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SAFETY ALERT

Filling portable containers with flammable liquids



Purpose

This safety alert informs motor sport stakeholders including, officials, competitors, pit/service crews and contractors about the dangers of portable fuel containers such as jerry cans igniting when being filled or used.

It also provides basic safety guidelines to help assist in the safe filling of portable fuel containers.

Background

Refueling of vehicles is a regular sight at motor sport events from the elaborate 'dry – break' refueling system to the more simplified system of transferring of the fuel to vehicles from a portable container, be it metal or plastic. The storage of fuel has its risks and so has the filling of portable containers with flammable liquids.

Vapors from flammable liquids such as petrol or kerosene can be easily ignited by static electricity or courtesy lights inside vehicles.

Recently a woman received serious injuries, three vehicles were destroyed and a service station was closed for a major refit following a fuel fire.

The fire started after the woman filled 20-litre fuel containers inside the rear of her four wheel drive.

By filling the containers as they sat inside her vehicle static electricity was able to ignite fuel vapours at the containers' filling neck.

Recommendations for owners and users of portable fuel containers

Static electrical charges are a dangerous source of ignition; capable of igniting a flammable mixture of petroleum vapours and air.

Control the risks arising from the static electrical charges that are produced when petroleum products are moved through a pipeline or hose and when portable containers are being filled.

When filling portable fuel containers consider the following safety controls:

- apply adequate earthing and or bonding to prevent the accumulation of static electrical charges;
- allow time for the accumulated static electrical charges to dissipate;
- ensure that portable fuel containers are being placed on the ground while they are being filled from fuel dispensers (contact with the earth allows any build up of static electrical charges to dissipate and if accidental overflow occurs during the filling the risk of the fire is reduced);
- keep the nozzle of the petrol dispenser in contact with the container at all times during the filling operation (this will maintain the electrical continuity and prevent a spark jumping across the gap between the nozzle and the container);
- never use a plastic funnel to fill a potable fuel container — the funnel will act as an insulator and promote the generation of static electrical charges (whereas a metal funnel will provide electrical continuity);
- wear clothing to reduce static electricity and wear shoes with conductive soles.;
- keep one hand on the container while filling to reduce the likelihood of static electricity build up and discharge;

Disclaimer

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- ensure the container cap is replaced tightly on the filled container;
- transport portable fuel containers secured, upright and away from heat sources, such as the sun, in a well ventilated space.

If there is a fire when you are filling a container:

- do not attempt to move as the mixture of fuel vapour and air inside the container is too rich to burn so the flames will remain at the opening and will not flash back into the container;
- advise persons/officials in attendance so that emergency procedures can be initiated immediately This may require an evacuation of the area;
- throw a fire blanket over the burning container or use a fire extinguisher to extinguish the flames.

If your clothing catches fire : *STOP DROP AND ROLL.*

For more information please refer to the following Australian /New Zealand Standards;

AS/NZS 2096 - Fuel Containers –Potable Plastics and Metal

AS/NZS2400.9.2 - Metal Containers -Steel Drums (may be more appropriate)

AS/NZS 1940 - Storage and Handling of Flammable and Combustible Liquids

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