

30 June 2016
Press Release

Managing fluid storage in cold climates

While freezing temperatures will not generally affect the quality of most conventional oils, greases, fuels, solvents and naphthas, there are several important storage and dispensing factors that need effective management in order to obtain optimal performance from fluids. Attention must be given to extreme temperatures when choosing oil or fluid types, according to fluid management specialist Techenomics International, and operators of vehicles and mechanical equipment also need to be aware of measures they need to take to get the best from oil and fluids in these conditions.



Chris Adsett, CEO of
Techenomics International

Techenomics' CEO Chris Adsett says special measures need to be taken during storage and dispensing while operators also need to be aware of the deleterious effects extreme cold can have on fluids.

“An area of concern with oil storage and use in cold climates where the storage area is not heated is with dispensing of products not intended for low temperature service. Some oil may not perform at its best due to additives dropping out or settling.

“Some additives, such as silicon-type defoamant, can be re-suspended in the oil by means of agitation at room temperature, whereas others, such as active sulphur metalworking fluids, must be warmed before attempting to dispense the product.”



Chris Adsett says the best place to store lubricants in extreme weather is indoors in one designated area, preferably with some heating to bring temperatures above freezing, although they should not be stored adjacent to any source of warmth, such as steam lines or heaters.

“Racks and shelving that adequately protect all containers should be provided, along with a device to hoist the drums aeach type of lubricant should be easy to reach.

“Older stocks should be rotated to the front to prevent going beyond shelf life or expiration dates. A first-in, first-out rule will eliminate the risks of deterioration caused by lengthy storage. Lubricants stored in various locations at a plant can be a control issue, making accounting and inventory management difficult.”

An approximate guide to maximum recommended storage times is: Gas engine oils – shelf life of 6 months; refrigeration compressor oils – 24-26 months; water soluble metal working fluids – 12 months; water glycol fire resistant fluids – 24 months; invert emulsion-type fire resistant fluids – 6 months; custom blended soluble oils – 3 months; and wax emulsion – 6 months. Shelf life begins from the date of packing. Techenomics' technology and product development manager Eka Karmila says repeated freezing or long-term exposure to freezing temperatures may destroy the emulsification properties of conventional soluble oils.

“A product that has undergone pour point reversion may return to its normal pour point when stored for a time at normal room temperature. Heavy steam cylinder oils may require 100F (37.8C) or higher storage temperature for reconditioning.”



SOLVE YOUR LUBRICATION PROBLEMS

Click here for more detailed information on extending the life of your oil using either nano additives or micro filtration

She says low temperature extremes can also cause chemical degradation. “Rust inhibitors may suffer significant performance losses after only six months of normal storage. Depending upon the formulation, a rust inhibitor may have poor solubility in base oils leading to precipitation during storage. This precipitation is greatly accelerated in cold storage,” she says.

For more information about Techenomics contact Chris Adsett, c.adsett@techenomics.com; in Indonesia EkaKarmila, eka@techenomics.com; or in Mongolia Sugraa, (sugraa@techenomics.com).