



650 AML

ADVANCED MACHINERY LUBRICANT

APPLICATION AREAS

- *Air Actuated Valves*
- *Pneumatic Cylinders, Solenoids and Positioners*
- *Conveyor Chains, Slideways, and Wire Ropes*
- *Air Mist or Oil Injected Lubricated Bearings, and Equipment*
- *Assembly, Packaging and Filling Machines*



PRODUCT DATA SHEET

KEY FEATURES AND BENEFITS

- Biodegradable
- Environmentally safe ester technology
- Low mist hazard, low odor
- Self-cleaning, removes residue and sticky build up
- Low friction, significantly reduces power consumption
- Reduces wear, prolongs equipment life
- High load and extreme pressure capabilities
- Silicone-free
- Safe on all metals, most polymers and plastics (see Compatibility Chart*)
- NSF H1 certified

PACKAGING

475 ml, 20 L, 208 L

DIRECTIONS

Chesterton® 650 AML can be applied from bulk container, central lubrication equipment or standard air mist lubrication systems.

DESCRIPTION

650 AML is engineered with a unique ester blend of plant-based synthetic technology. It is a high performing and environmentally safe lubricant.

It is designed to creep into internal workings of chains, cables, needle bearings, and sliding mechanisms. 650 AML penetrates deep into valves, pistons, and other pneumatic components to protect against friction and wear, resulting in smoother and more efficient operation. 650 AML absorbs moisture from the air lines to reduce corrosion of the pneumatic components.

650 AML cleans as it lubricates. Inherent detergency in this lubricant disperses dirt and debris, and removes gums and varnish. As a result, equipment is protected from abrasive wear. This advantage can prolong the life of mechanical equipment, chains, and cables.

Chesterton 650 AML improves the efficiency of automatic lubrication systems by eliminating trace moisture and contaminants from distribution lines, controls, and components.

650 AML is NSF H1 certified and is free of any animal fats, oils, and animal derived by-products. It is worker safe and has a low oil mist hazard.

TYPICAL PHYSICAL PROPERTIES

Appearance	Clear, amber liquid
Flash Point (ASTM D 93, DIN 51 755)	211°C (412°F)
Pour Point (ASTM D 97, DIN 51 3016)	-21°C (-6°F)
Operating Temperature	-21°C – 200°C (-6°F – 392°F)
ISO VG (ASTM D 2422, DIN 51 519)	22
Viscosity (ASTM D 445, DIN 51 561)	
@ 40°C (104°F) cSt (mm ² /s)	20.4
@ 100°C (212°F) cSt (mm ² /s)	4.9
Viscosity Index, VI (ASTM D 2270)	176
Four Ball Wear Test (ASTM D 4172) 1 hr, 75°C, 1200 RPM, 40 kg Scar Diameter	0.395 mm
Four Ball EP Test (ASTM D 2783) 10 s, 27°C, 1765 RPM	
Weld Load	1961 N, 200 kgf
Pin and Vee Block (ASTM D 3233)	
Failure Load, Max	17587 N, 1793 kgf
Torque	4.61 N-m
Coefficient of Friction	0.05
Copper Strip Corrosion (ASTM D 130) 24 hrs, 100°C	1A/1B
Water Separability of Oil at 54°C (ASTM D 1401) Oil - Water - Emulsion (time)	0 - 0 - 80 (30 minutes)

Environmental Guidance

Biodegradability
 OECD 301 A
 OECD 301 B

91.25% degradable in 28 days
 68.55% degradable in 28 days

Before using this product, please refer to Safety Data Sheet (SDS).

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* COMPATIBILITY CHART

Materials	Rating
Polyurethane (PU)	EC
Fluorinated rubber (FKM)	EC
Propylene-tetrafluoroethylene rubber (FEPM)	EC
Perfluoroelastomer (FFKM)	EC
Nitrile (NBR)	EC
Polytetrafluoroethylene (PTFE)	EC
Ethylene-propylene-diene rubber (EPDM)	NC

Warning: Compatibility of 650 AML on polymers and plastics should be evaluated on your equipment for the best results. Use the above chart for guidance only.

Please contact Chesterton Application Engineering if you have a question on a material that is not mentioned in the compatibility chart.

Rating Key

The materials were soaked in 650 AML at 70°F for 70 hours.

EC - Excellent Compatibility

Less than 5% change in dimensions, weight, and durometer.

NC - Not Compatible

More than 15% change in dimensions, weight, and durometer.