

# Class I: Flammable gases, vapors or liquids

<b>Area Classification Comparison</b>	
<p><i>Division 1:</i></p> <p>Where ignitable concentrations of flammable gases, vapors or liquids can exist all of the time or some of the time under normal operating conditions.</p>	<p><i>Zone 0:</i></p> <p>Where ignitable concentrations of flammable gases, vapors or liquids are present continuously or for long periods of time under normal operating conditions.</p> <p><i>Zone 1:</i></p> <p>Where ignitable concentrations of flammable gases, vapors or liquids are likely to exist under normal operating conditions.</p>
<p><i>Division 2:</i></p> <p>Where ignitable concentrations of flammable gases, vapors or liquids are not likely to exist under normal operating conditions.</p>	<p><i>Zone 2:</i></p> <p>Where ignitable concentrations of flammable gases, vapors or liquids are not likely to occur under normal operating conditions and if they do occur, will exist only for a short period of time.</p>

## **Class I, Division 1**

A Class I, Division 1 location is a location...

- In which ignitable concentrations of flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors can exist under normal operating conditions, or
- In which ignitable concentrations of such flammable gases, flammable liquid–produced vapors, or combustible liquids above their flash points may exist frequently because of repair or maintenance operations or because of leakage, or
- In which breakdown or faulty operation of equipment or processes might release ignitable concentrations of flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors and might also cause simultaneous failure of electrical equipment in such a way as to directly cause the electrical equipment to become a source of ignition.

## **Class I, Division 2**

A Class I, Division 2 location is a location...

- In which volatile flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors are handled, processed, or used, but in which the liquids, vapors, or gases will normally be confined within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown of such containers or systems or in case of abnormal operation of equipment, or
- In which ignitable concentrations of flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors are normally prevented by positive mechanical ventilation and which might become hazardous through failure or abnormal operation of the ventilating equipment, or
- That is adjacent to a Class I, Division 1 location, and to which ignitable concentrations of flammable gases, flammable liquid–produced vapors, or combustible liquid–produced vapors above their flash points might occasionally be communicated unless such communication is prevented by adequate positive -pressure ventilation from a source of clean air and effective safeguards against ventilation failure are provided.

### **Class I, Zone 0**

A Class I, Zone 0 location is a location in which...

- Ignitable concentrations of flammable gases or vapors are present continuously, or
- Ignitable concentrations of flammable gases or vapors are present for long periods of time.

### **Class I, Zone 1**

A Class I, Zone 1 location is a location...

- In which ignitable concentrations of flammable gases or vapors are likely to exist under normal operating conditions; or
- In which ignitable concentrations of flammable gases or vapors may exist frequently because of repair or maintenance operations or because of leakage; or
- In which equipment is operated or processes are carried on, of such a nature that equipment breakdown or faulty operations could result in the release of ignitable concentrations of flammable gases or vapors and also cause simultaneous failure of electrical equipment in a mode to cause the electrical equipment to become a source of ignition; or
- That is adjacent to a Class I, Zone 0 location from which ignitable concentrations of vapors could be communicated, unless communication is prevented by adequate positive pressure ventilation from a source of clean air and effective safeguards against ventilation failure are provided.

### **Class I, Zone 2**

A Class I, Zone 2 location is a location...

- In which ignitable concentrations of flammable gases or vapors are not likely to occur in normal operation and, if they do occur, will exist only for a short period; or
- In which volatile flammable liquids, flammable gases, or flammable vapors are handled, processed, or used but in which the liquids, gases, or vapors normally are confined within closed containers or closed systems from which they can escape, only as a result of accidental rupture or breakdown of the containers or system, or as a result of the abnormal operation of the equipment with which the liquids or gases are handled, processed, or used; or
- In which ignitable concentrations of flammable gases or vapors normally are prevented by positive mechanical ventilation but which may become hazardous as a result of failure or abnormal operation of the ventilation equipment; or
- That is adjacent to a Class I, Zone 1 location, from which ignitable concentrations of flammable gases or vapors could be communicated, unless such communication is prevented by adequate positive - pressure ventilation from a source of clean air and effective safeguards against ventilation failure are provided.

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