



DRAFT TANZANIA STANDARD

Air tool oil — Specification

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TANZANIA BUREAU OF STANDARDS

Air tool oil — Specification

1 Scope

This draft standard specifies requirements, sampling and test methods for mineral and synthetic formulated oils for percussive and rotary pneumatic tools, airline lubricators, oil-mist lubrication and drip systems.

2 Normative references

The following referenced documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ASTM D 92, Standard test method for flash and fire points by Cleveland open cup

ASTM D 97, Standard test method for pour point of petroleum products

ASTM D 2270, Standard practice for calculating viscosity index from kinematic viscosity at 40 and 100 °C.

ASTM D 445/7042, Standard test method for kinematic viscosity of transparent and opaque liquids

ASTM D 1298, Standard Test Method for Density, Relative Density, or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method

ASTM D 4052, Standard test method for density and relative density of liquids by digital density meter

ASTM D130 Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test.

ASTM D6743 Standard Test Method for Thermal Stability of Unused Organic Heat Transfer Fluids.

ASTM D892 Standard Test Method for Foaming Characteristics of Lubricating Oils

ASTM D665 Standard Test Method for Rust-Preventing Characteristics of Inhibited Mineral Oil in the Presence of Water

ASTM D4052 Standard Test Method for Density, Relative Density, and API Gravity of Liquids by Digital Density Meter

ASTM D1298 Standard Test Method for Density, Relative Density, or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method

ISO 6743-11 Lubricants, industrial oils and related products (class L) — Classification — Part 11: Family P (Pneumatic tools)

TZS 668-1/ ISO: 1998-1:1998 Petroleum Industry - Terminology - Raw materials and products

ISO 3104, Petroleum products — Transparent and opaque liquids — Determination of kinematic viscosity and calculation of dynamic viscosity

ASTM D4057, Standard Practice for Manual Sampling of Petroleum and Petroleum Products

ASTM D4177, Standard Practice for Automatic Sampling of Petroleum and Petroleum Products

3 Terms and definitions

For the purposes of this standard, terms and definitions given in TZS 668 and the following shall apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <http://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

3.1 Air tool oil

lubricant formulated for pneumatic tools and airline lubricators

3.2 Mist lubrication

delivery of oil as an aerosol via an air stream for tool lubrication

3.3 Percussive Air Tool Oils (PAC)

family of air tool oils (percussive) with anti-corrosion, anti-wear, emulsifying, and foam-inhibiting properties, suitable for tools operating under moderate to severe loads in the presence of condensate designed for general purpose application

3.4 Rotary Air Tool Oils (PBC)

family of air tool oils (rotary) with anti-corrosion, anti-wear, emulsifying, and foam-inhibiting properties, suitable for tools operating under moderate to severe loads in the presence of condensate designed for heavy duty impact generating tools

3.5 Universal air tool oils

specialty lubricants are formulated to meet the severe demands of pneumatic percussion tools such as rock drills. Special additives provide the capability for these oils to provide effective air cylinder lubrication even with wet air conditions

3.6 Airline lubricators

specialized devices used in pneumatic systems to inject a fine mist of oil into the compressed air stream. They are the "L" in an FRL (Filter-Regulator-Lubricator) assembly and are critical for protecting downstream tools and machinery from friction, heat, and rust

4. Classification

Oils shall be classified by their ISO VG (e.g., VG 5, 22, 32, 46, 68, 100, 150) and their ISO 6743-11 family code (PAC, PBC).

5. Requirements

5.1 General requirements

ix.	Density at 20°C, Kg/L, max	report	ASTM D 4052/1298								
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8. Packaging

The condition of the containers, rail tankers and road tank vehicles shall be such as not to be detrimental to the quality of the oil during transportation and storage. The containers shall be acceptably sealed or leak proof, clean and free from materials soluble in oil as applicable.

9. Labelling

- i. The following information shall be clearly marked on the container, or on a label affixed to the container:
 - a) manufacturer's name and address;
 - b) name of product as "air tool oil" ;
 - c) net content;
 - d) batch/lot number;
 - e) date of manufacture and expiry;
 - f) ISO viscosity grade;
 - g) country of origin.
 - h) Intended use
- ii. For bulk transportation, the above information shall be in the documentation accompanying the product.

10. Sampling

Sampling shall be done in accordance with ASTM D4057 or ASTM D4177.

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