

Appendix 4: Hazardous areas

You must determine hazardous areas around flammable liquids in accordance with *AS/NZ 60079.10.1:2009 Explosive atmospheres: Classification of areas - Explosive gas atmospheres*. The extent of the hazardous areas must be reflected in your site plan.

Hazardous areas are not required for diesel.

What is a hazardous area?

A hazardous area is an area where an ignitable or explosive gas atmosphere is, or may be expected to be, present in such quantities as to require special precautions to prevent the risk of ignition or explosion. This includes where explosive vapours may be present around a place where flammable substances, such as petrol and kerosene, are used or stored.

Zone 0 – an area in which an explosive gas atmosphere is present continuously or for long periods or frequently.

Zone 1 – an area in which an explosive gas atmosphere is likely to occur in normal operation occasionally.

Zone 2 – an area in which an explosive gas atmosphere is not likely to occur in normal operation but, if it does occur, it will exist for a short period only.

Hazardous areas around petrol tanks

AS/NZS 60079.10.1 (Annex ZA 5.2.1.2) provides the following example of hazardous areas around petrol tanks.

For vertical and horizontal vented tanks:

- Zone 0: Inside tank.
- Zone 1: Outside the tank, within a space from ground level to 3m vertically above the tank shell and extending laterally to 3m from the shell; then reducing to 4m above ground level, and extending laterally from the shell to the bund wall, and within 3m radius of a tank vent outlet.
- Zone 2: Outside that described in Zone 1 above and extending vertically from ground level to the height of the bund or 1m, whichever is greater, and laterally to a distance from the tank shell according to the table below:

Capacity of tank (L)	1,000	2,000	4,000
Lateral distance (m)	3	4	5

Managing hazardous areas

Hazardous areas must be protected from ignition sources including electrical equipment, naked flames, and hot sources.

If there is any electrical equipment, it must be suitable for the zone or placed at a safe distance out of the zone.

The [Electricity \(Safety\) Regulations 2010](#) require:

- any electrical device or instrument installed in a hazardous area to be correctly rated for the zone
- a verification dossier to be kept for the electrical equipment. The dossier must include periodic re-inspection reports from the four-yearly inspections by a licensed electrical inspector.

Any electrical fittings must comply with relevant [Electricity \(Safety\) Regulations 2010](#)

For more information about the requirements of the Electricity (Safety) Regulations 2010, see the Energy Safety website: worksafe.govt.nz