Environmental Protection Authority
Te Mana Rauhī Taiao

DECISION

1 July 2020

Overview

Substance	A range of substances as listed in the Chemical Review 2015 application form
Application code	APP202961
Application type	To modify an existing approval for a hazardous substance under section 63A of the Hazardous Substances and New Organisms Act (HSNO Act; the Act)
Applicant	Environmental Protection Authority
Purpose of the application	To reassess the hazard classifications of a range of substances for which new information was obtained in 2015
Submissions received	Five (5) submissions were received: • Key Industries Limited • Syngenta Australia Proprietary Limited • Accord Australasia • Individual [personal details withheld from publication] • Dow Chemical Australia Proprietary Limited
Considered by	A Decision-making Committee of the Environmental Protection Authority Dr Nick Roskruge (Chair) Dr John Taylor
Decision	Modified reassessment approved
Approval codes	As listed in Appendix A
Hazard classifications	As listed in Appendix A

Application step	Application date
Date application formally received	31 July 2019
Submission period	14 August 2019 – 9 October 2019
Consideration date	31 March 2020 – 24 April 2020
Date decision signed	1 July 2020

Executive summary

The Chemical Review 2015 is a modified reassessment that includes a number of hazardous substances. It is intended as a means of making changes to a number of approvals at once, taking into account new information from stakeholders regarding the classifications of substances.

The reassessment application was formally received on 31 July 2019, and the Environmental Protection Authority (EPA) decided that the application would be progressed as a publicly notified, modified reassessment in accordance with section 63A of the Act.

The only aspects of the approvals being considered in this modified reassessment are the hazard classifications of the substances, with some associated changes to the default controls that apply to those substances. The proposed changes to the hazard classifications and controls, and the justification for those changes, are set out in detail in the application form.

The application was publicly notified to enable the public to comment and to put all relevant information before the decision-makers. The notification period for members of the public and other interested parties to provide written submissions was open from 14 August 2019 to 9 October 2019. Five submissions were received: one submitter supported the application, and four submitters neither supported nor opposed the application. The majority of submissions provided specific additional information of relevance to selected substances included in the review. No submitters indicated a wish to be heard at a hearing for the application.

The EPA reviewed the submissions and additional information including supporting study data presented by submitters. The proposed hazard classification changes for a select number of substances were revised based on the additional information. The EPA Update Report presented an assessment of the original proposals, a summary and review of the submissions and study data, including revisions to the EPA's original proposed hazard classifications, and an overall recommendation.

After considering all relevant information available, the Decision-making Committee (the Committee) decided that it had sufficient information for making a decision.

The Committee assessed all the effects associated with the reassessment in accordance with section 63A(6) of the Act. The Committee considered that the positive effects associated with the reassessment outweigh the adverse effects and decided to approve the modified reassessment application and implement the changes to the hazard classifications of the substances.

Table of Contents

1 Background

1.1 The Chemical Review 2015 is a modified reassessment that includes a number of hazardous substances. It is intended as a means of making changes to a number of approvals at once, taking into account new information from stakeholders regarding the classifications of substances.

1.2 A grounds for reassessment application was prepared by the EPA which included details of new data and/or assessments from other international regulatory agencies since the substances were originally evaluated and approved. The proposals in the application detailed the revised classifications for individual chemical substances. Grounds were established by a Decision-making Committee of the EPA based on significant new information relating to the effects of the substances.

1.3 The EPA then prepared an application for a modified reassessment of the substances, which included the proposed new classifications and changes to controls for all affected substances. The Chemical Review application was publicly notified and open for submissions on the proposed changes.

2 Process, consultation and notification

Lodgement and formal receipt

2.1 The reassessment application was formally received on 31 July 2019.

Scope of application

2.2 The EPA's Chief Executive considered the content of the application and decided to use the EPA's discretionary power in section 63A(1) of the Act to proceed with the application as a modified reassessment. It was decided that the scope of the modified reassessment would be limited to an assessment of the hazard classifications of the substances, with some associated changes to the default controls that apply to those substances.

Notification of application

2.3 Subsequently, the General Manager Hazardous Substances and New Organisms decided not to use the EPA's discretionary power in section 63A(4) of the Act to target the consultation on this application, and it was publicly notified in accordance with section 53 of the Act.

2.4 The application was initially open for submissions from 14 August 2019 to 25 September 2019, and the submission period was then extended to 9 October 2019.

2.5 The timeframe for receipt of submissions was extended by ten working days under section 59 of the Act, following a request by one of the submitters.

Response from other government agencies

2.6 The Ministry for the Environment, the Ministry of Health, the Agricultural Compound and Veterinary Medicines (ACVM) group of the Ministry for Primary Industries, and the Department of Conservation were advised of the application and notified of the submission period.

2.7 WorkSafe New Zealand (WorkSafe) is the agency responsible for administering the Health and Safety at Work Act 2015 (HSW Act) and the Health and Safety at Work (Hazardous Substances) Regulations 2017 (HSW (HS) Regulations). WorkSafe provided comments on this application in a separate report and this was noted in the EPA Update Report. No other comments were received.

Submissions received

2.8 Five submissions were received for this application. One submitter supported the application. Four submitters did not indicate support or opposition to the application. None of the submitters indicated a wish to be heard at a public hearing.

Additional Information

2.9 Following review of the submissions on this application, additional information was sought from one of the submitters under section 58 of the Act. In response to the request, two further study reports were provided on 18 October 2019.

2.10 The timeframe for consideration of this application was waived under section 59 of the Act to allow sufficient time for this additional information to be evaluated as part of the reassessment application.

3 Application

3.1 This modified reassessment application includes a number of different hazardous substances. It is intended as a means of making changes to a number of approvals at once, taking into account new information from stakeholders regarding the classifications of substances.

3.2 The EPA application detailed all of the proposed revisions to the hazard classifications of substances, with an accompanying justification for the changes. Many changes were supported by information included in regulatory reviews and reports undertaken by competent authorities in the USA, Canada, and Australia, and information held in the European Chemicals Agency (ECHA) databases.

3.3 Proposed revisions to both human health and environmental hazard classifications were presented with accompanying justification.

3.4 The application also contained proposed revised classifications of substances that are mixtures containing one or more components affected by the proposed classification changes. The proposed hazard classifications for these mixtures were calculated using the new information.

3.5 The application also detailed any resultant changes to default controls for each of the affected substances. An additional labelling restriction was also proposed for certain substances to highlight paraesthesia risks in order to more accurately inform users of this particular hazard. This would make the controls consistent with those applied to similar, more recently approved, hazardous substances.

4 Submissions

4.1 Five submissions were received for this application. Details of the submitters and their position on the application are shown in Table 1 below.

Table 1: List of submitters and submissions

Group/organisation	Position	Appearance at a hearing
Key Industries Limited	Support	No
Syngenta Australia Proprietary Limited	Neither support nor oppose	No
Accord Australasia	Neither support nor oppose	No
Individual [personal details withheld from publication]	Neither support nor oppose	No
Dow Chemical Australia Proprietary Limited	Neither support nor oppose	No

4.2 Information gathered from the submissions, where relevant, was used to inform the approach to the hazard assessment. The submissions were fully reviewed and key issues were addressed in the EPA Update Report.

5 The EPA Update Report

5.1 An EPA Update Report was prepared to provide information and advice to assist the Committee in making its decision.

5.2 The EPA Update Report is the EPA review of the application, the submissions and supporting study data, and assessment of the effects of the proposed changes.

5.3 Key points from the EPA's review and assessment of the available information that affected the proposals set out in the application are provided below.

Syngenta's submission and EPA response

5.4 Syngenta Australia Proprietary Limited (Syngenta) provided information relevant to the hazard classification of the substance "Water dispersible granule containing 800 g/kg sulphur" (trade name Thiovit Jet; HSNO approval number HSR000816). This information included Syngenta's submission and attached study reports, and two additional study reports relating to acute oral toxicity and acute dermal toxicity filed in response to a request for additional information.

5.5 The EPA's review of the submitted mammalian toxicity studies indicated that the substance is of very low acute toxicity and should not be classified for acute toxicity following oral, dermal or inhalation exposure or for dermal irritation.

5.6 The EPA noted that the submitted ecotoxicity key study endpoints indicate that the substance does not meet the criteria for classification as ecotoxic or harmful in the aquatic environment as set out in the Classification Notice. However, the EPA noted that the substance is currently classified 9.1D as it is designed for biocidal action, being a fungicide designed to control diseases including powdery mildew and rust in a variety of crops. This 9.1D biocide classification has also been applied to many other approved sulfur-containing fungicides. Since

the biocidal nature of the substance is unchanged, the EPA proposed to maintain the 9.1D classification.

5.7 As a result, the EPA Update Report proposed not to make the changes set out in the application form, and instead proposed that the current 9.1D classification is maintained.

Dow's submission and EPA response

5.8 Dow Chemical Australia Proprietary Limited (Dow) provided information relevant to the hazard classification of the substance dioctyltin dilaurate (CAS name: stannane, dioctylbis[(1-oxododecyl)oxy]-), CAS# 3648-18-8, HSNO approval number HSR007500). Dow supported the proposed classification changes, but also noted that their approach to classifying this chemical involves a read-across approach using dioctyltin oxide (instead of dioctyltin chloride), leading to an additional 6.8B reproductive toxicity classification.

5.9 The EPA reviewed Dow's submission and the available international reports for dioctyltin dilaurate and related chemicals.

5.10 Following this review, the EPA considered it appropriate to apply a reproductive toxicity classification to dioctyltin dilaurate based on read-across from dioctyltin chloride and proposed that the HSNO 6.8B classification was appropriate.

EPA evaluation and recommendation

5.11 In the EPA Update Report, the effects of the proposed changes were assessed and it was concluded that there was an overall positive effect in making the proposed changes to the approvals in that the classifications would more accurately represent the hazards of the substances compared to those identified in the original approvals. No significant adverse effects to the proposed changes were identified.

WorkSafe's comments

5.12 WorkSafe provided its comments on this reassessment application in a separate document, advising on the workplace health and safety requirements and the management of health and safety risks of using, handling, storing or manufacturing hazardous substances in the workplace. The following key points were noted in the EPA Update Report.

5.13 Commenting specifically on this reassessment application, WorkSafe noted the following:

- *"This reassessment is a review of classifications of a number of substances that have class 1-6 or 8 classifications. These substances are already approved and it is the EPA's responsibility using their expertise to classify substances. It is therefore not relevant for WorkSafe to comment on the classifications."*

5.14 WorkSafe also noted that they do not propose setting any additional requirements to those already present under the Health and Safety at Work (Hazardous Substances) Regulations and Health and Safety at Work (General Risk and Workplace Management) Regulations for any of the substances included in the Chemical Review 2015.

6 Approval reissue

6.1 A section 63A modified reassessment of an approval is subject to sections 77, 77A and 77B of the Act. Therefore, the EPA Notice controls will apply to the modified approvals with transitional periods for some. Approvals subject to a modified reassessment need to be reissued, under clause 4(3) of Schedule 7 of the Act, to ensure that the approvals are updated to replace the

existing prescribed controls (controls set previously under the former HSNO Regulations) with new controls under the EPA Notices.

6.2 The approvals for the substances affected by this modified reassessment were reissued on 19 March 2020 prior to the consideration of this modified reassessment. From this date, the EPA Notice controls apply, with a transitional period that ends on 31 March 2022 for the following EPA Notices:

- Hazardous Substances (Labelling) Notice 2017
- Hazardous Substances (Packaging) Notice 2017
- Hazardous Substances (Safety Data Sheet) Notice 2017.

7 Consideration

Information available for consideration

7.1 The information available to the Committee for consideration of this application consisted of:

- the application form
- the confidential appendix
- the submissions
- additional information provided by submitters under section 58 of the Act
- information received from WorkSafe
- the EPA Update Report.

7.2 After considering all relevant information, the Committee decided that it had sufficient information to make a decision on this application.

Hazard classifications

7.3 The Committee considered all of the available information provided in the application, the submissions and additional information, and the review by the EPA presented in the EPA Update Report. The Committee thanks submitters for their contributions and for the provision of study data and other information.

7.4 The Committee was satisfied that the proposed hazard classification changes identified in the application form, with the revisions as noted in the EPA Update Report, should apply.

7.5 The Committee noted that the proposed changes would result in classifications that more accurately represent the hazards of the substances in the application.

7.6 The Committee noted that the hazard classifications for two substances (fish oils, CAS# 8016-13-5, approval number HSR005575; benzenesulphonic acid, 4-[[1-[[(2-methylphenyl)amino]carbonyl]-2-oxopropyl]azo]-3-nitro-, calcium salt (2:1), CAS# 12286-66-7, approval number HSR007202) have been removed entirely. Therefore, these two sustances are now deemed to be non-hazardous according to the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017. These two substances cease to be regulated as hazardous substances under the HSNO Act.

7.7 The hazard classifications for all affected substances are shown in Table 2 in Appendix A.

Controls

7.8 The Committee noted that the approvals for the substances affected by this modified reassessment were reissued on 19 March 2020. The reissued approvals set out the suite of controls and requirements that apply to the substances.

7.9 The Committee noted that changes to hazard classifications would result in changes to the prescribed controls which apply to the substances. The Committee considered that the changes to the prescribed controls based on the changes to the classifications were appropriate.

7.10 The Committee considered that the addition of the additional labelling restriction to highlight paraesthesia risks for certain pyrethrum-containing substances (Pyradym, approval number HSR007880; Pygar, approval number HSR101120) would improve risk management and increase consistency across approved substances with similar hazards.

7.11 The Committee noted that two substances included in this modified reassessment are now deemed to be non-hazardous and are no longer regulated as hazardous substances under the HSNO Act. Therefore, any controls previously associated with these two approvals (HSR005575 and HSR007202) cease to apply to these substances.

7.12 The controls changes for all affected substances are presented in Table 2 in Appendix A, with full descriptions for each of the control codes listed in Appendix B. The full suite of controls and requirements that apply to each of the approved substances and their upated hazard classifications are presented in a separate approval document for each substance.

Assessment of effects associated with the reassessment

7.13 The Committee took into account the EPA assessment of the effects of the proposed changes, as detailed in the EPA Update Report. The key points are summarised below.

7.14 The Committee noted that the proposals as set out in the application form, together with the changes recommended in the EPA Update Report, will result in hazard classifications that more accurately represent the hazardous properties of the substances. The Committee considered that the associated modifications to the default controls will result in controls that are more appropriate in terms of their management of the risks of the substances. Substance labels and Safety Data Sheets will more accurately inform users of the hazards of the substances, and appropriate risk mitigation measures can be put in place.

7.15 The Committee considered that implementing the proposed changes to the hazard classifications and associated controls will result in a positive change to the effects on human health associated with use of the substances, since the controls will more appropriately manage the human health risks. The Committee further noted that implementing the additional labelling to highlight paraesthesia risks for certain substances would improve management of human health risks for these substances. Therefore the overall risks to human health for workers, bystanders, and the public will be reduced from when the substances were originally approved.

7.16 The Committee considered that implementing the proposed changes to the hazard classifications and associated controls will result in a positive change to the environmental effects associated with use of the substances, since the controls will more appropriately manage the environmental risks, including potential impacts on native or valued species and/or ecosystems. Therefore the overall environmental risks will be reduced from when the substances were originally approved.

7.17 The Committee considered that there are some economic benefits associated with the change to the hazard classifications of the substances. In particular, changing the hazard classifications and updating the labelling of the substances to reflect the changes will provide customers with increased confidence in products, which will provide potential economic benefits.

7.18 The Committee considered that any potential costs to industry of making changes to their labelling, packaging and Safety Data Sheets to reflect the classification change could be mitigated by providing a sufficient period of time to update documentation related to the substances, including labelling, packaging and Safety Data Sheets. The Committee noted that the reissued approvals already set a transitional period ending on 31 March 2022 to comply with controls set in EPA Notices for labelling, packaging and Safety Data Sheets. In view of this, the Committee considered that an implementation period ending on 31 March 2022 should also be provided to allow industry to update documentation to reflect the new hazard classifications.

7.19 The Committee did not identify any further effects on society, the community, or the market economy associated with the change to the hazard classifications of the substances. The Committee therefore did not consider this further.

7.20 The Committee considered that implementing the proposed changes to the hazard classifications and associated controls will result in a positive change to the effects of the substances on the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, valued flora and fauna and other taonga, given that the controls will more appropriately manage the risks of the substances, and there is no change in the use pattern of the substances. Therefore, these risks will be reduced from when the substances were originally approved.

7.21 The Committee considered that there are some positive effects on New Zealand's international obligations associated with the proposed change to the hazard classifications of the substances in terms of harmonising chemical classifications with other major jurisdictions. In particular, changes to classifications in many cases result in alignment with classifications in the substances' REACH registration dossiers in Europe. Harmonisation of chemical classification approaches is one aspect of New Zealand's international obligations as an OECD member state and assists in ensuring that the best international practices and standards for the safe management of hazardous substances can be applied. No other effects on any international obligations were identified.

7.22 Taking into account the effects identified above, the Committee considered that there was an overall positive effect in making the change to the hazard classifications of the approvals, and noted that the classifications will more accurately represent the hazards of the substances compared to those identified in the original approvals. No significant adverse effects have been identified. As a result, since the controls will better manage the risks of the substances, the Committee considered the overall impact of the changes to be beneficial.

8 Conclusion and decision

8.1 Pursuant to sections 63A(6) of the Act and section 32 of the Hazardous Substances and New Organisms (Methodology) Order 1998 ("the Methodology"), the Committee considered this application to modify multiple approvals. In doing so, the Committee applied all the relevant sections of the Act and clauses of the Methodology.

8.2 The Committee considered that all effects associated with the reassessment have been taken into account, in accordance with section 63A(6)(a) of the HSNO Act. The Committee

considered that the positive effects of implementing the changes to the hazard classifications and controls of the approvals outweigh the adverse effects.

8.3 In making its decision, the Committee took into account best international practices and standards for the safe management of hazardous substances in accordance with section 63A(6)(b) of the HSNO Act.

8.4 Consequently, the Committee confirmed the changes to the hazard classifications of the substances and associated changes to the controls and **approved** the modified reassessment application.

Signed by: **Dr Nick Roskruge**	**Date: 1 July 2020**
Chair, Decision-Making Committee **Environmental Protection Authority**	

Appendix A: Substances in the Chemical Review 2015

Table 2 below lists the substances included in the Chemical Review, together with their approval numbers, and changes to hazard classifications and controls as a result of this decision. Substance names are in **bold** where there are direct changes to that substance, and substance names in plain text are substances (generally mixtures) affected by changes to the classification of a preceding substance. For information on the justification as to why these changes were proposed, refer to the Application Form and the EPA Update Report.

Table 2 Approved substances with changes

Substance affected	Approval number	Previous hazard classification	New hazard classification	Changes to controls
Benzaldehyde CAS# 100-52-7	HSR001395	**3.1C**, 6.1D (oral), **6.1D (dermal)**, 6.3B, **6.5B**, 9.1D, 9.2D, 9.3C	**3.1D**, 6.1D (oral), **6.1D (inhalation)**, 6.3B, **6.4A**, 9.1D, 9.2D, 9.3C	Remove: HSW8-1, HSW10-1, HSW10-4, HSW10-10, HSW10-13, HSW10-15, HSW13-7.
Benzenesulphonic acid, 4-[[1-[[(2-methylphenyl)-amino]carbonyl]-2-oxopropyl]azo]-3-nitro-, calcium salt (2:1) CAS# 12286-66-7	HSR007202	6.7A	Non-hazardous, carcinogenicity is ND (no data)	Remove: all controls.
Butylated hydroxytoluene CAS# 128-37-0	HSR002784	**6.1D (oral), 6.5B, 6.8C, 6.9B (oral), 9.1D, 9.3C**	**9.1A**	Remove: HSW2-4, HSW3-1, HSW3-2, HSW4-2, HSW13-2, HSW13-3, HSW13-7, HSW13-8, HSW13-9, HSW16-1.

Dioctyltin dilaurate or (Stannane, dioctylbis[(1-oxododecyl)oxy]-) CAS# 3648-18-8	HSR007500	**3.1C**	**6.8B, 6.9A (oral)[1]**	Remove: HSW2-2, HSW5-1, HSW8-1, HSW8-2, HSW10-1, HSW10-3, HSW10-4, HSW10-5, HSW10-10, HSW10-12, HSW10-13, HSW10-15, HSW11-1. Add: HSW13-2, HSW13-3, HSW13-8, HSW13-9, HSW13-14.
Furfuryl Alcohol CAS# 98-00-0	HSR002998	**6.1D (oral, dermal, inhalation)**	**3.1D, 6.1B (inhalation), 6.1C (oral), 6.1C (dermal), 6.1E (respiratory irritation), 6.3A, 6.7B, 6.9A (inhalation), 6.9B (oral), 8.3A, 9.3B**	Add: HPC-2, HPC-4A, HPC-4B; HSW4-1, HSW5-1, HSW8-2, HSW10-3, HSW10-5, HSW10-12, HSW11-1, HSW13-1, HSW13-4, HSW13-7, HSW13-13, HSW13-15, HSW13-16, HSW13-17, HSW19-1.

[1] This is a change to the proposal set out in the application form based on review of submissions as discussed in the EPA Update Report

Furfuryl alcohol, >25% in a non-hazardous diluent	HSR007402	**6.1D (oral, dermal, inhalation)**	**3.1D, 6.1B (inhalation), 6.1C (oral), 6.1C (dermal), 6.1E (respiratory irritation), 6.3A, 6.7B, 6.9A (inhalation), 6.9B (oral), 8.3A, 9.3B**	Add: HPC-2, HPC-4A, HPC-4B; HSW4-1, HSW5-1, HSW8-2, HSW10-3, HSW10-5, HSW10-12, HSW11-1, HSW13-1, HSW13-4, HSW13-5, HSW13-7, HSW13-13, HSW13-15, HSW13-16, HSW13-17, HSW19-1.
GTL gasoil CAS# 848301-67-7	HSR100066	6.1E (oral), **6.7B**, 9.1B	6.1E (oral), 9.1B	Remove: HSW5-2, HSW13-3, HSW13-14, HSW17-1.
Hydrogen peroxide, 8-20% aqueous solution	HSR001450	5.1.1C, 6.1E (oral), 6.9B (oral, inhalation), 8.3A, **9.1D**	5.1.1C, 6.1E (oral), 6.9B (oral, inhalation), 8.3A	Remove: HPC-4A, HPC-4B.
Hydroperoxide, 1,1-dimethylethyl, 70% aqueous solution CAS# 75-91-2	HSR001365	5.2F, 6.1C (dermal), **6.1D (inhalation)**, 6.1D (oral), 6.6B, 6.9B (oral), 8.2C, 8.3A, 9.1B, 9.3B	**3.1C**, 5.2F, 6.1C (dermal), **6.1B (inhalation),** 6.1D (oral), **6.5B,** 6.6B, 6.9B (oral), 8.2C, 8.3A, 9.1B, 9.3B	Add: HSW4-1, HSW10-1, HSW10-3, HSW10-4, HSW10-5, HSW10-10, HSW10-12, HSW10-13, HSW10-15, HSW11-1, HSW13-4, HSW19-1. Remove: HSW13-5.

Iodocarb CAS# 55406-53-6	HSR002733	6.1D (oral), 6.1C (inhalation), **6.3B, 6.4A,** 6.5B, **6.9B (dermal), 6.9B (oral),** 9.1A, 9.3C	6.1D (oral), 6.1C (inhalation), **8.3A,** 6.5B, **6.9A (inhalation),** 9.1A, 9.3C	No change.
Protim Antimould	HSR000017	6.1D (oral), **6.4A**, 6.5B, **6.9B (oral),** 9.1A, 9.3C	6.1D (oral), **8.3A**, 6.5B, **6.9A (inhalation),** 9.1A, 9.3C	No change.
Ready to use liquid containing 2.5 g/litre cyproconazole and 1 g/litre iodocarb (Substance A)	HSR000632	6.4A, 6.7B, 6.8C, **6.9B**, 9.1A	6.4A, 6.7B, 6.8C, 9.1A	No change.
Ready to use liquid containing 2.5 g/litre cyproconazole and 1 g/litre iodocarb (Substance B)	HSR000635	9.1B	**6.8B**, 9.1B	Add: HSW2-4, HSW3-1, HSW3-2, HSW4-2, HSW13-3, HSW13-8, HSW13-9, HSW16-1. Remove: HSW2-2, HSW5-2, HSW13-14.
Emulsifiable concentrate containing 603 g/litre didecyl dimethyl ammonium chloride and 71 g/litre iodocarb (Substance A)	HSR000832	3.1C, 6.1C (inhalation), 6.1C (oral), 6.1E (dermal), 6.5B, 6.7B, **6.9B (dermal), 6.9B (oral)**, 8.2B, 8.3A, 9.1A, 9.3B	3.1C, 6.1C (inhalation), 6.1C (oral), 6.1E (dermal), 6.5B, 6.7B, **6.9B (inhalation)**, 8.2B, 8.3A, 9.1A, 9.3B	No change.
Emulsifiable concentrate containing 330 g/litre of iodocarb	HSR000859	6.1C (inhalation), 6.1E (oral), **6.3B, 6.4A**, 6.5B, **6.9B**, 9.1A	6.1C (inhalation), 6.1E (oral), **8.3A**, 6.5B, **6.9A (inhalation)**, 9.1A, **9.3C**	No change.

Emulsifiable concentrate containing 36 g/litre carbendazim, 20-21 g/litre iodocarb and 460 g/litre sodium orthophenylphenate	HSR000874	6.1D (oral), 6.3A, 6.5B, 6.6A, 6.8A, 6.9A, 8.1A, 8.3A, 9.1A, 9.2B, 9.3C	6.1D (oral), 6.3A, 6.5B, 6.6A, 6.8A, 6.9A **(oral), 6.9B (inhalation)**, 8.1A, 8.3A, 9.1A, 9.2B, 9.3C	No change.
Soluble concentrate containing 500 g/litre benzalkonium chloride, 50 g/litre iodocarb and 50 g/litre propiconazole	HSR000876	6.1D (oral), 6.1D (dermal), **6.5A,** 6.5B, 6.9B, **8.2C,** 8.3A, 9.1A, 9.3B	6.1D (oral), 6.1D (dermal), 6.5B, 6.9B (**oral, inhalation**), **8.2B,** 8.3A, 9.1A, 9.3B	Add: HSW13-1, HSW13-13, HSW13-15, HSW13-16, HSW13-17.
Emulsifiable concentrate containing 40 g/litre iodocarb and 120 g/litre orthophenyl phenol	HSR000878	3.1D, 6.1D (oral), 6.3A, 6.5B, 6.9B (oral), 8.3A, 9.1A, 9.2B, 9.3C	3.1D, 6.1D (oral), 6.3A, 6.5B, **6.9B** (oral, **inhalation)**, 8.3A, 9.1A, 9.2B, 9.3C	No change.
Soluble concentrate containing 500 g/litre benzalkonium chloride, 50 g/litre guazatine and 50 g/litre iodocarb	HSR000886	**6.1C (oral), 6.5A,** 6.5B, **6.7B**, 6.9B, 8.2C, 8.3A, 9.1A, 9.3B	**6.1D (oral), 6.1D (dermal), 6.1D (inhalation)**, 6.5B, 6.9B **(oral, inhalation)**, **8.2B,** 8.3A, 9.1A, 9.3B	Remove: HPC-2; HSW13-5.
Emulsifiable concentrate containing 0.65 g/litre 5-chloro-2-methyl-4-isothiazolin-3-one, 600 g/litre didecyl dimethyl ammonium chloride 70\g/litre iodocarb and 0.18 g/litre 2-methyl-4-isothiazolin-3-one	HSR000892	3.1C, 6.1C (oral), 6.5B, 6.8B, 8.2B, 8.3A, 9.1A, 9.3B	3.1C, 6.1C (oral), 6.5B, 6.8B**, 6.9B (inhalation)**, 8.2B, 8.3A, 9.1A, 9.3B	No change.
Soluble concentrate containing 245 g/litre benzalkonium chloride, 87 g/litre boric acid and 23 g/litre iodocarb	HSR000900	6.1D (oral), 6.1E (dermal), **6.5A,** 6.5B, 6.8B, 6.9A, **8.2C,** 8.3A, 9.1A, 9.3C	6.1D (oral), 6.1E (dermal), 6.5B, 6.8B, **6.9A (oral), 6.9B (dermal), 6.9B (inhalation)**, **8.2B,** 8.3A, 9.1A, 9.3C	Add: HSW13-1, HSW13-13, HSW13-15, HSW13-16, HSW13-17.
Emulsifiable concentrate containing 0.6 g/litre 5-chloro-2-methyl-4-isothiazolin-3-one, 311.1 g/litre didecyl dimethyl ammonium chloride, 36.5 g/litre iodocarb and 0.2 g/litre 2-methyl-4-isothiazolin-3-one	HSR000903	3.1C, 6.1C (oral), 6.5B, 6.8B, 6.9A, 8.2B, 8.3A, 9.1A (F), 9.3B	3.1C, 6.1C (oral), 6.5B, 6.8B, **6.9A (oral), 6.9B (inhalation)**, 8.2B, 8.3A, 9.1A, 9.3B	No change.

TF3 Substance A	HSR002459	3.1D, 6.1C (oral), 6.1E (dermal), 6.5A, 6.5B, 6.8A, 6.9B (oral), 8.2C, 8.3A, 9.1A, 9.3B	3.1D, 6.1C (oral), 6.1E (dermal), 6.5A, 6.5B, 6.8A, 6.9B (oral), **6.9B (dermal), 6.9B (inhalation)**, 8.2C, 8.3A, 9.1A, 9.3B	No change.
TF3 Substance B	HSR002460	3.1D, 6.1D (oral), 6.1E (dermal), 6.5A, 6.5B, 6.8A, 6.9B (oral), 8.2C, 8.3A, 9.1A, 9.3B	3.1D, 6.1D (oral), 6.1E (dermal), 6.5A, 6.5B, 6.8A, 6.9B (oral), **6.9B (dermal), 6.9B (inhalation)**, 8.2C, 8.3A, 9.1A, 9.3B	No change.
Blue Control IC	HSR002472	6.1B (inhalation), **6.3B**, 6.5B, 6.7B, 6.9A (oral), **6.9B (dermal)**, 8.3A, 9.1A, 9.2C, 9.3B	6.1B (inhalation), 6.5B, 6.7B, 6.9A (oral), **6.9A (inhalation)**, 8.3A, 9.1A, 9.2B, 9.3B	No change.
Ready to use liquid containing 2.5 g/litre cyproconazole and 1 g/litre iodocarb (Substance C)	HSR007703	6.5B, 6.8B, 9.1B	6.5B, 6.8B, **6.9B (oral),** 9.1B	No change.
Linflo 450	HSR000938	6.1E (oral), 6.4A, 6.8B, 6.9A (oral), 9.1A, 9.2A	6.1E (oral), 6.4A, 6.8B, 6.9A (oral), 9.1A, 9.2A, **9.3B**	No change.
2-Pyrrolidinone, 1-methyl- CAS# 872-50-4	HSR001384	3.1D, 6.1E (oral), 6.3A, 6.4A, 6.8A	3.1D, 6.1E (oral), 6.3A, 6.4A, 6.8A [No change]	No change.
Oils, Fish CAS# 8016-13-5	HSR005575	5.1.1C	Non-hazardous, remove 5.1.1C	Remove: all controls.
Oxalic acid CAS# 144-62-7	HSR002710	**6.1D** (oral, **dermal, inhalation**), **6.8C**, 6.9B (dermal), 8.1A, 8.2C, 8.3A, 9.3B	6.1D (oral), **6.1E (respiratory irritation), 6.9B** (**oral)**, 6.9B (dermal), 8.1A, 8.2C, 8.3A, 9.3B	No change.
Oxirane, methyl- CAS# 75-56-9	HSR001220	3.1A, 6.1C (inhalation), **6.1D (oral, dermal), 6.3A,** 6.4A, 6.6A, **6.7B,** 6.8B, **6.9B (inhalation),** 9.1C, 9.3B	3.1A, **6.1C (dermal**, inhalation), **6.1D (oral)**, **6.1E (respiratory irritant)**, 6.4A, 6.6A, **6.7A**, 6.8B, 9.1C, 9.3B	No change.

2-Phenoxyethanol CAS# 122-99-6	HSR003045	6.1D (oral, **dermal**, **inhalation**), 6.4A, **6.8B**, 9.3C	6.1D (oral), 6.4A, 9.3C	No change.
1,3-Propanediol, 2,2-dimethyl- CAS# 126-30-7	HSR003955	**6.1D (oral)**, 6.4A	6.4A	Remove: HSW2-2, HSW5-2, HSW13-3.
Propazine CAS# 139-40-2	HSR003357	6.1D (oral, inhalation), 6.1E (dermal), 6.3B, 6.4A, **6.7B**, 9.1A, 9.2A, 9.3C	6.1D (oral, inhalation), 6.1E (dermal), 6.3B, 6.4A, 9.1A, 9.2A, 9.3C	No change.
Suspension concentrate containing 494 g/litre propazine	HSR000387	6.1D (inhalation), 6.1E (oral), 6.3B, 6.4A, **6.7B**, 9.1A, 9.2A	6.1D (inhalation), 6.1E (oral), 6.3B, 6.4A, 9.1A, 9.2A, **9.3C**	No change.
Wettable powder containing 500 g/kg propazine	HSR000399	6.1D (inhalation), 6.1E (oral), 6.3B, 6.4A, **6.7B**, 9.1A, 9.2A	6.1D (inhalation), 6.1E (oral), 6.3B, 6.4A, 9.1A, 9.2A, **9.3C**	No change.
Sulfur, excluding formed sulfur CAS# 7704-34-9	HSR001284	4.1.1B, **6.4A**	4.1.1B, **6.1E (oral, dermal, inhalation), 6.3A**	Add: HSW13-3.
Wettable powder containing 350 g/kg copper as copper oxychloride and 240 g/kg sulphur	HSR000510	6.1D (oral), **6.4A**, 6.5B, 6.9B (oral), 9.1A, 9.3C	6.1D (oral), **6.3A**, 6.5B, 6.9B (oral), 9.1A, 9.3C	No change.
Granular material containing 7.5 g/kg pendimethalin	HSR000548	6.3B, 6.4A, 9.1A, 9.2A, 9.3C	6.3B, 6.4A, **6.5B**, 9.1A, 9.2A, 9.3C	Add: HSW5-2, HSW13-3, HSW13-7.
Wettable powder containing 115 g/kg carbaryl, 250 g/kg copper as copper oxychloride and 284 g/kg sulphur	HSR000594	6.1D (oral), **6.4A**, 6.5B, 6.7B, 6.9B (oral), 9.1A, 9.2B, 9.3C, **9.4B**	6.1D (oral), **6.3A**, 6.5B, 6.7B, 6.9B (oral), 9.1A, 9.2B, 9.3C, **9.4A**	No change.
Suspension concentrate containing 720 - 800 g/litre sulphur (Substance A)	HSR000666	**6.4A**, 9.1D	**6.1E (oral), 6.1E (dermal), 6.3A**, 9.1D	Add: HSW13-3.
Water dispersible granule or wettable powder containing 800 g/kg sulphur	HSR000741	**6.4A**, 9.1D	**6.1E (oral), 6.1E (dermal), 6.1E (inhalation), 6.3A,** 9.1D	Add: HSW13-3.

Water dispersible granule containing 800 g/kg sulphur	HSR000816	9.1D	9.1D [No change][2]	No change.
Cream containing 7 – 13 g/kg copper sulphate, 275 - 360 g/kg sulphur and 15 - 25 g/kg tar acids	HSR002023	6.1E (oral), 6.3A, 6.4A, 6.5B, 6.6B, 6.8B, 6.9B (oral), 6.9B (dermal), 9.1A	6.1E (oral), **6.1D (inhalation)**, 6.3A, 6.4A, 6.5B, 6.6B, 6.8B, 6.9B (oral), 6.9B (dermal), 9.1A, **9.3C**	No change.
Flammable liquid containing 20 - 40 g/litre linseed oil, 120 - 160 g/litre sulphur and 700 - 800 g/litre turpentine	HSR002162	3.1C, 6.1D (dermal), 6.1D (oral), 6.3A, 6.4A, 6.5B, 9.1C	3.1C, 6.1D (dermal), 6.1D (oral), **6.1D (inhalation)**, 6.3A, 6.4A, 6.5B, 9.1C	No change.
Liquid containing 3 - 7 g/litre neomycin sulphate, 0.4 - 1.4 g/litre prednisolone, 3 - 7 g/litre sulphur and 26 - 50 g/litre zinc oxide	HSR002281	6.5B, 9.1A	6.5B, 9.1A [No change]	No change.
Suspension concentrate containing 720 - 800 g/litre sulphur (Substance B)	HSR007707	6.4A, 6.5B, **9.1D**	**6.1E (oral), 6.1E (dermal), 6.3A**, 6.4A, 6.5B, **6.9B (oral), 9.1C, 9.2C**	No change.
Sulgran 80% WG	HSR100627	**6.3B, 6.4A**, 9.1D	**6.1E (oral), 6.1E (dermal), 6.1E (inhalation), 6.3A**, 9.1D	Add: HSW13-3.
Sodium dioctylsulfosuccinate[3] CAS# 577-11-7	HSR003166	**6.1D (oral)**, 6.3A, 8.3A, 9.1D, **9.3C**	6.3A, 8.3A, 9.1D	No change.
Soluble concentrate containing 180 – 250 g/litre fatty acids (potassium salts)[4]	HSR000690	9.1D	9.1D [No change]	No change.
RB-2-100	HSR000026	3.1D, 6.9B (oral), 9.1A	3.1D, **6.1E (aspiration hazard)**, 6.9B (oral), 9.1A	No change.

[2] This is a change to the proposal set out in the application form based on review of submissions and additional mammalian toxicity study data as discussed in the EPA Update Report

[3] Name changed from **sodium dioctylsulphosuccinate**

[4] Name changed from **soluble concentrate containing 190 – 250 g/litre fatty acids (potassium salts)**.

Soluble concentrate containing 195 g/litre acephate. Also contains ethylene glycol	HSR000154	6.1D (oral), 6.3A, 6.4A, 6.8A, **6.8C**, 6.9A, **9.1D**, 9.3C, 9.4B	6.1D (oral), 6.3A, 6.4A, 6.8A, 6.9A **(oral and inhalation), 6.9B (dermal)**, **9.1C**, 9.3C, 9.4B	No change.
Emulsifiable concentrate containing 45 g/litre acephate and 39 g/litre triforine	HSR000157	3.1D, 6.1E (oral), 8.2B, 8.3A, 6.8A, **6.8C**, 6.9B, **9.1D**, 9.3C, 9.4B	3.1D, 6.1E (oral), 8.2B, 8.3A, 6.8A, 6.9B (**oral, dermal, inhalation**), **9.1C**, 9.3C, 9.4B	No change.
Emulsifiable concentrate containing 22.5 g/litre acephate and 19.5 g/litre triforine	HSR000158	**6.1E (oral),** 6.3A, 8.3A, 6.8A, **6.8C**, 6.9B, 9.3C, 9.4C	6.3A, 8.3A, 6.8A, 6.9B (**oral, dermal, inhalation**), **9.1C**, 9.3C, 9.4C	No change.
Hy-D BEADLET	HSR000022	6.1E (inhalation), **6.1E (oral), 6.5B, 6.8B, 6.9A (oral)**, 9.1C	6.1E (inhalation), 9.1C	Remove: HSW2-2, HSW5-2, HSW13-3, HSW13-7.
Pyradym	HSR007880	6.1E **(oral)**, 6.3B, 6.5A, 6.5B, **6.8C**, 6.9B (oral), 6.9B (inhalation), 9.1A, 9.4A	6.1E **(aspiration hazard)**, 6.3B, 6.5A, 6.5B, 6.9B (oral), 6.9B (inhalation), 9.1A, 9.4A	Add: Label variation 1 - potential for pyrethrin to cause paresthesia.
Pygar	HSR101120	3.1D, 6.1E (aspiration hazard), 6.3B, 6.5A, 6.5B, 6.9B (inhalation), 8.3A, 9.1A, **9.3C**, 9.4B	3.1D, 6.1E (aspiration hazard), 6.3B, 6.5A, 6.5B, **6.9B (oral)**, 6.9B (inhalation), 8.3A, 9.1A, 9.4B	Add: Label variation 1 - potential for pyrethrin to cause paresthesia.
Ready to use liquid containing 20.9 g/litre esbiothrin. Also contains hydrocarbons	HSR000333	3.1D, 6.1E **(oral)**, 6.3B, **6.8C**, 6.9B, 9.1A, 9.4C	3.1D, 6.1E **(aspiration hazard)**, 6.3B, 6.9B (**oral**), 9.1A, **9.3C,** 9.4C	No change.
Repair Mortar Resin	HSR001629	3.1B, 6.1D (inhalation), 6.1E (oral), 6.3B, 6.4A, 6.5B, **6.8C**, 6.9B (oral, inhalation), **9.1C**	3.1B, 6.1D (inhalation), 6.1E (oral), 6.3B, 6.4A, 6.5B, 6.9B (oral, inhalation), **9.1D**	No change.

IGB4130NC	HSR001680	6.1D (oral), 6.8C, 6.9B, 9.1A, 9.2C, 9.3C, 9.4A	6.1D (oral), 6.8C, 6.9B, 9.1A, 9.2C, 9.3C, 9.4A [No change]	No change.
DWC0111	HSR007786	6.3B, 6.5B, 6.6B, 6.8B, 6.8C, 9.1A, 9.2C, 9.4C	**6.1D (oral),** 6.3B, 6.5B, 6.6B, 6.8B, 6.8C, **6.9B (oral)**, 9.1A, 9.2C, **9.3C**, 9.4C	No change.
NTNCS2	HSR100103	3.1D, 6.3A, 6.4A, 6.8A, **6.8C**, 6.9B (oral), 9.1A, 9.2B, 9.3B, 9.4A	3.1D, 6.3A, 6.4A, 6.8A, 6.9B (oral), 9.1A, 9.2B, 9.3B, 9.4A	No change.
BEPO1621RH	HSR100069	6.3A, 6.4A, 6.8A, **6.8C**, 9.1A, 9.2C, 9.3C, 9.4A	6.3A, 6.4A, 6.8A, 9.1A, 9.2C, 9.3C, 9.4A	No change.
KSI777	HSR100394	6.1D (oral), 6.5B, 6.6B, 6.8A, **6.8C**, 6.9A (oral), 9.1A, 9.2C, 9.3B, 9.4A	6.1D (oral), 6.5B, 6.6B, 6.8A, 6.9A (oral), 9.1A, 9.2C, 9.3B, 9.4A	No change.
Movento OD	HSR100414	6.4A, 6.5B, 6.8B, **6.8C**, 6.9B (inhalation), 9.1B	6.4A, 6.5B, 6.8B, 6.9B (inhalation), 9.1B	No change.
Polynate Bee attractant controlled release dispensers	HSR100639	6.3A, 6.4A, **6.5B, 6.8C, 6.9B (oral)**	6.3A, 6.4A, **9.1C**	Add: HPC-4A, HPC-4B. Remove: HSW5-2, HSW13-7.
Nexan Abamectin Pour On	HSR100703	6.1D (oral), 6.1E (dermal), 6.3B, 6.4A**, 6.5B**, 6.8B, 6.8C, 6.9B (inhalation), 6.9B (oral), 9.1A, 9.2C, 9.3C, 9.4A	6.1D (oral), 6.1E (dermal), 6.3B, 6.4A, 6.8B, 6.8C, 6.9B (inhalation), 6.9B (oral), 9.1A, 9.2C, 9.3C, 9.4A	Remove: HSW13-7.
SCJ-12-120164	HSR100790	**6.1E (oral)**, 6.3B, **6.5B, 6.8C**, 6.9B (oral), 9.1A, 9.4A	**6.1E (aspiration hazard)**, 6.3B, 6.9B (oral), 9.1A, 9.4A	Remove: HSW5-2, HSW13-7, HSW13-14.

Warlock Insecticide	HSR100932	3.1D, 6.1E (inhalation), 6.1E (aspiration hazard), 6.3B, 6.4A, 6.8A, **6.8C**, 6.9B (oral), 9.1A, **9.3B,** 9.4A	3.1D, 6.1E (inhalation), 6.1E (aspiration hazard), 6.3B, 6.4A, 6.8A, 6.9B (oral), **6.9B (narcotic effects)**, 9.1A, **9.3C**, 9.4A	No change.
RF-011	HSR100392	6.3B, 6.5A, 6.5B, **6.8C**, 6.9B (inhalation), 9.1A, **9.3C**, 9.4A	6.3B, 6.5A, 6.5B, **6.9B (oral),** 6.9B (inhalation), 9.1A, 9.4A	No change.
J57.23A	HSR007640	3.1C, **6.1C (dermal)**, 6.1D (oral), 6.3B, 6.4A, 6.9B (oral), 9.1A, 9.3C	3.1C, 6.1D (oral), 6.3B, 6.4A, **6.8B**, 6.9B (oral), 9.1A, 9.3C	Remove: HPC-2; HSW13-1, HSW13-5, HSW13-7, HSW13-13, HSW13-15, HSW13-16, HSW13-17.
J57.23B	HSR007641	3.1C, **6.1C (dermal)**, 6.1D (oral), 6.3B, 6.4A, 6.5B, 6.9B (oral), 9.1A, 9.3C	3.1C, 6.1D (oral), 6.3B, 6.4A, 6.5B, **6.8B**, 6.9B (oral), **6.9B (inhalation)**, 9.1A, 9.3C	Remove: HPC-2; HSW13-1, HSW13-5, HSW13-13, HSW13-15, HSW13-16, HSW13-17.
J57.23C	HSR007642	3.1C**, 6.1C (dermal)**, 6.1D (oral), 6.1D (inhalation), 6.3B, 6.4A, 6.5B, 6.9B (oral), 9.1A, 9.3C	3.1C, 6.1D (oral), 6.1D (inhalation), 6.3B, 6.4A, 6.5B, **6.8B**, 6.9B (oral), **6.9B (inhalation**), 9.1A, 9.3C	Remove: HPC-2; HSW13-1, HSW13-5, HSW13-13, HSW13-15, HSW13-16, HSW13-17.
KShield Concentrate	HSR100818	6.3A, 6.4A, 6.5B, 9.1A	6.3A, 6.4A, 6.5B, 9.1A [No change]	No change.

Emulsifiable concentrate containing 240 g/litre oxyfluorfen (Substance A)	HSR000545	3.1D, 6.1E (oral), 6.3A, 6.4A, **6.8B**, 6.9B, 9.1A, 9.2A	3.1D, 6.1E (oral), **6.1E (aspiration hazard)**, 6.3A, 6.4A, **6.8A**, 6.9B (oral), 9.1A, 9.2A	Add: HSW13-14.
Emulsifiable concentrate containing 250 g/litre triadimenol	HSR000459	3.1D, 6.1D (oral), **6.8B**, 6.9A (oral), 9.1C, 9.3C	3.1D, 6.1D (oral), **6.8A**, 6.9A (oral), 9.1C, 9.3C	No change.
Cream containing 0.3 – 0.7% cetrimide and 0.3 – 0.7% chlorhexidine gluconate	HSR002251	6.3B, 6.5B, **6.8B**, 9.1B	6.3B, 6.5B, 9.1B	No change.
Thermal 980 Negative Developer for Thermal News	HSR001652	6.3B, **6.8B**, 6.9B (oral, dermal), 8.3A	6.3B, 6.9B (oral, dermal), 8.3A	No change.
SD-1005	HSR002702	**6.4A**, 6.5B, 6.9B (oral), 9.1A, 9.4B	**6.1E (oral)**, **6.3A**, 6.5B, 6.9B (oral), 9.1A, 9.4B	No change.

Appendix B: Controls codes for changes in Appendix A

The default EPA control codes are listed below in Table 3.

Some controls are varied using standard variations to match current practice in setting controls. The variations referred to in this document are listed in Table 4 below.

Table 3: EPA Control codes used in this decision

Control code	EPA Notice	Control description
LAB	EPA Labelling Notice 2017	Requirements for labelling of hazardous substances
PKG	EPA Packaging Notice 2017	Requirements for packaging of hazardous substances
SDS	EPA Safety Data Sheet Notice 2017	Requirements for safety data sheets for hazardous substances
DIS	EPA Disposal Notice 2017	Requirements for disposal of hazardous substances
HPC-1	EPA Hazardous Property Controls Notice 2017 Part 1	Hazardous Property Controls preliminary provisions
HPC-2	EPA Hazardous Property Controls Notice 2017 Part 2	Certain substances restricted to workplaces only
HPC-3	EPA Hazardous Property Controls Notice 2017 Part 3	Hazardous substances in a place other than a workplace
HPC-4A	EPA Hazardous Property Controls Notice 2017 Part 4A	Site and storage controls for class 9 substances
HPC-4B	EPA Hazardous Property Controls Notice 2017 Part 4B	Use of class 9 substances
HPC-4C	EPA Hazardous Property Controls Notice 2017 Part 4C	Qualifications required for application of class 9 pesticides

Table 4: HSNO Variations to control codes used in this decision

Control code	HSNO Act	Control
Label variation 1	Section 77 variation to Labelling Notice	The substance label must include a warning of the effects of paraesthesia and how to avoid it.

The requirements in Table 5 below are not set for a substance under its approval but apply in their own right under the HSW legislation according to the classification of the substance. They are listed in this document for information purposes only.

Table 5: HSW Requirements referred to in this decision

Code	Regulation	Description
HSW2-1	Reg 2.1-2.4	Workplace labelling of hazardous substance containers
HSW2-2	Reg 2.5-2.10	Signage
HSW2-3	Reg 2.11	Safety data sheets
HSW2-4	Reg 2.12-2.14	Packaging
HSW3-1	Reg 3.1	Inventory
HSW3-2	Reg 3.2-3.3	Managing risks associated with hazardous substances
HSW4-1	Reg 4.1-4.4	Compliance certificates for certified handlers
HSW4-2	Reg 4.5-4.6	Information, instruction, training and supervision
HSW5-1	Reg 5.2-5.5	Fire extinguishers
HSW5-2	Reg 5.6-5.13	Emergency response plans
HSW7-1	Reg 7.1-7.11	Controlled substance licences
HSW8-1	Reg 8.1-8.2	Compliance certification
HSW8-2	Reg 8.3-8.4	Requirements for public transportation of class 1 to 5 substances
HSW10-1	Reg 10.3	General controls on class 2, 3, and 4 substances
HSW10-2	Reg 10.4	Substances that must be secured
HSW10-3	Reg 10.5	Requirement to segregate class 2, 3, and 4 substances
HSW10-4	Reg 10.6-10.7	Duty of PCBU to establish a hazardous area
HSW10-5	Reg 10.8-10.20	Requirements to prevent unintended ignition of class 2.1.1, 2.1.2 and 3.1 substances

HSW10-10	Reg 10.26	Duty of PCBU to establish hazardous substance location
HSW10-12	Reg 10.30-10.33	Secondary containment for class 3 and 4 pooling substances
HSW10-13	Reg 10.34-10.35	Requirement to have compliance certificate if class 2.1.1, 2.1.2, or 3.1 substance present at hazardous substance location
HSW10-15	Reg 10.37	Requirement for transit depot
HSW11-1	Part 11	Controls relating to adverse effects of unintended ignition of class 2 and 3.1 substances
HSW13-1	Reg 13.3-13.4	Records of application for class 6 substances
HSW13-2	Reg 13.7	Duty of PCBU who directs work using class 6, 8.1, 8.2, or 8.3 substances to ensure equipment is appropriate
HSW13-3	Reg 13.8	Duty of PCBU who directs work using class 6 and 8 substances to ensure personal protective equipment used
HSW13-4	Reg 13.9, 13.11	Certain substances to be under personal control of certified handler or secured
HSW13-5	Reg 13.10	Substances not requiring a certified handler to be secured
HSW13-6	Reg 13.12-13.13	Controlled substance licences for certain class 6 substances
HSW13-7	Reg 13.14-13.16	Transportation of certain class 6 and 8 substances
HSW13-8	Reg 13.17	Prohibition on use of substance in excess of tolerable exposure limit
HSW13-9	Reg 13.18	Duty of PCBU to ensure prescribed exposure standards for class 6 substances not exceeded
HSW13-10	Reg 13.19-13.21	Vertebrate toxic agent requirements
HSW13-11	Reg 13.22	Duties of PCBU who directs work using antifouling paints
HSW13-12	Reg13.23-25	Restricted entry intervals
HSW13-13	Reg 13.26-13.29, 13.34-13.37	Storage and segregation of certain class 6 or 8 substances
HSW13-14	Reg 13.30-33	Secondary containment requirements for class 6 and 8 pooling substances
HSW13-15	Reg 13.34, 13.38-13.39	Duty of PCBU to establish hazardous substance location and compliance certificate requirements where certain class 6 or 8 substances present
HSW13-16	Reg 13.40-13.44	Separation of hazardous substance locations holding class 6 and 8 substances

HSW13-17	Reg 13.45	Additional emergency management requirements for certain class 6 or 8 substances
HSW15-1	Part 15	Requirements for gases under pressure
HSW16-1	Part 16	Requirements for tank wagons and transportable containers
HSW17-1	Part 17	Requirements for stationary container systems
HSW19-1	Part 19	Tracking hazardous substances

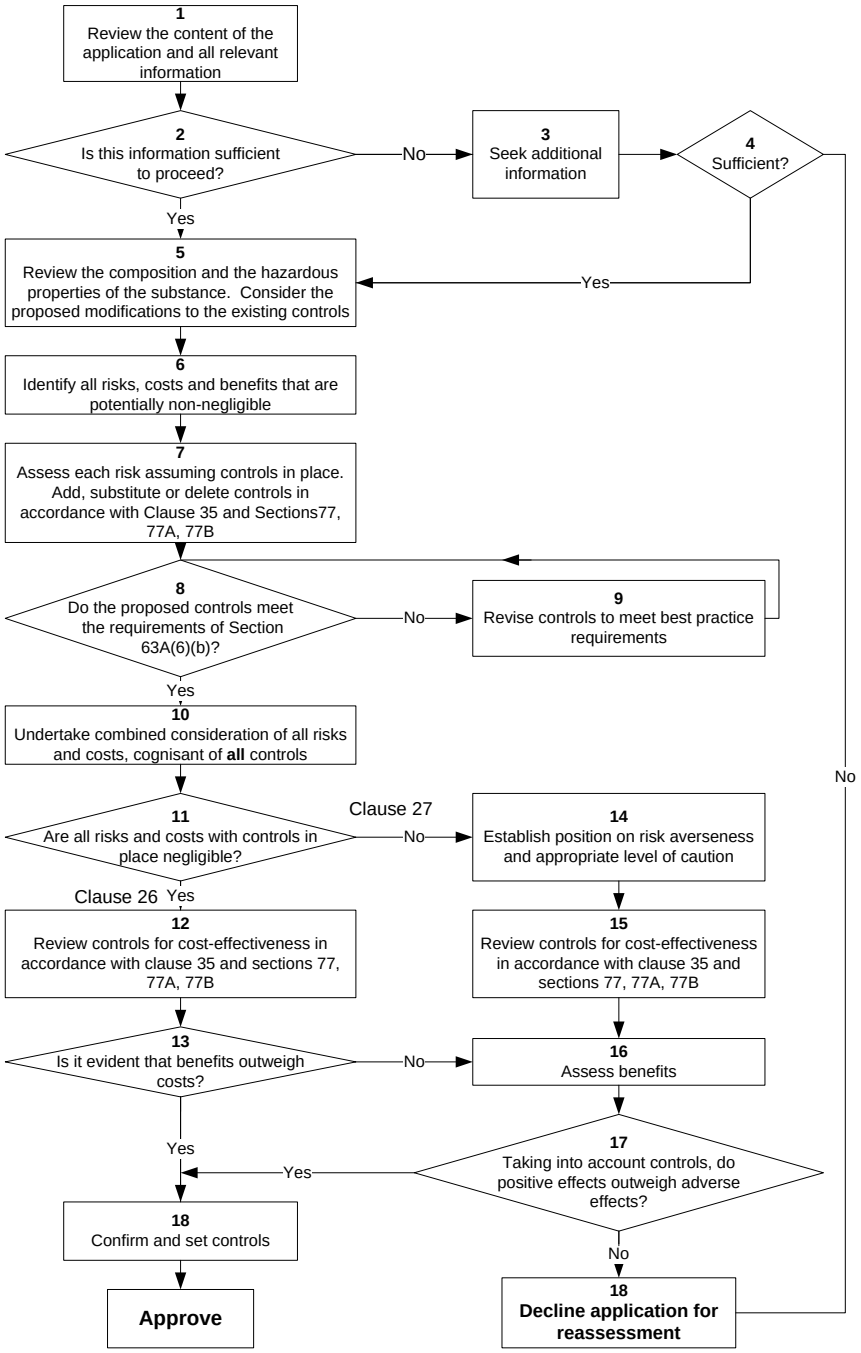
Appendix C: Decision Path

Context

This decision path describes the decision-making process for applications for a modified reassessment for amendments to hazardous substances approvals. These applications are made and determined under section 63A of the HSNO Act.

Decision path for modified reassessment for amendments to hazardous substance approvals: application made and determined under section 63A.

For proper interpretation of the decision path it is important to work through the flowchart in conjunction with the explanatory notes.



Explanatory Notes

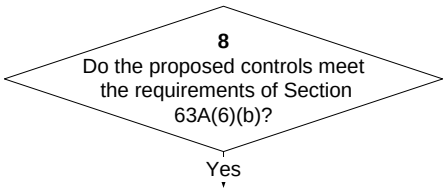
Item 1:	**Review the content of the application and all relevant information** Review the application, the E&R Report, and information received from experts and that provided in submissions (where relevant) in terms of section 28(2) of the Act and clauses 8, 15, 16 and 20 of the Methodology. While section 63A is not mentioned in section 53 (public notification), sections 63A(4) and (5) provide discretion for the HSNO decision maker to consider public notification (cf section 53(2)) and guidance re consultation where an application is not publicly notified.
Item 2:	**Is this information sufficient to proceed?** Review the information and determine whether or not there is sufficient information available to make a decision.
Item 3:	**(if 'no') Seek additional information** If there is not sufficient information then additional information may need to be sought under section 52 or 58 of the Act. If the applicant is not able to provide sufficient information for consideration then the application is not approved. In these circumstances the HSNO decision maker may choose to decline the application, or the application may lapse.
Item 4	**Sufficient?** When additional information has been sought, has this been provided, and is there now sufficient information available to make a decision? If the HSNO decision maker is not satisfied that it has sufficient information for consideration, then the application for reassessment must be declined (see item 18).
Item 5:	**(if 'yes' from item 2 or from item 4) Review the composition and the hazardous properties of the substance, and the proposed modifications to the existing controls** Review the composition of the substance, its hazardous properties, and the existing suite of controls on the substance. The level of detail for this review will depend on the nature of the application for modified reassessment. In most cases a detailed review will not be required. Consider the proposed modifications to the existing controls.
Item 6:	**Identify all risks, costs and benefits that are potentially non-negligible[5]** The modified reassessment process concentrates on a specific aspect of the approval (section 63A(1)(a)). All risks, costs and benefits that are potentially non-negligible need to be identified. However, emphasis should be placed on effects that are expected to change as a result of the proposed changes to controls.

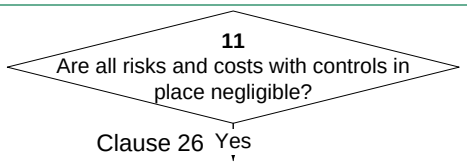
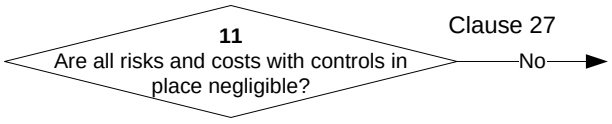
[5] Relevant effects are **marginal effects**, or the changes that will occur as a result of the substance being available. Financial costs associated with preparing and submitting an application are not marginal effects and are not effects of the substance(s) and are therefore not taken into account in weighing up adverse and positive effects. These latter types of costs are sometimes called 'sunk' costs since they are incurred whether or not the application is successful.

	Costs and benefits are defined in the Methodology as the value of particular effects. However, in most cases these 'values' are not certain and have a likelihood attached to them. Thus costs and risks are generally synonymous and may be addressed together. Examples of costs that cannot be considered as risks are one-off direct financial costs incurred by applicants that cannot be considered as 'sunk' costs (see footnote 1). Where such costs arise they will considered in the same way as risks, but their likelihood of occurrence will be more certain. Identification is a two-step process that scopes the range of possible effects (risks, costs and benefits).	
	Step 1:	Identify all possible risks and costs (adverse effects) and benefits (positive effects) associated with the approval of the substance(s), and based on the range of areas of impact described in clause 9 of the Methodology and sections 5 and 6 of the Act[6]. Consider the effects of the substance through its lifecycle (clause 11) and include the likely effects of the substance being unavailable (sections 29(1)(a)(iii) and 29(1)(b)(iii)). Relevant costs and benefits are those that relate to New Zealand and those that would arise as a consequence of approving the application (clause 14). Consider short term and long term effects. Identify situations where risks and costs occur in one area of impact or affect one sector and benefits accrue to another area or sector; that is, situations where risks and costs do not have corresponding benefits.
	Step 2:	Document those risks, costs and benefits that can be readily concluded to be negligible[7], and eliminate them from further consideration. Note that where there are costs that are not associated with risks some of them may be eliminated at this scoping stage on the basis that the financial cost represented is very small and there is no overall effect on the market economy.
Item 7:	**Assess each risk assuming controls in place. Add, substitute or delete controls in accordance with clause 35 and sections 77, 77A and 77B of the Act.** The assessment of potentially non-negligible risks and costs should be carried out in accordance with clauses 12, 13, 15, 22, 24, 25, and 29 to 32 of the Methodology. The assessment is carried out with the default controls in place. Assess each potentially non-negligible risk and cost estimating the magnitude of the effect if it should occur and the likelihood of its occurring. Where there are non-negligible financial costs that are not associated with risks then the probability of occurrence (likelihood) may be close to 1. Relevant information provided in submissions should be taken into account. The distribution of risks and costs should be considered, including geographical distribution and distribution over groups in the community, as well as distribution over time. This information should be retained with the assessed level of risk/cost.	

[6] Effects on the natural environment, effects on human health and safety, effects on Māori culture and traditions, effects on society and community, effects on the market economy.

[7] Negligible effects are defined in the Annotated Methodology as "Risks which are of such little significance in terms of their likelihood and effect that they do not require active management and/or after the application of risk management can be justified by very small levels of benefits."

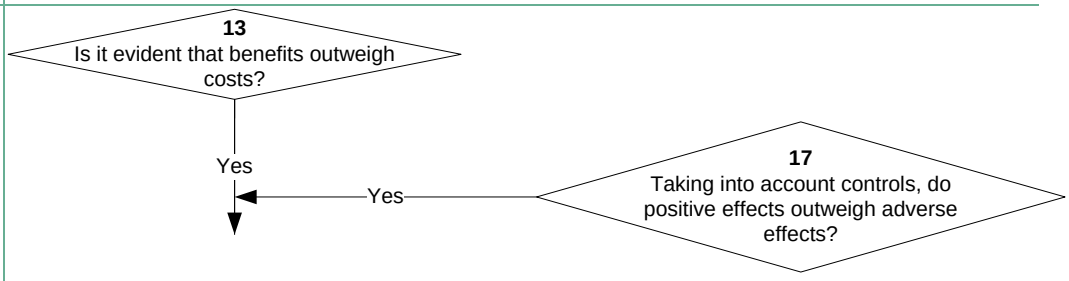
	This assessment includes consideration of how cautious the HSNO decision maker will be in the face of uncertainty (section 7). Where there is uncertainty, it may be necessary to estimate scenarios for lower and upper bounds for the adverse effect as a means of identifying the range of uncertainty (clause 32). It is also important to bear in mind the materiality of the uncertainty and how significant the uncertainty is for the decision (clause 29(a)). Consider the HSNO decision maker's approach to risk (clause 33 of the Methodology) or how risk averse the HSNO decision maker should be in giving weight to the residual risk, where residual risk is the risk remaining after the imposition of controls. See EPA report 'Approach to Risk' for further guidance. Where it is clear that residual risks are non-negligible and where appropriate controls are available, add substitute or delete controls in accordance with sections 77 and 77A of the Act to reduce the residual risk to a tolerable level. If the substance has toxic or ecotoxic properties, consider setting exposure limits under section 77B. While clause 35 is relevant here, in terms of considering the costs and benefits of changing the controls, it has more prominence in items 12 and 15. If changes are made to the controls at this stage then the approach to uncertainty and the approach to risk must be revisited.
Item 8:	**Do the proposed controls meet the requirements of Section 63A(6)(b)?** Consider whether the proposed controls meet best international practices and standards for the safe management of hazardous substances. This includes the full suite of proposed controls including existing controls and modified controls.
Item 9:	**(if 'no' from item 8) Revise controls to meet best practice requirements** If the controls do not meet the best international practice criteria, then modify the controls so that they do meet them.
Item 10:	 **(if 'yes' from item 8) Undertake combined consideration of all risks and costs, cognisant of proposed controls** Once the risks and costs have been assessed individually consider all risks and costs together as a 'basket' of risks/costs. If it is feasible and/or appropriate, this may involve combining groups of risks and costs as for Clause 34 of the Methodology. The purpose of this step is to consider synergistic effects and determine whether these may change the level of individual risks.
Item 11:	**Are all risks and costs with controls in place negligible?** Looking at individual risks in the context of the 'basket' of risks, consider whether any of the residual risks (costs) are negligible.

Item 12:	 **(if 'yes' from item 11) Review controls for cost-effectiveness in accordance with clause 35 and sections 77, 77A and 77B** Where all risks are negligible the decision must be made under clause 26 of the Methodology. Consider the cost-effectiveness of the proposed individual controls and exposure limits. Where relevant and appropriate, add, substitute or delete controls whilst taking into account the view of the applicant, and the cost-effectiveness of the full package of controls.
Item 13:	**Is it evident that benefits outweigh costs?** Risks have already been determined to be negligible (item 9). In the unusual circumstance where there are non-negligible costs that are not associated with risks they have been assessed in item 7. Costs are made up of two components: internal costs or those that accrue to the applicant, and external costs or those that accrue to the wider community. Consider whether there are any non-negligible external costs that are not associated with risks. If there are no external non-negligible costs then external benefits outweigh external costs. The fact that the application has been submitted is deemed to demonstrate existence of internal or private net benefit, and therefore total benefits outweigh total costs[8]. As indicated above, where risks are deemed to be negligible, and the only identifiable costs resulting from approving an application are shown to accrue to the applicant, then a cost-benefit analysis will not be required. The act of an application being lodged will be deemed by the HSNO decision maker to indicate that the applicant believes the benefits to be greater than the costs. However, if this is not the case and there are external non-negligible costs then all benefits need to be assessed (via item 16).
Item 14:	 **(if 'no' from item 10) Establish HSNO decision maker's position on risk averseness and appropriate level of caution** Although 'risk averseness' (approach to risk, clause 33) is considered as a part of the assessment of individual risks, it is good practice to consolidate the view on this if several risks are non-negligible. This consolidation also applies to the consideration of the approach to uncertainty (section 7).

[8]Technical Guide 'Decision making' section 4.9.3. Where risks are negligible and the costs accrue only to the applicant, no explicit cost benefit analysis is required. In effect, the HSNO decision maker takes the act of making an application as evidence that the benefits outweigh the costs. See also Protocol Series 1 'General requirements for the Identification and Assessment of Risks, Costs, and Benefits'

Item 15:	**Review controls for cost-effectiveness in accordance with clause 35 and sections 77, 77A and 77B** This constitutes a decision made under clause 27 of the Methodology (taken in sequence from items 10, 13, 14 and 15). Consider (a) whether any of the non-negligible risks can be reduced by varying the controls in accordance with section 77 and 77A of the Act, and (b) the cost-effectiveness of the controls. Where relevant and appropriate, add, substitute or delete controls whilst taking into account the view of the applicant, and making sure that the benefits of doing so outweigh the costs. As for item 6, If the substance has toxic or ecotoxic properties, consider exposure limits under section 77B.
Item 16:	**(if 'no' from item 13, or in sequence from item 15) Assess benefits** Assess benefits or positive effects in terms of clause 13 of the Methodology. Since benefits are not certain, they are assessed in the same way as risks. Thus the assessment involves estimating the magnitude of the effect if it should occur and the likelihood of its occurring. This assessment also includes consideration of the HSNO decision maker's approach to uncertainty or how cautious the HSNO decision maker will be in the face of uncertainty (section 7). Where there is uncertainty, it may be necessary to estimate scenarios for lower and upper bounds for the positive effect. An understanding of the distributional implications of a proposal is an important part of any consideration of costs and benefits, and the distribution of benefits should be considered in the same way as for the distribution of risks and costs. The HSNO decision maker will in particular look to identify those situations where the beneficiaries of an application are different from those who bear the costs[9]. This is important not only for reasons related to fairness but also in forming a view of just how robust any claim of an overall net benefit might be. It is much more difficult to sustain a claim of an overall net benefit if those who enjoy the benefits are different to those who will bear the costs. Thus where benefits accrue to one area or sector and risks and costs are borne by another area or sector then the HSNO decision maker may choose to be more risk averse and to place a higher weight on the risks and costs. As for risks and costs the assessment is carried out with the default controls in place.
Item 17:	**Taking into account controls, do positive effects outweigh adverse effects?** In weighing up positive and adverse effects, consider clause 34 of the Methodology. Where possible combine groups of risks, costs and benefits or use other techniques such as dominant risks and ranking of risks. The weighing up process takes into account controls proposed in items 5, 7 (9), 12 and/or 15. Where this item is taken in sequence from items 14, 15 and 16 (i.e. risks are not negligible) it constitutes a decision made under clause 27 of the Methodology. Where this item is taken in sequence from items 11, 12 and 13 (i.e. risks are negligible, and there are external or public costs) it constitutes a decision made under clause 26 of the Methodology.

[9] Clause 13 of the Methodology

Item 18:	**(if 'no' from item 4 or item 17) Decline application for reassessment** (from item 4) The Act is silent on the situation if there is insufficient information to consider the application. However, sections 55-61 (section 63A(3)) are deemed to hold, therefore the HSNO decision maker concludes that the application for reassessment may be declined if there is insufficient information. (from item 17) The HSNO decision maker may decline the application under section 63A(6) after taking into account the effects of the substance and best international practices and standards. Section 63A(2)(b) notes that this modified reassessment process cannot result in an approval to import or manufacture the substance being revoked. Therefore, if the process results in a 'decline' decision, then the result is that the modified reassessment of the substance is not approved, and the existing controls remain in force.
Item 19:	 **(if 'yes' from items 13 or 17) Confirm and set controls** Controls have been considered at the earlier stages of the process (items 5, 7 (9), 12 and/or 15). The final step in the decision-making process brings together all the proposed controls, and reviews them for overlaps, gaps and inconsistencies. Once these have been resolved the controls are confirmed.