

NZ Distillery Safety Regulations

DSA Conference
June 2023



 **Beca**

About us

Beca is an **independent advisory, design and engineering consultancy** with more than 100 years of experience.

We are one of Oceania and Southeast Asia's largest **specialist food and beverage** consultancy.



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Agenda

Section 1: Safety First

Section 2: Hazardous Substances

Section 3: Hazardous Areas

Workplace Safety in Your Distillery



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Section 1: Safety First

Workplace Safety in Your Distillery



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According to Fire and Emergency NZ:

- Half of factory fires due to mechanical malfunctions or failures
- Other causes:
 - Carelessness with heat sources
 - **Flammable materials**
 - Incorrect use of equipment

Almost 1000 factories burn in five years, the high toll of industrial fires for businesses and communities.

Amanda Cropp · 05:00, Feb 06 2022



**Safety is Everyone's
Responsibility.**



Health and Safety at Work Act 2015 (HSWA)

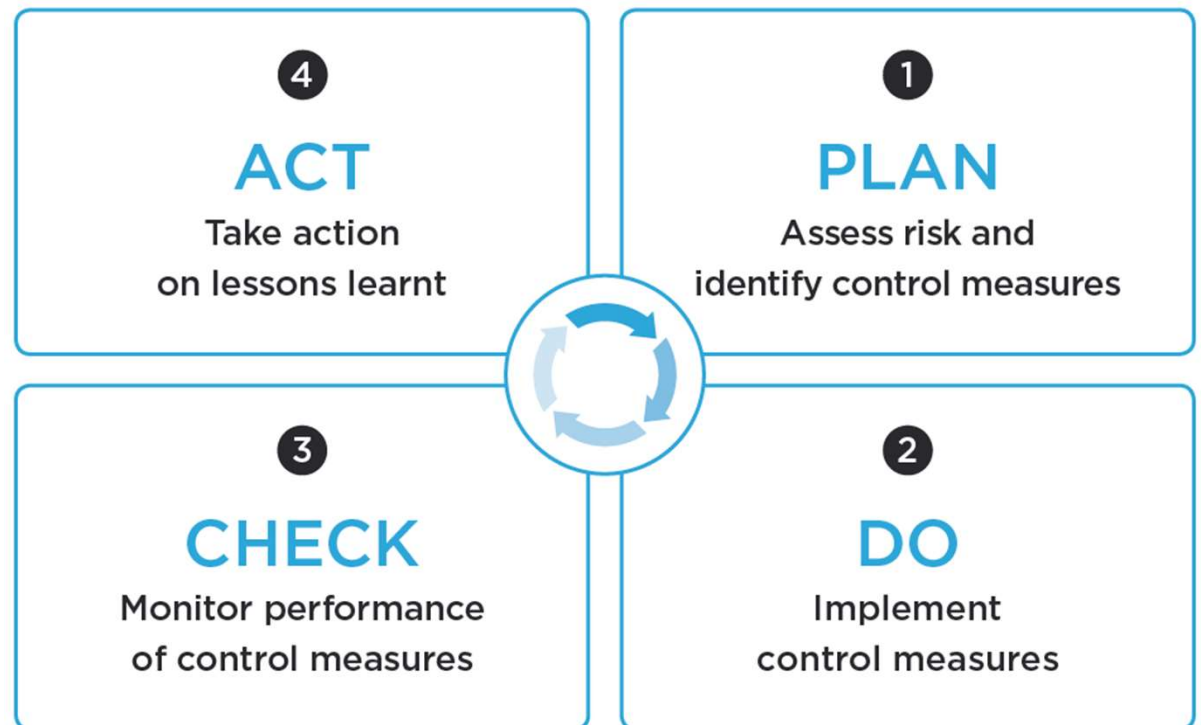
- New Zealand's workplace Health & Safety Law
- Person Conducting a Business or Undertaking (PCBU)
- 'Primary duty of care'
- 'So far as is reasonably practicable' (SFAIRP)
- WorkSafe monitors and enforces compliance with the HSWA



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Safety is Everyone's Responsibility.

HSWA outlines four steps to managing health and safety risks:



Typical Hazards in a Distillery.



Ethanol



Slips, Trips and Falls



Carbon Dioxide



Truck, Forklift Movements



Dangerous Goods Handling



Dust explosions



Typical Hazards in a Distillery.



Ethanol



Carbon Dioxide



Dangerous
Goods Handling



Dust explosions



Slips, Trips
and Falls



Truck, Forklift
Movements



The background image shows two glasses of whiskey on a wooden surface. The glass in the foreground is filled with whiskey and has several large ice cubes. The glass in the background is also filled with whiskey and has ice cubes. To the left of the glasses is a wooden barrel. The text 'Section 2: Hazardous Substances' is overlaid on the image.

Section 2: Hazardous Substances

Workplace Safety in Your Distillery



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Safety is Everyone's Responsibility.



Health and Safety at Work (Hazardous Substances) Regulations 2017

Store and use hazardous substances safely:

- Ensure a **hazardous area assessment** is done
- Appropriate **signage/labelling**, site **emergency response plans** and **substance inventories**
- You must provide documented evidence of compliance
- May need to engage a **Compliance Certifier**



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Things to Consider.

- Substances:
 - Ethanol, carbon dioxide
 - Caustic, acid, peroxide for CIP
 - LPG, diesel for fuel
- Incompatibles
- Separation distances
- Vapour detectors
- Level control / alarms / switches
- Fire protection
- Secondary containment



Good Practice.

AS 1940 - The storage and handling of flammable and combustible liquids

- Industry good practice
- NZ Regulations still sit above this



STANDARDS
Australia



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Section 3: Hazardous Areas

Workplace Safety in Your Distillery



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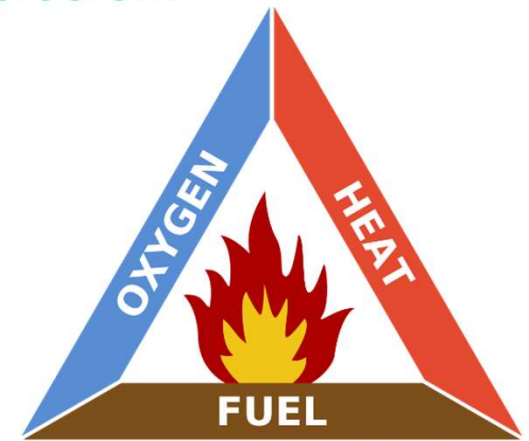
What is it?

Hazardous Area

- Where an explosive atmosphere is present

Components required for an explosion:

- Oxygen
- Flammable substance
- Ignition source



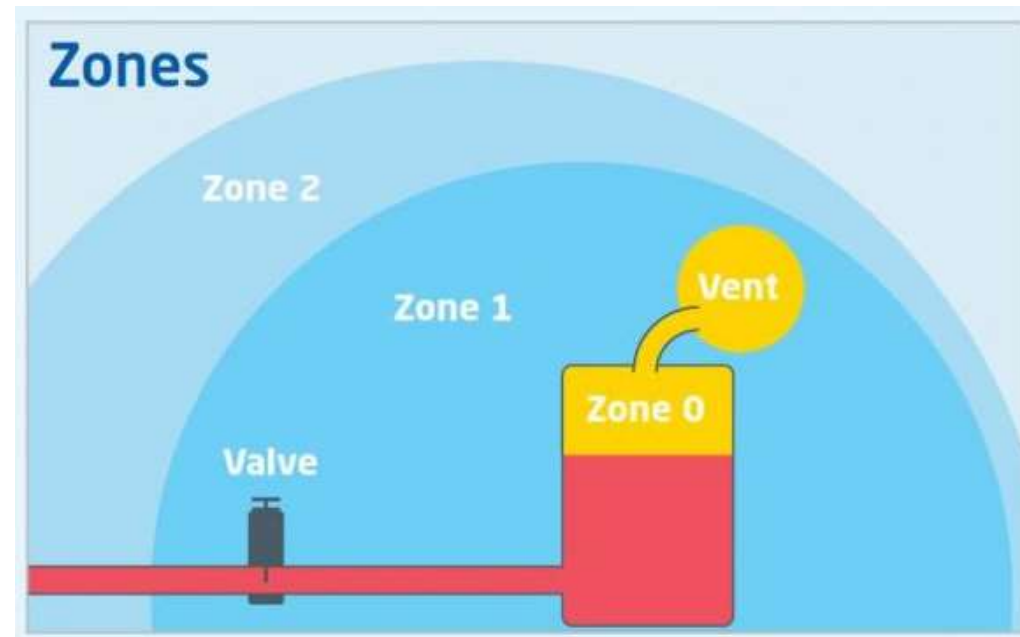
If any side of the triangle is removed then the hazard is removed



How to Assess?

Hazardous Area Classification

- Method to quantify the explosion risk
 - Frequency
 - Duration
- AS/NZS 60079 series of standards



**Safety is Everyone's
Responsibility.**

Why Classify a Hazardous Area?

- Minimise the risk of explosion
- Required by:
 - HSAW (Hazardous Substances) Regulations 2017
 - Electricity (Safety) Regulations 2010
- You must be able to provide documented evidence and keep a dossier at your facility





More Guidance.

Guidance

- DSA asked Beca in early 2022 to provide **Distillery Design and Setup Guidelines**
- The document aims to:
 - Introduce applicable regulations related to production of alcoholic spirits
 - Provide examples of required documentation



Thank You!



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