Comparison between
CAN/CGSB-32.311-2015 amended 2018 and CAN-CGSB-32.311-2020

# Tables 6.3, 6.4, 6.5, 7.3, 7.4, 8.2, 8.3

**Comments from Rochelle Eisen, WG Convener, in blue**

## CAN/CGSB-32.311-2015

**Table 6.3 – Ingredients classified as food additives**

| Substance name(s) | Origin and usage |
|---|---|
| Acids | Including the following sources:<br>a) alginic;<br>b) citric—from fruit and vegetable products or produced by microbial fermentation of carbohydrate substances; and<br>c) lactic. |
| Activated charcoal | Shall be of plant origin. Prohibited for use in the production of maple syrup. |
| Agar | See Table 6.3 *Extraction solvents, carriers and precipitation aids.* |

## CAN-CGSB-32.311-2020

**Table 6.3 – Ingredients classified as food additives**

| Substance name(s) | Origin and usage |
|---|---|
| Acids | Including the following sources:<br>a) alginic;<br>b) citric—from fruit and vegetable products or produced by microbial fermentation of carbohydrate substances; and<br>c) lactic. |
| Activated charcoal | Shall be of plant origin. Prohibited for use in the production of maple syrup. |
| Agar | See Table 6.3 Extraction solvents and precipitation aids.<br>Carriers have been moved to their own listing in 6.3 |

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| Alginates | The following alginates are permitted:<br>a) alginic acid;<br>b) potassium alginate; and<br>c) sodium alginate. |
| Ammonium bicarbonate | As a leavening agent. |
| Ammonium carbonate | As a leavening agent. |
| Anhydrous sulphur dioxide, sulphurous acid (sulphur dioxide, $SO_2$) | Sulphites from $SO_2$ bottled gas as liquid $SO_2$ or liberated from ignition of asbestos-free sulphur wicks are permitted.<br>For use as a preservative in alcoholic beverages; minimal use of $SO_2$ is recommended.<br>Maximum allowable levels of $SO_2$ in parts per million (ppm) are:<br>a) in alcoholic beverages containing less than 5% residual sugar, 100 ppm and 30 ppm for total and free sulphites, respectively;<br>b) in alcoholic beverages containing 5%-10% residual sugar, 150 ppm and 35 ppm for total and free sulphites, respectively; and<br>c) in alcoholic beverages containing more than 10% or more residual sugar, 250 ppm and 45 ppm for total and free sulphites, respectively. |
| Argon | |
| Ascorbic acid<br>(vitamin C) | |
| Calcium carbonate | Prohibited for use as a colouring agent. |

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|---|---|
| Alginates | The following alginates are permitted:<br>a) alginic acid;<br>b) potassium alginate; and<br>c) sodium alginate. |
| Ammonium bicarbonate | As a leavening agent. |
| Ammonium carbonate | As a leavening agent. |
| | |
| Argon | |
| Ascorbic acid<br>(vitamin C) | |
| Calcium carbonate | Prohibited for use as a colouring agent. |

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|---|---|
| Calcium chloride | Permitted for:<br><br>a) milk products;<br><br>b) fat products;<br><br>c) soybean products; and<br><br>d) fruits and vegetables. |
| Calcium citrate | |
| Calcium phosphates (mono-, di-, and tri-basic forms) | |
| Calcium sulphate (gypsum) | Mined sources; calcium sulphate produced using sulphuric acid is prohibited. |
| Carbon dioxide | Carbonation of wine or mead is prohibited. |
| Carrageenan (Irish moss) | Derived using substances in Table 6.3 *Extraction solvents, carriers and precipitation aids.* |
| | |
| Colouring agents | Obtained from non-synthetic sources.<br><br>Derived using substances in Table 6.3 *Extraction solvents, carriers and precipitation aids**.*** |

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|---|---|
| Calcium chloride | Permitted for:<br><br>a) milk products;<br><br>b) fat products;<br><br>c) soybean products; and<br><br>d) fruits and vegetables. |
| Calcium citrate | |
| Calcium phosphates (mono-, di-, and tri-basic forms) | |
| Calcium sulphate (gypsum) | Mined sources; calcium sulphate produced using sulphuric acid is prohibited. |
| Carbon dioxide ($CO_2$) | Carbonation of wine or mead is prohibited. |
| Carrageenan (Irish moss) | Shall be derived using substances listed in Table 6.3 Extraction solvents and precipitation aids. By exception, isopropyl alcohol may be used to derive carrageenan.<br><br>Added this exception as IPA is one of the most common extraction agents used for carrageenan preparation |
| Carriers | Carriers of non-agricultural origin may be used if listed on Tables 6.3, 6.4 or 6.5. Non-organic carriers of agricultural origin (such as wheat starch) may be used if ingredients or processing aids containing organic carriers are not commercially available.<br><br>New listing. Clarifies what can be used as a carrier. |
| Colouring agents | From biological sources such as spices, annatto, juices made from plant sources, etc. derived using approved methods (see Table 11 B (1) & (2), Origin and mode of production of CAN/CGSB-32.310), and substances in Table 6.3 Extraction solvents and precipitation aids.<br><br>May contain permitted carriers (see Table 6.3 & 6.4 Carriers). |

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| Enzymes | The following sources of enzymes are permitted:<br><br>a) any preparations of enzymes normally used in food processing derived from edible, non-toxic plants, non-pathogenic fungi or non-pathogenic bacteria.<br><br>b) derived from animals—shall be organic if commercially available: rennet; catalase from bovine liver; animal lipase; pancreatin; pepsin; and trypsin. Animal-derived enzymes shall be guaranteed free of specified risk materials including the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord and dorsal root ganglia (nerves attached to the spinal cord) of ruminants aged 30 months or older; and the distal ileum (portion of the small intestine) of ruminants of all ages;<br><br>c) egg white lysozyme. |
| Extraction solvents, carriers and precipitation aids | The following may be used to derive substances listed in Tables 5.2, 6.3, 6.4 and 6.5:<br><br>a) water;<br><br>b) culinary steam, as described in 8.1.2 b) of CAN/CGSB-32.310;<br><br>c) fats, oils and alcohols other than isopropyl alcohol;<br><br>d) supercritical $CO_2$; and<br><br>e) substances listed in Tables 6.3-6.5 of this standard. |

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| Enzymes | The following sources of enzymes are permitted:<br><br>a) any preparations of enzymes normally used in food processing derived from edible, non-toxic plants, non-pathogenic fungi or non-pathogenic bacteria;<br><br>b) derived from animals—shall be organic if commercially available: rennet; catalase from bovine liver; animal lipase; pancreatin; pepsin; and trypsin. Animal-derived enzymes shall be free of Specified Risk Material (SRM); and<br><br>c) egg white lysozyme. |
| Extraction solvents and precipitation aids | The following may be used to derive (extract) substances listed in Tables 5.2, 6.3, 6.4 and 6.5:<br><br>a) water;<br><br>b) culinary steam, as described in 8.1.2 b) of CAN/CGSB-32.310;<br><br>c) fats, oils and alcohols other than isopropyl alcohol;<br><br>d) supercritical $CO_2$; and<br><br>e) substances listed in Tables 6.3, 6.4 or 6.5 of this standard.<br><br>Precipitation aids derived from biological sources (such as plant proteins, albumin, casein, and gelatin) may also be used. In addition, non-biological precipitation aids, such as bentonite, silicon dioxide, etc., may be used if listed in Tables 6.3, 6.4 or 6.5. If listed in Tables 6.3, 6.4 or 6.5, precipitation aids shall meet any annotation restrictions therein.<br><br>Up to this version the information for this listing covered extraction solvents exclusively. This 2020 listing includes insights into precipitation aids. |

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| Gelatine | Shall be organic if commercially available.<br><br>Gelatine may be sourced from:<br><br>a) plants; or<br><br>b) animals. If derived from cattle, gelatine shall be guaranteed free of specified risk materials including the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older; and the distal ileum (portion of the small intestine) of cattle of all ages. |
| Glucono delta lactone | Production by the oxidation of D-glucose with bromine water is prohibited. |
| Glycerides<br>(mono- and diglycerides) | From organic sources if commercially available.<br><br>For use in drum drying of products. |
| Glycerol<br>(glycerine, glycerin) | Shall be from organic sources if commercially available.<br><br>Shall be from vegetable or animal fats and/or oils.<br><br>Shall be produced using fermentation or by hydrolysis. |
| Gums | The following gums are permitted: arabic gum, carob bean gum (locust bean gum), gellan gum, guar gum, karaya gum, tragacanth gum, and xanthan gum.<br><br>Shall be derived using substances listed in Table 6.3 *Extraction solvents, carriers and precipitation aids*. By exception, isopropyl alcohol may also be used to derive gums. |
| Kelp and kelp products | For use as a thickener and dietary supplement. |
| Lecithin | Shall be organic if commercially available. Bleached form is permitted if processed using food-grade hydrogen peroxide. |
| Magnesium carbonate | For use in meat products whose contents are ≥70% and <95% organic ingredients, as an anti-caking agent in non-standardized dry mixes (example: seasonings). |

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|---|---|
| Gelatine | Shall be organic if commercially available.<br><br>Gelatine may be sourced from:<br><br>a) plants; or<br><br>b) animals. If derived from cattle, gelatine shall be guaranteed free of Specified Risk Material (SRM). |
| Glucono delta lactone | Production by the oxidation of D-glucose with bromine water is prohibited. |
| Glycerides<br>(mono- and diglycerides) | From organic sources if commercially available.<br><br>For use in drum drying of products. |
| Glycerol<br>(glycerine, glycerin) | Shall be from organic sources if commercially available.<br><br>Shall be from vegetable oil or animal fat.<br><br>Shall be produced using fermentation or by hydrolysis. |
| Gums | The following gums are permitted: arabic gum, carob bean gum (locust bean gum), gellan gum, guar gum, karaya gum, tragacanth gum, and xanthan gum.<br><br>Shall be derived using substances listed in Table 6.3 Extraction solvents and precipitation aids. By exception, isopropyl alcohol may also be used to derive gums. |
| Kelp and kelp products | For use as a thickener and dietary supplement. |
| Lecithin | Shall be organic if commercially available. The bleached form is permitted if processed using food-grade hydrogen peroxide. |
| Magnesium carbonate | As an anti-caking agent in non-standardized dry mixes (e.g., seasonings) used in meat products with 70-95% organic content. |

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| Magnesium chloride | Derived from seawater. |
| Magnesium stearate | If non-synthetic magnesium stearate is not commercially available, synthetic sources of magnesium stearate are permitted.<br><br>For use as an anti-caking or releasing agent in products whose contents are ≥70% and <95% organic ingredients. |
| Magnesium sulphate | |
| Malic acid | |
| Meat curing agents | Extracts, juice or cultured powder of celery or chard are permitted.<br><br>Shall be organic if commercially available. |
| Ozone | |
| Pectin | High-methoxyl and low-methoxyl pectin sources are permitted. |
| Potassium acid tartrate ($KC_4H_5O_6$) | If the non-synthetic form is not commercially available, the synthetic form is permitted. |
| Potassium carbonates (mono- and bi-) | |
| Potassium chloride | Non-synthetic sources. |
| Potassium citrate | |
| Potassium metabisulphite | See *Anhydrous sulphur dioxide, sulphurous acid (sulphur dioxide, $SO_2$).* |
| Potassium phosphate (mono-, di-, and tribasic forms) | For use in products whose contents are ≥70% and <95% organic ingredients. |

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|---|---|
| Magnesium chloride | Derived from seawater. |
| Magnesium stearate | For use as an anti-caking or releasing agent in products whose contents are ≥70% and <95% organic ingredients. |
| Magnesium sulphate | |
| Malic acid | |
| Meat curing agents | Extracts, juice, or cultured powder of celery or chard are permitted.<br><br>Shall be organic if commercially available. |
| Ozone | |
| Pectin | High-methoxyl and low-methoxyl pectin sources are permitted. |
| Potassium acid tartrate ($KC_4H_5O_6$) | From grapes/wine-making. |
| Potassium carbonates (mono- and bi-) | |
| Potassium chloride | From mined sources such as sylvite, carnalite, and potash. |
| Potassium citrate | |
| Potassium metabisulphite | See Table 6.3 Sulphur dioxide, anhydrous ($SO_2$). |
| Potassium phosphate (mono-, di-, and tribasic forms) | For use in products whose contents are ≥70% and <95% organic ingredients. |

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| Potassium tartrate ($K_2C_4H_4O_6$. INS 336) | If the non-synthetic form is not commercially available, the synthetic form is permitted. |
| Silicon dioxide | |
| Sodium acid pyrophosphate | For use as a leavening agent. |
| Sodium bicarbonate (baking soda) | |
| Sodium carbonate (soda ash) | If the non-synthetic form is not commercially available, the synthetic form is permitted. |
| Sodium chloride | |
| Sodium citrate | Non-synthetic sources. |
| Sodium hydroxide (lye or caustic soda) | |
| Sodium phosphates | For use in dairy products. |

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| Potassium tartrate ($K_2C_4H_4O_6$. INS 336) | |
| Silicon dioxide (silica) | No restrictions on sources or uses except for maple (see 7.2.12.6 of CAN/CGSB-32.310). |
| Sodium acid pyrophosphate | For use as a leavening agent. |
| Sodium bicarbonate (baking soda) | |
| Sodium carbonate (soda ash) | If biological or mined sources are not commercially available, synthetic forms are permitted. |
| Sodium chloride | |
| Sodium citrate | |
| Sodium hydroxide (lye or caustic soda) | |
| Sodium phosphates | For use in dairy products. |

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| Tartaric acid ($C_4H_6O_6$. INS 334) | If the non-synthetic form is not commercially available, the synthetic form is permitted.<br><br>For beverages. |
| Tocopherols and mixed natural concentrates | Derived from vegetable oil when rosemary extracts are not a suitable alternative. |
| Vegetable oils | Shall be organic if commercially available. Derived using substances listed in Table 6.3 *Extraction solvents, carriers and precipitation aids*.<br><br>Maple syrup production—vegetable oils shall be organic and without allergenic potential. |

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| Sulphur dioxide, anhydrous ($SO_2$) | Sulphites from $SO_2$-bottled gas; as liquid $SO_2$; or liberated from ignition of asbestos-free sulphur wicks are permitted.<br><br>Sulphurous acid (aqueous sulphur dioxide) and Potassium metabisulphite are also permitted.<br><br>For use as a preservative in alcoholic beverages; minimal use of $SO_2$ is recommended.<br><br>Maximum allowable levels of $SO_2$ in parts per million (ppm) are:<br><br>a) in alcoholic beverages containing less than 5% residual sugar, 100 ppm and 30 ppm for total and free sulphites, respectively;<br><br>b) in alcoholic beverages containing 5%-10% residual sugar, 150 ppm and 35 ppm for total and free sulphites, respectively; and<br><br>c) in alcoholic beverages containing more than 10% residual sugar, 250 ppm and 45 ppm for total and free sulphites, respectively. |
| Sulphurous acid | See Table 6.3 Sulphur dioxide, anhydrous ($SO_2$). |
| Tartaric acid ($C_4H_6O_6$ INS 334) | From lees.<br><br>For beverages. |
| Tocopherols and mixed natural concentrates | Derived from vegetable oil when rosemary extract is not a suitable alternative. |
| Vegetable oils | Shall be organic if commercially available. Derived using substances listed in Table 6.3 Extraction solvents and precipitation aids.<br><br>Maple syrup production—vegetable oils shall be organic and without allergenic potential. |

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| Waxes | Applied to fresh produce—only organic wax or carnauba wax is permitted.<br><br>Applications other than fresh produce—If organic waxes, such as beeswax, are not commercially available, non-synthetic waxes, such as carnauba wax, shall be used.<br><br>See Table 6.5 *Waxes.* |
| Yeast | If organic sources of yeast are not commercially available, these non-synthetic sources of yeast may be used:<br><br>a) autolysate;<br><br>b) bakers' (may contain lecithin, as listed in Table 6.3);<br><br>c) brewers';<br><br>d) nutritional; and<br><br>e) smoked.<br><br>Growth on petrochemical substrate and sulphite waste liquor is prohibited.<br><br>Non-synthetic smoke flavouring process shall be documented. |
| Yeast foods | For use in alcoholic beverages:<br><br>a) potassium chloride—permitted for ale, beer, light beer, malt liquor, porter and stout; and<br><br>b) dibasic ammonium phosphate (diammonium phosphate, DAP), restricted to 0.3 g/L (0.04 oz./gal.)—permitted for cider, mead and wine. |

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| Waxes, produce | Organic beeswax and organic carnauba wax may be used to wax produce. See 9.2.1 d) of CAN/CGSB-32.310 if organic wax is commercially unavailable.<br><br>For other wax uses, see Table 6.5 Waxes.<br><br>Lots of work was done on waxes, clearly differentiating between wax used on produced vs cheese. For non-produce waxes refer to the “waxes” listing in table 6.5 |
| Yeast | If organic sources of yeast are not commercially available, these alternative sources of yeast may be used:<br><br>a) autolysate;<br><br>b) bakers' (may contain lecithin, as listed in Table 6.3);<br><br>c) brewers';<br><br>d) nutritional; and<br><br>e) torula.<br><br>Growth on petrochemical substrate and sulphite waste liquor is prohibited.<br><br>Yeast may be smoked or smoke-flavoured. When smoked, the smoke shall come from concentrated, condensed smoke from wood without additional ingredients (unless listed in Tables 6.3, 6.4 or 6.5).<br><br>Clarifyng information was added regarding the source of smoked or smoked flavours that are permitted. |
| Yeast foods | For use in alcoholic beverages:<br><br>a) potassium chloride—permitted for ale, beer, light beer, malt liquor, porter and stout; and<br><br>b) dibasic ammonium phosphate (diammonium phosphate, DAP), restricted to 0.3 g/L (0.04 oz/gal)—permitted for cider, mead and wine. |

**Table 6.4 – Ingredients not classified as food additives**

| Substance name(s) | Origin and usage |
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| | |
| Collagen casings | Collagen shall be derived from animal sources. If derived from cattle, collagen shall be guaranteed free of specified risk materials including the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older; and the distal ileum (portion of the small intestine) of cattle of all ages.<br><br>Other ingredients (such as, but not limited to: cellulose, calcium coatings, glycerin, etc.) added to collagen casings during their manufacture which remain in the collagen casing when it is used shall respect the requirement provided in 1.4 a) of CAN/CGSB-32.310.<br><br>Permitted for poultry sausage. |
| Cultures | See Table 6.4 *Micro-organisms.* |
| Flavours | Derived from non-synthetic sources (such as plants, meat, seafood, micro-organisms, etc.) using approved methods (see Table 10 B. Origin and mode of production of CAN/CGSB-32.310), and substances (see Table 6.3 *Extraction solvents, carriers and precipitation aids).* |

**Table 6.4 – Ingredients not classified as food additives**

| Substance name(s) | Origin and usage |
|---|---|
| Carriers | Carriers of non-agricultural origin may be used if listed on Tables 6.3, 6.4 or 6.5. Non-organic carriers of agricultural origin (such as wheat starch) may be used if ingredients or processing aids containing organic carriers are not commercially available.<br><br>Duplicate of the new 6.3 listing. |
| Collagen casings | Collagen shall be derived from animal sources. If derived from cattle, collagen shall be guaranteed free of Specified Risk Material (SRM).<br><br>Other ingredients (such as, but not limited to: cellulose, calcium coatings, glycerin, etc.) added to collagen casings during their manufacture that remain in the collagen casing when it is used shall respect the requirement provided in 1.4 a) of CAN/CGSB-32.310.<br><br>Permitted for poultry sausage. |
| Cultures | See Table 6.4 Microorganisms. |
| Flavours | Derived from biological sources using approved methods (see Table 11 B (1) & (2) Origin and mode of production of CAN/CGSB-32.310), and substances (see Table 6.3 Extraction solvents and precipitation aids*).*<br><br>May contain permitted carriers (see Table 6.3 & 6.4 Carriers). |

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| Micro-organisms | Includes starter and dairy cultures and other preparations of micro-organisms normally used in product processing.<br><br>Ingredients used for micro-organism preparations: non-synthetic substrates (such as milk, lactose, soy, etc.) are permitted. Other ingredients used in micro-organism preparations (such as carriers, anti-caking agents and fillers, etc.) shall be listed in Tables 6.3 or 6.4.<br><br>Operators shall obtain documentation from the manufacturer identifying any synthetic substances (such as preservatives, cryo-protectants, etc.) included in micro-organism preparations. |
| Nitrogen | Shall be food-grade quality. |
| Oxygen | |
| Potassium iodide | From non-synthetic sources.<br><br>Shall be used when legally required. Synthetic potassium iodide is permitted for use in products whose contents are ≥70% and <95% organic ingredients. |
| Salt | Substances listed in Tables 6.3 or 6.4 may be added to mined or sea salt.<br><br>See Table 6.3 *Sodium chloride; Potassium chloride.*<br><br>See definition of Salt in clause 3 of CAN/CGSB-32.310. |
| Smoke flavour | See Table 6.3 *Yeast.* |
| Starch | From rice and waxy maize—Shall be derived using substances listed in Table 6.3 *Extraction solvents, carriers and precipitation aids*, where applicable. Starch shall not be modified by chemicals. Starch may be modified using physical or enzymatic methods.<br><br>Cornstarch—May contain substances that are plant-derived and/or listed in Tables 6.3-6.5. |

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| Microorganisms | Microbial preparations may contain substrates derived from agricultural or biological substances such as milk, lactose, soy, agar, etc. May also contain permitted carriers (see Table 6.3 & 6.4 Carriers).<br><br>Includes starter and dairy cultures and other preparations of microorganisms normally used in product processing. |
| Nitrogen | Shall be food-grade quality. |
| Oxygen | |
| Potassium iodide | Shall be used when legally required or permitted.<br><br>Eliminated the need to find non-synthetic sources as all sources were synthetic. |
| Salt | Substances listed in Tables 6.3 or 6.4 may be added to mined or sea salt.<br><br>See Table 6.3 Sodium chloride; Potassium chloride.<br><br>See definition of Salt in clause 3 of CAN/CGSB-32.310. |
| Smoke flavour | See Table 6.3 Yeast. |
| Starch | From rice and waxy maize—Shall be derived using substances listed in Table 6.3 Extraction solvents and precipitation aids, where applicable. Starch shall not be modified by chemicals. Starch may be modified using physical or enzymatic methods.<br><br>Cornstarch—May contain substances that are plant-derived or listed in Tables 6.3, 6.4 or 6.5. |

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| Vitamins and mineral nutrients | Shall be used if legally required.<br><br>The following non-dairy substitute products may be fortified on a voluntary basis, if legally permitted: plant-based beverages, products that resemble cheese, and butter substitutes.<br><br>Ferrous sulphate—Shall be used if legally required and may be used, on a voluntary basis, if legally permitted. |
| Yeast | If organic sources of yeast are not commercially available, these non-synthetic sources of yeast may be used:<br><br>a) autolysate;<br><br>b) bakers' (may contain lecithin, as listed in Table 6.3);<br><br>c) brewers';<br><br>d) nutritional; and<br><br>e) smoked.<br><br>Growth on petrochemical substrate and sulphite waste liquor is prohibited.<br><br>Non-synthetic smoke flavouring process shall be documented. |

**Table 6.5** – **Processing aids**

| Substance name(s) | Origin and usage |
|---|---|
| *Acer pennsylvanicum* | As an anti-foaming agent in maple syrup production. |

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| Vitamins and mineral nutrients | Shall be used if legally required (e.g., fluid milk, white flour, infant formula, meal replacement, etc.).<br><br>The following non-dairy substitute products may be fortified on a voluntary basis, if legally permitted: plant-based beverages, products that resemble cheese, and butter substitutes.<br><br>Ferrous sulphate—Shall be used if legally required and may be used, on a voluntary basis, if legally permitted.<br><br>More examples were added to help flesh out the requirement. |
| Yeast | If organic sources of yeast are not commercially available, these alternative sources of yeast may be used:<br><br>a) autolysate;<br><br>b) bakers' (may contain lecithin, as listed in Table 6.3);<br><br>c) brewers';<br><br>d) nutritional; and<br><br>e) torula.<br><br>Growth on petrochemical substrate and sulphite waste liquor is prohibited.<br><br>Yeast may be smoked or smoke flavoured. When smoked, the smoke shall come from concentrated, condensed smoke from wood without additional ingredients (unless listed in Tables 6.3, 6.4 or 6.5). |

**Table 6.5** – **Processing aids**

| Substance name(s) | Origin and usage |
|---|---|
| *Acer pennsylvanicum* | As an anti-foaming agent in maple syrup production. |

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| Activated charcoal | Shall be of plant origin. Prohibited for use in the production of maple syrup. |
| Alcohol, ethyl (ethanol) | Shall be organic if commercially available. |
| Argon | |
| Ascorbic acid (vitamin C) | For use as an anti-browning agent prior to the extraction or concentration of fruit or vegetable juice. |
| Bentonite | |
| Calcium carbonate | |
| Calcium hydroxide (lime) | |
| Calcium sulphate (gypsum) | Sulphates produced using sulphuric acid are prohibited.<br>May be used:<br>a) as a carrier for cakes and biscuits;<br>b) for soybean products; and<br>c) for bakers' yeast. |
| Carbon dioxide | |
| Carrageenan (Irish moss) | Derived using substances listed in Table 6.3 *Extraction solvents, carriers and precipitation aids*. |
| Casein | Shall be from organic sources if commercially available.<br>Non-organic casein shall be derived from the milk of animals not treated with rBGH (recombinant bovine growth hormone). |

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|---|---|
| Activated charcoal | Shall be of plant origin. Prohibited for use in the production of maple syrup. |
| Alcohol, ethyl (ethanol) | Shall be organic if commercially available. |
| Argon | |
| Ascorbic acid (vitamin C) | For use as an anti-browning agent prior to the extraction or concentration of fruit or vegetable juice. |
| Bentonite | |
| Calcium carbonate | |
| Calcium hydroxide (lime) | |
| Calcium sulphate (gypsum) | Sulphates produced using sulphuric acid are prohibited.<br>May be used:<br>a) as a carrier for cakes and biscuits;<br>b) for soybean products; and<br>c) for bakers' yeast. |
| Carbon dioxide ($CO_2$) | |
| Carrageenan (Irish moss) | Derived using substances listed in Table 6.3 *Extraction solvents and precipitation aids*. |
| Casein | Shall be from organic sources if commercially available.<br>Non-organic casein shall be derived from the milk of animals not treated with rBGH (recombinant bovine growth hormone). |

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| Clay dust | As a filtering agent in maple syrup production. |
| Cellulose | As a filtering aid (non-chlorine bleached) and for use in inedible regenerative sausage casings. |
| Diatomaceous earth | As a food filtering aid or as a clarifying agent. |
| Enzymes | The following sources of enzymes are permitted:<br><br>a) any preparations of enzymes normally used in food processing derived from edible, non-toxic plants, non-pathogenic fungi or non-pathogenic bacteria;<br><br>b) animal-derived—shall be organic if commercially available: rennet; catalase from bovine liver; animal lipase; pancreatin; pepsin; and trypsin. Animal-derived enzymes shall be guaranteed free of specified risk materials including the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord and dorsal root ganglia (nerves attached to the spinal cord) of ruminants aged 30 months or older; and the distal ileum (portion of the small intestine) of ruminants of all ages;<br><br>c) egg white lysozyme. |
| Ethylene | For post-harvest ripening of tropical fruit and degreening of citrus. |

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|---|---|
| Citric acid | From fruit and vegetable products or produced by microbial fermentation of carbohydrate substances.<br><br>A citric acid listing was added to 6.5 to ensure it could be used a processing aid. |
| Clay dust | As a filtering agent in maple syrup production. |
| Cellulose | As a filtering aid (non-chlorine bleached) and for use in inedible regenerative sausage casings.<br><br>The TCF (Totally Chlorine Free) method of bleaching is permitted. |
| Diatomaceous earth | As a food filtering aid or as a clarifying agent. |
| Enzymes | The following sources of enzymes are permitted:<br><br>a) any preparations of enzymes normally used in food processing derived from edible, non-toxic plants, non-pathogenic fungi or non-pathogenic bacteria;<br><br>b) animal-derived—shall be organic if commercially available: rennet; catalase from bovine liver; animal lipase; pancreatin; pepsin; and trypsin. Animal-derived enzymes shall be free of Specified Risk Material (SRM);<br><br>c) egg white lysozyme. |
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| Gelatine | Shall be from organic sources if commercially available.<br><br>Permitted sources are:<br><br>a) plants; and<br><br>b) animals. Animal gelatine may be used in preparations of canned meat or as a gelling agent for gummed candy. If derived from cattle, gelatine shall be guaranteed free of specified risk materials including the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older; and the distal ileum (portion of the small intestine) of cattle of all ages. |
| | |
| Isinglass | As a fining agent (fish-based). |
| Kaolin | As a clarifying agent. |
| Lecithin | Shall be organic if commercially available. Bleached form is permitted if processed using food-grade hydrogen peroxide. |
| Nitrogen | Shall be food-grade quality. |
| Oxygen | |
| Ozone | |
| Perlite | For use as a filtering aid. |
| Potassium carbonate | |
| Potassium hydroxide (caustic potash) | For pH adjustment. Prohibited for use in lye peeling of fruits and vegetables. |
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|---|---|
| Gelatine | Shall be from organic sources if commercially available.<br><br>Permitted sources are:<br><br>a) plants; and<br><br>b) animals. Animal gelatine may be used in preparations of canned meat or as a gelling agent for gummed candy. If derived from cattle, gelatine shall be guaranteed free of Specified Risk Material (SRM). |
| Hydrogen peroxide | Food-grade. For use as a bleaching agent for proteins and starches.<br><br>New listing was added to ensure $H_20_2$ could be used as a bleaching agent |
| Isinglass | As a fining agent (fish-based). |
| Kaolin | As a clarifying agent. |
| Lecithin | Shall be organic if commercially available. Bleached form is permitted if processed using food-grade hydrogen peroxide. |
| Nitrogen | Shall be food-grade quality. |
| Oxygen | |
| Ozone | |
| Perlite | For use as a filtering aid. |
| Potassium carbonate | |
| Potassium hydroxide (caustic potash) | For pH adjustment. Prohibited for use in lye peeling of fruits and vegetables. |

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| Silica | As a filtering agent (food-grade powder) in maple syrup production. |
| Silicon dioxide | |
| Sodium bicarbonate (baking soda) | |
| Sodium hydroxide (lye or caustic soda) | Prohibited for use in lye peeling of fruits and vegetables. |
| Talc | As a filtering agent. |
| Tannic acid | Shall be from an organic source if commercially available. Shall be derived using substances listed in Table 6.3 *Extraction solvents, carriers and precipitation aids.*<br><br>Permitted as a filtration aid for wines. |
| Tartaric acid ($C_4H_6O_6$. INS 334) | Shall be from non-synthetic sources.<br>For beverages. |
| Vegetable oils | From organic sources if commercially available. Derived using substances listed in Table 6.3 *Extraction solvents, carriers and precipitation aids*.<br><br>Maple syrup production—vegetable oils shall be organic and without allergenic potential. |
| Waxes | If organic waxes, such as beeswax, are not commercially available, non-synthetic sources of wax, such as carnauba wax, shall be used.<br><br>By exception, paraffin wax may be used to coat cheese, if other non-synthetic waxes are not commercially available. Use of microcrystalline wax, either alone or in formulations with paraffin wax, is prohibited. Wax cheese coatings, except for organic waxes, must be removable and considered inedible, and shall not include synthetic preservatives, synthetic colors, or any bactericide or fungicide. |

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| Silicon dioxide (silica) | No restrictions on sources or uses except for maple (see 7.2.12.6 of CAN/CGSB-32.310)<br><br>Added the maple restrictions. As nothing can be used during maple production that may change the intrinsic nature of the product. |
| Sodium bicarbonate (baking soda) | |
| Sodium hydroxide (lye or caustic soda) | Prohibited for use in lye peeling of fruits and vegetables. |
| Talc | As a filtering agent. |
| Tannic acid | Shall be from an organic source if commercially available. Shall be derived using substances listed in Table 6.3 Extraction solvents and precipitation aids. Permitted as a filtration aid for wines. |
| Tartaric acid ($C_4H_6O_6$ INS 334) | From lees.<br><br>For beverages. |
| Vegetable oils | From organic sources if commercially available. Derived using substances listed in Table 6.3 Extraction solvents and precipitation aids.<br><br>Maple syrup production—vegetable oils shall be organic and without allergenic potential. |
| Waxes | If organic waxes, such as beeswax or carnuaba, are not commercially available, waxes derived from non-organic biological sources may be used. Edible wax cheese coatings that require a knife to cut or peel the wax away shall not contain paraffin, microcrystalline wax, non-listed preservatives, colours, bactericides or fungicides.<br><br>Non-edible, fully removable (i.e., no knife is needed to cut or peel the wax away from the cheese), non-organic cheese wax may be used and shall be considered packaging per 8.1.6 of CAN/CGSB-32.310.<br><br>For waxes applied to produce – see Table 6.3 Waxes, produce.<br><br>Great detail was added on cheese waxes – differentiating between waxes that adhere to cheese and those that pull away from the cheeses. |

7.1.3 Substances listed on Safety Data Sheets (SDS) shall be listed in Tables 7.3 or 7.4 and shall comply with prohibitions in 1.4 of CAN/CGSB-32.310. Other ingredients in formulated cleaners, sanitizers and disinfectants used directly on organic products or organic product contact surfaces, without a removal event, shall be limited to substances listed in Table 7.3, water, compounds used to treat drinking water, and product stabilisers, such as HEDP (1-hydroxyethane 1,1-diphosphonic acid) or dipicolinic acid, whose function is to prevent the chemical degradation of substances listed in Table 7.3, such as hydrogen peroxide of peracetic acid. Any other ingredients, such as but not limited to dyes, fragrances, and chemical agents used to prevent physical separation of foams or emulsions, for example, shall be listed in Table 7.3.

**Table 7.3** – **Food-grade cleaners, disinfectants and sanitizers permitted without a mandatory removal event**

| Substance name(s) | Origin and usage |
|---|---|
| Acetic acid | Non-synthetic sources are permitted on organic products.<br><br>Non-synthetic and synthetic sources may be used on organic product contact surfaces. |
| Alcohol, ethyl (ethanol) | On organic product contact surfaces. |
| Alcohol, isopropyl | Non-synthetic and synthetic sources are permitted on organic product contact surfaces. |
| Alcohol, organic sources | |
| Ascorbic acid (vitamin C) | |

7.1.3 All non-organic ingredients listed on Safety Data Sheets (SDS) and active ingredients listed on the label of formulated cleaners, sanitizers and disinfectants shall be listed in Tables 7.3 or 7.4. Other non-organic ingredients used without a removal event shall be limited to substances listed in Table 7.3; water; compounds used to treat drinking water; and product stabilisers, such as HEDP (1-hydroxyethane 1,1-diphosphonic acid) or dipicolinic acid, whose function is to prevent the chemical degradation of substances listed in Table 7.3. 7.4-compliant products may contain non-active ingredients, including but not limited to dyes, fragrances, and chemical agents used to prevent physical separation of foams or emulsions. Clause 7 does not apply to maple syrup production. The operator shall meet the specific requirements for the different stages of production as described in 7.2 of CAN/CGSB 32.310.

For 7.3 compliant cleaning products up to now only the ingredients listed on the SDS needed to be assessed. As of 2020 also the ingredients identified on the product label must also be assessed for compliance.

**Table 7.3** – **Food-grade cleaners, disinfectants and sanitizers permitted without a mandatory removal event**

| Substance name(s) | Origin and usage |
|---|---|
| Acetic acid | May be used on organic product contact surfaces. May be used on organic products if produced by microbial fermentation of natural carbohydrate sources (sugars, wood, etc.). Example: apple cider vinegar. May be filtered or unfiltered. |
| Alcohol, ethyl (ethanol) | May be used on organic product contact surfaces. |
| Alcohol, isopropyl | May be used on organic product contact surfaces. |
| Alcohol, organic sources | |
| Ascorbic acid (vitamin C) | |

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| Chlorine compounds | The following chlorine compounds are permitted:<br><br>a) calcium hypochlorite;<br><br>b) chlorine dioxide;<br><br>c) sodium hypochlorite.<br><br>Shall not exceed maximum levels for safe drinking water.<br><br>Chlorine compounds may be used:<br><br>a) for wash water in direct contact with crops or food;<br><br>b) in flush water from cleaning irrigation systems, equipment, and storage and/or transport units—application to crops or fields is permitted. |
| Citric acid | Non-synthetic and synthetic sources are permitted. |
| Glycerol<br>(glycerine, glycerin) | Shall be:<br><br>a) sourced from vegetable or animal fats and/or oils;<br><br>b) produced using fermentation or by hydrolysis. |
| Hydrogen peroxide | |
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|---|---|
| Carbon dioxide<br>($CO_2$) | |
| Chlorine compounds | The following chlorine compounds are permitted:<br><br>a) calcium hypochlorite;<br><br>b) chlorine dioxide;<br><br>c) hypochlorous acid generated via electrolyzed water;<br><br>(added as an additional source)<br><br>d) sodium hypochlorite.<br><br>Shall not exceed maximum levels for safe drinking water.<br><br>Chlorine compounds may be used:<br><br>a) for wash water in direct contact with crops or food;<br><br>b) in flush water from cleaning irrigation systems, equipment, storage or transport units—application to crops or fields is permitted. |
| Citric acid | |
| Glycerol<br>(glycerine, glycerin) | Shall be:<br><br>a) sourced from vegetable oil or animal fat;<br><br>b) produced using fermentation or by hydrolysis. |
| Hydrogen peroxide | |
| Lactic acid | |
| Magnesium sulphate | |
| Microorganisms | Living or dead biological organisms, such as viruses, phages, bacteria, protozoa, fungi, etc. |

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| Ozone | |
| Peracetic (peroxyacetic) acid | On food and plants: peracetic acid may be used in wash or rinse water.<br><br>Peracetic acid may also be used on food contact surfaces. |
| Potassium bicarbonate | On organic product contact surfaces. |
| Sodium bicarbonate (baking soda) | |
| Sodium carbonate (soda ash) | Non-synthetic sources.<br><br>See Table 7.4 *Sodium carbonate (soda ash), synthetic.* |
| Sodium citrate | Non-synthetic sources. |
| Sodium hydroxide (lye or caustic soda) | |
| Vinegar | |

| | |
|---|---|
| Ozone | |
| Peracetic (peroxyacetic) acid | On food and plants: peracetic acid may be used in wash or rinse water.<br><br>Peracetic acid may also be used on food contact surfaces. |
| Potassium bicarbonate | On organic product contact surfaces. |
| Sodium bicarbonate (baking soda) | |
| Sodium carbonate (soda ash) | Biological or mined sources. See Table 7.4 Sodium carbonate (soda ash), synthetic. |
| Sodium citrate | |
| Sodium hydroxide (lye or caustic soda) | |
| Vinegar | |

**Table 7.4 – Cleaners, disinfectants and sanitizers permitted on organic product contact surfaces for which a removal event is mandatory**

| Substance name(s) | Origin and usage |
|---|---|
| Chlorine compounds | The following chlorine compounds are permitted up to maximum label rates:<br>a) calcium hypochlorite;<br>b) chlorine dioxide; and<br>c) sodium hypochlorite. |
| Detergents | Detergents shall be biodegradable (see *Biodegradable* definition in clause 3 of CAN/CGSB-32.310). |
| | |
| Hydrogen peroxide | Permitted up to maximum label rates. |
| Iodine | Shall be non-elemental. Shall not exceed 5% solution by volume (example: iodophors). |
| Lime | All forms of lime, including calcium carbonate, calcium hydroxide and calcium oxide. |
| | |

**Table 7.4 – Cleaners, disinfectants and sanitizers permitted on organic product contact surfaces for which a removal event is mandatory**

| Substance name(s) | Origin and usage |
|---|---|
| Chlorine compounds | The following chlorine compounds are permitted up to maximum label rates:<br>a) calcium hypochlorite;<br>b) chlorine dioxide;<br>c) hypochlorous acid generated via electrolyzed water; (added per 7.3)<br>d) sodium hypochlorite. |
| Detergents | Detergents shall be readily, ultimately or inherently biodegradable as per the Organisation for Economic Co-operation and Development (OECD) definitions, or readily eliminated during wastewater treatment such that harm to the environment is minimized.<br>This revision reflects the current means of assessing detergent biodegradability. |
| Essential oils | Derived from plant sources using substances in Table 6.3 Extraction solvents and precipitation aids. May contain permitted carriers (see Table 6.3 and 6.4 Carriers).<br>A new listing to increase the selection of cleaning products that could be used. |
| | |
| Iodine | Shall be non-elemental. Shall not exceed 5% solution by volume (example: iodophors). |
| Lime | All forms of lime, including calcium carbonate, calcium hydroxide and calcium oxide. |
| Octanoic acid (caprylic acid) | A new listing to increase the selection of cleaning products that could be used. |

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| Phosphoric acid | On dairy equipment. |
| Potassium carbonate | Documentation shall demonstrate that effluent discharge was neutralized to minimize negative environmental impact. |
| Potassium hydroxide (caustic potash) | |
| Potassium permanganate | Not to exceed 1% solution by volume. |
| | |
| Soap-based algicide (demossers) | |
| Soaps | Soaps shall consist of fatty acids derived from animal or vegetable oils. |
| Sodium borate | |
| Sodium carbonate (soda ash), synthetic | |
| Sodium citrate | |
| Sodium percarbonate | |
| Sodium silicate | In detergents.<br><br>See Table 7.4 *Detergents.* |

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| Peroxyoctanoic acid (POOA) | A new listing to increase the selection of cleaning products that could be used. |
| Phosphoric acid | On dairy equipment. |
| Potassium carbonate | Documentation shall demonstrate that effluent discharge was neutralized to minimize negative environmental impact. |
| Potassium hydroxide (caustic potash) | |
| Potassium permanganate | Not to exceed 1% solution by volume. |
| Saponin | Derived from plants such as *Yucca schidigera* and *Quillaja saponaria.* |
| Soap-based algicide (demossers) | |
| Soaps | Soaps shall consist of fatty acids derived from animal or vegetable oils. |
| Sodium borate | |
| Sodium carbonate (soda ash), synthetic | |
| | |
| Sodium percarbonate | |
| Sodium silicate | In detergents. |

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| Surfactants | See Table 7.4 *Detergents; Soaps.* |
| Wetting agents | Non-synthetic wetting agents, including saponins and microbial wetting agents.<br><br>See Table 7.4 *Detergents; Soaps.* |

**Table 8.2** – **Facility pest management substances**

| Substance name(s) | Origin and usage |
|---|---|
| Ammonium carbonate | As an attractant in insect traps. |
| Baits for rodent traps | |
| Boric acid | May be used for structural pest control (example: for ants).<br><br>Direct contact with organic products is prohibited. |
| Carbon dioxide | |
| Cholecalciferol (vitamin $D_3$) | Prohibited inside organic food processing and food storage facilities. |
| Diatomaceous earth | Direct contact with organic products is permitted. |

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|---|---|
| Surfactants | Surfactants either stand alone or when formulated with detergents shall be readily, ultimately or inherently biodegradable as per the Organisation for Economic Co-operation and Development (OECD) definitions, or readily eliminated during wastewater treatment such that harm to the environment is minimized.<br><br>This annotation was revised in the hopes it would help operators to understand the requirement. |
| Wetting agents | Substances listed in Table 4.2 or 7.3, including saponins and microbial wetting agents. |

**Table 8.2** – **Facility pest management substances**

| Substance name(s) | Origin and usage |
|---|---|
| Ammonium carbonate | As an attractant in insect traps. |
| Baits for bait stations | |
| Boric acid | May be used for structural pest control (example: for ants).<br><br>Direct contact with organic products is prohibited. |
| Carbon dioxide ($CO_2$) | For controlled atmosphere storage and for storage pest control.<br><br>Annotation was added to increase clarity. |
| Cholecalciferol (vitamin $D_3$) | Prohibited inside organic food processing and food storage facilities. |
| Diatomaceous earth | Direct contact with organic products is permitted. |
| Formulants | May only be used with substances listed in Table 8.2.<br><br>Only formulants classified as List 4A or 4B by the Pest Management Regulatory |

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| Neem oil | |
| Pheromones and other semiochemicals | Synthetic and non-synthetic pheromones and semiochemicals are permitted.<br><br>For pest control. Use in pheromone traps or passive dispensers. Formulants classified in List 3 by PMRA may be used with passive pheromone dispensers. |
| Pyrethrins | Without piperonyl butoxide as a carrier.<br><br>Direct contact with organic products is prohibited. |
| | |
| Soaps, ammonium | As a large animal repellent.<br><br>Direct contact with organic products is prohibited. |

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| | Agency (PMRA) or are non-synthetic may be used with substances in Table 8.2.<br><br>Formulants classified as List 3 by PMRA may be used with passive pheromone dispensers.<br>Formulants classified as List 4A, 4B or 3 by PMRA are not subject to 1.4 or 1.5 of CAN/CGSB-32.310.<br>Formulants classified as List 1 or 2 by PMRA are prohibited.<br><br>This listing was added for clarity. it duplicates the formulant listing in Crop PSL Table 4.2 column 2 'Formulants used in crop production aids'. |
| Neem oil | |
| Pheromones and other semiochemicals | For pest control. Use in pheromone traps or passive dispensers. |
| Pyrethrins | Without piperonyl butoxide.<br><br>Direct contact with organic products is prohibited. |
| Repellents | Shall be derived from a biological source, such as sterilized blood meal, rotten eggs, hair or predator scents. May contain other biological compounds and PMRA 4a- or 4b-listed formulants.<br><br>Duplicated from Crop PSL Table 4.2 column 2 'Repellents'. |
| Soaps, ammonium | As a large animal repellent.<br><br>Direct contact with organic products is prohibited. |

**Table 8.3 – Post-harvest substances**

| Substance name(s) | Origin and usage |
|---|---|
| Carbon dioxide | For controlled atmosphere storage. |
| Clove oil | As a sprout inhibitor. |
| Ethylene | For post-harvest ripening of tropical fruit and degreening of citrus. |
| | |
| Nitrogen | For controlled atmosphere storage. |
| Oxygen | |

**Table 8.3 – Post-harvest substances**

| Substance name(s) | Origin and usage |
|---|---|
| Carbon dioxide ($CO_2$) | For controlled atmosphere storage. |
| Clove oil | As a sprout inhibitor. |
| Ethylene | For post-harvest ripening of tropical fruit and degreening of citrus and to control sprouting of potatoes post-harvest in holding bins. |
| Formulants | Formulants may only be used with substances listed in Table 8.3. Only formulants classified as List 4A or 4B by the Pest Management Regulatory Agency (PMRA) or are non-synthetic may be used with substances in Table 8.3. Formulants classified as List 3 by PMRA may be used with passive pheromone dispensers. Formulants classified as List 4A, 4B or 3 by PMRA are not subject to 1.4 or 1.5 of CAN/CGSB-32.310.<br>Formulants classified as List 1 or 2 by PMRA are prohibited.<br><br>Duplication of Formulants in Crop PSL Table 4.2 column 2 ‘Formulants used in crop production aids’. |
| Nitrogen | For controlled atmosphere storage. |
| Oxygen | |