

# Loss Prevention Safety Tip



Loss Prevention  
Program

By Red River Mutual

## FLAMMABLE LIQUID TRANSFER SAFETY

### Potential hazard

Workers are regularly exposed to the risk of injury when working with or near gasoline or other types of flammable liquids.

### How to Control the Hazard

To prevent injuries and property damage when working with flammable liquid, use proper equipment and safe work procedures to perform the job safely.

### Using Proper Safety Equipment

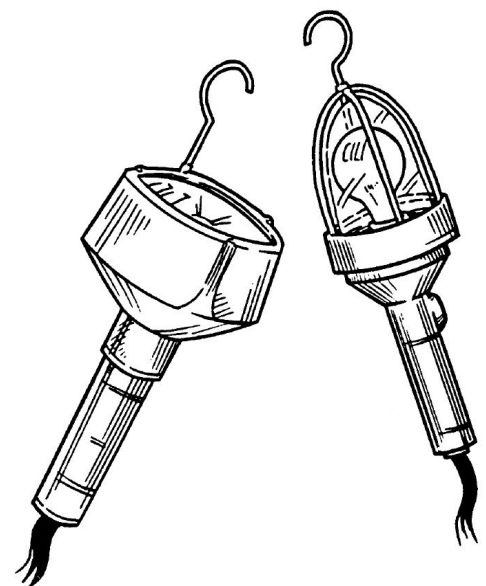
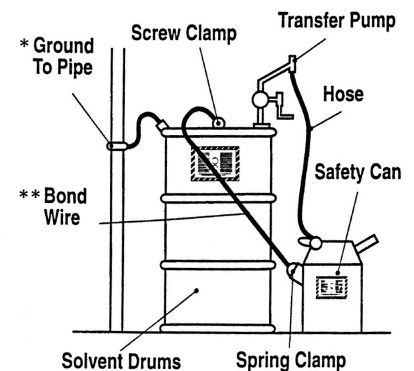
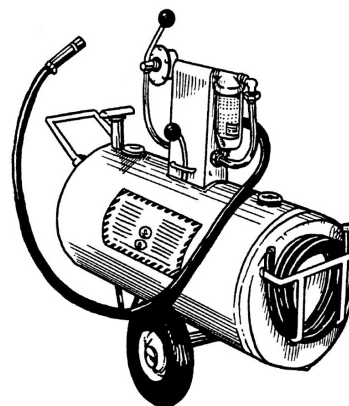
Workers are sometimes required to siphon or drain and refill vehicles with fuel. Transfer of these fuels requires an approved system, including approved safety equipment.

Several factors must be considered when transferring flammable liquids. Static electricity may be generated through friction, including flowing liquids and gases, as in the case of transferring flammable liquids. Accumulated static electricity may discharge, producing an electric arc, and provide an ignition source.

Safety equipment such as portable fuel transfer tanks are designed to transfer flammable liquids from vehicle and equipment tanks into a self-contained approved storage tank by means of a pump. They reduce the amount of vapour and splashing or spilling of fuel and have provisions for proper bonding and grounding to eliminate accumulations of static electricity.

These units have various capacities and also eliminate the use of open unapproved containers. Only equipment tested and approved by recognized agencies such as Underwriters Laboratories Inc. (UL, ULC), Factory Mutual Engineering Corporation (FM) and National Fire Protection Association (NFPA) shall be used to transfer N.F.P.A. Class 1 flammable liquids to or from vehicle or equipment tanks.

Work activities also often require the use of Portable lights or Trouble lights. Bulb surface temperatures may approach 500 degrees F. (260 C.) and may provide an ignition source when these lights are positioned near a fuel source where splashing or explosive atmospheres occur. It is also possible that any of the trouble light components, connections, switches, frayed electrical cords etc. may result in electrical arcs and provide a potential ignition source.



Portable lighting should be designed to eliminate ignition sources in the presence of flammable liquids or explosive atmospheres. Only lights tested and approved by recognized agencies such as UL, ULC, FM, NFPA, and Canadian Standards Association (CSA), shall be used with Class 1 Flammable liquids.

All safety equipment must be used and maintained according to manufacturers' specifications, and a no smoking policy must be in place.

\*Grounding: connection of the container to an already grounded object that will conduct electricity to "chain" off any static charge.

\*\*Bonding: making an electrical connection between two containers so there is no difference in electrical potential to protect from sparks/electric shock.

### **Safe Work Procedures**

Employers or contractors must ensure safe work procedures (SWPs) are developed and implemented to prevent the ignition of flammable liquids, or explosive atmospheres that exist or are likely to exist at the worksite. SWPs should include procedures to safely extinguishing fires, install electrical or fuel fired equipment, store flammables, control spills, and perform welding operations.

Auto and Truck manufacturer specifications and procedures must also be followed for the safe removal of fuel systems, including fuel pump, sending unit, fuel lines and tanks. Refer to the manufacturer's operations manual.

### **Reference Material and Contact Information**

Part 4 of the Manitoba Fire Code (Flammable and Combustible Liquids) identifies the requirements for the storage, handling, use and processing of flammable liquids and combustible liquids in buildings, structures and open areas. Sections 4.1.5.2 (Ignition Sources), 4.1.8.2 (Control of Static Electric Charge), and 4.1.8.4 (Fuel Tanks of Vehicles) identify the control of the specific hazards noted.

Contact the agencies listed below for assistance in complying with the Manitoba Fire Code:

City of Winnipeg Fire Prevention Branch  
2nd Floor – 185 King Street  
Winnipeg, MB R3B 1J1 Phone: 311 or 204-986-6320 (Public Education Enquiries)  
Email: [fireinspections@winnipeg.ca](mailto:fireinspections@winnipeg.ca)

Outside the City of Winnipeg, contact:  
Manitoba Department of Labour and Immigration  
Office of the Fire Commissioner  
508 - 401 York Ave.  
Winnipeg, MB  
Phone: (204) 945-3322  
Toll-free in MB: 1-800-282-8069  
24 Hour Emergency Line: 1-888-389-FIRE (3473)

Or contact the local authority having jurisdiction in your area.

Source: SAFE Work Manitoba

## **See more loss prevention tips at [www.preventingloss.com](http://www.preventingloss.com)**

While the safety recommendations in this report are based on apparent and obvious conditions that were found at the time of inspection, the report does not purport to identify all hazards or guarantee compliance with any standards, codes, ordinances or regulations. It is not legal or expert advice, and should not be used in place of consultation with appropriate professionals. Any person relying on this information does so entirely at their own risk. Red River Mutual denies all responsibility for any liability, loss, injury or risk which is incurred as a direct or indirect result of the use of any of the recommendations in this report.