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Health and Safety at Work (Hazardous Substances— Requirements for Specified Fumigants) Amendment Safe Work Instrument 2022

This safe work instrument is made under section 227 of the Health and Safety at Work Act 2015 by the Minister for Workplace Relations and Safety, being satisfied that—

- (a) appropriate consultation has been carried out under section 227(3) of that Act; and
- (b) in accordance with regulation 13.46(2) of the Health and Safety at Work (Hazardous Substances) Regulations 2017, for the purposes of clauses 3, 6 to 10, 12, 13, 15(2), 16 and 17 of the Schedule inserted into the principal safe work instrument by this safe work instrument, compliance with provisions of the Regulations that apply to ethanedinitrile will not appropriately control risk associated with that substance.

Contents

	Page
1 Title	2
2 Commencement	2
3 Principal safe work instrument	2
4 Preamble amended	2
5 Overview amended	2
6 Interpretation amended	2
7 New clause 17 and cross-heading inserted	2
<i>Additional and modified requirements applying to EDN</i>	
8 New Schedule inserted	3

Schedule **New Schedule inserted**

Safe Work Instrument

1 Title

This is the Health and Safety at Work (Hazardous Substances—Requirements for Specified Fumigants) Amendment Safe Work Instrument 2022.

2 Commencement

This safe work instrument comes into force on 22 July 2022.

3 Principal safe work instrument

This safe work instrument amends the Health and Safety at Work (Hazardous Substances—Requirements for Specified Fumigants) Safe Work Instrument 2017 (the **principal safe work instrument**).

4 Preamble amended

In the Preamble, replace "being satisfied that appropriate consultation has been carried out under section 227(3) of that Act" with:

"being satisfied that—

- (a) appropriate consultation has been carried out under section 227(3) of that Act; and
- (b) in accordance with regulation 13.46(2) of the Health and Safety at Work (Hazardous Substances) Regulations 2017, for the purposes of clauses 3, 6 to 10, 12, 13, 15(2), 16 and 17 of the Schedule of this safe work instrument, compliance with provisions of the Regulations that apply to ethanedinitrile will not appropriately control risk associated with that substance".

5 Overview amended

In clause 3, after paragraph (l), insert:

- (m) the Schedule contains additional and modified requirements applying to the use of EDN.

6 Interpretation amended

- (1) In clause 4(1), after the definition of **AFE-HFP**, insert:

EDN means ethanedinitrile, HSNO approval number HSR101529

- (2) In clause 4(1), replace the definition of **site** with:

site has the meaning given in regulation 14.32 of the Regulations, except for the purposes of the Schedule of this safe work instrument

7 New clause 17 and cross-heading inserted

After clause 16, insert:

Additional and modified requirements applying to EDN

17 Additional and modified requirements applying to EDN

The Schedule specifies additional and modified requirements that apply to the use of EDN.

8 New Schedule inserted

After clause 17, insert the Schedule set out in the Schedule of this safe work instrument.

Schedule New Schedule inserted

Schedule Additional and modified requirements for EDN

Contents

Preliminary provisions

1 [Overview](#)

2 [Interpretation](#)

Additional requirement restricting use of EDN

3 [Purpose for which EDN may be used](#)

Additional and modified notification and signage requirements

4 [Notification of intended fumigation](#)

5 [PCBU must erect signs](#)

Additional and modified operational requirements

6 [PCBU to set buffer zone for fumigation using EDN](#)

7 [Entry to buffer zone to be restricted](#)

8 [Entry to affected area to be restricted](#)

9 [Application of EDN](#)

10 [PCBU to measure wind speed and direction](#)

11 [Ventilation requirements](#)

Exposure standards and limits

12 [Modified requirement for tolerable exposure limit](#)

13 [Additional requirement to notify recorded exposure level](#)

14 [Workplace exposure standards prescribed for EDN](#)

Additional and modified record-keeping and reporting requirements

15 [Requirement to keep a record of application of EDN](#)

16 [Requirement to keep a record of unintentional release](#)

17 [Requirement to produce annual monitoring report](#)

Preliminary provisions

1 Overview

This schedule contains the following additional and modified requirements applying to the use of EDN:

- (a) clause 3 sets out additional requirements to be complied with under regulation 13.46(7) of the Regulations in relation to the purposes for which EDN may be used:

- (b) clause 4 modifies the notification requirements in regulation 14.7 of the Regulations for intended fumigations using EDN:
- (c) clause 5 modifies the signage requirements in regulation 14.10(1) of the Regulations for fumigation using EDN:
- (d) clauses 6 and 7 set out additional requirements to be complied with under regulation 13.46(7) of the Regulations in relation to setting buffer zones and restricting entry to them when carrying out fumigation using EDN:
- (e) clause 8 sets out additional requirements to be complied with under regulation 13.46(7) of the Regulations to—
 - (i) determine the affected area when carrying out fumigation using EDN; and
 - (ii) restrict entry to that area to workers carrying out fumigation-related work:
- (f) clause 9 sets out additional requirements to be complied with under regulation 13.46(7) of the Regulations when applying EDN:
- (g) clause 10 sets out additional requirements to be complied with under regulation 13.46(7) of the Regulations to measure wind speed and direction when carrying out fumigation using EDN:
- (h) clause 11 modifies the ventilation and safety requirements in regulation 14.16 of the Regulations for fumigation using EDN:
- (i) clause 12 modifies the tolerable exposure limit requirements in regulation 13.17 of the Regulations for fumigation using EDN:
- (j) clause 13 sets out additional requirements to be complied with under regulation 13.46(6)(a) of the Regulations when recorded exposure levels exceed the tolerable exposure limit for EDN:
- (k) clause 14 prescribes the workplace exposure standards for EDN under regulation 13.18(3) of the Regulations:
- (l) clause 15 modifies the record-keeping requirements in regulation 14.18(1) of the Regulations for fumigation using EDN:
- (m) clause 16 sets out an additional requirement to be complied with under regulation 13.46(7) of the Regulations to keep a record of every unintentional release of EDN:
- (n) clause 17 sets out an additional requirement to be complied with under regulation 13.46(7) of the Regulations to produce an annual report of fumigations using EDN.

2 Interpretation

In this schedule, unless the context otherwise requires,—

affected area means—

- (a) an area within which one or more workplace exposure standards for EDN is or may be exceeded during fumigation and ventilation; and
- (b) includes an enclosed space

buffer zone means an area extending outward in all directions from the perimeter of an enclosed space being fumigated to a distance of at least 50 metres

buffer zone period means the period that starts when EDN is first applied in an enclosed space and ends with the latest of the following:

- (a) at least 1 hour has lapsed since ventilation has been completed;
- (b) measurements taken in the open air adjacent to the export logs or timber being fumigated in the enclosed space have, for a period of 15 minutes, continuously shown an airborne concentration of EDN below that of each workplace exposure standard

enclosed space means:

- (a) the space under a sheet;
- (b) a shipping container

exposure level means the concentration of EDN in the air recorded at the monitoring location

fumigation-related work means all work associated with fumigation using EDN

location, in relation to fumigation using EDN at any site, means the place on the site—

- (a) where the fumigation is occurring; and
- (b) which is recorded using—
 - (i) New Zealand Mapping Series grid references; or
 - (ii) a map with a resolution of at least 1:10 000; or
 - (iii) New Zealand Transverse Mercator (NZTM) 2000 coordinates

monitoring location, in relation to a buffer zone, means the point on land at the edge of the buffer zone that is in the most downwind direction from the enclosed space being ventilated

Regulations means the Health and Safety at Work (Hazardous Substances) Regulations 2017

sheet means a heavy-duty cover that—

- (a) has a low mass transfer coefficient for EDN; and
- (b) is waterproof and impenetrable

site, in relation to the use of EDN on land, means an area of land within a workplace where EDN is used and (regardless of whether the area is bisected by a road or right of way) that—

- (a) consists of—
 - (i) a single allotment or other legally defined parcel of land that is the smaller of—
 - (A) an allotment or parcel held in a single certificate of title;
 - (B) an allotment or parcel for which a separate certificate of title could be issued without the further consent of the relevant local authority;
 - or

- (ii) 2 or more adjoining legally defined parcels of land held together in 1 certificate of title in such a way that the lots cannot be dealt with separately without the further consent of the relevant local authority; or
- (iii) 2 or more adjoining certificates of title that are—
 - (A) subject to a condition imposed under [section 37](#) of the Building Act 2004 or [section 240](#) of the Resource Management Act 1991; or
 - (B) held together in such a way that they cannot be dealt with separately without the further consent of the relevant local authority; and
- (b) contains—
 - (i) for land subdivided under the cross lease or company lease systems (other than strata titles),—
 - (A) a building or buildings used for residential or business purposes with any accessory building, plus any land exclusively restricted to the users of that building; or
 - (B) a remaining share or shares in the fee simple creating a vacant part of the whole for future cross lease or company lease purposes; and
 - (ii) for land subdivided under the [Unit Titles Act 2010](#) (other than strata titles), a principal unit or proposed unit on a unit plan together with its accessory units, and includes—
 - (A) for strata titles, an area of land comprised in underlying certificate of titles, immediately before subdivision; and
 - (B) an activity that occupies more than 1 adjoining allotment, whether held in single legal title or multiple titles, and for the purpose of compliance with any rules that specify a level of effect at the boundary or that specify capacities or discharge quantities, the total area of land occupied by that activity, the boundary of which is the boundary around that area of land

tolerable exposure limit in relation to EDN, means the limit as set by the Environmental Protection Authority under section 77B of the Hazardous Substances and New Organisms Act 1996

ventilate means the intentional release of EDN into the atmosphere following fumigation, and **ventilation** has a corresponding meaning.

Additional requirement restricting use of EDN

3 Purpose for which EDN may be used

For the purposes of regulation 13.46(4)(a) of the Regulations, a PCBU with management or control of EDN must ensure that the substance is used—

- (a) only for the purpose of carrying out the fumigation of export logs or timber (or both)—
 - (i) either—
 - (A) under a sheet; or

- (B) in a shipping container; and
- (ii) in accordance with clause 9; and
- (b) for no other purpose.

Additional and modified notification and signage requirements

4 Notification of intended fumigation

For the purposes of regulations 11 and 14.7(4) of the Regulations, regulation 14.7 applies as if the following subclauses were inserted after subclause (3):

“(3A) A PCBU who intends to carry out the fumigation of export logs or timber using EDN must notify the following persons of the PCBU’s intention to carry out the fumigation:

- (a) every PCBU whose workers carry out work in the buffer zone; and
- (b) if a marae is adjacent to the site, local Māori; and
- (c) if more than 100 kg of EDN is to be applied in a 24-hour period, the occupier of every other property (including moored boats) within 100 m of the site.

(3B) A PCBU who is required to notify local Māori under subclause (3A)(b) must develop appropriate notification arrangements in consultation with local Māori.

(3C) Subject to the notification arrangements developed under subclause (3B), a PCBU who is required to give a notification under subclause (3A) must ensure that it is given not less than 24 hours before the start of the fumigation.

(3D) The requirement under subclause (3A) to notify a person is treated as having been complied with if—

- (a) fumigation is carried out at the site every week; and
- (b) subject to the notification arrangements developed under subclause (3B), the PCBU with management or control of the fumigations—
 - (i) gives notice to the person of the intention to carry out fumigations at the site not less than 24 hours before the first of the fumigations begins and annually thereafter; and
 - (ii) includes in the notice the following information:
 - (A) where the fumigation will occur; and
 - (B) to the extent it can be specified, the time ventilation will normally occur; and
 - (C) the expected frequency of the fumigation; and
 - (D) any likely seasonal variations to the timing and scope of the fumigation.

(3E) To avoid doubt, the notification requirements in subclause (3A) apply in addition to any applicable notification requirements in subclause (1) or (2).”

5 PCBU must erect signs

For the purposes of regulations 11 and 14.10(4) of the Regulations, regulation 14.10 applies as if subclause (1) were replaced with the following:

"(1) A PCBU with management or control of fumigation using EDN must, at each point of entry to the buffer zone on land, erect signs that—

- (a) can be readily seen by any person approaching the buffer zone; and
- (b) to the extent the buffer zone extends over water, are clearly visible and legible to any person approaching the buffer zone from a seaward direction at any time, including during the hours of darkness; and
- (c) state that fumigation is being carried out; and
- (d) identify that EDN is being used and state that it is toxic to humans; and
- (e) describe the general type of hazard associated with EDN; and
- (f) describe the precautions necessary to prevent the unintended ignition of EDN; and
- (g) state that access by members of the public is prohibited."

Additional and modified operational requirements

6 PCBU to set buffer zone for fumigation using EDN

For the purposes of regulation 13.46(4)(a) of the Regulations, a PCBU with management or control of EDN that the PCBU uses for fumigation must set a buffer zone around the perimeter of each enclosed space for each fumigation.

7 Entry to buffer zone to be restricted

- (1) For the purposes of regulation 13.46(4)(a) of the Regulations, a PCBU with management or control of EDN that the PCBU uses for fumigation must ensure that no member of the public is in the buffer zone during the buffer zone period.
- (2) Despite subclause (1), if a buffer zone extends over water, the PCBU must ensure so far as reasonably practicable that—
 - (a) the buffer zone is kept under observation; and
 - (b) if a member of the public enters the buffer zone, the member of the public moves out of the buffer zone as soon as is reasonably practicable.

8 Entry to affected area to be restricted

For the purposes of regulation 13.46(4)(a) of the Regulations, a PCBU with management or control of EDN that the PCBU uses for fumigation must—

- (a) for each fumigation, determine, review and, if necessary, adjust the affected area having regard to—
 - (i) the particular circumstances of the fumigation; and
 - (ii) information obtained from monitoring data; and
- (b) ensure that—

- (i) no person enters or remains in the affected area at any time, other than in the following circumstances:
 - (A) the certified handler referred to in regulation 14.16(2)(a)(i) of the Regulations (as modified by clause 11) is satisfied that the affected area is safe for the person to enter;
 - (B) the person is a worker carrying out fumigation-related work; and
- (ii) no worker carrying out fumigation-related work enters or remains in the affected area unless—
 - (A) the worker wears personal protective equipment in accordance with regulation 13.8 of the Regulations; and
 - (B) the personal protective equipment is suitable to ensure the worker is not exposed to levels of EDN above the workplace exposure standards.

9 Application of EDN

- (1) For the purposes of regulation 13.46(4)(a) of the Regulations, a PCBU with management or control of EDN that the PCBU uses for fumigation must ensure that—
 - (a) if fumigation using EDN is carried out under a sheet,—
 - (i) each sheet under which the EDN is applied is—
 - (A) in good repair and has no tears, rips, or visible holes; and
 - (B) made secure against likely weather conditions at the site; and
 - (C) sealed; and
 - (ii) the floor of the enclosed space is flat and impermeable to EDN; and
 - (b) each fumigation is continuously monitored by sampling tubes that—
 - (i) allow concentrations of EDN in the enclosed space to be measured; and
 - (ii) allow changes to be detected in the concentration of EDN that may indicate an unintentional release of EDN from the enclosed space; and
 - (iii) are placed—
 - (A) in accordance with subclauses (2) and (3); and
 - (B) as far from fumigant supply pipes as possible; and
 - (iv) are equipped with meters that allow readings to be taken from outside the affected area; and
 - (c) if an unintentional release of EDN into the open air occurs, steps are taken as soon as possible to—
 - (i) stop the unintentional release and prevent a recurrence; and
 - (ii) eliminate or minimise the risk to health and safety, so far as is reasonably practicable.
- (2) If the fumigation is carried out on a stack of export logs or timber in an enclosed space that is 30 m³ or smaller, the PCBU must ensure that—

- (a) the fumigation is continuously monitored; and
 - (b) the monitoring is carried out within the enclosed space using one or more sampling tubes, one of which is placed on top of the stack of export logs or timber and positioned at the centre.
- (3) If the fumigation is carried out on a stack of export logs or timber in an enclosed space that is larger than 30 m³, the PCBU must ensure that—
- (a) the fumigation is continuously monitored; and
 - (b) the monitoring is carried out within the enclosed space using three or more sampling tubes; and
 - (c) the placement of the sampling tubes within the enclosed space meets the following requirements:
 - (i) in every case,—
 - (A) one sampling tube must be placed within the stack of export logs or timber as close to the centre as possible; and
 - (B) one sampling tube must be placed in front of the stack of export logs or timber and positioned at the base:
 - (ii) in the case of fumigation carried out under a sheet, one sampling tube must also be placed on top of the stack of export logs or timber and positioned at the centre:
 - (iii) in the case of fumigation carried out in a shipping container, each sampling tube must be placed as far from the doors of the shipping container as possible.

10 PCBU to measure wind speed and direction

For the purposes of regulation 13.46(4)(a) of the Regulations, a PCBU with management or control of EDN that the PCBU uses for fumigation must ensure that the wind speed and direction is measured at the site every 3 minutes during the buffer zone period at the following times:

- (a) when EDN is being applied;
- (b) when the enclosed space is being ventilated until the end of the buffer zone period;
- (c) when an unintentional release of EDN occurs until—
 - (i) the unintentional release has been stopped; and
 - (ii) measurements taken in the open air adjacent to the export logs or timber being fumigated in the enclosed space have, for a period of 15 minutes, continuously shown an airborne concentration of EDN that is below each workplace exposure standard.

11 Ventilation requirements

For the purposes of regulations 11 and 14.16(3) of the Regulations, regulation 14.16 applies as if subclause (2) were replaced with the following:

- "(2) A PCBU with management or control of fumigation using EDN must—
- (a) ensure, so far as is reasonably practicable, that the enclosed space is properly ventilated so that, at the completion of fumigation,—
 - (i) in the opinion of a certified handler, the EDN has dispersed from all parts of the enclosed space; and
 - (ii) the maximum concentration of EDN that is in the affected area is reduced to the lower of the following:
 - (A) the maximum level of exposure permitted in the prescribed exposure standards set in relation to EDN;
 - (B) the lowest level practicable; and
 - (b) ensure that—
 - (i) ventilation is carried out only during the hours between sunrise and sunset; and
 - (ii) ventilation does not begin until the concentration of EDN in the enclosed space is 700 ppm or less; and
 - (iii) the airborne concentration of EDN is measured during ventilation until the end of the buffer zone period—
 - (A) in the open air adjacent to the export logs or timber; and
 - (B) at the monitoring location; and
 - (iv) the fumigated export logs or timber are not moved until the end of the buffer zone period."

Exposure standards and limits

12 Modified requirement for tolerable exposure limit

For the purposes of regulation 13.46(4)(b) of the Regulations, regulation 13.17 applies as if subclause (1) were replaced with the following:

- "(1) A PCBU with management or control of work using a class 6 substance must ensure that it is not used in a manner that results in—
- (a) in the case of fumigation using EDN, a concentration of the substance in the air at any point on the boundary of the buffer zone that exceeds the tolerable exposure limit set for that medium; and
 - (b) in every other case, a concentration of the substance in an environmental medium that exceeds the tolerable exposure limit set for the medium ."

13 Additional requirement to notify recorded exposure level

For the purposes of regulation 13.46(4)(a) of the Regulations, if the exposure level recorded for a ventilation exceeds the tolerable exposure limit for EDN, the PCBU must notify WorkSafe and the relevant medical officer of health as soon as practicable but within 5 working days of the exposure level being recorded.

14 Workplace exposure standards prescribed for EDN

For the purposes of regulations 11 and 13.18(3) of the Regulations, the workplace exposure standards for EDN are:

- (a) an average airborne concentration of 3 ppm (6.4 mg/m³) calculated over an 8 hour work period;
- (b) a maximum airborne concentration of 5 ppm (10.6 mg/m³) at any time during that work period.

Additional and modified record-keeping and reporting requirements

15 Requirement to keep a record of application of EDN

- (1) For the purposes of regulations 11 and 14.18(2) of the Regulations, regulation 14.18 applies as if subclause (1) were replaced with the following:

"(1) A PCBU with management or control of fumigation using EDN must ensure that an accurate written record of each application of EDN is kept in accordance with regulation 13.4 and subclause (1A).

(1A) In addition to the information specified in regulation 13.4(1), the PCBU must ensure that for each fumigation the following data is included in the written record:

- (a) a description of the affected area, including any adjustment to the affected area during fumigation; and
- (b) the volume of export logs or timber in the enclosed space;
- (c) the measurements of wind speed and direction taken in accordance with clause 10(a) and (b);
- (d) a description of the data collected from monitoring in the enclosed space, including end concentrations of EDN;
- (e) the date, time and location of each ventilation;
- (f) buffer zone information for the monitoring location;
- (g) the time the fumigated export logs or timber were removed from the location where the EDN was applied.

(1B) For the purposes of subclause (1A), **buffer zone information** means—

- (a) exposure levels for EDN, including the 24-hour exposure level for each ventilation;
- (b) the number of times exposure levels exceeded the tolerable exposure limit for EDN;
- (c) the risk mitigation measures taken each time the tolerable exposure limit for EDN was exceeded;
- (d) the type and location of monitoring equipment used to record exposure levels."

- (2) For the purposes of regulation 13.46(4)(b) of the Regulations, regulation 14.18 applies as if subclause (3) were replaced with the following:

"(3) The PCBU must ensure that the written record is—

- (a) kept for at least 7 years after the date of the fumigation to which it relates; and

- (b) available for inspection during that time."

16 Requirement to keep a record of unintentional release

- (1) For the purposes of regulation 13.46(4)(a) of the Regulations, a PCBU with management or control of EDN that the PCBU uses for fumigation must ensure that—
 - (a) an accurate written record of each unintentional release of EDN into the open air that occurs during fumigation is kept; and
 - (b) the written record contains the following information:
 - (i) the volume of export logs or timber in the fumigation area;
 - (ii) the date and time of the unintentional release;
 - (iii) the approximate amount of EDN unintentionally released;
 - (iv) the location where EDN was unintentionally released;
 - (v) the approximate wind speed and direction at the location when the unintentional release began;
 - (vi) the measurements of wind speed and direction taken in accordance with clause 10(c);
 - (vii) where the unintentional release occurred from;
 - (viii) the reason why the unintentional release occurred;
 - (ix) the name of each worker carrying out fumigation-related work at the time of the unintentional release and the physical address of the worker's workplace;
 - (x) all actions taken at the time to manage the risks associated with the unintentional release;
 - (xi) all actions taken to prevent future unintentional releases; and
 - (c) the written record is—
 - (i) kept for at least 7 years after the date of the fumigation to which it relates; and
 - (ii) available for inspection during that time.
- (2) For the purposes of subclause (1), a **written record** includes a record made by electronic means.

17 Requirement to produce annual monitoring report

- (1) For the purposes of regulation 13.46(4)(a) of the Regulations, a PCBU with management or control of EDN must—
 - (a) produce an annual monitoring report for each site at which the PCBU uses EDN for fumigation; and
 - (b) ensure the annual monitoring report contains the information set out in subclause (2); and

- (c) provide the annual monitoring report to WorkSafe and the relevant medical officer of health by 31 March of the year following the calendar year to which the report relates.
- (2) The annual monitoring report must contain the following information for each calendar year:
 - (a) the number of fumigations using EDN carried out at the site:
 - (b) the total amount of EDN applied at the site:
 - (c) the types of equipment used to monitor the fumigations:
 - (d) the number of times an unintentional release of EDN into the open air occurred:
 - (e) the approximate total quantity of EDN unintentionally released:
 - (f) the number of notifications made in accordance with clause 13, identified by each monitoring location:
 - (g) how worker exposure is managed at the site:
 - (h) an anonymised summary of health monitoring results for workers carrying out fumigation-related work, including at least 2 results for every worker who has been carrying out fumigation-related work for a period of 12 months or more:
 - (i) any accidents or issues related to non-compliance with any of the applicable requirements in the Regulations or this schedule.

Made at Wellington on 22 June 2022.

Hon Michael Wood
Minister for Workplace Relations and Safety

Date of notification in *Gazette*: 23 June 2022

This safe work instrument is administered by WorkSafe New Zealand.