

## U.S. Fire Administration / National Fire Academy

*Coffee Break Training***Topic: Explosive Divisions**

**Learning objective:** The student shall be able to list the characteristics of explosives based on their UN/DOT Division number.

Last week's Coffee Break Training, "Explosive Magazines", explained the different magazine types required for explosive storage. This week, we describe how explosives, explosive materials, and pyrotechnic devices (fireworks) are classified based on their hazards.

Explosive materials are classified by the U.S. Department of Transportation (DOT) in accordance with Title 18 United States Code, Importation, Manufacture, Distribution and Storage of Explosive Materials and the hazardous materials regulations of Title 49 of the Code of Federal Regulations. The materials are assigned a United Nations/DOT "Division" number based on their relative hazards.

The division numbers and their explosive characteristics are summarized in the following table.

UN/DOT Division	Description
1.1	Explosives that have a mass explosion hazard. A mass explosion is one that affects almost the entire load instantaneously.
1.2	Explosives that have a projection hazard, but not a mass explosion hazard.
1.3	Explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard, or both, but not a mass explosion hazard.
1.4	Explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected.
1.5	Very insensitive explosives. Substances have a mass explosion hazard, but are so insensitive there is very little probability of initiation or transition from burning to detonation under normal transportation conditions.
1.6	Extremely insensitive articles that do not have a mass explosion hazard. Articles contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation.



Examples of a variety of explosive items.

For additional information, refer to International Fire Code<sup>®</sup>, Chapter 33; or NFPA 1, Uniform Fire Code<sup>™</sup>, Chapter 65.