

## Vacuum Trucks Present Fire and Explosion Hazards

**O**n Nov. 18, 2014, a vacuum truck at the Santa Clara Waste Water Co. in Santa Paula, CA, exploded and sprayed hazardous material in a 300-ft radius. Nearly 50 people were injured, including the truck driver and first responders.

The truck contained the oxidizing agent sodium chlorite, which the facility was using to treat wastewater for the first time. The sodium chlorite was vacuumed into the truck, where it combined

with the existing contents. The substances interacted, causing an explosion that blew off the back of the truck and spread chemicals to the surrounding area. The chemicals dried and ignited. Subsequent explosions spread the fire to surrounding containers. The toxic smoke from the conflagration forced the closure of nearby schools and roads. Residents within one mile were evacuated, and those within three miles were ordered to shelter in place.



▲ Vacuum trucks are used to transport liquids, sludges, and slurries. Mixing incompatible materials or venting flammable materials near ignition sources can present fire and explosion hazards.

### Did You Know?

- Incompatible materials can combine inside vacuum trucks and cause fires and explosions.
- Vacuum trucks operate at pressures below atmosphere, which can cause low-boiling-point materials to vaporize. These vapors can exit through the truck's vent and ignite if they are flammable.
- Vacuum trucks draw in liquid and air, which can create a flammable mixture in the vapor space of the truck and generate static electricity as liquid and air mix.

### What Can You Do?

- Many companies use permit systems to safely manage vacuum truck operations. If you are working near a vacuum truck, ensure operations adhere to the permit requirements.
- Vacuum trucks collect materials from many sources. Ensure all materials to be vacuumed are compatible and, if you are not sure, stop and ask.
- Verify that all vehicles to be loaded or unloaded are grounded and bonded.
- If a vacuum truck's vent discharge contains flammable vapors, make sure it will not be in the vicinity of any nearby ignition sources.

**Pay special attention to vacuum trucks!**

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