

# IQ SensorNet Class I, Division 2 Rated Wastewater Sensors



1

**Q: What does Class I, Division 2 (CID2) mean?**

**A:** Class (I, II, or III): Defines the general nature of hazardous material in the location, defined by the NEC

- **Class I - Vapors**

Flammable gases or vapors may be present in the air in sufficient quantities to be explosive or ignitable

Division (1 or 2): Defines probability of hazardous material being present in an ignitable concentration within the location

- Division 1 - Conditions would exist normally
- **Division 2** - Condition would be abnormal

Class 1 gases and vapors are further categorized by groups:

- Group (A-G) defines the hazardous material in the surrounding atmosphere

Group	Substances
<b>A</b>	Only acetylene-gas with extremely high explosion pressures
<b>B</b>	Hydrogen, etc.
<b>C</b>	Ether, etc.
<b>D</b>	Butane, gasoline, natural gas, propane, etc.

**Conclusion:**

- **Class I, Division 2:** Applications where ignitable concentrations of flammable vapors are present under abnormal operating conditions.
- Most common hazards are Class I, Group D (methane).



2

**Q: What is the difference between Class I Division 2 and Class I Division 1?**

**A:** Class I Division 2 is classified as an area where ignitable concentrations of flammable vapors are present under abnormal operating conditions.

Class I Division 1 is classified as an area where ignitable concentrations of flammable vapors are present under normal operating conditions.

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**Q: Why are CID2 rated sensors required?**

**A:** Many wastewater treatment facilities require CID2 sensors to comply with NFPA Standard 820, which establishes minimum requirements for fire and explosion protection. CID2 rated sensors reduce the effects of fire or explosion at wastewater collection, transportation and treatment facilities.

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**Q: What is NFPA standard 820?**

**A:** The Standard for Fire Protection in wastewater treatment and collection facilities. This standard applies to new installations and additions, modifications or upgrades to an existing facility.

**Purpose:**

- Provide fire and explosion protection for life, property, continuation of operations, and environmental protection
  - Reduce or eliminate the effects of fire or explosion
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**Q: What are typical areas of a plant that are CID2 rated?**

1. Deployment in primary settling tanks that are not enclosed but open to the atmosphere or have the required amount of ventilation (NFPA 820, Edition 2008, table 5.2; Row 6; page 20);
  2. Aeration basin if the process is not preceded by a primary settling tank (NFPA 820, Edition 2008, table 5.2; Row 7; page 20)
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**Q: Does YSI offer Class I Division 2 rated sensors for hazardous locations?**

**A:** Yes! YSI's IQ SensorNet can measure [pH](#), [ORP](#), [Ammonium](#), [Nitrate](#), [Potassium](#), [Chloride](#), [Dissolved Oxygen](#), [TSS](#), and Temperature in CID2 hazardous locations.

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