

Flammables—Class I Locations

Class I hazardous locations are those areas where fire or explosion hazards may exist due to flammable gases or vapors, or flammable liquids as defined by the National Electrical Code (NEC). The electrical equipment, including light fixtures, conduit, and light switches, in these hazardous locations must meet Class I standards for explosion proof equipment to prevent ignition of gases and vapors.

- Some chemicals which require special consideration in the presence of electrical equipment include the following:
 - Fuels
 - Alcohols
 - Benzenes
 - Aliphatic hydrocarbons
 - Solvent based paint
- Operations which may allow flammable vapors to form:
 - Tanks which contain flammable liquids
 - Spraying or coating processes
 - Open vessels like dip tanks containing flammable liquids
- All electrical equipment in Class I locations, whether fixed or portable, must meet Class I zone requirements.
- Portable equipment used in Class I locations must be intrinsically safe. An intrinsically safe electrical apparatus is designed so that it is unable to release sufficient energy, by either thermal or electrical means, to cause an ignition of a flammable gas.



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The table below outlines the Class I zones and the typical locations where these types of hazards exist.

Zone	Description	Examples
0	Ignitable concentrations of flammable gases and vapors are present continuously.	<ul style="list-style-type: none">– Tanks which contain flammable liquids– Spraying or coating enclosures– Open vessels containing flammable liquids
1	Ignitable concentrations of flammable gases and vapors are likely to be present under normal operating conditions.	<ul style="list-style-type: none">– Areas where flammable liquids are transferred from one container to another– Adequately vented drying rooms
2	Ignitable concentrations of flammable gases and vapors are NOT likely to be present under normal operating conditions.	<ul style="list-style-type: none">– Flammable liquids or flammable gases are used, but would become hazardous only in the event of an accident or unusual operating condition

Class I locations must have additional procedures in place to protect against ignition sources, including the use of intrinsically safe equipment.

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This form documents that the training specified above was presented to the listed participants. By signing below, each participant acknowledges receiving this training.

Organization: _____

Trainer: _____ Trainer's Signature: _____

Class Participants:

Name: _____ Signature: _____ Date: _____

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