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Proposed Re-evaluation Decision

PRVD2025-08

Iron (present as Ferric Sodium EDTA Trihydrate) and Its Associated End-use Products

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Proposed re-evaluation decision for Iron (present as Ferric Sodium EDTA Trihydrate) and associated end use products

Under the authority of the *Pest Control Products Act*, all registered pesticides must be re-evaluated by Health Canada's Pest Management Regulatory Agency (PMRA) to ensure that they continue to meet health and environmental standards and continue to have value. The re-evaluation considers data and information from pesticide manufacturers, incident reports, and other regulatory agencies. Health Canada applies internationally accepted risk assessment methods, risk management approaches and policies to all re-evaluations.

This document presents the proposed re-evaluation decision for Iron (present as Ferric Sodium EDTA Trihydrate), also referred to as ferric sodium EDTA, including any proposed amendments (risk mitigation measures) to protect human health and the environment, as well as the science evaluation on which the proposed decision is based. All products containing ferric sodium EDTA, that are registered in Canada are subject to this proposed re-evaluation decision (Appendix I).

Ferric sodium EDTA is registered as both a molluscicide and as a selective pre- and post-emergent herbicide. As a molluscicide, when ingested by slugs or snails, the iron in the compound interacts with hemocyanin in the blood. As a herbicide, when weeds absorb large quantities of iron bound to the chelating agent, EDTA, it causes cellular damage. Associated end-use products are formulated as granules to be applied by ground application to soil surfaces for both commercial and domestic uses. Currently registered products containing ferric sodium EDTA can be found in the Pesticide Product Information Database and in Appendix I.

Ferric sodium EDTA has value because it controls some of the most troublesome weeds, such as dandelions, creeping buttercup, clovers and thistles, in commercial and domestic settings and it is the only molluscicide registered for domestic use on lawns for the control of slugs and snails. Based on the current registered use pattern, the potential occupational, dietary, residential and environmental risks are considered to be acceptable when products containing ferric sodium EDTA are used according to proposed label updates. As a result of re-evaluation, no additional mitigation measures are proposed, however, updates to label statements for consistency as per current labelling standards are being proposed in Appendix II.

Proposed risk-reduction measures

Registered pesticide product labels include specific instructions for use. Directions include risk-reduction measures to protect human health, the environment and ensure the product has acceptable value which must be followed by law. The proposed label amendments as a result of the re-evaluation of Iron (present as Ferric Sodium EDTA Trihydrate), are summarized below. Refer to Appendix II for details.

Human Health

- Updates to precautionary statements related to occupational and residential exposure.

Environment

- Updates to use directions related to aquatic environment exposure and disposal statements.

Proposed re-evaluation decision

Under the authority of the *Pest Control Products Act*, and based on available scientific information in accordance with subsection 16(6) of the *Pest Control Products Act*, Health Canada is proposing for public consultation, pursuant to section 28 of the *Pest Control Products Act*, the continued registration of Iron (present as Ferric Sodium EDTA Trihydrate) and associated end-use products registered for sale and use in Canada under section 21 of the *Pest Control Products Act*.

This document is subject to a 90-day public consultation period,¹ during which the public (including the pesticide manufacturers and stakeholders) may submit written comments to the PMRA through PMRA Publications. The final re-evaluation decision will be published after taking into consideration the comments received during the consultation period that are directly related to the proposed re-evaluation decision.

All products containing Iron (present as ferric sodium EDTA trihydrate) that are registered in Canada are subject to this proposed re-evaluation decision. Refer to Appendix I for details on specific products impacted by this proposed decision.

Next steps

Upon publication of this proposed re-evaluation decision, the public, including the registrants and stakeholders are encouraged to submit comments during the 90-day public consultation period.

Health Canada will accept written comments on this proposal up to 90 days from the date of publication of this document. Before making a re-evaluation decision on Iron (present as ferric sodium EDTA trihydrate) under section 21 of the *Pest Control Products Act*, the final re-evaluation decision will be published after taking into consideration the comments received during the consultation period that are directly related to this proposed re-evaluation decision. A science-based approach will be applied in making a final decision on Iron (present as ferric sodium EDTA trihydrate). In accordance with subsection 28(5) of the *Pest Control Products Act*, Health Canada will then publish a final re-evaluation decision document, which will include the decision, the reasons for it, a summary of the comments received during the consultation period and Health Canada's response to these comments.

¹ "Consultation statement" as required by subsection 28(2) of the *Pest Control Products Act*.

Refer to Appendix I for details on specific products impacted by this proposed decision.

Other information

The relevant confidential test data on which the proposed decision is based are available for public inspection, upon application, in the PMRA's Reading Room. For more information or if you have questions, contact the PMRA's Pest Management Information Service.

Additional scientific information

No additional scientific data are being requested.

Science evaluation

1.0 Use description

Ferric sodium EDTA was first registered for use as a molluscicide (Canada, 2008). As a molluscicide, the commercial and domestic products can be used to control snails and slugs around vegetables, fruit trees, berries, ornamentals, lawns and in greenhouses. The pellets or granules are applied evenly to moist soil or lawn surfaces and may be dispensed directly by hand as a spot treatment or can be applied using a handheld or rotary type granular spreader.

It is also registered for use as a broad spectrum herbicide (Canada 2022a, 2022b, 2022c) for the pre- and post-emergent control of annual broadleaf and grass weeds such as dandelion, English daisy, false dandelion, white clover, black medic, bull thistle, Canada thistle, common chickweed, creeping buttercup, slender speedwell, narrow-leaved plantain, broadleaved plantain (suppression only), dove's-foot geranium, wild geranium, lawn burweed, crabgrass, moss, and algae. As a herbicide, the commercial end-use products are registered for application on residential, commercial, industrial and municipal lawns and turf (on right of ways, landscaping, non-crop areas, golf courses, parks, cemeteries and athletic fields). Domestic end-use products are registered for application to lawns. When used as a herbicide, granules are spread evenly to moist soil or lawn surfaces using a rotary or handheld spreader set and water soluble granules are sprayed with any standard handheld or backpack sprayer.

2.0 Human health assessment

Health Canada has not established toxicology reference values for risk assessment of ferric sodium EDTA due to the absence of toxicological concerns, and used a qualitative approach to assess risks to human health. The review of toxicological information for ferric sodium EDTA is summarized in the *Proposed Registration Decision – Ferric Sodium EDTA* (Canada, 2007).

As a molluscicide, the commercial end-use products can be used to control snails and slugs around vegetables, fruit trees, berries, ornamentals, lawns and in greenhouses. The pellets or granules are applied evenly to moist soil or lawn surfaces and may be dispensed directly by hand as a spot treatment or can be applied using a handheld or rotary type granular spreader (Canada, 2007). For the granular products, occupational exposure is characterized as short-term in duration and is expected to be mainly by the dermal and inhalation routes when the product is being loaded into a spreader and applied. Granules could also be directly handled during application and exposure is expected predominantly through the dermal route as inhalation of loose particles is likely to be a minor route of exposure.

As a herbicide on lawns and turf, granules are spread evenly to moist soil or lawn surfaces using a rotary or handheld spreader set and water soluble granules are sprayed with any standard handheld or backpack sprayer. For the granular products, occupational exposure is characterized as short-term in duration and is expected to be mainly by the dermal and inhalation routes when the product is being loaded into a spreader and applied (Canada, 2022b, 2024c).

For the water soluble products, occupational exposure is characterized as short- to intermediate-term in duration and is expected to be mainly by the dermal and inhalation routes during mixing, loading and application, when the product is being diluted, loaded into the sprayer, and sprayed/applied (Canada, 2024a).

The potential occupational risk (mixing/loading/applying) is considered acceptable under the current conditions of use; the commercial-class product labels currently require workers to wear personal protective equipment consisting, at a minimum, of a long-sleeved shirt and long pants, and chemical-resistant gloves. No additional mitigation measures are proposed. For consistency with current labelling standards, updates to label statements are being proposed in Appendix II.

Postapplication exposure is expected to be short-term in duration mainly by the dermal route as it could occur when entering the treated area after the product has been applied to carry out postapplication activities (Canada, 2024a). Post application risk of workers entering treated sites is considered acceptable under the current conditions of use (wait until sprays have dried). No additional mitigation measures are proposed. For consistency with current labelling standards updates to label statements are being proposed in Appendix II. Occupational risks to workers are considered acceptable when used according to the label directions with the proposed label updates.

Bystander exposure is expected to be low since water soluble products are applied using a handheld or backpack sprayer, which minimizes drift, and the granular products are applied directly to moist lawn or soil under the current conditions of use. No additional mitigation measures are proposed.

There is potential for residential exposure to ferric sodium EDTA based on the current use pattern. Residential handler exposure to ferric sodium EDTA is short-term in duration and is primarily by the dermal and inhalation route when individuals are handling and applying the domestic class products as an herbicide or molluscicide on lawn or soil (Canada 2024b, 2024d, 2022c, 2007). Residential postapplication exposure for adults may occur from treated soil or lawn care maintenance, and for adults, children, and pets from recreational activities on treated lawns. The most likely route of postapplication exposure is dermal via contact with treated lawns. For toddlers, incidental oral ingestion may also occur (hand to mouth, object to mouth or ingestion of treated grass). Although residential postapplication exposure may occur, it is expected to be low and not a concern due to the low toxicity of ferric sodium EDTA. No additional mitigation measures are proposed. However, for consistency with current labelling standards updates to label statements are being proposed in Appendix II. Residential exposure risks are considered acceptable with the proposed label updates.

Given the overall low toxicity and direct soil application of ferric sodium EDTA, the dietary exposure risks from eating treated crops is not of concern. Ferric sodium EDTA is applied to lawn or soil surfaces, thus, dietary exposure from drinking water is expected to be minimal as the contribution from pesticide use is negligible based on current conditions of use. Although dietary exposure may occur through consumption of treated crops, dietary risks are acceptable based on the low toxicity of the active ingredient and the fact that the product is applied directly to the soil and not to the crop itself. Therefore, health risks from the residues of ferric sodium EDTA in food and drinking water are considered acceptable under the current conditions of use. No additional mitigation measures are proposed.

Aggregate exposure is the total exposure to a single pesticide that may occur from food, drinking water, residential, and other non-occupational sources, and from all known or plausible exposure routes (oral, dermal, and inhalation). Under the current conditions of use, potential dietary (food and drinking water) risk is not anticipated, and the risk from residential and bystander exposure is acceptable. Therefore, an aggregate risk assessment is not required.

The *Pest Control Products Act* requires that Health Canada consider the cumulative non-occupational (food, drinking water and residential) exposure to pesticides with a common mechanism of toxicity, based on the likelihood that people may be exposed to more than one of these pesticides at the same time. While ferric sodium EDTA may share a common moiety with other iron-based active ingredients, the potential risks from cumulative exposure are not of concern given its low toxicity profile.

3.0 Environment assessment

Based on its low volatility, ferric sodium EDTA is not expected to enter the atmosphere. Depending on the pH of the soil, ferric sodium EDTA is nonpersistent (pH 6.75 to pH 7.85) to persistent (pH 6.1 or less) in aerobic soil and it is stable in anaerobic soil (Canada, 2007). Ferric sodium EDTA is soluble in water, and is rapidly transformed when exposed to light. It does not bioaccumulate and no major breakdown products are formed in soil and water.

Ferric sodium EDTA is ubiquitous in the environment as a result of its widespread use in detergents, pharmaceuticals, food additives, analytical chemistry, textiles, metal treatments and fertilizers. When used as a pesticide negligible amounts of ferric sodium EDTA is expected to enter the environment.

Exposure and risk from the use of sodium ferric EDTA is expected to be minimal for most terrestrial nontarget organisms. The screening level risk assessment indicated that there could be a potential risk to birds that directly consume products formulated as granules or pellets (Canada, 2007). However, wild birds might have limited access to the granular products because they are scattered in early morning or late evening in areas that are moist or after rainfall, thus sodium ferric EDTA would dissolve quickly based on its high water solubility property. Additionally, the large diameter of the pellets indicates that they are unlikely to be consumed by small birds and larger birds would need to consume a significant number of pellets to reach a potentially toxic dose. Therefore, based on the current use pattern risks to wild birds are considered acceptable when sodium ferric EDTA is used according to label directions.

The mode of action of ferric sodium EDTA targets copper-based (hemocyanin) blood systems, which are found in mollusks and crustaceans. Although the active ingredient is expected to be toxic to aquatic organisms with hemocyanin blood systems, negligible amounts of ferric sodium EDTA are expected to enter aquatic systems when applied according to label directions.

The environmental risks associated with the use of ferric sodium EDTA as a molluscicide or herbicide are considered acceptable when used according to proposed label updates. For consistency with current labelling standards updates to label statements are being proposed in Appendix II.

Ferric sodium EDTA is not considered a Track 1 substance as it does not meet all of the criteria as per the Toxic Substance Management Policy (Canada, 2007).

4.0 Incident reports

As of 17 April 2025, no human, domestic animal or environmental incident reports involving ferric sodium EDTA have been reported to Health Canada.

5.0 Value assessment

Ferric sodium EDTA is a broad spectrum herbicide and molluscicide. It can be used to control snails and slugs around vegetables, fruit trees, berries, ornamentals, lawns and greenhouses. It is the only molluscicide registered for domestic use for the control of slugs and snails on lawns. As a herbicide it is registered for the pre- and post-emergent control of annual broadleaf and grass weeds. Ferric sodium EDTA controls some of the most troublesome weeds such as dandelions, creeping buttercup, clovers and thistles in commercial and domestic settings.

Appendix I Registered products containing Iron (present as Ferric Sodium EDTA Trihydrate) as of 13 June 2025¹

Registration number	Marketing class	Registrant	Product name	Formulation type	Guarantee
28773	T	Woodstream Canada Corporation	Safer's Ferric Sodium EDTA Technical	Solid	100%
34622	T	W. Neudorff GMBH KG	Dry Fiesta TGAI	Dust	13.43%
34623	M	W. Neudorff GMBH KG	Dry Fiesta MUP	Granular	3.56%
28775	D	Woodstream Canada Corporation	Safer's Slug & Snail Killer	Pellets	6%
34625	D	W. Neudorff GMBH KG	Dry Fiesta Broadleaf Weed Killer For Lawns RTU	Granular	0.91%
35169	D	W. Neudorff GMBH KG	Fiesta Granule Selective Weed Killer RTU	Granular	1.82%
35171	D	W. Neudorff GMBH KG	Fiesta WSG Broadleaf Weed Killer For Lawns	Water Soluble Granule	7.88%
28774	C	Woodstream Canada Corporation	Safer's Slug & Snail Bait II	Pellets	6%
34624	C	W. Neudorff GMBH KG	Fiesta Lawn Weed Killer Granule	Granular	0.91%

Registration number	Marketing class	Registrant	Product name	Formulation type	Guarantee
35168	C	W. Neudorff GMBH KG	Fiesta Granule Selective Turf Weed Killer	Granular	1.82%
35170	C	W. Neudorff GMBH KG	Fiesta WSG Lawn Weed Killer	Water Soluble Granule	7.88%

T = Technical; C = Commercial; D = Domestic; M = Manufacturing Concentrate

¹ excluding discontinued products or products with a submission for discontinuation

Appendix II Proposed label updates for products containing Iron (present as Ferric Sodium EDTA Trihydrate)

Information on labels of currently registered products should not be removed unless it contradicts the label statements provided below.

A. Commercial End-Use Product, granule/pellet formulation:

1. **Under Precautions update to** “Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during application.”
2. **Under Precautions add** “**DO NOT** enter or allow people or pets to enter treated areas until dusts have settled.”
3. **Under Directions for Use add** “As this product is not registered for the control of pests in aquatic systems, **DO NOT** use to control aquatic pests.”
4. **Under Storage add** “Store this product away from food or feed.”

B. Domestic Product, granule/pellet formulation:

1. **Under Precautions add** “**DO NOT** enter or allow people or pets to enter treated areas until dusts have settled.”
2. **Under Directions for Use update to** “**DO NOT** apply to any body of water.”
3. **Under Storage add** “Store this product away from food or feed.”
4. **Update the disposal statement to** “Do not reuse the empty containers. Dispose in household garbage. Unused or partially used products should be disposed at provincially or municipally designated hazardous waste disposal sites.”

References

PMRA document number	Reference
1480897	Canada, 2007. Proposed Registration Decision – Ferric Sodium EDTA. PRD2007-13. [21 December 2007]
1480899	Canada, 2008. Registration Decision – Ferric Sodium EDTA. RDD2008-04. [4 April 2008]
3000501	Environment and Climate Change Canada and Health Canada, 2018. Final Screening Assessment of EDTA and its salts. [May 2018]
3383727	Canada, 2022a. Evaluation Report for Category B, Subcategory 1.2 Application – Dry Fiesta TGAI. (Application Number: 2019-2538)
3383764	Canada, 2022b. Evaluation Report for Category B, Subcategory 2.1, 2.3, 2.4 Application - Fiesta Lawn Weed Killer Granule. (Application Number: 2019-2705)
3383739	Canada, 2022c. Evaluation Report for Category B, Subcategory 2.1, 2.3, 2.4, 2.5 Application - Dry Fiesta Broadleaf Weed Killer for Lawns RTU. (Application Number: 2019-2707)
3563143	Canada, 2024a. Evaluation Report for Category B, Subcategories 2.1, 2.3, 2.4, 3.1 Application - Fiesta WSG Lawn Weed Killer. (Application Number: 2022-0743)
3563252	Canada, 2024b. Evaluation Report for Category B, Subcategories 2.1, 2.3, 2.4, 3.1 Application - Fiesta WSG Broadleaf Weed Killer for Lawns. (Application Number: 2022-0742)
3566154	Canada, 2024c. Evaluation Report for Category B, Subcategories 2.1, 2.3, 2.4, 3.1, 3.3, 3.9 Application - Fiesta Granule Selective Turf Weed Killer. (Application Number: 2022-1140)
3566161	Canada, 2024d. Evaluation Report for Category B, Subcategories 2.1, 2.3, 2.4, 3.1, 3.9 Application - Fiesta Granule Selective Weed Killer RTU. (Application Number: 2022-1139)
3588503	United States Environmental Protection Agency, 2011. Biopesticides Registration Action Document - Ferric Sodium Ethylenediaminetetraacetate PC Code: 139114. [23 February 2011]