Intermediate Bulk Containers (IBCs) Fact Sheet
Container Manufacturers

PLASTIC (NONMETALLIC) IBCS INCREASE FIRE RISK

When composite IBCs containing combustible or flammable liquids are stored together in warehouses or other facilities, they can cause dangerous pool fires. These fire hazards have two components:

1. **Release of combustible and flammable liquids.** When IBCs containing flammable or combustible liquids fail, they can release a large pool of these liquids. If ignited, the extreme heat release rates can overtax most fire sprinkler systems. This hazard exists regardless of how the IBC is constructed.

2. **Composite IBCs can be easily breached and then the IBC itself contributes to the fire hazard.** Composite IBCs can be easily breached by exposure to even a small fire. Additionally, once the unit is emptied, the composite may ignite and contribute to the liquid pool. Pool fires caused by composite IBCs can be catastrophic events and are capable of destroying the building where the event occurs. A spreading pool fire can also threaten adjacent buildings.

NFPA 30 RULES REDUCE THE RISK

NFPA 30 – the Flammable and Combustible Liquids Code published by the National Fire Protection Association – provides safeguards to reduce the hazards associated with the storage, handling and use of flammable and combustible liquids. The code is enforceable under building and fire prevention codes in the following states: Ala., Ariz., Ark., Calif., Colo., Conn., Fla., Hawaii, Iowa, Ill., Ind., Kan., Ky., Mass., Maine, Mich., Minn., Mo., Mont., N.D., Neb., N.J., N.M., Nev., Ohio, Ore., R.I., Texas, Utah, Va., Vt. and Wis. It is also enforceable in several local jurisdictions. Other avenues of enforcement may include Occupational Safety and Health Administration (OSHA) regulations.

NFPA 30 only permits three types of IBCs in an industrial building. Metal, rigid plastic and composite. Only liquids with a closed cup flash point of 38 C (100 degrees F) or greater

are permitted to be stored in these containers. However, the composite IBCs must be listed and labeled. The complete rules on what types of IBCs are allowed in buildings can be found in chapter 9 of NFPA 30 (visit *www.nfpa.org/30* to access the chapters for free).

Unlisted composite IBCs have not been inspected or certified to provide any fire endurance and have been shown to fail quickly in a fire. Listed composite IBCs, however, have been designed, built and certified to last in a fire for at least 20 minutes and can be used for storing liquids with a closed cup flashpoint of 38 C (100 degrees F) or greater.

Of the dozens of composite IBCs on the market, there is currently only a very small fraction of listed and labeled composite IBCs in use. The vast majority of composite IBCs that are used to store combustible or flammable liquids are creating a significant hazard.

MISUNDERSTOOD RULES CREATE LIMITED COMPLIANCE

U.S. Department of Transportation (DOT) and United Nations regulations permit the shipping of combustible liquids and some flammable liquids in many types of IBCs. However, transportation regulations do not require IBCs to be fire tested and DOT has no jurisdiction over commodities in storage. Yet, many producers and customers alike believe that a shipping container approved by DOT is also approved for storage in a warehouse. This is not the case. NFPA 30 rules limit the types of IBCs allowed in buildings and also set limits on the liquid types permitted in them.

Additionally, warehouse or facility personnel responsible for accepting or storing goods are often unaware of the serious fire hazard created by composite IBCs containing

combustible and flammable liquids. As a result, improper storage and potentially dangerous conditions often go unrecognized, putting your facility, its staff and others at risk.

COMPLYING WITH NFPA 30

Under NFPA 30, the following rules typically apply to storing liquids in Plastic IBCs within protected facilities:

- Flammable liquids (flash point below 38 C or 100 degrees F) should never be placed in a plastic IBC of any type, listed or unlisted.
- Combustible liquids should never be placed in an unlisted plastic IBC.

Additionally, in some cases, other fire properties, such as fire point, may also govern storage requirements. Those responsible for the storage of combustible and flammable liquids should always look beyond the flash point and also assess the chemical composition of the liquids contained in the IBC to better assess the fire risk posed.

REDUCE THE RISK BY MAKING A COMMITMENT TO SAFE STORAGE

The Fire Protection Research Foundation with funding from the Property Insurance Research Group in coordination with NFPA and the insurance industry are working together on an awareness campaign to help reduce the risk created by improper storage of IBCs containing combustible or flammable liquids. You can help contain the IBC risk with these activities:

- Understand NFPA 30 and its regulations pertaining to storage of IBCs containing combustible or flammable liquids.
- Educate your clients on the importance of complying with NFPA 30 to reduce the risk of pool fires.
- Disclose to clients if each specific IBC can permissibly be used for warehouse storage of combustible or flammable liquids in compliance with NFPA 30.
- Initiate dialogue with a listing agency specified in NFPA 30 to start the process of developing and including at least one listed and labeled IBC in the product line.