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THE HOME OF COLLOIDAL GRAPHITE

TECHNICAL DATA SHEET

NEOLUBE® NO. 1 LUBRICANT - COLLOIDAL GRAPHITE IN ISOPROPANOL

APPLICATION: NUCLEAR POWER GENERATING PLANTS, NUCLEAR REACTORS, COMMERCIAL AND NAVAL

NEOLUBE® No. 1 is a dry film lubricant, used extensively at nuclear power generating plants and other nuclear facilities as an anti-seize compound, thread lubricant, and for lubricating moving parts and rubbing surfaces.

The composition of this material is 99% pure furnace graphite particles, a thermoplastic resin and isopropanol. The material has excellent radiation resistance and high chemical purity. The thin, dry, non-corrosive film of NEOLUBE® No. 1 prevents seizing, fretting, galling and resists abrasion. It is easy to apply by spray, dip or brush and has excellent adhesion after a fast air dry. The dry film of NEOLUBE® No. 1 will not migrate and is unaffected by frost.

NEOLUBE® No. 1 has satisfied the stringent requirements for lubricating the internal and auxiliary equipment mechanisms of commercial and naval nuclear reactor systems. NEOLUBE® No. 1 provides non-corrosive, dry adherent lubrication for metal parts with limited clearances in applications where control of impurities is required. NEOLUBE® No. 1 resists abrasion and effectively lubricates moving parts, rubbing surfaces, and threaded parts for easier assembly, trouble-free operation and non-destructive disassembly.

NEOLUBE® No. 1 is ***NOT RECOMMENDED FOR LUBRICATING THREADS IN THE REACTOR PRIMARY CONTAINMENT AREAS***, where operating temperatures for the fittings are greater than 400°F. NEOLUBE® No. 1260 is recommended for use in containment and/or secondary side in nuclear applications. ***NOT RECOMMENDED FOR USE IN OXYGEN SYSTEMS.***

A Certificate of Quality Conformance and Analysis is available for each lot upon request.

Physical and Chemical Requirements	MIL-L-24131C
Total Solids Content , weight percent	3.3% ± 0.50%
Graphite Content , percent of total solids	75% ± 5%
Particle size , microns	
Maximum dimension of 90% of the particles	4 Microns
Maximum dimension of any particle	10 Microns
Ash , weight percent, maximum on total solids	0.75%
Fluorine , parts per million, maximum on total solids	20 PPM
Chlorine , parts per million, maximum on total solids	200 PPM
Sulfur , parts per million, maximum on total solids	200 PPM
Lead , parts per million, maximum on total solids	150 PPM
Film Properties (regular & irregular surfaces):	
Adherence	The coated surface shall be dry and shall not become exposed when subjected to light abrasion.
Spalling	Film continuity shall not be broken, metal surfaces shall not be exposed.
Appearance	Dry, non-oily.
Odor	Characteristic of isopropanol, no odor of halogenated solvents shall be detected.

Mercury: Instruments and equipment containing mercury or compounds of mercury were not used in the manufacture and packaging of the lubricant, nor in testing and inspection, unless samples were discarded after the test. During the manufacturing processes, tests, and inspection, **NEOLUBE® No. 1** did not come in contact with mercury or any of its compounds nor any mercury-containing devices employing a single boundary of containment. Compounds containing boron were not used in cleaning, processing equipment, or containers. There is no intentional addition of low melting point metals such as lead, bismuth, zinc, mercury, antimony, cadmium, tin, silicon, gallium, indium or arsenic to this product; nor of copper or silver. MeOH is not a component of **NEOLUBE® No. 1**. This product is not approved by NSF for drinking water applications.

**Physical Properties
(As Supplied)**

Lubricant	Processed micro-graphite	Shelf Life	No limit in a closed container
Binder	Thermoplastic Resin	Flash Point	52°F (11°C)
Diluent	Isopropanol	Color	Black
Consistency	Liquid	Solids Content	3.30% ± 0.50%
Density	6.6 lb./gal (0.791 kg/l)		

(As a Cured Coating)

Service Temperature	400°F (204°C)	Intermittent Temperature	850°F (454°C)
Coefficient of Friction	0.15 (Static)		

Dilution:

NEOLUBE® No. 1, is supplied in a ready-for-use form conforming to the requirements of MIL-L-24131C. If further dilution is required by the application, add isopropanol while mixing uniformly.

Pretreatment:

Substrates should be clean and dry before application. A solvent wipe and air dry is usually sufficient. For critical applications requiring maximum adhesion, mechanical or chemical pretreatment such as grit blasting, phosphating, anodizing or etching is recommended.

Application:

Mix uniformly before using. Apply with the brush in cap applicator or by conventional spray, brush or dip methods.

Cure Time:

Material air dries in approximately 5 minutes, depending on temperature and humidity.

Packaging:

NEOLUBE® No. 1 is packaged in 2-ounce and 8-ounce non-halogenated plastic bottles with a brush in cap applicator.

Precautions:

Employ the customary safeguards in storing, handling and applying flammable materials of this type. Use with adequate local exhaust ventilation if product is sprayed. Avoid prolonged contact with eyes, skin, and clothing. (See the Safety Data Sheet for proper first aid instructions.) Containers must be tightly resealed to prevent evaporation and contamination.

Qualification Approval:

Approving organization is the Naval Ship Engineering Center, Hyattsville, Maryland 20782. The date of the approval letter is 21 June 1974, Test Report Number (QPL) 10744.

PLEASE NOTE: "NEOLUBE® PRODUCTS ARE NOT CONSIDERED SAFETY-RELATED GOODS. AS SUCH, THEY ARE NOT DESIGNED, FABRICATED, HANDLED, SHIPPED, STORED, ETC., UNDER A QUALITY ASSURANCE PROGRAM THAT COMPLIES WITH THE REQUIREMENTS OF 10CFR50, APPENDIX B, 10CFR21, OR ANSI STANDARDS."

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