

J: MAINTAINING ORGANIC INTEGRITY DURING CLEANING, PREPARATION AND TRANSPORTATION (310 CLAUSE 8) & ORGANIC PRODUCT COMPOSITION (310 CLAUSE 9)

CANADIAN ORGANIC STANDARDS*

8 Maintaining organic integrity during cleaning, preparation and transportation

“Clause 8 applies to all operations that handle (including packaging and labelling), store or transport organic products for production or processing. During these activities, a central objective is to maintain the inherent organic qualities of the product through strict adherence to the procedures and principles of this standard. Operators are responsible for maintaining organic integrity at all points of the market supply chain, from production through the point of sale to the final consumer.”

8.1 Maintaining integrity

8.1.1 “Preparation materials, such as counters, containers and conveyors, in contact with food shall be clean and of food-grade quality.”

8.1.2 “Incidental additives shall not compromise organic integrity:

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8 This clause outlines how to maintain organic product integrity from field to plate. It is applicable to all types of crop and livestock production systems, in addition to organic preparation (processing, packaging, labeling etc.,) wherever it takes place (on-farm, at processing facilities, retailers, etc.).

Elements of this clause are also applicable to operations that take physical possession of organic product even if they do not prepare, package or label the product. This includes distribution centres, warehouses and transportation companies.

8.1.1 Food-grade materials are of higher quality than non-food-grade materials. Food-grade materials are required when handling organic food products. Food-grade material is not required for surfaces in contact with organic feed or seed (used for planting).

To demonstrate compliance with the standards, operators can provide statements from suppliers regarding the food-grade quality of the materials that are in contact with organic food. See 8.1.6 for additional packaging requirements.

8.1.2 It is prohibited to allow the contamination of organic products (food, feed and seed) by direct contact with incidental additives that are not listed in the PSL. See Clause 3 for a definition of “incidental additives.” For split operations, the easiest solution is to use incidental additives that are permitted for organic production in both organic and non-organic operations; this will eliminate having to switch from non-permitted to permitted additives for organic runs.

If switching is not an option, consider other alternatives as described below.

*Organic production systems: general principles and management standards. CAN/CGSB-32.310-2020. Canadian General Standards Board. 1
Dec. 2020. www.publications.gc.ca/site/eng/9.854643/publication.html.

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- a) hand sanitizer substances, if used in direct contact with organic products, shall be listed in Table 7.3 of CAN/CGSB-32.311.
- b) culinary steam, that is, steam used in direct contact with organic products or packaging, shall only contain:
 - 1) substances listed in Tables 6.3-6.5 of CAN/CGSB-32.311; and/or
 - 2) food-grade cleaners, disinfectants and sanitizers authorized for organic product contact in Table 7.3 of CAN/CGSB-32.311.
- c) food-contact lubricants shall be listed in Tables 6.3-6.5 of CAN/CGSB-32.311.
- d) use of cleaners, disinfectants and sanitizers shall comply with the requirements in 8.2 of this standard.”

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For hand sanitizer substances: consider instead using either disposable gloves or dedicated organic gloves. Remember that if the gloves are sanitized or treated with prohibited substances, they will not be compliant (i.e., permitted).

For food-contact lubricants and chemicals used in boiler systems that generate culinary steam, consider turning off the delivery mechanism before using the system for organic products and turning the system back on after the organic run. Operators need to provide data that can confirm the number of hours it takes after delivery is paused to ensure there are no traces at the contact point or surface. A Standard Operating Procedure (SOP) will be needed to outline the protocol, and records of when the delivery mechanism was turned off and then back on will be required.

Examples of incidental additives:

	Direct contact with organic product	No direct contact with organic product
Alcohol hand sanitizer	allowed (listed in 7.3)	allowed
Iodophor hand dips	prohibited	allowed
Amine-based boiler chemical	prohibited	allowed
Potassium hydroxide boiler chemical	allowed (listed in 6.5)	allowed
Mineral oil lubricant	prohibited	allowed
Organic canola oil used as a lubricant	allowed	allowed

Even though water treatments, other than culinary steam, are not specifically addressed in this subclause, the definition of incidental additives includes “water treatment compounds.”

This means that the water used for organic preparation may be “treated,” providing the resulting water:

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8.1.3 “Mechanical, physical or biological processes (such as fermentation and smoking) are permitted.”

8.1.4 “To prevent commingling, organic products shall be segregated or otherwise protected from non-organic products at all times, for example, during processing, storage, at bulk and unbound stages.”

8.1.5 “If a production unit prepares both organic and non-organic products:

- falls within Health Canada’s Guidelines for Drinking Water;
- has a pH of 6.5 to 8.5; and
- no substances or processes prohibited by the standard are added or used.

Examples of acceptable water treatments include softeners, ultra-violet disinfection and reverse osmosis filtration. Do not overlook the fact that the cleaners, disinfectants and sanitizers used as incidental additives also have to comply with the cleaning product restrictions in Clause 8.2.

8.1.3 Chemical manipulation of organic products is prohibited. This includes hydrogenation, bleaching, hydrolysis, oxidation, denaturation and interesterification. These techniques are sometimes used in food production to minimize the development of unwanted and potentially harmful compounds. Ionizing radiation is prohibited for any purpose or at any point in the supply chain. Microwaves, ultra-violet rays and x-rays are classified as **non-ionizing** radiation and therefore are allowed. However, there is one exception. Neither microwaves nor ultra-violet rays can be used to boil (7.2.14) or sterilize (7.2.12.2) maple syrup sold as syrup or used in maple products.

Along the same lines of concern, the standards prohibit nanotechnology (1.4 b), as it is an unregulated field with unknown risks. Matter at the nanoscale can have different physical and chemical properties compared to their macroscale counterparts. The size of nanoparticles enables easier transfer through membranes of living tissue and the consequences of this are unknown.

8.1.4 Split operations handling both organic and non-organic products must be able to maintain separation between organic and non-organic ingredients, work-in-process (WIP), and finished products at all times and in all stages (especially when the products are unpackaged or loose).

8.1.5 It is not uncommon to pack, run, or process organic products on Monday mornings following a deep clean done on the weekend, or to have dedicated organic lines. These are two examples of protocols sufficient to identify, handle, and store organic runs separately from non-organic runs. But they don’t work for every operation and there are

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- a) “organic and non-organic products shall not be mixed at any stage of preparation;
- b) “every measure shall be taken to ensure that the organic and non-organic identity of finished product is maintained;
- c) “operators shall document removal events used to prevent cross-contamination of organic and non-organic production runs;
- d) “preparation of organic products shall be carried out continuously until the run is complete;
- e) “organic runs shall be separated by place or time from similar preparation of non-organic products;
- f) “organic runs shall be planned in advance to prevent commingling; and
- g) “additional measures are required to prevent accidental commingling of bulk at-risk organic seed or grain with non-organic grain which may contain trace GE contamination:
 - 1) Storage bins containing organic crops shall be visibly identified as organic using well-maintained, weather-resistant signage.
 - 2) When at-risk organic crops are being moved between bulk storage bins (for example, grain drying, lot mixing), temporary signage shall be attached to the wagon or truck to visibly identify the load in transit as organic.
 - 3) When organic crops are held in bulk bins for drying or roasting, temporary signage shall be attached to the bin to visibly identify the contents as organic.”

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additional requirements to address when an operation produces both organic and non-organic products.

Under these circumstances it is imperative that:

- a) there is no commingling of organic and non-organic ingredients or products at any time during preparation;
- b) there is proper identification on ingredients, WIP and finished goods;
- c) if there are non-organic runs ahead of organic runs, cleaning records are sufficiently detailed to confirm there is no carryover from the non-organic run to the organic run;
- d) production records are sufficiently detailed confirming where each organic run occurred and recording the start and end times of each organic run;
- e) organic runs are not done at the last minute but are scheduled well enough in advance that all employees are aware of the organic run and can prepare accordingly;
- f) when handling commodities at high risk of being contaminated with GE products, such as corn and canola, extra weather-appropriate signage is needed while (i) storing, (ii) transferring, and (iii) temporarily holding organic and non-organic commodities at the same time.

*Organic production systems: general principles and management standards. CAN/CGSB-32.310-2020. Canadian General Standards Board. Dec. 2020. www.publications.gc.ca/site/eng/9.854643/publication.html. 4

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8.1.6 “Organic product packaging shall:

- a) maintain organic product quality and integrity; and
- b) be minimal in a manner that is consistent with 8.1.6 a). Packaging materials that minimize harm to the environment throughout their life cycle are preferred; and
- c) comply with prohibitions in 1.4 b) and 1.4 e).”

8.2 Cleaning, disinfecting and sanitizing

8.2.1 “Food-grade cleaners, disinfectants and sanitizers listed in Table 7.3 of CAN/CGSB-32.311 may be used as annotated:

- a) on organic product contact surfaces, which include equipment, storage and transport units;
- b) in direct contact with organic products.”

8.2.2 “Cleaners, disinfectants and sanitizers listed in Table 7.4 of CAN/CGSB-32.311 may be used on organic product contact surfaces, provided that documentation demonstrates:

- a) they are used as annotated; and
- b) removal event(s) have eliminated the substance(s) from organic product contact surfaces prior to organic production.”

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8.1.6 Operators should choose packaging that is not excessive yet will contain and protect their product appropriately. The packaging and the packaging manufacturing process should not itself be a source of pollution.

In the case of plastic packaging, especially for food products, consideration should be given to the type of plastic. Keep in mind that products that are highly acidic or that contain alcohol or fats can leach plastic additives from the packaging or container into the food. Operators should only use plastic containers that are approved for the particular type of food.

Operators must also verify that the final packaging materials comply with the standards and do not contain any fumigants, fungicides, pesticides or preservatives (1.4 e), and there is no intentional transfer of nano-sized particles from the packaging to the product (1.4 b).

8.2.1 As long as the annotation restrictions are met, all operators, on the farm or in a manufacturing facility, may use PSL Table 7.3 substances to clean, disinfect or sanitize organic product and organic product contact surfaces without having to rinse, dry, drip dry or purge the system. This includes egg washing substances.

Chlorine (at concentrations up to the levels permitted in municipal drinking water systems) is acceptable for washing organic products and contact surfaces without an intervening step. Free chlorine levels in Canadian municipal drinking water range between 0.04-2.0 mg/L (0.04-2 ppm). See the chlorine compound listing in PSL Table 7.3.

8.2.2 Cleaning products listed in Table 7.4 can be used on surfaces in contact with the organic product, but only after an operator can demonstrate that an appropriate removal event is employed before organic product touches the contact surface.

Rinsing, drying, drip-drying and purging are examples of effective removal events as defined in Clause 3.

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8.2.3 “If substances in Tables 7.3 and 7.4 are ineffective, other cleaners, disinfectants or sanitizers may be used on organic product contact surfaces, provided that documentation demonstrates the following conditions:

- a) the efficacy of the alternative substance(s);
- b) removal event(s) have eliminated the alternative substance(s) from organic product contact surfaces prior to organic production;
- c) that effluent discharge was neutralized to minimize the negative impact on the environment.”

8.2.4 “Specific cleaning, sanitation and disinfection requirements in clause 7 of this standard supersede those specified in 8.2.”

8.3 Facility pest management and post-harvest management

8.3.1 “Good production and manufacturing practices shall be adopted to prevent pests. Pest management practices shall involve the following, in descending order:

- a) the removal of pest habitat and food;
- b) the prevention of access and environmental management (for example, light, temperature and atmosphere), to prevent pest intrusion and reproduction;
- c) mechanical and physical methods, such as traps;

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8.2.3 The use of cleaners that are not listed in Table 7.3 or 7.4 of the PSL, such as tartaric acid, is allowed when all of the following three issues are documented:

- a) the operator has demonstrated that the non-listed substance, such as a quaternary ammonia or colloidal silver, is needed and effective;
- b) the non-listed substance can be effectively removed from the product contact surfaces by an acceptable removal event (which in the case of the quaternary ammonium would be residue test strips showing zero quat residue after rinsing); and
- c) the operation can neutralize the non-listed substance before disposal.
Examples of “acceptable removal events” include rinsing with potable water, letting surfaces drip dry, and purging lines with organic product.

8.2.4 Adhere to the cleaning requirements in Clause 7 for apiculture, maple, mushrooms, sprouts, shoots, microgreens and greenhouses if the requirements in Clause 7 are stricter than those in Clause 8.2.

This is most notable for maple – as all cleaning requirements are in Clause 7.2. Seed cleaning for sprouts, shoots and microgreens is outlined in Clause 7.4.

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d) lures and repellents, as listed in Table 8.2 of CAN/CGSB-32.311.”

8.3.2 “If the practices enumerated in 8.3.1 are ineffective, the operator may use pest control substances listed in Table 8.2 of CAN/CGSB-32.311. The operator shall record the target pests, substances used, start and end dates, and the location(s) of pest control devices.”

8.3.3 “If the practices specified in 8.3.2 are ineffective, substances not listed in Table 8.2 of CAN/CGSB-32.311 may be used whenever organic product preparation takes place, including off-site storage facilities, provided that there is no risk to organic product status or integrity. Operators shall ensure that organic products or the packaging materials are not present when these substances are used indoors. Operators shall clearly document:

- a) why permitted substances were not suitable or ineffective for pest management;
- b) how contact of organic products with unlisted substances was avoided;
- c) all activities involved in the use, storage and disposal of unlisted substances.”

8.3.4 “If pest and disease control substances that are not listed in Table 8.2 of CAN/CGSB-32.311 are used under any mandatory government program, operators shall monitor and document their use.”

NOTE: “In the event of emergency pest outbreak, Canadian operators are required to notify their certification body immediately of any change that may affect organic product certification.”

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8.3.2 Pest control substances in PSL Table 8.2 can be used by an organic operation if the preventative measures in 8.3.1 are found inadequate. Detailed records are required. The substances in PSL Table 8.2 with no restrictions, such as carbon dioxide, diatomaceous earth and neem oil, may be used in direct contact with organic product.

8.3.3 Pest control substances not listed in the PSL Table 8.2 can be used both outside and inside facilities including farm buildings, on-farm storage (e.g., grain bins), and transport vehicles but only:

- when the substances in Table 8.2 have failed and this has been documented;
- if the integrity of organic products and packaging can be maintained; and
- if the operator keeps detailed records of the storage, use and disposal of the substances.

When such pest control substances are used around farm buildings and farm storage areas, it is essential that that they do not compromise organic product integrity or the surrounding farm environment.

In industrial situations where it is unlikely organic product integrity will be compromised or the surrounding environment contaminated, exterior pest control substances not listed in the PSL may be used without having to prove the lack of efficacy of the requirements in 8.3.1 or 8.3.2. However, detailed records are required.

NOTE: Certifiers will need to assess if activities undertaken by an operator during an emergency pest event compromised the status of the product.

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8.3.5 “Substances in Table 8.3 of CAN/CGSB-32.311 may be used for post-harvest storage.”

8.4 Transportation

8.4.1 “Every measure shall be taken to ensure that the integrity of organic inputs, ingredients and products is not compromised in transit. Physical segregation or other protection methods shall be used to avoid commingling or substitution with non-organic inputs, ingredients and products.”

8.4.2 “The following information shall accompany the organic product:

- a) the name and address of the person or organization responsible for the production, preparation or distribution of the product;
- b) the name of the product;
- c) the organic status of the product; and
- d) information that ensures traceability, for example, the lot number.”

8.4.3 “Organic products shall not be exposed to pesticides or pest control substances that are not listed in Table 8.2 of CAN/CGSB-32.311 during any stage of transit or at border crossings.”

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8.3.5 Sprout inhibitors, ripening inhibitors and ripeners listed on Table 8.3 may be used in storage facilities.

8.4.2 It is imperative that organic product is not contaminated by prohibited substances or commingled with non-organic products while in transit. Trucks, railcars and containers must be clean to prevent contamination by prohibited substances or previous shipments.

To avoid commingling:

- segregate loose or bulk organic and non-organic products into separate trucks;
- segregate loose or bulk organic and non-organic products into separate compartments in trucks;
- load only sealed boxes or crates; or
- load only shrink-wrapped pallets.

Shared loading and unloading equipment for loose bulk products, such as grains, oilseeds, oil and flour, must be cleaned or purged sufficiently before organic product is handled.

Shipping documentation must include the product name, organic status, lot number(s) and contact information of the responsible party. It is recommended that the shipping documentation packet for loose bulk commodities include copies of clean truck affidavits (signed by the truckers), which identify the two previous loads and identify the cleaning methods that were used.

8.4.3 Federal plant protection requirements commonly require imported agricultural products to be fumigated or irradiated depending on the source country and the condition of the goods. The fumigation is usually done at the border or in transit to Canada when a pest or disease

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NOTE: “Owners are responsible for the organic integrity of the organic product while it is in transit. This includes the use of common carriers and custom hauling. Transport companies share responsibility for organic integrity while loading, transporting, or off-loading certified organic products.”

9 ORGANIC PRODUCT COMPOSITION

“Clause 9 applies to all operations involved in organic product preparation, including retailers.”

9.1 Product composition

9.1.1 “Organic product formulations shall consist primarily of organic whole or processed agricultural ingredients certified to this standard, organic aquaculture ingredients certified to CAN/CGSB 32.312, and organic processing aids. Other permitted ingredients and processing aids, as described in Clause 9.2, shall be kept to a minimum.”

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has been detected or is of concern. Fumigating protects product against unwanted pests and helps reduce the introduction of unwanted species into the receiving country.

However, none of the most common fumigants, such as methyl bromide, phosphine and sulphuryl fluoride, are listed on the PSL – this means these are not permitted. Products treated with any of these substances or irradiated with ionizing radiation (1.4 c) will lose their organic status.

The owner of the product during transit is ultimately responsible for organic compliance and should clearly communicate the rules for organic handling to their transportation service providers.

9 No matter where the product is prepared, the following rules apply when you want to make and call the product organic.

Elements of this clause are also applicable to operations that do not prepare, package or label but take physical possession of organic product. This includes distribution centres, warehouses and transportation companies.

9.1.1 The standards restrict the use of highly processed agricultural ingredients that have been refined, hydrogenated, chemically bleached, hydrolyzed, oxidized or denatured. The same goes for aquaculture ingredients (certified to 32.310) used as ingredients in 32.310/311 certified products (e.g., seafood lasagna). That said, multi-ingredient products are allowed; these may contain ingredients and processing aids as described in later parts of this clause.

Fortification with vitamins and minerals is prohibited unless required by federal regulation, which is the case for milk, white flour, meal replacements and a few other products. Non-dairy substitute products (e.g., plant-based beverages; products that resemble cheese; butter substitutes) may also be enriched. However, organic breakfast cereals, infant formulas and juice products cannot be enriched. Refer to CFIA’s “Foods to Which Vitamins, Mineral Nutrients and Amino Acids May or Must be Added” and to the “Vitamins and Mineral Nutrients” listing in Table 6.4 for details.

*Organic production systems: general principles and management standards. CAN/CGSB-32.310-2020. Canadian General Standards Board. 9 Dec. 2020. www.publications.gc.ca/site/eng/9.854643/publication.html.

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9.1.2 “The evaluation of product composition shall exclude non-agricultural sub-parts of ingredients listed in Tables 6.3 and 6.4 in CAN/CGSB-32.311 that have a technical or functional effect on the ingredient but not on the final organic product, and are not declared on the final organic product label. These ingredient sub-parts may be present in the final organic product but only in insignificant amounts. This includes non-agricultural sub-parts of ingredients, such as anticaking agents, carriers and fillers, preservatives, stabilizers, pH adjusters or buffers. The calculation of organic percentages shall account for all constituent ingredients or ingredient sub-parts, distinguishing between organic and non-organic components of each ingredient contained in the product.”

9.1.3 “The percentage of all organic ingredients in an organic product shall be calculated as follows:

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The use of calcium compounds and Vitamin C (ascorbic acid) as acidity regulators, stabilizers, preservatives per the individual listings in Table 6.3 of the PSL is permitted in any type of product.

9.1.2 There is an important distinction in this clause between

- ingredients (constituents of a product that remain in the product in its finished form and are listed on its ingredient statement) and
- processing aids (used for a functional effect in processing but not remaining in the finished product nor identified in the ingredient statement).

Beyond all that agricultural constituents, non-agricultural constituents or subparts of every multi-ingredient ingredient (complex ingredient), including anti-caking agents, stabilizers, pH adjusters, buffers or preservatives, that are listed in the final product's ingredient panel or have a functional effect on the final product need to be:

- listed in the appropriate PSL table as allowed;
- compliant with any applicable substance annotation; and
- accounted for in the organic percentage calculation.

Non-organic carriers of agricultural origin (such as wheat starch) may be used if complex ingredients or processing aids containing organic carriers are not commercially available (see Carriers PSL 6.3, 6.4). This means the suppliers of certified complex ingredients will need to disclose the makeup of their products, including the added water and salt; otherwise the subsequent manufacturer will have to calculate the ingredient as only contributing either 95% organic content or 70% organic, according to the product's category on the supplier's certificate, and not the actual organic percentage content.

9.1.3 The term “organic” and the Canada organic logo can be used on:

- Food products certified as containing 95% or more organic ingredients and other permitted substances; and

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- a) “Solid products (except livestock feed: see 9.1.3 d) — Divide the net mass, excluding water and salt, of all organic ingredients in the formulation or finished product, whichever is more relevant, by the net mass, excluding water and salt, of all ingredients.
- b) “Liquid products — If the product and its ingredients are liquid, divide the fluid volume of all organic ingredients, excluding water and salt, by the fluid volume of all ingredients, excluding water and salt. If the principal display panel, specification sheet or certificate of analysis uses phrases like “reconstituted from concentrates” to describe the final product, single-strength concentrations of the ingredients or the finished product shall be used to calculate organic percentages. Any user of an ingredient, to which water or salt has been added by a prior processor, and is declared as water or salt on the ingredient declaration of the finished product is required to exclude this added water or salt when calculating organic percentages.
- c) “Solid products and liquid products — Divide the combined net mass of solid organic ingredients and the net mass of liquid organic ingredients, excluding water and salt, by the total mass, excluding water and salt, of all ingredients in the finished product. Any user of an ingredient, to which water or salt has been added by a prior processor, and is declared as water or salt on the ingredient declaration of the finished product is required to exclude this added water or salt when calculating organic percentages.
- d) “Livestock feed shall contain 100% organic agricultural ingredients and necessary feed additives or supplements listed in Table 5.2 of CAN/CGSB-32.311. Divide the total net mass, excluding water, salt and calcium compounds, of combined organic ingredients in the

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- Livestock feed containing 100% organic agricultural ingredients and allowed supplements.

Food products certified as containing between 70-95% organic ingredients may only be labelled as containing “xx% organic ingredients.” Food products containing less than 70% organic ingredients cannot be certified, however their organic ingredients may be identified as such in the product ingredient list.

Calculating these organic percentages has to be done consistently to sustain consumer confidence in organic labels.

Water and salt (sodium chloride) are deducted as they are not “organic” ingredients. The feed calculation also deducts calcium compounds, in addition to added water and salt, because livestock, particularly laying hens, require calcium-rich diets. The salt deduction also includes salt substitutes used in consumer goods when the sodium-free alternative is performing the same function as that of sodium chloride. For consumer food products, the calculation varies depending if the product is a solid, liquid or a mixture of both as outlined in subclauses a-c.

There is a change in the 2020 standards on how the water and salt content for liquid food products (subclause b) and a food product containing a mixture of liquid and solid ingredients (subclause c) must be calculated. This change does not impact solid food products (subclause a) or feed (subclause d).

Previously, only the added water and salt were deducted for both food and feed calculations. As of 2020, except for reconstituted products, the water and salt content of purchased ingredients for both subclause b and c food products must be accounted for along with added water and salt.

Establishing what qualifies as “added water” can sometimes be challenging as not all water is equal. If the product has a federal “standard of identity,” such as “orange juice made from concentrate,” “60% whole wheat bread,” “milk chocolate” or “mayonnaise,” **and** these are used as ingredients in a subsequent product, their water content of

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formulation or the finished product, whichever is more relevant, by the total mass, excluding water, and salt and calcium compounds, of all ingredients.”

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the standard ingredient is considered to be part of the ingredient core and does not need to be excluded when calculating organic percentages of the subsequent product.

Deciding which is more appropriate, (the total raw formulation or the finished formulation) tends to depend on if moisture content is changed permanently from the raw to the finished state. For example, when blending teas or grinding blanched peanuts into peanut butter, there is no moisture loss or gain; therefore, the total raw formulation should be quite close to the finished product except for line losses. Baked goods, however, lose moisture and therefore it is critical to use the total raw formulation for the calculation (rather than the finished product).

When a product is made from a reconstituted ingredient and if “reconstituted from concentrate” language is included on the principal display panel, specification sheet or certificate of analysis, the value of the single-strength product made from the concentrate, inclusive of the water content, is used to calculate the organic percentage.

If such language is not used on the principal display panel, specification sheet or certificate of analysis, then the total volume of water is subtracted. If that reconstituted product is used as an ingredient in a subsequent food product, unless the final product has a “standard of identity,” the water used to do the initial reconstitution must also be subtracted out.

Added water also can be confusing when grains or seeds are “tempered” with water before processing, such as in the case of flour manufacturing and soy milk base extraction. In both situations, the total of the raw ingredients, not the finished product, is relevant.

All the above complexities outline why suppliers of certified complex ingredients need to disclose the makeup of their products, including the water and salt content. Otherwise organic manufacturers who use these products as ingredients will not be able to correctly calculate the organic content of their finished products.

*Organic production systems: general principles and management standards. CAN/CGSB-32.310-2020. Canadian General Standards Board. Dec. 2020. www.publications.gc.ca/site/eng/9.854643/publication.html. 12

**See the Q&As from the Standards Interpretation Committee at organicfederation.ca/final-questions-and-answers-canadian-organic-standards.

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9.1.4 The percentage of all organic ingredients in an organic product shall be rounded down to the nearest whole number.

9.2 Categorization of organic products

“Based on the percentage of their organic ingredients, organic products fall into two categories:”

9.2.1 95% organic content (or more)

“Such products shall not contain an ingredient in both organic and non-organic form. Such products may contain up to 5% of the following:

a) “ingredients classified as food additives” and “ingredients not classified as food additives” as listed in Tables 6.3 and 6.4 of CAN/CGSB-32.311, respectively, subject to requirements specified in substance listing annotations and restrictions specified in 6.2 of CAN/CGSB-32.311. Listed ingredients of agricultural origin shall meet the requirements in 1.4 a), 1.4 c), 1.4 d) and 6.2 of CAN/CGSB-32.311;

b) non-organic agricultural processing aids that meet the requirements in 1.4 a), 1.4 b), 1.4 c), and 1.4 d), and any annotations listed in Table 6.5 of CAN/CGSB-32.311;

c) non-agricultural processing aids as listed in Table 6.5 of CAN/CGSB-32.311, subject to the requirements specified in substance listing annotations;

d) non-organic agricultural ingredients that meet the requirements in 1.4 a), 1.4 c) and 1.4 d). These ingredients are also subject to organic commercial availability requirements.”

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9.2.1 Up to five percent of an organic product can be composed of ingredients listed on the Permitted Substances Lists, non-organic agricultural ingredients and processing aids if $\geq 95\%$ of the product is made up of organic agricultural or organic wild-harvested ingredients.

If and when they are used, the 5% of non-organic ingredients:

- Must respect origin and usage requirements, as annotated in PSL Tables 6.3 and 6.4.
- If not listed on the PSL, the 5% must be non-organic agricultural ingredients for which the organic form is not commercially available (see details below).

Such non-organic ingredients cannot have been grown with sewage sludge, treated with irradiation, be genetically engineered, or be (or be parts of) a cloned animal, or cannot have an organic equivalent in the product formulation in any form. For example, organic whole potatoes and non-organic grated potato cannot be in the same product, nor can organic Macintosh apples and non-organic Fuji apples be in the same product. Another example of a product that would not be allowed is a dough conditioner containing non-organic white flour in its formulation that duplicates the white organic flour contained in the product. However, non-organic atta flour and organic wheat flour would be fine if they are listed separately in the ingredient panel.

Processing aids must respect origin and usage requirements, as annotated in PSL Table 6.5 if they are non-agricultural; and if agricultural but not organic, processing aids cannot be genetically engineered, be the result of

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nanotechnology, have been irradiated, or have come from a cloned animal.

Regarding commercial availability: An active and documented search for an equivalent organic agricultural ingredient must be completed annually before the non-organic agricultural version is used. If an organic source is available but not used, operators will need to explain why it is not appropriate. For example, if organic liquid lecithin is called for in the formulation, but only organic granulated de-oiled lecithin is available, the operator may request to use non-organic liquid lecithin. There would have to be an issue with the quantity, or quality or variety (form) available to justify not using an organic version.

9.2.2 70-95% organic content

“Such products shall not contain an ingredient in both its organic and non-organic form.

Such products may contain up to 30% of the following:

- a) non-organic agricultural ingredient subject to the requirements in 1.4 a), 1.4 c), and 1.4 d);
- b) “ingredients classified as food additives”, and “ingredients not classified as food additives,” as listed in Tables 6.3 and 6.4 of CAN/CGSB-32.311, respectively, subject to the requirements specified in substance listing annotations and restrictions specified in 6.2 of CAN/CGSB-32.311. Listed ingredients of agricultural origin shall meet the requirements in 1.4 a), 1.4 c), 1.4 d) and 6.2 of CAN/CGSB-32.311;
- c) non-organic agricultural processing aids that meet the requirements in 1.4 a), 1.4 b), 1.4 c), and 1.4 d), and any annotations listed in Table 6.5 of CAN/CGSB-32.311;
- d) non-agricultural processing aids listed in Table 6.5 of CAN/CGSB-32.311 subject to the requirements specified in substance listing annotations.

NOTE See Annex A for a summary of clause 9.”

9.2.2 The criteria for products containing between 70-95% organic content is identical to $\geq 95\%$ product criteria except that up to 30% of the product can be composed of:

- ingredients listed on PSL Tables 6.3 & 6.4;
- compliant processing aids; and
- non-organic agricultural ingredients that are not genetically engineered, irradiated or cloned.

Commercial availability searches do not have to be done on the non-organic agricultural ingredients accounted for in the 30%.

*Organic production systems: general principles and management standards. CAN/CGSB-32.310-2020. Canadian General Standards Board. 14 Dec. 2020. www.publications.gc.ca/site/eng/9.854643/publication.html.

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