



August 2015

SAFETY ADVISORY

PETROLEUM CRUDE OIL AND HYDROGEN SULFIDE SAFETY AWARENESS

This Safety Advisory is directed specifically to those who handle crude oil in transport with the aim to raise safety awareness among consignors, carriers and stakeholders who import, handle, offer for transport or transport petroleum crude oil.

Crude oil and H₂S

Crude oil is a complex mixture of chemicals, mostly hydrocarbons, which can vary greatly. Unlike refined products with a more consistent composition (e.g. gasoline, propane), the composition of crude oil can vary greatly; depending on where it is from, how it is extracted, and how it is contained.

Hydrogen sulfide (H₂S) is a colorless gas found naturally in some crude oils. It is heavier than air, toxic, corrosive, flammable, explosive, and is very dangerous when inhaled.

Finding H₂S in crude oil is not new. Its presence in some oils is a known fact in the oil industry. Canadian crude oil producers and industry know the H₂S risks and have ways to protect employees' safety.

Safety Awareness

Demand for crude oil has increased greatly over the past few years. This is why we:

- expect Canada to produce and export growing amounts of crude oil over the next 15 years; and
- know research on its properties and behaviour is necessary to make transporting crude oil in North America safer than ever.

Recent studies that measured H₂S concentration in the vapour phase above crude oils have found higher than expected levels. These high levels will vary by location, as well as by means of extraction and containment. Everyone handling petroleum crude oil in bulk should protect themselves by using appropriate Personal Protective Equipment.

Note: While First Responders should be aware of the risks, H₂S usually dissipates rapidly when a means of containment is breached, which greatly reduces their risk of exposure to this toxic gas.

To learn more, please contact the Transport Dangerous Goods Office in Ottawa by email at TDGTraining-FormationTMD@tc.gc.ca