

He tono nā



Te Rūnanga o NGĀI TAHU

ki te

ENVIRONMENTAL PROTECTION AUTHORITY

e pā ana ki te

**SUBMISSION ON APP203736 – Application to import the herbicide
Boxer Gold**

Date: 30 August 2019

Author:

**Gerry Te Kapa Coates MNZM
Ngāi Tahu HSNO Kōmiti member**

Moemoea (Lament)

Mātakitaki au ki te takutai o te raki
 ki te pōkaikura e tauawhitia mai.
 Ko Uenuku e tīwhanawhana ai ki runga
 ko te Rau o Tītapu ki mua.
 Ka whakapiki te hā ki te taumata kōrero
 kia whakapuakiakihia mai ngā maunga
 pepeha.
 Ko tōku maunga Kākāpō e tū ake rā.
 ko ahau te tangata e whakatika ki runga
 Tū te ihiihi
 Tū te wanawana
 Tū te mauri ki waho
 Tū te mauri ki roto.
 Tāpuketia au kia mārama ai taku titiro
 Ki aku umu tangata.
 Puritia, tāwhia kia ita
 Te mana tīpuna
 Te mana whenua
 Te mana tangata
 Kia tūturu
 Āwhiti whakamaua
 Kia tina
 Tina !

Hui eee Tāiki ee!
 Look to the north where the coast
 that embraces us glows a sacred red.
 'Tis Uenuku that arches on high
 and our leaders who move to the fore.
 The essence of our ancestors rises up to
 the pinnacle of oratory
 as our mountains are recalled to remind
 us of whence we came.
 There stands the mountain of the
 treasured Kākāpō
 'tis I who can stand and claim my place.
 I feel the dread
 I feel the awesome prestige
 As the life force is established
 from within and without.
 Bury me there so that I may gaze upon
 those lands
 Through the strength of my people.
 Hold fast and firm
 To my inherited authority
 To my rights to this land
 To my rights as a person

Whakatauki (Proverb)

"Te Toto o te tangata, he kai; te oranga o te tangata he whenua"

While food provides the blood in our veins, our health is drawn from the land

1 Executive summary

The purpose of the application by Syngenta Crop Protection Limited is to gain approval for import of the herbicide Boxer Gold containing 800 g/L prosulfocarb and 120 g/L S-metolachlor as an emulsifiable concentrate (EC) formulation. Prosulfocarb is a new active ingredient for New Zealand and S-metolachlor is already approved in New Zealand although not currently on the market. It is a registered herbicide for use in corn, soybeans, vegetables and other field crops in a few major agricultural countries. The formulated substance has so far only been approved in Australia, Chile and Saudi Arabia. The combination of the two active ingredients the applicant says will “prolong the effectiveness of both actives and is an important resistance management strategy.”

Active ingredients are Prosulfocarb 800 g/L, 80.6% w/w and S-metolachlor 120 g/L, 12.0% w/w. We are referred to the Confidential Appendix for declaration of composition and list of impurities.” The applicant mentions “a range of new studies that have been conducted by Syngenta to satisfy “evolving regulatory requirements in other countries such as the EU” but give submitters no details. The product will be applied pre-emergent or early post-emergent for potato crops by tractor mounted sprayers. Spray drift to non-target plants or waterways is minimised as being “unlikely” with only minor effects but no controls or evidence that this can be monitored. This is despite an EPA classification of 9.1A for aquatic ecotoxicity being triggered. The substance and active ingredients are also toxic to fish and highly toxic to certain species of algae and aquatic plants.

While the applicant says “a 5m no-spray zone reduces the risk (to soil) to an acceptable level and is protective of sensitive non-target plants” no details of what if any assessment was provided. S-metolachlor degrades relatively quickly in soil with a mean half-life of 32 days but a complex degradation pattern to a large number of metabolites, some at significant levels. We had no access to mammalian toxicity studies said to have been conducted with the metabolites. Toxicity to earthworms and other soil invertebrates are apparently below the EPA trigger levels and the applicant claims that risks to birds are “acceptable” and is of low toxicity to bees. However there may be “high risk to certain non-target arthropod species in-field” despite claimed “rapid degradation of Prosulfocarb in the environment.” The major benefits from Boxer Gold are to assist growers in achieving maximum yields.

For Māori concerns the worst area is aquatic toxicity at 9.1A triggered by a study with *Daphnia magna*. EC50 = 0.56 mg/L. If the active ingredients are toxic to algae and aquatic plants we presume the metabolites will also be. In our view the application fails to provide a persuasive case for the introduction of the new active ingredient Prosulfocarb. Resistance will always be a problem and will not be solved by an endless train of new active ingredients. The applicant says with no supporting evidence that “No effects on ancestral land, water or sites or unacceptable risks to the kaitiaki relationship of Maori and their culture to the environment from the release of the substance are expected.”

For these reasons, we oppose the introduction of Boxer Gold to New Zealand and want this application declined. We may wish to be heard in support of our submission.

Contents

1	Executive Summary	1
2	Tāhuhu Korero (Introduction)	3
3	Statutory Obligations to Ngāi Tahu	3
4	Description of Application APP203736	4
5	Position of Te Rūnanga o Ngāi Tahu on Application APP203736	5
6	Reasons for position on application APP203736	7
	Te Ao Tūroa (Environment).....	8
	Ōhanga (Economy).....	8
	Hauora (Public Health).....	8
	He Tāngata (People and Communities).....	8
	Kaitiakitanga (Guardianship).....	8
	Te Tiriti o Waitangi (Treaty Principles).....	9
7	Conclusions	9
8	Recommendation	10

2 Tāhuhu Korero (Introduction)

Ngāi Tahu HSNO Kōmiti

The Te Rūnanga o Ngāi Tahu HSNO Committee is mandated by Te Rūnanga o Ngāi Tahu. The members of the committee are appointed by Te Rūnanga based on their knowledge and expertise in the areas of hazardous substances and new organisms.

Ngāi Tahu Values

All Te Runanga o Ngai Tahu activities are informed by the following values:

Whanaungatanga (family)

Respect, foster and maintain important relationships within the organisation, within the iwi and within the community.

Manaakitanga (looking after our people)

Respect each other, iwi members and all others in accordance with our tikanga (customs).

Tohungatanga (expertise)

Pursue knowledge and ideas that will strengthen and grow Ngāi Tahu and our community.

Kaitiakitanga (stewardship)

Work actively to protect the people, environment, knowledge, culture, language and resources important to Ngāi Tahu for future generations.

Tikanga (appropriate action)

Strive to ensure that Ngāi Tahu tikanga of is actioned and acknowledged in all of our outcomes.

Rangatiratanga (leadership)

Strive to maintain a high degree of personal integrity and ethical behaviour in all actions and decisions we undertake.

3 Statutory obligations for Ngāi Tahu

This response is made on behalf of Te Rūnanga o Ngāi Tahu (Te Rūnanga). Te Rūnanga is statutorily recognised as the representative tribal body of Ngāi Tahu Whānui and was established as a body corporate on 24th April 1996, under section 6 of Te Rūnanga o Ngāi Tahu Act 1996 (the Act). We note the following relevant provisions of our constitutional documents:

Section 3 of the Act: This Act binds the Crown and every person (including any body politic or corporate) whose rights are affected by any provisions of this Act.

Section 15(1) of the Act: Te Rūnanga o Ngāi Tahu shall be recognised for all purposes as the representative of Ngāi Tahu Whānui.

The Charter of Te Rūnanga o Ngāi Tahu (1993, as amended) constitutes Te Rūnanga as the kaitiaki of the tribal interest.

Te Rūnanga respectfully requests that this response is accorded the status and weight due to the tribal collective, Ngāi Tahu Whānui, currently comprising over 70,000 members registered in accordance with section 8 of the Act and having mana whenua over 90 percent of Te Wai Pounamu.

Under the HSNO Act, the environmental and cultural health and well-being of Māori, and Treaty of Waitangi outcomes and values, must be considered when making decisions about introducing and using hazardous substances or new organisms into New Zealand.

Section 5(b) of the Act provides (amongst other things) for the:

“Maintenance and enhancement of the capacity of people and communities to provide for their own economic, social and cultural well-being”.

Section 6(d) of the Act requires that the Environmental Protection Authority of New Zealand (EPA), when exercising functions under the Act, take into account: “The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, valued flora and fauna, and other taonga”.

Section 8 of the Act requires that all persons exercising functions under the Act consider: “...the Principles of the Treaty of Waitangi” including the recognition of the special relationship between the Crown and tangata whenua.

4 Description of Application APP203736

Application APP203736 was submitted by Syngenta Crop Protection Limited by its CP Regulatory Manager for New Zealand. The purpose of the application is to gain approval for import and release of the herbicide Boxer Gold containing 800 g/L prosulfocarb and 120 g/L S-metolachlor as an emulsifiable concentrate (EC) formulation.

Prosulfocarb is a new active ingredient for New Zealand although it is currently registered for use as a herbicide in field crops in Europe, Australia and Japan. As prosulfocarb is a new active ingredient, weed resistance levels to the substance are very low. S-metolachlor is an approved active ingredient in New Zealand but not currently on the market. It is registered as a herbicide for use in corn, soybeans, vegetables and other field crops in major agricultural countries including the USA, Europe, Australia, Canada, China and Brazil. The product will be applied once per season prior to the emergence of the crop or in the early growth stages by ground based tractor spray application. The combination of the two active ingredients the applicant says will “prolong the effectiveness of both actives and is an important resistance management strategy”, as is pre-emergent use.

The applicant says “the human and environmental risks arising from the hazards associated with the use of the substance can be adequately controlled and are therefore acceptable.” We would not necessarily agree and list our concerns later.

The benefits of Boxer Gold are said to be:

- Greater choice for potato cropping in New Zealand with new herbicide active ingredients.
- Effective herbicide management of a wide range of weeds that potentially reduce the vigour of potato crops and result in lower yields.

- Increased grower profits and maximisation of use of land assets with flow on benefits.
- Excellent herbicide resistance management tool for potato cropping

5 Position of Te Rūnanga o Ngāi Tahu on Application APP203620

Te Rūnanga o Ngāi Tahu holds concerns over an already widespread and extensive use of toxic agrichemicals in the horticultural and agricultural sectors. The burden that they and their breakdown products place on the terrestrial and aquatic environments needs monitoring and reduction. The benefits supporting the introduction of any new agrichemicals must therefore be clearly and explicitly spelt out. Also the risks must be fully documented, and measures taken to mitigate their impact.

5.1 Regulatory Status

Prosulfocarb – Approved in Australia, Europe, Japan, Chile, Saudi Arabia but not Canada NZ or USA.

S-metolachlor – Approved in most jurisdictions including NZ.

Regulatory status of the formulated substance – So far it is only approved in Australia, Chile and Saudi Arabia.

Active ingredient(s) and content (g/kg or L and % w/w):

Prosulfocarb 800 g/L, 80.6% w/w

S-metolachlor 120 g/L, 12.0% w/w

The composition details are only provided in the confidential appendix which as we have pointed out many time before submitters cannot access. Nor do we have access to the Staff Assessment report prior to submissions closing.

Regarding impurities we are asked to “see Confidential Appendix for declaration of composition and list of impurities” to which of course we do not have access. There is also some confusion with the applicant saying for S-metolachlor that “There are no impurities present at a concentration > 10 g/kg or of toxicological concern” despite stating that “Minimum purity of the active ingredient as manufactured (g/kg): 960 g/kg.”

The applicant says a range of new studies have been conducted by Syngenta to satisfy “evolving regulatory requirements in other countries such as the EU.” A complete dossier of studies on prosulfocarb and the formulated substance Boxer Gold not previously assessed by the EPA are said to have been provided with this submission. Unfortunately details of the submitted studies are apparently in the Confidential Appendix.

5.2 Application

For potato crops the product will be applied pre-emergent or early post-emergent by tractor mounted sprayers. There is no mention of any alternative applicator methods proposed. Regarding spray drift to non-target plants or waterways, and any resulting harmful effects on aquatic, terrestrial and soil organisms including non-target plants, the applicant says this will be “unlikely” with only minor (localized, reversible and contained effects) but no controls or evidence that this can be monitored. We have raised the issue of buffer zones before to deal with spray drift onto waterways and non-target plants (including aquatic plants) and do not accept this casual dismissal of effects as being minor.

5.3 Ecotoxicity and Risk Assessment

Aquatic organisms: An EPA classification of 9.1A for aquatic ecotoxicity is triggered. In house data shows that *Daphnia magna* (aquatic invertebrates) are the most sensitive freshwater organisms. The substance and active ingredients are also toxic to fish and highly toxic to certain species of algae and aquatic plants. Aquatic organisms nearby will definitely be exposed to the substance through spray drift, run-off and drainage from the application site into adjacent waterways (including streams, farm drains and eventually rivers, lakes etc) or by incorrect disposal of waste substance into waterways.

The applicant says that an “aquatic risk assessment” was conducted for the use of Boxer Gold in New Zealand using “default spray-drift values and higher tier environmental concentrations estimated with AgDRIFT modelling.” The results, which were not provided showed that the acute and chronic risks to all indicator aquatic species including algae are “acceptable even with a zero no-spray zone.” Bioaccumulation studies with Prosulfocarb and S-metolachlor show that it will not bioaccumulate or bioconcentrate in fish. We would like to see this assessment to verify its results.

Soil ecotoxicity: The applicant says that controls for the protection of non-target plants are required, but that “a 5m no-spray zone reduces the risk to an acceptable level and is protective of sensitive non-target plants.” We would have liked details of what assessments were carried out and what is considered to be “acceptable.”

S-metolachlor degrades relatively quickly in soil with a mean half-life of 32 days and a complex degradation pattern forming a large number of metabolites, some at significant levels. Consequently additional environmental and mammalian toxicity studies have been conducted with the metabolites, which again we were not given. In these studies the metabolites were said to be found to be on the whole less toxic than the parent or in a couple of studies of equivalent toxicity. Because the acute toxicity levels of the active ingredients to earthworms and other soil invertebrates are apparently below the EPA trigger levels the risk of adverse effects on the soil environment from the proposed use of Boxer Gold is asserted to be very low.

Terrestrial vertebrates: The EPA classification for terrestrial vertebrates is not triggered. The applicant claims that at the proposed label rates the risks to birds as “acceptable.” Studies on the active ingredients showed that it is of low toxicity to bees. However there may be “high risk to certain non-target arthropod species in-field” despite claimed “rapid degradation of Prosulfocarb in the environment.” We do not accept these statements without data that mid to long term effects on population levels are expected to be minimal.

5.4 Benefits

The two active ingredients together in Boxer Gold the applicant says provide residual control of many broadleaf and some grass weeds that commonly grow in potato crops. Therefore use of Boxer Gold they claim will assist growers in achieving maximum yields.

Controls for the use of Boxer Gold will include warning statements, safety directions and first aid instructions on labels and provision of Safety Data Sheet. A copy of the draft label has not been made available so we are unable to comment constructively.

5.4 Māori Concerns

The worst area for Māori concerns is aquatic toxicity at 9.1A triggered by a study with *Daphnia magna* EC50 = 0.56 mg/L. If the active ingredients are toxic to algae and aquatic plants we presume the metabolites will also be. The active ingredients are stated to be not toxic to bees – Prosulfocarb bee acute oral LD50 > 213 µg/bee.

In our view the application fails to provide a persuasive case for the introduction of the active ingredient Prosulfocarb to control weeds in a common crop. Resistance will always be a problem and will not be solved by an endless train of new active ingredients. We find the lack of information provided to submitters in this application troubling, with most of the risk assessment focused on the already approved active ingredient S-metolachlor. We reject that it is acceptable to state without any consultation with Māori that “No effects on ancestral land, water or sites or unacceptable risks to the kaitiaki relationship of Maori and their culture to the environment from the release of the substance are expected.”

We are disappointed to read that the applicant has not mentioned any attempts at Māori engagement. For these reasons, we oppose the introduction of Boxer Gold to New Zealand. We may wish to be heard in support of our submission.

6 Reasons for position on application APP203620

We approach this application under a Kaupapa Māori lens, that includes assessment of the effects of “the substance” on six key areas. These include Te Aō Tūroa, Ōhanga, Hauora, He Tāngata, Tikanga ā iwi, Te Tiriti o Waitangi.

Te Ao Tūroa (Environment)

Te Ao Tūroa refers to the natural world, encompassing taonga species, te mana o te wai (all water bodies; ie: sea, freshwater, wetlands, estuaries), ngahere (native forest, bush), ecosystems and biodiversity. There are a significant number of fragile taonga species, and their habitats located in waterways and surrounding areas, which must be protected.

The herbicide will be used in horticultural areas which inevitable are adjacent to waterways such as streams and farm drains in cropping land. The aquatic toxicity at 9.1A makes it essential that precautions are taken to ensure that non-target crops and aquatic environments are protected.

Ōhanga (Economy)

The Ngāi Tahu economy allows for self-determination of Papatipu Rūnanga in the realisation of their aspirations. TRONT does not currently invest in horticultural crop farming but there may be individual Ngai Tahu crop farmers who would benefit from the herbicide product.

If our concerns were to be addressed, then we may have been persuaded that this product could be approved.

Hauora (Public Health)

The health and wellbeing of Ngāi Tahu whanau is interconnected with the health of the environment, in that mahinga kai (traditional food), and rongoa (traditional medicine) sources need to be free of toxins. Taonga – tuku – iho are prized resources passed down through the generations which Nga Papatipu Runanga in particular, continue to access and utilise for mahinga kai, medicinal purposes, for producing woven products and other uses.

Any potential threat of the herbicide product reaching waterways will have a detrimental impact on the health of whānau harvesting mahinga kai. Buffer zones of riparian planting must be maintained where land is located next to waterways to help reduce the risks.

He Tāngata (People and Communities)

The broader social influences on a community which might include; recreational spaces, employment, housing, land usage, and other areas. Whanau do access waterways and surrounding environments for recreational purposes (ie, waka ama, swimming, sports), and as such, whanau must be able to safely access areas free of toxins.

Kaitiakitanga (Guardianship)

Kaitiakitanga is about our responsibility as Te Rūnanga o Ngāi Tahu, both tribally and in our communities, to assess the cultural acceptability of a proposed activity. We are a part of the landscape and therefore have a responsibility to ensure its sustenance for this generation and for those to come.

The relationship between kaitiaki and taonga can be layered and complex. Different kaitiaki have different degrees of responsibility for taonga such as the kaitiaki of plants and mātauranga associated with them. The kaitiaki relationship can relate to the sustainability of the taonga itself, or its components within the taonga that make it up, or to species, biota and environment surrounding the taonga.

The application submitted by Syngenta lacks full information which is in confidential appendices. Without full disclosure of relevant information we as submitters will always tend towards a decline decision.

Te Tiriti o Waitangi (Treaty Principles)

The Crown has an obligation to honour the Waitangi Treaty principles of Partnership, Participation and Protection.

The Ngai Tahu Settlement Act explicitly lists flora and fauna that are considered taonga to the iwi. This is not intended to be an exhaustive list, as any organism sourced within Ngai Tahu takiwā may be considered taonga, and at a minimum require some level of consultation.

Consultation with Treaty partner TRONT/ ngā papatipu rūnanga in relation to their taonga and the proposed application requires contact in the earliest stages of the application process through to its submission and, if approved, mutual agreement on conditions and ongoing monitoring mechanisms to ensure beneficial outcomes are achieved.

7 Conclusions

- The active ingredients Prosulfocarb and S-metolachlor have relatively long half-lives and this, coupled with severe aquatic toxicity, raises significant concerns of the impact on aquatic taonga species.
- The application provides little to no information to submitters apart from assertions and statements. Rather the applicant has chosen to put all pertinent information into the confidential appendix
- Effectively the new formulation is a “mixture” of two active ingredients. We do not accept that applicants should be allowed to avoid providing biochemical and toxicology data on the behaviour of the mixture. Submitters should be given sufficient information free of “confidential appendices” which we are not privy to yet are asked to assess the impact of such new applications.
- Although the applicant took no steps to consult with Māori – for example through the Ngāi Tahu HSNO Kōmiti. We thoroughly reject that this product will have ***“No adverse effects on the natural resources of the flora, fauna, waterways, land and culture of the indigenous Māori”***. We believe that the environmental impacts of the product may have significant impacts on tangata whenua and mahinga kai.

For these reasons, we oppose the introduction of Boxer Gold to New Zealand and want this application declined. We may wish to be heard in support of our submission.

8 Recommendation

This application should be declined and we wish to be heard in support of our submission.

A handwritten signature in black ink, appearing to read 'G. Coates', written in a cursive style.

Gerry Te Kapa Coates *MNZM*

Member Ngāi Tahu HSNO Komiti