Written by Travis Lail, ExxonMobil Lubricants & Specialties
Monday, 13 June 2011 12:33

Refine your techniques with these guidelines.

The proper handling, storing and dispensing of industrial lubricants is vital in helping to protect plant personnel against health hazards and minimize the risk of environmental contamination. Among the common problems plant managers and maintenance professionals encounter when dealing with high volumes of lubricants and/or greases is product mislabeling and storing products in areas with extreme temperatures.

To treat your oils and greases with the care and respect they deserve—*and require*—keep the following points in mind:

Handling

The handling of lubricants includes all operations involved in the receipt of supplies of lubricants by a facility and the transfer of those lubricants to in-plant storage. The type of handling involved depends on how the lubricants are received—*either in packages or in bulk.*

Packaged products…

All shipments of oils, greases and associated petroleum products in containers up to and including 55-gal. (U.S.) oil drums and 400-lb. grease drums are considered packaged products.

- Most packaged lubricants can be unloaded without damage from trucks or freight cars by sliding them down through wood or metal skids. The skid should be securely attached to the truck or freight-car bed.
- When lubricants in both drums and smaller packages are delivered to customers on pallets, they can be unloaded with a forklift and transported directly to storage.
- After unloading, drums can be moved safely to the storage area by properly equipped forklift trucks, either on pallets or held in specially equipped fork jaws. If fork trucks are unavailable, the drums should be handled and moved with barrel trucks or drum handlers.

Bulk products…

The term “bulk” in this context refers not only to deliveries in tank cars, tank trucks, tank wagons and special grease transporters, but also to deliveries in any container substantially larger than a conventional 55-gal. oil drum or 400-lb. grease drum. Prior to the receipt of bulk deliveries, certain precautions must be taken:

- The storage tanks should be gauged to ensure there is sufficient capacity available for the scheduled delivery.
- Empty tanks should be inspected and flushed or cleaned if necessary. They also should be checked to ensure the correct fill pipe is being used, that valves are set correctly and any crossover valves between storage tanks are locked out.
- While it’s desirable to have a separate fill line and hose for each product, when this is not possible, the fill line and hose should be drained and flushed thoroughly to minimize the risk of harmful cross-contamination.

Storing

The proper storage of lubricants calls for adherence to several key guidelines:

- Lubricants should be protected not only from sources of contamination but also from degradation that can occur when they’re stored in extremely hot or cold temperatures.
- Lubricant products should be stored in an area where they can be moved into and out of storage easily and used on a “first in, first out” basis.
- Make sure product identification is maintained and clearly visible.
- When selecting the proper location of petroleum-product storage facilities, it is crucial to consider the applicable fire, safety and insurance requirements.

As discussed in the section on handling, the guideline related to the storing of lubricants depends on how the lubricants are received—*either in packages or in bulk.*

Packaged products…

Packaged lubricants can be stored outdoors, in a warehouse or in an oil house. In all cases, outdoor storage should be avoided whenever possible. Some potential hazards of outdoor storage include contamination by water, dirt or rust, or changes to the physical properties of the lubricants resulting from extreme temperatures (be they hot or cold).

Warehouse storage is desirable when the oil house lacks the space needed to stock the complete inventory that is required. In a warehouse, racks and shelving can be used to provide adequate protection for all containers and the aisle space should be adequate for maneuvering whatever type of mechanical handling equipment is used. The “first in, first out” procedure should be maintained, and the location should be considered on the basis of receiving and dispensing convenience.

Keep in mind that a well-arranged, properly constructed and conveniently located oil house is the best storage area when trying to avoid contamination of lubricants.

Bulk products…

While bulk storing of lubricants offers considerable eco-nomic and operating advantages, the full benefit of such an approach will be realized only when the complete system is properly planned and installed. To avoid the need for cleanup and/or the risk of contamination, always remember that tanks and bins should be used for only one product. Other factors to consider when using bulk storage include:

- Inside storage locations are generally preferred, both to avoid the cycling temperatures encountered in outside locations, and to minimize exposure to atmospheric moisture and other contaminants.
- Storage locations should not be in areas where plant equipment (such as high-pressure steam lines or process vessels) will cause high ambient temperatures or direct heating of the tanks.
- Excessively cold locations should be avoided.
- To minimize the suction head on transfer pumps used to withdraw product for the tanks, above-grade lubricant-storage locations are preferred.

In addition to choosing the right location for storage, it is important to remember that storage tanks should be equipped with vents to allow breathing during filling and emptying. The vents

also should be equipped with filters to keep out dust, moisture and other contaminants.

Dispensing

Dispensing of a lubricant includes its withdrawal from the oil house or other storage location and its transfer to the point of use, as well as the application of the product at the point of use.

- When lubricants are dispensed by methods other than completely closed systems, containers or devices used to move them and related products should be kept clean at all times.
- Each container or device should be clearly labeled for a particular product and used only for that product.
- The device used for the introduction of a lubricant to the point of final use should be carefully cleaned before the filling operation starts.
- Sumps and reservoirs should be thoroughly cleaned and flushed before filling the first time, checked when they are refilled and cleaned as necessary.

In return

A little TLC goes a long way. By observing these precautions and procedures in the handling, storing and dispensing of lubricants, greases and associated petroleum products, you can help preserve their integrity, minimize the risk of potential personnel injuries and achieve significant economic and operating benefits. **MT**

Travis Lail is an industrial lubrication specialist with ExxonMobil Lubricants & Specialties. To learn more about handling, storage and dispensing of oils and greases, visit: mobilindustrial.com

For more info, enter 03 at www.MT-freeinfo.com