Lubricants

Covered Products

This specification covers a variety of facility maintenance lubricants which are products that reduce friction, heat, noise, or wear between moving parts, or loosen rusted or immovable parts or mechanisms. Lubricants covered by this specification include but are not limited to:

- Bar and chain oils
- Corrosion Inhibitors (Rust control lubricants)
- Gear lubricants
- Greases
- Multi-purpose lubricants
- Penetrating lubricants
- Pneumatic equipment lubricants (for air tools and compressors)
- Other types of facility maintenance lubricants

This specification does NOT cover fleet maintenance lubricants such as vehicular motor oil or hydraulic fluids which are covered under different EO 4 specifications.

Background

Lubricants can contain a variety of chemicals that are potentially hazardous to human health, including some that are classified as carcinogens and/or asthmagens.

Examples of chemicals that are used in lubricants include but are not limited to:

- Chemicals that are known to cause cancer, birth defects or other reproductive harm such as methylene chloride, perchloroethylene or trichloroethylene. These include chemicals that require a California Prop 65 warning, are classified as either Group 1, 2A or 2B carcinogens by IARC or are classified as either 'Known to be' or 'Reasonably Anticipated' to be carcinogens by NTP;
- Asthmagens per the Association of Occupational and Environmental Clinics (AOEC) such as ~~formaldehyde,~~ tall oil (rosin) or cutting oils. The AOEC's List of asthmagens can be accessed at: http://www.aoecdata.org/ExpCodeLookup.aspx (asthmagens will have an 'Rs' or 'G' code);
- Chlorinated compounds (e.g., methylene chloride, perchloroethylene or trichloroethylene);
- Perfluorinated Chemicals (PFCs) (e.g., Polytetrafluoroethylene (PTFE). PFCs are known for being non-stick and stain resistant, and they are used in lubricants to improve durability and to provide a lower coefficient of friction. PTFE is manufactured using PFCs. Research into the human health risks associated with

both long and short chain PFCs is ongoing. According to the National Institute of Health's Substances of Concern Database (as of March 8, 2019):

> "Safe alternatives to PFCs have yet to be identified or developed. Shorter chain PFCs (those with four to six carbons) are considered to be less toxic than longer chain PFCs, however, there is limited toxicological data on shorter chain PFCs and, since they are similarly structured and could therefore have similar properties, using these as alternatives to their longer chain counterparts could result in a regrettable substitution. Reduction strategies include selecting products and materials that do not contain PFCs. For example, fabrics, like carpeting and office furniture and clothing (i.e. lab cc coated with stain or water-resistant coatings and choosing food packaging, cooking ware and other products that are made without PFCs."

Lubricants can also be a source of Volatile Organic Compounds (VOCs) which impact air quality and with proper specification, these impacts can be reduced.

Definitions

California Proposition 65 - known as the Safe Drinking Water and Toxic Enforcement Act of 1986, requires the State of California to publish a list of chemicals known to cause cancer, birth defects or other reproductive harm. The California Office of Environmental Health Hazard Assessment follows a rigorous scientific and open, public process to evaluate available scientific information and lists chemicals based on recommendations from State committees of scientists and health professionals, presence on an authoritative list of chemicals of concern (e.g. IARC or NTP), identification by a state or federal agency as a carcinogen or teratogen, or satisfaction of certain criteria defined in the California Labor Code.

Environmental Product Declaration (EPD) – An independently verified and registered document that communicates transparent and comparable information about the life-cycle environmental impact of products meeting ISO 14025 *Environmental labels and declarations — Type III environmental declarations — Principles and procedures.*

Health Product Declaration (HPD) – A disclosure of product contents and potential associated human and environmental health hazards completed in compliance with the HPD Open Standard. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator, and when available, full GreenScreen assessments.

International Agency for Research on Cancer (IARC) - is the specialized cancer agency of the World Health Organization dedicated to promoting international

collaboration in cancer research. IARC maintains list of chemicals that are classified as known carcinogens (group 1), probable carcinogens (group 2A) and possibly carcinogenic to humans (group 2B).

National Toxicology Program (NTP) - is an interagency program established in 1978 to coordinate toxicology research and testing across the U.S. Department of Health and Human Services. The program was created to strengthen the science base in toxicology, develop and validate improved testing methods, and provide information about potentially toxic chemicals to health regulatory and research agencies, scientific and medical communities, and the public. It maintains an objective, science-based approach in dealing with critical issues in toxicology. Some facility maintenance lubricants may contain chemicals that are classified as carcinogens by the NTP. The NTP maintains lists of chemicals that are classified as known to be human carcinogens and reasonably anticipated to be human carcinogens. For a full listing of chemicals classified as carcinogens, see the 'Report on Carcinogens' located at https://ntp.niehs.nih.gov/ under 'Public Health'.

National Fire Protection Association (NFPA)
The National Fire Protection Association is a United States trade association, albeit with some international members, that creates and maintains private, copyrighted standards and codes for usage and adoption by local governments. Many lubricants, particularly products that are petroleum-based or packaged in aerosol contains, are considered hazardous because they are highly flammable. Products with a National Fire Protection Association (NFPA) rating higher than 2 are considered highly flammable materials and should be avoided because they can catch on fire if the temperature in the container reaches 100 degrees F or higher.

Perfluorinated Chemical (PFC) – means any perfluorinated or polyfluorinated chemical, including but not limited to long- and short-chain per- or polyfluorinated alkyl compounds (PFASs), fluorinated sulfonate compounds, fluorinated polyethers, and fluorinated polymers.

Standard Setting and Certifying Programs

Association of Occupational and Environmental Clinics (AOEC)
A non-profit organization committed to improving the practice of occupational and environmental health through information sharing and collaborative research. Some facility equipment lubricants contain ingredients that can cause or worsen asthma in a workplace environment. Of particular concern are substances that can cause respiratory sensitization or are generally known to be asthmagens. These substances are noted on an asthmagen list that is maintained by the Association of Occupational and Environmental Clinics (AOEC) with an Rs or G code. Examples of asthmagens that may be found in lubricants include cutting oils and metal working fluids (listed as a category), aluminum, chromium, nickel, turpentine and formaldehyde/formaldehyde release

agents. A full list of AOEC asthmagens can be found at: http://www.aoecdata.org/expcodelookup.aspx.

SCS Indoor Advantage Gold
SCS Indoor Advantage Gold is a single-attribute certification for low-emitting products.

SCAQMD Compliant (Single-attribute standard for VOC Content)
In 2009, the South Coast Air Quality Management District (SCAQMD), which protects air quality in and around the City of Los Angeles, adopted *Rule 1144*, which established a stringent VOC limit on "direct contact lubricants" of 50 grams per liter (g/l). This Rule also set limits on other high-volume manufacturing lubricants.

USDA Biobased Certified
USDA Biobased Certified is a single attribute certification managed by the US Department of Agriculture that requires a minimum amount of biobased content and requires the manufacturer of the product to verify the content through independent laboratory testing. USDA Biobased Certified lubricants can be found in the Operations and Maintenance category of the USDA BioPreferred Product Catalog, which can be accessed at: https://biopreferred.gov/BioPreferred/faces/catalog/Catalog.xhtml.

Please note that this catalog contains non-certified products as well as certified products, and only products with the USDA Biobased Certified label meet the requirements of this specification.

UL GREENGUARD Gold
UL GREENGUARD Gold is a single-attribute certification for low-emitting products (it verifies that products meet the CA 03150 emissions standard). UL GREENGUARD Gold products are listed on the UL SPOT Database: https://spot.ulprospector.com/en/na/BuiltEnvironment.

Please note that the UL Spot Database contains products certified to the UL Greenguard standard as well as UL Greenguard Gold, and only products meeting the Gold standard meet the requirements of this specification.

Specifications

When form, function and utility requirements are met (which includes performance characteristics), affected entities are encouraged to purchase lubricants that meet the following specifications:

1. The product should be certified to one of the following standards, which are listed in order of preference:
    a) USDA Biobased Certified
    b) SCS Indoor Advantage Gold or UL GREENGUARD Gold
2. The product should have an NFPA flammability rating less than or equal to 2;
3. The product should not be packaged in an aerosol container;

4. The product should have an Environmental Product Declaration (EPD), Health Product Declaration (HPD) or equivalent document that provides full product content information;
5. The product should not contain chemicals that are on the Prop 65 list of substances that are known to the State of California to cause cancer, birth defects or other reproductive harm;
6. The product should not contain chemicals that are listed by the Association of Occupational and Environmental Clinics (AOEC) as an asthmagen. The AOEC list can be accessed as http://www.aoecdata.org/expcodelookup.aspx;
7. The product should not contain fluorinated non-stick compounds.

In addition, affected entities are encouraged to use EPA-approved Environmentally Acceptable Lubricants for applications near waterways.

Packaging

Packaging shall comply with Environmental Conservation Law section 37-0205. Packaging shall not contain inks, dyes, pigments, adhesives, stabilizers, or any other additives to which any lead, cadmium, mercury or hexavalent chromium is intentionally added or contain incidental concentrations of lead, cadmium, mercury or hexavalent chromium which together are greater than 100 parts per million by weight (0.01%).

New York State encourages affected entities to adopt the following:

- The use of bulk packaging.
- The use of reusable packaging.
- The use of innovative packaging that reduces the weight of packaging, reduces packaging waste, or utilizes packaging that is a component of the product.
- That all packaging remains the property of the supplier and not become the property of the affected state entity under any circumstance or condition. The vendor shall certify that the packaging material will be reused, recycled, or composted, and managed in compliance with applicable local, state, and federal laws.
- Packaging that maximizes recycled content and/or meets or exceeds the minimum post-consumer content level for packaging in the U.S. Environmental Protection Agency Comprehensive Procurement Guidelines.
- Packaging that is recyclable or compostable.

Bulk Delivery and Alternate Packaging

New York State encourages the use of innovative packaging that reduces the weight of packaging and the generation of packaging waste. A Contractor is encouraged to use reusable materials and containers and to utilize packaging configurations that take advantage of storage containers designed to be part of the Product for the shipment of

multi-unit purchases. New York State recognizes that these packaging methods are in the development stage and may not be currently available. Authorized Users are urged to inquire about these programs at the time of purchase and determine the best solution for their needs.