex IX</b>
<b>Sugarcane Vinasse**</b>	<b>Processing residue</b>	<b>Global</b>	<b>Please see Annex VIII</b>
Switchgrass	Crop	USA, Global	
Tall oil pitch**	Processing residue	Global	
Technical corn oil**	<b>Processing by-product</b>	Global	Only eligible for certification if derived from the production process of corn ethanol.
Tree tops*	Forestry residue	Global	
Used cooking oil (UCO)**	Waste	Global	
Waste gases**	Waste	Global	Only eligible for certification if waste gases were previously flared without any energy recovered from them. Ethanol must be produced via microbiologic conversion route.

<sup>3</sup> ICAO defines integrated conversion design as in “pathway utilizes a co-located facility where heat is integrated between the systems to produce the fuel and intermediate products (e.g., ethanol/isobutanol) from the fuel feedstock to minimize energy requirements.”

Table 1: Raw material			
Declaration of material under ISCC CORSIA / ISCC CORSIA PLUS	Classification of raw material under CORSIA	Raw material is eligible if cultivated or generated in	Additional specifications
			Please see Annex IV
Wheat Starch Slurry**	Processing residue	Global	Please see Annex II

Table 2: Intermediate and final products	
<p><b>Note:</b></p> <ul style="list-style-type: none"> <li>Products shall always be stated with a specification of the raw material they were produced from (according to table 1) Example: Crude oil (palm), HEFA-SPK (used cooking oil)</li> </ul>	
Declaration of product on ISCC CORSIA Certificate	Additional information
Biobutane	
Biobutanol	
Biobutene	
Biodiesel	Only as intermediate.
Bioethanol	
Biomethanol	
Bionaphta	Only as intermediate.
Biopropane	
Biopropanol	
Co-processed oil to be used for replacement of jet fuel	
Crude oil	
Fatty acids	
HVO	
Isobutanol	
Pulp	
Refined tallow	
Refined glycerine	
Refined oil	

Table 2: Intermediate and final products

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<p><b>Note:</b></p> <ul style="list-style-type: none"> <li>Products shall always be stated with a specification of the raw material they were produced from (according to table 1) Example: Crude oil (palm), HEFA-SPK (used cooking oil)</li> </ul>	
Declaration of product on ISCC CORSIA Certificate	Additional information
AtJ-SPK (isobutanol)	Alcohol (isobutanol)-to-Jet synthetic paraffinic kerosene
AtJ-SPK (ethanol)	Alcohol (ethanol)-to-Jet synthetic paraffinic kerosene
FT-SPK	Fischer-Tropsch hydroprocessed synthesized paraffinic kerosene
HEFA-SPK	Synthesized paraffinic kerosene from hydroprocessed esters and fatty acids
SIP	Synthesized iso-paraffins from hydroprocessed fermented sugars

## **Annex I – “Non-Standard Coconuts”: Criteria for eligibility**

“Non-standard coconuts” are inedible coconuts unintentionally obtained in coconut farms, collection centers or edible coconut oil industry, which meet any of the following criteria:

A) Too small. Too small coconuts are produced due to immaturity by nature. They cause inefficiencies for production processes in edible coconut product industries. Small size can be identified by weight or diameter of coconuts.

B) Sprouted. Coconuts sprout due to precocious development, or to exposure to moisture after harvest. They do not have enough nutrients for human consumption. Sprouts can be detected visually.

C) Cracked. Coconuts are cracked when they are damaged during de-husking, delivery, or storing processes, or when they are discarded by edible coconut product industries. Cracked coconuts become rotten and unsuitable for human consumption. Cracks can be detected visually.

D) Rotten. Coconuts deteriorate and rot when they are unharvested, cracked, or precocious, or when they are discarded by edible coconut product industries. They contain harmful substances to human health. Rottenness can be identified visually by the outer shell color (turned in black) and/or the molds.

Non-standard coconuts are classified as agricultural by-products when collected in coconut farms, and as processing by-products otherwise.

## **Annex II – “Wheat starch slurry”: Specifications**

Wheat starch slurry is the leftover residue from wheat processing. The slurry is the residual product following several washing steps to separate the primary products – food grade wheat starch (A-type starch) and gluten. Processing steps include centrifuging to accurately separate A-type and B-type starches. The end result of processing is a slurry comprised of:

- B-type starch granules that measure up to 10 µm in diameter, and have been subjected to centrifugal separation, such that any remaining food grade A-type starch cannot be practically recovered
- Some other residues from wheat processing such as pentosans, proteins and some remaining A-type starch granules
- Solid matter not exceeding 20%

## **Annex III – “Residue gases”: Specifications**

For a gas stream to qualify as a residue gas stream, the following three specifications must be met:

- A) The gas stream is unavoidably generated during the production of a primary product(s) other than the gas stream.
- B) The generation of the gas stream is fundamentally tied (both casually and in intensity) to the production process of the primary product(s) and any co-product(s) from which the gas stream is derived. This implies that generation of the gas stream is unintentional.
- C) The economic values of the gas stream is insignificant at the point of origin (less than 10 percent of the value of all products (incl. intermediate products) which result from the process from which the gas stream is captured).

## **Annex IV – “Waste gases”: Specifications**

For a gas stream to qualify as a waste gas stream, the following three specifications must be met:

- A) The gas stream is unavoidably generated during the production of a primary product(s) other than the gas stream.
- B) The generation of the gas stream is fundamentally tied (both casually and in intensity) to the production process of the primary product(s) and any co-product(s) from which the gas stream is derived. This implies that generation of the gas stream is unintentional.
- C) The gas stream would have been discarded or there is a legal obligation to discard it.

## **Annex V – “Spent Bleaching Earth”: Specifications**

Spent Bleaching Earth (SBE) is a material derived from bleaching earth which is an inorganic porous material used in the bleaching step of edible oils production. SBE is separated from the bleached edible oil typically via filtration or sedimentation and contains a residual amount of oil.

## **Annex VI – “Coconut testa”: Specifications**

Coconut testa is a residue from coconut milk processing and desiccated coconut processing. It is a thin outer skin of coconut endosperm. It is removed during paring process to produce coconut meat. It should be ensured that excessive coconut meat is not contained in the coconut testa at the collecting point. In general, coconut testa thickness is around 1.5 mm.

## **Annex VII – “Dry Coconut Pulp”: Specifications**

Dry coconut pulp is a residue from coconut milk processing. It is generated after extracting coconut milk from coconut meat. It should be ensured that excessive oil is not left in the dry coconut pulp at the collecting point. In general, dry coconut pulp contains 10% to 15% of coconut oil.

## **Annex VIII – “Sugarcane Vinasse”: Specifications**

Sugarcane vinasse (also known as distillery wastewater, distillery slops, residue of fermentation, spent wash) is the dark-colored liquid residue that remains in the distillation column after the ethanol has been extracted.

## **Annex IX – “Sugarcane Filter Cake”: Specifications**

Sugarcane filter cake (also known as pressing mud, factory mud, clarification residue, or mud) is the solid, dark-colored residue generated at the filtration stage of sugarcane juice during sugar or ethanol production.

## **Annex X – “Pangasius fish scrap”: Specifications**

Pangasius fish scrap is the material derived from Pangasius farmed in a fish cage, after removing main product (fillet). Such fish scrap contains a residual amount of oil. Only fish oil is used for SAF production.

## **Annex XI – “MSW, Industrial waste of biogenic origin, and Construction and demolition waste of biogenic origin”: Specifications**

For a material to qualify as a waste under these categories, including instances where wastes are commingled among different waste categories, in addition to compliance with general specifications detailed in section 4.2 (i.e., unintentional and unavoidable) and definitions in section 4.1 for wastes (i.e., inelastic supply and no economic value) of the ICAO document “CORSIA Methodology for Calculation Actual Life Cycle Emissions Values” material in these categories shall not be diverted from recycling, composting, or other recovery operations, but shall consist of the leftover material remaining after such efforts.

Note: as of the 7<sup>th</sup> Edition of the ICAO document “CORSIA Methodology for Calculation Actual Life Cycle Emissions Values”, plastics are not included in the list of wastes, residues, or by-products approved by ICAO to produce SAF and claim emissions reductions under CORSIA. Under MSW, plastics will be considered as non-biogenic content.

Note 2: Industrial, construction and demolition waste of non-biogenic origin are not included in the positive list of materials classified as co-products, residues, wastes or by-products. If an economic operator seeks to have such non-biogenic component included in the positive list, a proposal should be submitted for specific non-biogenic waste materials. Such proposal should include information on the potential SAF production pathway and possible impact on sustainability such as impact on air and water as well as monitoring and mitigation protocols in the context of existing regulations.