The *BSO Plus Safety Topic* is a review designed from the BSO Plus agenda. This safety topic is your way to stay current on the safety information over the 3 years between BSO Plus and BSR.

MERCURY

What is mercury?

Mercury is a heavy, dense metal that is liquid at room temperature. The freezing point of mercury is below -38º Celsius (-36º Fahrenheit). The liquid is so dense that a bowling ball would float in it. Liquid mercury is quite volatile. It is odourless and will not burn; however, when exposed to air, mercury metal vaporizes and can be inhaled. The warmer the temperature, the more quickly mercury vapour gets into the air.

What are the health effects of exposure to mercury?

Mercury can be absorbed through your skin as a liquid or inhaled as a vapour. Exposure can also occur by eating contaminated fish or shellfish. The health effects appear to be the same for all types of exposure.

Exposure to mercury can cause a flu-like illness 3-10 hours after exposure. Symptoms usually disappear within 48 hours after exposure.

Symptoms may include:

- Chest tightness
- Cough
- Difficulty breathing
- Headache
- Fever
- Muscle aches
- Runny nose

Repeated, **long-term exposure** to mercury can cause:

- Kidney damage
- Central nervous system problems (stupor, tremors)
- Vision and hearing changes
- Hearing loss
- Accumulation of fluid in lungs
- Cognitive and behavioral abnormalities (including irritability, excessive shyness, a loss of confidence, nervousness, sleeplessness, memory loss)
- Reduction in fertility or harm to a developing fetus

How are workers exposed to mercury?

Mercury is a natural component of oil and gas and may be present at high concentrations in some formations. Crude streams contain various levels of mercury which stick to the sides of vessels on local sites. Concentrations of mercury in each individual stream are not always known. What's important to know is that if you're doing hot work inside a vessel, like grinding or welding, this can produce mercury fumes.

Today, the use of mercury has been significantly reduced due to its extreme toxicity. However, mercury was once commonly found in medical equipment and used in construction, agriculture, and other industries. The risk of exposure exists whether these products are in use or in storage. If a container that holds elemental mercury or a mercury compound breaks, workers may be at risk.

Mercury exposure is most common in the following industries:

Recycling	• Fluorescent lights, batteries, and electronics
Construction	• Switches, toggles, transformers, high-intensity discharge lamps, and thermostats
Health care & social services	• Older medical equipment such as thermometers, blood pressure cuffs, and manometers
Oil & gas	• Pressure and vacuum gauges, barometers, and manometers • Piping tanks and vessels
Agriculture	• Fungicides and pesticides
Art Galleries and museums	• Mercury has been used as a preservative in artwork, ethnology and taxidermy collections

How to reduce the risk of mercury exposure?

Mercury is listed as a Designated Substance under O. Reg. 490/09 and therefore requires employers to create their own specific work procedures when mercury is present on the work site.

Before handling, it is important that all engineering controls, such as local exhaust ventilation and enclosure systems, are operating and that protective equipment requirements and personal hygiene measures are being followed. Only trained personnel should work with this product.

Workers should avoid:

- ALL unprotected contact with this product or with contaminated equipment/surfaces
- generating vapours or mists where mercury may be present
- heating that will increase the amount of vapours

Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). If exposed or concerned, see a doctor for medical advice.