

## Classification of Chemicals for Detonation Arrestor Specification

The National Electric Code (NEC) Article 500 ranks various chemicals and mixtures of gases or vapours with air according to their maximum experimental safe gaps. International Electrotechnical Commission (IEC) also groups these gases in similar classification.

For all practical purposes . . .

the IEC Group IIA is equivalent to the NEC Group D;

the IEC Group IIB is equivalent to the NEC Group C;

and the IEC Group IIC includes chemicals in the NEC Groups A and B.

### Chemical Classification Groups by National Electric Code (Article 500)

#### Group A

\* Acetylene

#### Group B

\* Butadiene  
\* Ethylene Oxide  
\* Hydrogen  
All gases containing more than  
30% Hydrogen (by volume)  
\* Proptlene Oxide  
\* Propyl Nitrate

#### Group C

\* Acetaldehyde  
\* Cyclopropane  
\* Diethyl Ether  
\* Dimethyl Hydrazine  
\* Ethylene  
\* Hydrogen Sulfide

#### Group D

*Acetone	*Gasoline	* Octanes
*Ammonia	*Heptanes	* Pentanes
*Benzene	* Hexanes	* 1-Pentanol (amyl alcohol)
*Butane	* Isoprene	* Propane
*Butylene	* Methane (natural gas)	* 1-Propanol
* 1-Butanol (butyl alcohol)	* Methanol (methyl alcohol)	* 2-Propanol
* 2-Butanol (secondary butyl alcohol)	* Methyl Acrylate	* Propylene
*Cyclohexane	* Methylamine	* Styrene
*N-Butyl Acetate	* Methyl Ethyl Ketone	* Toluene
*Isobutyl Acetate Vinyl Chloride	* Methyl Mercaptan	* Turpentine
*Ethane	* 3-Methyl-1Butanol	* Vinyl Acetate
*Ethanol (ethyl alcohol)	* Methyl Isobutyl Ketone	* Xylenes (as defined by NFPA 321)
*Ethyl Acetate	* 2-Methyl-1Propanol (isobutyl alcohol)	
*Ethyl Acrylate	* 2-Methyl-2 Propanol (tertiary butyl alcohol)	
*Ethylene Dichloride	* Naptha (petroleum)	