



Hazardous substances that activate key safety controls

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The Health and Safety at Work (Hazardous Substances) Regulations 2017 (the Regulations) bring together the health and safety requirements for using hazardous substances at work. These new Regulations sit under the Health and Safety at Work Act 2015 (HSWA).

The Regulations set controls for safely managing your hazardous substances based on the hazard classifications of the substances and the amounts held in one place.

This guide is written for persons conducting a business or undertaking (PCBUs) who use, handle, manufacture and store hazardous substances. In this guide 'you' means the PCBU. A PCBU may be an individual person or an organisation, such as a business entity.

For information about the PCBU see our guide *Introduction to the Health and Safety at Work Act 2015* on our website: [worksafe.govt.nz](https://www.worksafe.govt.nz)

Note: This guide does not relate to Class 1, explosive substances, any variations to specific substances or variations made to specific situations such as farms.

1.0

The total amount of all your substances may activate controls

This guide gives you a summary of the amounts (thresholds) of substances with certain classifications that activate a particular control. Controls are rules put in place to prevent or manage the harm that hazardous substances can cause. However, in practice, many of the requirements you must follow are determined by the combined total amount of hazardous substances with different classifications onsite. This guide can therefore only give you general information.

The hazardous substances calculator can help you

The [Hazardous Substances Calculator](#) is an electronic tool that can help you work out the key safety controls you need to follow for all of the hazardous substances you use and store at your workplace. See www.hazardoussubstances.govt.nz

2.0

Certified handlers¹

A certified handler is someone who has a current compliance certificate to show that they have received the information, training and instruction that they need to handle highly hazardous substances.

Do you need a certified handler?²

You need a certified handler if your workplace handles any amount of substances requiring a controlled substance licence (CSL) or have an acutely toxic (6.1A or 6.1B) classification. Substances that need a CSL include most fumigants and some vertebrate toxic agents (VTAs).

For more information about certified handlers see our [website](#)

For more information about controlled substance licences see our [website](#)

¹ Refer to Regulation 4.3 in Part 4 for competency requirements of a certified handler.

² Refer to Part 4 of the Regulations and Regulations 9.3, 9.5, 13.9, 13.12, 13.13, 14.3, 14.4, 14.6 for provisions related to certified handler authorisations and controlled substance licences.

3.0

Amounts of substances that must be secured when unattended

Highly hazardous substances or large amounts equal to, or over, the amounts in the table below must be secured from people not permitted by the PCBU to have access to them when they are unattended.

HAZARD CLASSIFICATION (HSNO) OF SUBSTANCE	SUBSTANCE MUST BE SECURED WHEN HAVE AMOUNT EQUAL TO OR OVER THE AMOUNTS BELOW
2.1.1A	100 kg (non-permanent gas) or 100 m ³ (permanent gas) permanent gas
2.1.2A	3,000 L (aggregate water capacity)
3.1A	Any amount
3.1B	250 L when in containers of more than 5 L or 500 L when in containers less than or 5 L in size
3.2A	Any amount
3.2B	100 L
4.1.1A	100 kg
4.1.2A, 4.1.2B	Any amount
4.1.2C, 4.1.2D	25 kg
4.1.2E, 4.1.2F	50 kg
4.1.3A	Any amount
4.1.3B	100 kg
4.2A	Any amount
4.2B	100 kg
4.3A	Any amount
4.3B	100 kg
5.1.1A	Any amount
5.1.1B	500 kg or 500 L

HAZARD CLASSIFICATION (HSNO) OF SUBSTANCE	SUBSTANCE MUST BE SECURED WHEN HAVE AMOUNT EQUAL TO OR OVER THE AMOUNTS BELOW
5.1.1C	1,000 kg or 1,000 L
5.1.2A	250 kg or 200 m ³
5.2A, 5.2B	Any amount
5.2C, 5.2D, 5.2E, 5.2F	10 kg or 10 L
6.1A, 6.1B	Any amount (must be either under the personal control of a certified handler or secured)
6.1C	Any amount (except for classes 1.1C (UN 0160) and 1.3C (UN 0161))
Anhydrous ammonia (HSNO approval number HSR001035)	100 kg
6.7A	10 kg or 10 L
8.2A	Any amount

TABLE 1:
Classifications and amounts of substances that must be secured

4.0

Location compliance certificates³

A current compliance certificate is needed at hazardous substance locations where flammable, oxidising, toxic or corrosive substances are stored or used and the amount of substance is over the amounts in Table 2 below.

If no specific amount is listed for open or closed containers then the amount is the same whether the substance is in an open container or a closed container.

HAZARD CLASSIFICATION (HSNO) OF SUBSTANCE	LOCATION COMPLIANCE CERTIFICATE NEEDED WHEN HAVE AMOUNTS OF SUBSTANCE OVER THOSE BELOW
2.1.1A , 2.1.1B	100 kg or 100 m ³ for a permanent gas
2.1.2A	3,000 L (aggregate water capacity)
3.1A	20 L
3.1A (petrol, aviation gasoline, and racing gasoline)	50 L
3.1B	Closed containers 100 L (in containers more than 5 L in size) or 250 L (in containers 5 L or less in size) Open containers 50 L
3.1C	500 L (in containers more than 5 L in size) or 1,500 L (in containers 5 L or less in size) Open containers 250 L
3.2A, 3.2B, 3.2C	1 L
4.1.1A	1 kg
4.1.1B	100 kg
4.1.2A, 4.1.2B	1 kg
4.1.2C, 4.1.2D	25 kg
4.1.2E, 4.1.2F, 4.1.2G	50 kg
4.1.3A, 4.1.3B, 4.1.3C	1 kg
4.2A	1 kg
4.2B, 4.2C	25 kg

³ Refer to Regulations 10.34, 10.36, 12.17, 12.42, 13.38 for the full provisions relating to hazardous substance locations that require current compliance certificates.

HAZARD CLASSIFICATION (HSNO) OF SUBSTANCE	LOCATION COMPLIANCE CERTIFICATE NEEDED WHEN HAVE AMOUNTS OF SUBSTANCE OVER THOSE BELOW
4.3A	1 kg
4.3B	25 kg
4.3C	50 kg
5.1.1A	50 kg or 50 L
5.1.1B	500 kg or 500 L
5.1.1C	1,000 kg or 1,000 L
5.1.2A	100 kg non-permanent gas or 200 m ³ permanent gas
Oxygen in discrete cylinder or tank -HSR001029	200 m ³
Chlorine - HSR1001058	150 kg
5.2A, 5.2B	10 kg
5.2C, 5.2D	25 kg
5.2E, 5.2F	100 kg
6.1A	50 kg or 50 L
6.1B	250 kg or 250 L
6.1C	1,000 kg or 1,000 L
8.2A	50 kg or 50 L
8.2B	250 kg or 250 L

TABLE 2:
Classifications and amounts of substances that require location compliance certificates

Note: Location compliance certificates are required for class 6 and 8 substances from 1 December 2019.

For more information, see our [website](#)

5.0

Emergency management, secondary containment and signs⁴

If you have hazardous substances at your site, you need to put measures in place so that if an incident or emergency happens, you can reduce the effects.

What measures you need in place depends on the amount of hazardous substances you have and the classification of those substances.

Fire extinguishers

If you have flammable or oxidising substances in amounts over those in the table below, you must have fire extinguishers at your workplace. In some cases you will need two fire extinguishers. Fire extinguishers must have a minimum rating of 30B⁵ and must be readily available and accessible in an emergency.

HAZARD CLASSIFICATION (HSNO) OF SUBSTANCE	FIRE EXTINGUISHER NEEDED WHEN HAVE AMOUNTS OVER THOSE BELOW	NUMBER OF FIRE EXTINGUISHERS REQUIRED
2.1.1A	50 kg non-permanent gas or 30 m ³ permanent gas	1
2.1.1B	200 kg non-permanent gas or 120 m ³ permanent gas	2
2.1.2A	3,000 L aggregate water capacity	1
3.1A	50 L	1
	200 L	2
3.1B	250 L	2
3.1C, 3.1D	500 L	2
3.2A, 3.2B, 3.2C	50 L	1
	200 L	2

⁴ Refer to Part 5 of the Regulations.

⁵ AS/NZS 1850:2009 - Portable fire extinguishers - Classification, rating and performance testing; and Regulation 5.5.

HAZARD CLASSIFICATION (HSNO) OF SUBSTANCE	FIRE EXTINGUISHER NEEDED WHEN HAVE AMOUNTS OVER THOSE BELOW	NUMBER OF FIRE EXTINGUISHERS REQUIRED
4.1.1A	250 kg	2
4.1.1B	500 kg	2
4.1.2A, 4.1.2B, 4.1.2C, 4.1.2D, 4.1.2E, 4.1.2F, 4.1.2G	50 kg or 50 L	1
	200 kg or 200 L	2
4.1.3A, 4.1.3B, 4.1.3C	50 kg or 50 L	1
	200 kg or 200 L	2
4.2A	50 kg or 50 L	1
	200 kg or 200 L	2
4.2B	250 kg or 250 L	2
4.2C	500 kg or 500 L	2
4.3A	50 kg or 50 L	1
	200 kg or 200 L	2
4.3B	250 kg or 250 L	2
4.3C	500 kg or 500 L	2
5.1.1A	5 kg or 5 L	1
	25 kg or 25 L	2
5.1.1B	200 kg or 200 L	1
	500 kg or 500 L	2
5.1.1C	500 kg or 500 L	2
5.1.2A	10 kg non-permanent gas or 10 m ³ permanent gas	1
	50 kg non-permanent gas or 50 m ³ permanent gas	2
5.2A, 5.2B	1 kg or 1 L	1
5.2C, 5.2D	10 kg or 10 L	1
5.2E, 5.2F	50 kg or 50 L	1

TABLE 3:
Classification and amounts of substances that require fire extinguishers⁶

⁶ Excerpt taken from Schedule 4 of the Regulations.

Signs⁷

Signs let emergency services, workers and other people know about the presence of hazardous substances. If you have amounts of hazardous substances over the amounts in the table below, you must have signs at your workplace.

HAZARD CLASSIFICATION (HSNO) OF SUBSTANCE	SIGNS NEEDED WHEN HAVE AMOUNTS OVER THOSE BELOW
2.1.1A	250 kg non-permanent gas or 100 m ³ permanent gas
2.1.1B	500 kg non-permanent gas or 200 m ³ permanent gas
2.1.2A	3,000 L aggregate water capacity
3.1A	50 L
3.1B	250 L
3.1C	1,000 L
3.1D	10,000 L
3.2A	50 kg or 50 L
3.2B	250 kg or 250 L
3.2C	1,000 kg or 1,000 L
4.1.1A	250 kg
4.1.1B	1,000 kg
4.1.2A, 4.1.2B	50 kg or 50 L
4.1.2C, 4.1.2D	250 kg or 250 L
4.1.2E, 4.1.2F, 4.1.2G	1,000 kg or 1,000 L
4.1.3A	50 kg or 50 L
4.1.3B	250 kg or 250 L
4.1.3C	1,000 kg or 1,000 L
4.2A	50 kg or 50 L
4.2B	250 kg or 250 L
4.2C	1,000 kg or 1,000 L
4.3A	50 kg or 50 L
4.3B	250 kg or 250 L
4.3C	1,000 kg or 1,000 L
5.1.1A	50 kg or 50 L
5.1.1B	500 kg or 500 L
5.1.1C	1,000 kg
5.1.2A	250 kg non-permanent gas or 500 m ³ permanent gas
5.2A, 5.2B	1 kg or 1 L

⁷ Refer to Regulations 2.5 to 2.10 for the signage requirements.

HAZARD CLASSIFICATION (HSNO) OF SUBSTANCE	SIGNS NEEDED WHEN HAVE AMOUNTS OVER THOSE BELOW
5.2C, 5.2D, 5.2E, 5.2F	10 kg or 10 L
6.1A	5 kg non-permanent gas or 2.5 m ³ permanent gas
	50 kg or 50 L
6.1B	5 kg non-permanent gas or 2.5 m ³ permanent gas
	250 kg or 250 L
6.1C	5 kg non-permanent gas or 2.5 m ³ permanent gas
	1,000 kg or 1,000 L
6.1D	10,000 kg or 10,000 L
8.1A	1,000 kg or 1,000 L
	Aerosol 3,000 L aggregate water capacity
8.2A	5 kg non-permanent gas or 2.5 m ³ permanent gas
	50 kg or 50 L
8.2B	50 kg non-permanent gas or 25 m ³ permanent gas
	250 kg or 250 L
8.2C	1,000 kg or 1,000 L
	Aerosol 3,000 L aggregate water capacity
8.3A	1,000 kg or 1,000 L
	Aerosol 3,000 L aggregate water capacity
9.1A,	100 kg or 100 L
9.1B, 9.1C	1,000 kg or 1,000 L
9.1D	10,000 kg or 10,000 L

TABLE 4:
Classifications and amounts of substances that require signs⁸

For more information, see our [website](#)

⁸ Excerpt taken from Schedule 3 of the Regulations.

Emergency response plans and secondary containment

Emergency response plans

If your workplace has large amounts of hazardous substances, you will need to have an emergency response plan that covers all of the emergencies that have a realistic chance of happening involving those substances. The plan should also cover all of the hazardous substances that are likely to be in the workplace. If you have substances in amounts over those in Table 5, you will require an emergency response plan.

For more information, see our [website](#)

Secondary containment⁹

A secondary containment system can contain liquids if there is a spill and prevent or reduce hazardous substances from getting into the environment, drains or waterways. If you have substances with the classification and amounts shown in Table 5 and those substances are liquids or will liquefy in a fire you will need secondary containment.

HAZARD CLASSIFICATION (HSNO) OF SUBSTANCE	EMERGENCY RESPONSE PLAN AND SECONDARY CONTAINMENT NEEDED WHEN HAVE AMOUNTS OVER THOSE BELOW
2.1.1A	300 kg non-permanent gas or 200 m ³ permanent gas
2.1.1B	1,000 kg non-permanent gas or 600 m ³ permanent gas
2.1.2A	3,000 L aggregate water capacity
3.1A	100 L
3.1B	1,000 L
3.1C, 3.1D	10,000 L
3.2A, 3.2B, 3.2C	100 L
4.1.1A	1,000 kg
4.1.1B	10,000 kg
4.1.2A, 4.1.2B	50 kg or 50 L
4.1.2C, 4.1.2D	100 kg solid or 100 L
4.1.2E, 4.1.2F, 4.1.2G	200 kg or 200 L
4.1.3A, 4.1.3B, 4.1.3C	100 kg or 100 L
4.2A	100 kg or 100 L
4.2B	1,000 kg
4.2C	10,000 kg
4.3A	100 kg or 100 L
4.3B	1,000 kg or 1,000 L
4.3C	10,000 kg or 10,000 L

⁹ Refer to Regulations 10.30, 12.13, 12.38, 13.30, 17.99 for provisions requiring secondary containment.

HAZARD CLASSIFICATION (HSNO) OF SUBSTANCE	EMERGENCY RESPONSE PLAN AND SECONDARY CONTAINMENT NEEDED WHEN HAVE AMOUNTS OVER THOSE BELOW
5.1.1A	50 kg or 50 L
5.1.1B	500 kg or 500 L
5.1.1C	5,000 kg or 5,000 L
5.1.2A	100 kg non-permanent gas or 100 m ³ permanent gas
5.2A, 5.2B	10 kg or 10 L
5.2C, 5.2D	25 kg or 25 L
5.2E, 5.2F	100 kg or 100 L
6.1A, 6.1B, 6.1C	5 kg non-permanent gas or 2.5 m ³ permanent gas 100 kg or 100 L
6.1D, 6.5A, 6.5B, 6.7A	50 kg non-permanent gas or 25 m ³ permanent gas Aerosol 3,000 L aggregate water capacity 1,000 kg or 1,000 L
6.6A, 6.7B, 6.8A, 6.9A	10,000 kg or 10,000 L
8.2A	5 kg non-permanent gas or 2.5 m ³ permanent gas 100 kg or 100 L
8.2B	50 kg non-permanent gas or 25 m ³ permanent gas 1,000 kg or 1,000 L Aerosol - 3,000 L water capacity
8.2C, 8.3A	10,000 kg or 10,000 L Aerosol - 3,000 L water capacity
9.1A	100 kg or 100 L
9.1B, 9.1C	1,000 kg or 1,000 L
9.1D	10,000 kg or 10,000 L

TABLE 5:
Classifications and amounts of substances that require emergency response plans and secondary containment¹⁰

¹⁰ Excerpt taken from Schedule 5 of the Regulations.

6.0

Tracking hazardous substances¹¹

Tracking ensures that a highly hazardous substance is under the control of a well-trained person or is secure from access by unauthorised people at all times.

Tracked substances can only be transferred to a competent person. A competent person is a certified handler or someone who has been trained to handle, use and store that substance safely.

Any amount of a substance with one or more of the following classifications requires tracking. Some VTAs and fumigants also require tracking. You can use the [Hazardous Substances Calculator](#) to find out whether a substance needs to be tracked.

Substances with these classifications require tracking¹²

3.1A, 3.2A

4.1.2A, 4.1.2B

4.1.3A

4.2A

4.3A

5.1.1A

5.2A, 5.2B

6.1A, 6.1B

For more information, see our [website](#)

¹¹ Refer to Part 19 of the Regulations which covers all instances where the tracking of a hazardous substance are required.

¹² Found at Schedule 26 of the Regulations.

Disclaimer

This publication provides general guidance. It is not possible for WorkSafe to address every situation that could occur in every workplace. This means that you will need to think about this guidance and how to apply it to your particular circumstances.

WorkSafe regularly reviews and revises guidance to ensure that it is up-to-date. If you are reading a printed copy of this guidance, please check worksafe.govt.nz to confirm that your copy is the current version.

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