

# Hazards around fuel tanks



## NZ Safety Alert



### Electric shock while dispensing diesel from tank

A worker was refuelling a trailer tanker from an above ground bulk diesel tank, when he noticed small flashes of light coming from inside the filter bowl. He decided to touch the bowl and received a small electric shock. The worker stopped dispensing the diesel and could hear "popping and ticking" noises coming from the filter bowl. In an attempt to earth the refuelling operation, the worker placed a screw driver between the filter bowl and the adjacent wall, and a noticeable arc of electricity occurred.



Static electricity can become a huge threat in the workplace, especially when working on or around fuelling operations. If there is a discharge of static electricity while fuel is being dispensed, there is a possibility of an explosion or fire. Ultra-low-sulphur diesel (ULSD) poses a greater static ignition hazard than earlier diesel formulations. That means an increased risk of fire or explosion if your fuel supply tank, transfer pump, transfer hose, nozzle and other components aren't properly grounded (earthed) and bonded.

You need to ensure that:

- **Any fuelling system is properly grounded (earthed) through an electrically conductive connection from the tank to earth, to allow static and electrical charge dissipation. If you are unsure about how well your system is earthed or have questions about bonding, contact your fuel supplier to request a check of your system.**
- **Workers do not fill containers with fuel in the boot of a car, in the tray, or on the tailgate of a utility truck, unless containers are bolted directly to the metal tray or frame of the truck.**
- **Your site identifies hazards that can create static electricity, particularly around refuelling operations. Fuel passing through a hose creates static electricity, so this becomes especially important at the dispensing hose and nozzle. This risk becomes even greater when you are removing the hose nozzle from the tank that is being filled up.**

Let's work together to keep ourselves and our workers safe.

# Hazards to be aware of

- **Static electricity (increased risk of fire and explosion if using ULSD)**
- **Diesel particulate is carcinogenic**
- **Hot work activities and hazards**
- **Environmental damage (spills, uncontrolled discharge)**

# Static electricity control measures

- **Use proper earthing and bonding to control static electricity (Fuel supplier can assist)**
- **Always place smaller containers on the ground before filling with flammable liquid**
- **Never fill a container with fuel in the boot of a car, in the tray, or on the tailgate of a utility truck**
- **Never use unapproved containers to store fuel**



TO BE UPDATED TO  
REFLECT LATEST  
LEGISLATIVE  
CHANGES

**GOOD PRACTICE  
GUIDELINES**

# Above Ground Fuel Storage on Farms

APRIL 2015



New Zealand Government

**WORKSAFE**  
NEW ZEALAND | 2014



Environmental  
Protection Authority  
*Te Mana Rauhi Taiao*

## Flammable Liquids Tank Wagons

A code of practice for the design and construction of vehicles for the bulk transport of flammable liquids by road

HSNOCOP 6  
Version 2.1 April 2014

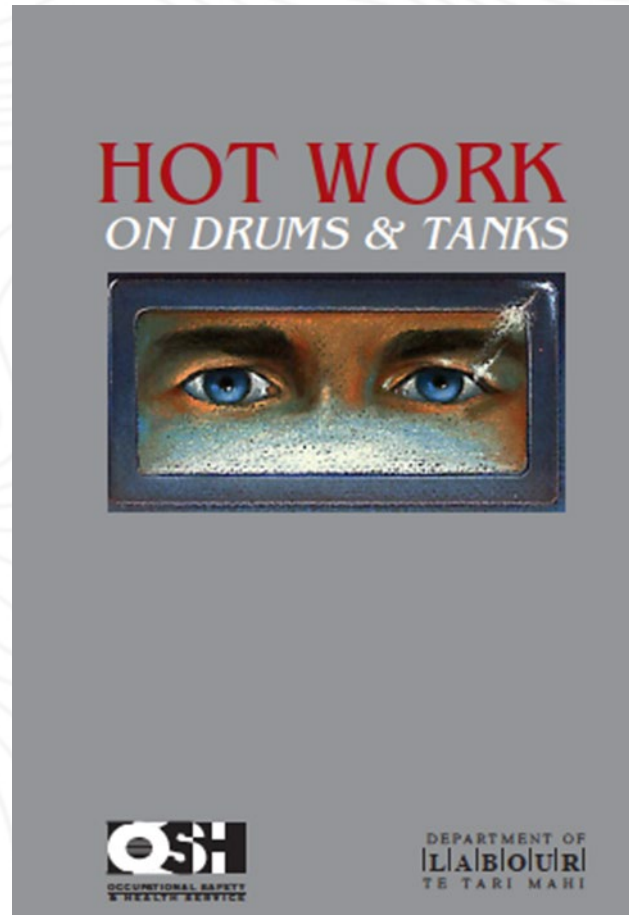


## APPROVED CODE OF PRACTICE

UNDER THE HAZARDOUS SUBSTANCES AND NEW ORGANISMS (HSNO) ACT 1996

New Zealand Government

# Welding on drums and tanks



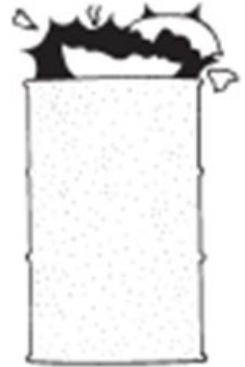
# Fatal incident

- **Welding and grinding on top of 96,000lt capacity waste oil tank that was almost empty**
- **Tank exploded throwing worker 130m into a nearby car yard and killing him**
- **FINDINGS - Owner's disregard for safety led directly to the death of the young man**



# Effective controls

- **Ensure tank isolated or battery leads removed**
- **Completely drain the tank of all fluid**
- **Fill tank with water or inert gas to purge the tank**
- **Make sure the work area is well ventilated**
- **Keep fire extinguishers or other fire fighting equipment handy**
- **Ensure flashback arrestors are fitted to gas welding equipment**
- **Always wear industrial overalls, gloves and eye protection during welding and cutting**







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