

## Classification of Warehouse Commodities

Whenever potentially combustible materials are being stored, they receive a classification number based on the fire risk they involve. This alerts workers to how the material should be handled and where and how it can be stored. There are several levels of commodity classification.

**Class I Commodities:** These are essentially noncombustible products that will not burn by themselves and no sprinkler system is required if these materials are stored by themselves. Class I commodities are generally found stored on wooden or non-expanded polyethylene solid deck pallets or in ordinary paper wrappings without pallets.

**Class II Commodities:** These commodities are items that are class I but that are stored in combustible packages, such as slatted wooden crates, solid wooden boxes or multiple-thickness paperboard cartons. Examples include empty boxes in boxes or free-flowing powdered products in paper bags on pallets. Class II designation means that more fire risk is involved because of the storage and configuration of the non-combustible materials.

**Class III Commodities:** These are items made of wood, paper or natural fiber material, or Group C plastics, that are stored with or without pallets. As a general rule, Class III should contain no more than 5% of Group A or B plastics by weight or by volume.

**Class IV Commodities:** This designation includes commodities in class I, II, or III that contain Group A plastics in ordinary corrugated cartons. If Group A plastic packaging is used on Class I, II, or III products they are also given a designation of Class IV.

Plastics are given a grouping based on their specific heat of combustion. Storage considerations with plastics include the material that the commodity is stored in, i.e. plastic wrappings, and the pallet on which it is stored.

**Group A Plastics:** These are the most combustible of the plastics. Many thermosetting plastics fall into Group A.

**Group B Plastics:** Group B plastics have a lower heat combustion and burning rate than Group A plastics but are higher than that of normal, non-combustible plastics. Thermosetting and thermoforming plastics are examples of Group B plastics.

**Group C Plastics:** Group C plastics are those that have the lowest fire risk, such as most thermosetting, fluorinated and lightly plasticized plastics. However, when these materials are combined with plastics from Group A or B, this may increase their fire risk. Group C plastics should always be inspected carefully to see if their fire risk is increased.

**High Hazard Commodities:** These are commodities that present a high risk of fire and danger due to their high rate of combustion. If a commodity presents a risk above Class I, II, III, or IV then it is labeled as high hazard. Group A plastics are usually included in this label.

When determining the proper label for a commodity there are several things to consider, including the type of material the commodity is made of, the type of packaging it is stored in, and the types of pallets that it is stored on if any. An item's status can change depending on how it is combined with other items, so care needs to be taken to correctly determine the proper fire hazard designation.