

# Maximum residue levels for dithiocarbamates

*Published by AGRINFO on 07 Aug 2024; Revised 01 Aug 2025*

## EU proposal to amend MRLs for dithiocarbamates on hold

Draft Commission Regulation amending Annexes II and III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for dithiocarbamates in or on certain products

Draft Annex

## Update

The European Commission informed the World Trade Organization Sanitary and Phytosanitary Measures (WTO SPS) Committee in 2024 that it intends to amend the maximum residue levels (MRLs) for dithiocarbamates ([G/SPS/N/EU/788](#)). Revised MRLs are proposed for a wide range of products, and may particularly impact exporters of **apples, pears, quinces, medlars, and loquats** (reduction of MRL from 5 to 0.07 mg/kg), and **oil palms kernels/fruits** (reduction of MRL to the limit of determination, LOD). The LOD is the lowest level that can be detected using the most modern and reliable analytical methods.

The MRLs are set for the group of dithiocarbamates that includes maneb, mancozeb, metiram, propineb, thiram, and ziram.

Adoption of this proposal was originally foreseen for 2025. However, the Regulation is currently put on hold pending ongoing discussions within the Commission ([European Commission 2025](#)).

## Impacted products

Grapefruits, limes, oranges, lemons, mandarins, other citrus, almonds, pecans, Brazil nuts, cashews, chestnuts, coconuts, hazelnuts/cobnuts, macadamias, pine nut kernels, pistachios, walnuts, apples, pears, quinces, medlars, loquats/Japanese medlars, apricots, cherries (sweet), peaches, plums, table grapes, strawberries, blackberries, dewberries, raspberries, azaroles/Mediterranean medlars, blueberries, currants, gooseberries, rose hips, mulberries, elderberries, dates, kumquats, carambolas, jambuls/jambolans, lychees, prickly pears/cactus fruits, star apples/cainitos, figs, kiwi fruits, kaki/Japanese persimmons, American persimmons/Virginia kaki, table olives, passionfruits/maracujas, avocados, papayas, mangoes, granate apples/pomegranates, cherimoyas, guavas, breadfruits, durians, soursops/guanabanas, pineapples, potatoes, cassava roots/manioc, sweet potatoes, yams, arrowroots, beetroots, carrots, celeriacs/turnip rooted celeries, horseradishes, Jerusalem artichokes, parsnips, parsley roots/Hamburg roots parsley, salsifies, swedes/rutabagas, turnips, garlic, onions, shallots, spring onions/ green onions and Welsh onions, tomatoes, sweet peppers/bell peppers, aubergines/eggplants, okra/ lady's fingers, gherkins, courgettes, melons, pumpkins, watermelons, sweet corn, broccoli, cauliflowers, Brussels sprouts, head cabbages, Chinese cabbages/ pe-tsai, kales, lamb's lettuces/corn salads, lettuces, escaroles/broad-leaved endives, purslanes, chervil, celery leaves, parsley, sage, rosemary, thyme, basil and edible flowers, laurel/bay leaves, tarragon, cresses and other sprouts and shoots, land cresses, red mustards, baby leaf crops (including Brassica species), Roman rocket/rucola, spinaches, chards/beet leaves, grape leaves and similar species, watercresses, witloofs/Belgian endives, chives, beans (with pods), peas (with pods), peas (without pods), lentils, asparagus, rhubarbs, cardoons, celeries, Florence fennels, globe artichokes, leeks, bamboo shoots, palm hearts, cultivated fungi, wild fungi, mosses and lichens, lentils, lupins/lupini beans, [seeds of: poppy, sesame, sunflower, pumpkin, safflower, borage, gold of pleasure, hemp, rape/canola, mustard, cotton], castor beans, soyabeans, olives for oil production, oil palm kernels & fruits, barley, maize/corn, buckwheat, pseudocereals, millet, oats, rice, rye, sorghum, hops, kapok, teas, coffee beans, cocoa, carobs/St John's breads, chamomile, hibiscus, rose, jasmine, lime/linden, strawberry, rooibos, valerian, maté, aniseed, black caraway, celery, coriander, dill, fennel, fenugreek, nutmeg, allspice/pimento, Sichuan pepper, caraway, cardamom, juniper berry, peppercorns, vanilla, tamarind, turmeric, cloves, saffron, mace, cumin, cinnamon, liquorice, capers, sugar beet roots, sugar canes, chicory roots, swine, cattle, sheep, goat, horse, and poultry muscle, fat, liver, kidney, edible offals (other than liver and kidney), milk (cattle, sheep, goat, horse), bird eggs (chicken, duck, geese, quail)

## What is changing?

The EU proposes to amend the MRLs for dithiocarbamates as summarised in Table 1.

## Why?

The European Union has conducted a comprehensive review of the MRLs for dithiocarbamates as part of its regular review of MRLs.

Several pesticides belong to the dithiocarbamates group, including maneb, mancozeb, metiram, propineb, thiram, and ziram. The analytical method used to quantify the presence of these substances is based on their conversion into carbon disulphide (CS<sub>2</sub>), so a single MRL is established for the group (although a specific MRL also exists for thiram, see [Maximum residue levels for thiram](#)).

The European Food Safety Authority ([EFSA 2023](#)) has reviewed the MRLs for dithiocarbamates. For products where Codex MRLs (CXLs) or import tolerances exist and are considered safe, the European Commission proposes to adjust the MRLs accordingly. CS<sub>2</sub> can occur naturally in some plants. In some cases, EFSA used monitoring data from organic products to identify the natural CS<sub>2</sub> content in certain plants, which is unrelated to (and should not be confused with) the use of pesticides.

The Commission proposes to set the MRLs at the specific LODs for products where the use of plant protection products containing the active substances for dithiocarbamates is not authorised, if no import tolerances or CXLs exist.

As limited data was available for certain products, further evaluations and potential adjustments are planned within 2 years.

## Timeline

Adoption of this proposal was originally foreseen for 2025. However, the Regulation is currently put on hold pending ongoing discussions within the Commission ([European Commission 2025](#)).

## Recommended Actions

Suppliers of all products should review their current use of dithiocarbamates (maneb, mancozeb, metiram, propineb, thiram, and ziram) and residue levels. Suppliers of **apples, pears, quinces, medlars and loquats, nuts, and oil palm kernels/fruits** in particular should evaluate their current use of these substances and explore possible alternative solutions in anticipation of these MRL changes.

## Background

MRLs are set in accordance with the rules set out in Regulation [396/2005](#). For information on current MRLs for other substances, please consult the [EU Pesticide Residues database](#).

## Resources

European Commission (2025) [Standing Committee on Plants, Animals, Food and Feed: Section Phytopharmaceuticals – Pesticide Residues. 23–24 June 2025. Agenda.](#)

EFSA (2023) [Review of the existing maximum residue levels for dithiocarbamates according to Article 12 of Regulation \(EC\) No 396/2005](#). EFSA Journal, 21(5): 7987.

## Sources

[Draft](#) Commission Regulation as regards maximum residue levels for dithiocarbamates in or on certain products


[Draft](#) Annex

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## Table & Figures

| Table 1<br>Changes to maximum residue levels for dithiocarbamates |  |                          |         |
|---|--|--------------------------|---------|
| Food category   | Products   | Dithiocarbamates (mg/kg) |         |
|   |  | Old MRL                  | New MRL |
| Citrus fruits   | Grapefruits, limes   | 5                        | 0.4     |
|   | Oranges  | 5                        | 2       |
|   | Lemons   | 5                        | 0.1     |
|   | Mandarins  | 5                        | 10      |
|   | Other citrus   | 5                        | 0.01*   |
| Tree nuts   | Almonds, pecans  | 0.05                     | 0.1     |
|   | Brazil nuts, cashew nuts, chestnuts, coconuts, hazelnuts/cobnuts, macadamias, pine nut kernels, pistachios | 0.05                     | 0.01*   |
|   | Walnuts  | 0.1                      | 0.01*   |
| Pome fruits   | Apples, pears, quinces, medlars, loquats/Japanese medlars  | 5                        | 0.07    |
| Stone fruits  | Apricots   | 2                        | 0.5     |
|   | Cherries (sweet)   | 2                        | 6       |
|   | Peaches  | 2                        | 0.1     |
|   | Plums  | 2                        | 0.9     |
| Berries and small fruits  | Table grapes   | 5                        | 2       |
|   | Strawberries   | 10                       | 0.1     |
|   | Blackberries, dewberries, raspberries (red and yellow), azaroles/Mediterranean medlars                     | 0.05*                    | 0.1     |
|   | Blueberries, currants (black, red, white), gooseberries (green, red, yellow)                               | 5                        | 2       |
|   | Rose hips, mulberries (black and white), elderberries  | 0.05*                    | 2       |
| Miscellaneous fruit   | Dates, carambolas, jambuls/jambolans, litchis/lychees, prickly pears/cactus fruits, star apples/cainitos   | 0.05*                    | 0.01*   |
|   | Kaki/Japanese persimmons   | 0.2                      | 0.1     |
|   | Figs, kiwi fruits (green, red, yellow), American persimmons/Virginia kaki                                  | 0.05*                    | 0.1     |
|   | Table olives   | 5                        | 0.2     |
|   | Kumquats   | 0.05*                    | 0.4     |
|   | Passionfruits/maracujas  | 0.05*                    | 1.5     |
|   | Avocados, papayas  | 7                        | 0.1     |
|   | Mangoes  | 2                        | 0.6     |
|   | Granate apples/pomegranates, cherimoyas, guavas, breadfruits, durians, soursops/guanabanas                 | 0.05*                    | 0.01*   |
|   | Pineapples   | 0.05*                    | 1.5     |
| Root and tuber vegetables   | Potatoes   | 0.3                      | 0.1     |
|   | Cassava roots/manioc, sweet potatoes, yams, arrowroots   | 0.05*                    | 0.1     |
|   | Beetroots  | 0.5                      | 0.4     |
|   | Carrots  | 0.2                      | 1       |
|   | Celeriacs/turnip rooted celeries   | 0.3                      | 0.1     |
|   | Horseradishes  | 0.2                      | 50      |
|   | Jerusalem artichokes   | 0.05*                    | 0.1     |
|   | Parsnips, parsley roots/Hamburg roots parsley, salsifies   | 0.2                      | 0.1     |
|   | Swedes/rutabagas   | 0.05*                    | 1       |
|   | Turnips  | 0.05*                    | 4       |
| * Limit of determination.   |  | Continued...             |         |

| Table 1<br>Continued                      |   |                          |         |
|---|---|--------------------------|---------|
| Food category                             | Products  | Dithiocarbamates (mg/kg) |         |
|   |   | Old MRL                  | New MRL |
| Bulb vegetables                           | Garlic  | 0.6                      | 0.5     |
|   | Onions  | 1                        | 0.5     |
|   | Shallots, spring onions/green onions and Welsh onions   | 1                        | 0.7     |
| Fruiting vegetables                       | Tomatoes  | 3                        | 2       |
|   | Sweet peppers/bell peppers  | 5                        | 1       |
|   | Aubergines/eggplants  | 3                        | 1.5     |
|   | Okra/lady's fingers   | 0.5                      | 0.1     |
|   | Gherkins  | 2                        | 0.4     |
|   | Courgettes  | 2                        | 1       |
|   | Melons  | 1.5                      | 0.5     |
|   | Pumpkins  | 1.5                      | 0.4     |
|   | Watermelons   | 1.5                      | 1       |
|   | Sweet corn  | 0.05*                    | 0.1     |
| Brassica vegetables                       | Broccoli, cauliflowers  | 1                        | 1.5     |
|   | Brussels sprouts  | 2                        | 1       |
|   | Head cabbages   | 3                        | 0.4     |
|   | Chinese cabbages/pe-tsai, kales   | 0.5                      | 1       |
| Leaf vegetables, herbs and edible flowers | Lamb's lettuces/corn salads, lettuces, escaroles/broad-leaved endives, purslanes, chervil, celery leaves, parsley, sage, rosemary, thyme, basil and edible flowers, laurel/bay leaves, tarragon | 5                        | 0.1     |
|   | Cresses and other sprouts and shoots  | 5                        | 30      |
|   | Land cresses, red mustards, baby leaf crops (including Brassica species)  | 5                        | 1       |
|   | Roman rocket/rucola   | 5                        | 14      |
|   | Spinaches, chards/beet leaves, grape leaves and similar species   | 0.05*                    | 0.1     |
|   | Watercresses  | 0.3                      | 1       |
|   | Witloofs/Belgian endives  | 0.5                      | 0.1     |
|   | Chives  | 5                        | 0.7     |
| Legume vegetables                         | Beans (with pods)   | 1                        | 2       |
|   | Peas (with pods)  | 1                        | 3       |
|   | Peas (without pods)   | 0.2                      | 0.1     |
|   | Lentils   | 0.05*                    | 0.1     |
| Stem vegetables                           | Asparagus, rhubarbs   | 0.5                      | 0.1     |
|   | Cardoons, celeries, Florence fennels, globe artichokes  | 0.05*                    | 0.1     |
|   | Leeks   | 3                        | 0.5     |
|   | Bamboo shoots, palm hearts  | 0.05                     | 0.01*   |
| Fungi, mosses and lichens                 | Cultivated fungi, wild fungi  | 0.05*                    | 0.1     |
|   | Mosses and lichens  | 0.05*                    | 0.01*   |
| Pulses                                    | Lentils, lupins/lupini beans  | 0.05*                    | 0.1     |
| * Limit of determination.                 |   | Continued...             |         |

| Table 1<br>Continued  |  |                          |         |
|---|--|--------------------------|---------|
| Food category   | Products   | Dithiocarbamates (mg/kg) |         |
|   |  | Old MRL                  | New MRL |
| Oilseeds  | Poppy seeds, sesame seeds, sunflower seeds, pumpkin seeds, safflower seeds, borage seeds, gold of pleasure seeds, hemp seeds, castor beans   | 0.1                      | 0.05    |
|   | Rapeseeds/canola seeds   | 0.5                      | 1       |
|   | Soyabeans  | 0.1                      | 0.3     |
|   | Mustard seeds  | 0.1                      | 1       |
|   | Cotton seeds   | 0.1                      | 0.4     |
| Oil fruits  | Olives for oil production  | 5                        | 0.2     |
|   | Oil palm kernels, oil palm fruits, kapok   | 0.1                      | 0.01*   |
| Cereals   | Barley   | 2                        | 1       |
|   | Maize/corn   | 0.05*                    | 0.15    |
|   | Buckwheat and other pseudocereals, common millet/proso millet  | 0.05*                    | 0.1     |
|   | Oats   | 2                        | 0.1     |
|   | Rice   | 0.05*                    | 3       |
|   | Rye  | 1                        | 0.1     |
|   | Sorghum  | 0.05*                    | 0.1     |
| Teas  |  | 0.1*                     | 0.05*   |
| Coffee beans  |  | 0.1*                     | 0.05*   |
| Herbal infusions  | Chamomile, hibiscus/roselle, rose, jasmine, lime/linden, strawberry, rooibos, valerian   | 0.1*                     | 0.3     |
|   | Maté   | 0.1*                     | 6       |
| Cocoa beans, carobs/<br>Saint John's breads   |  | 0.1*                     | 0.05*   |
| Hops  |  | 25                       | 30      |
| Spices  | Anise/aniseed, black caraway/black cumin, celery, coriander, dill, fennel, fenugreek, nutmeg, allspice/pimento, Sichuan pepper, caraway, cardamom, juniper berry, peppercorn (black, green, white), vanilla, tamarind, turmeric/curcuma, cloves, saffron, mace | 0.1*                     | 0.3     |
|   | Cumin  | 0.1*                     | 10      |
|   | Cinnamon, liquorice  | 0.1*                     | 0.05*   |
|   | Capers   | 25                       | 0.05*   |
| Sugar plants  | Sugar beet roots   | 2                        | 0.5     |
|   | Sugar canes  | 0.05*                    | 0.01*   |
|   | Chicory roots  | 0.05*                    | 0.1     |
| Products of animal<br>origin  | Swine, cattle, sheep, goat, horse, and poultry muscle, fat, liver, kidney, edible offals (other than liver and kidney)   | 0.05*                    | 0.02*   |
|   | Milk (cattle, sheep, goat, horse)  | 0.05*                    | 0.02*   |
|   | Bird eggs (chicken, duck, geese, quail)  | 0.05*                    | 0.02*   |
| * Limit of determination.   |  |                          |         |
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Source: [Draft Annex](#)

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