



INDUSTRIAL LUBRICANTS STANDARD

MS1009™

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Superseding MS1009 JUL2012

Lubricants, Industrial Oils, and Related Products Type P Pneumatic Tool Oils -
Specification

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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The revision of SAE MS1009 was necessary to reflect changes to test limits, changes to test methods and additional standards that have been incorporated since SAE MS1009 was originally released in 2002.

FOREWORD

The SAE International (SAE) Industrial Lubricants Committee has developed a number of industrial, non-production lubricant performance specifications.

The purpose of these voluntary SAE specifications is to:

- a. Define minimum performance requirements for industrial lubricants.
- b. Provide lubricant suppliers with performance targets for a minimum number of key industrial lubricants.
- c. Improve the availability of these lubricants to member companies.
- d. Provide a plant oriented, user friendly, classification system using common test standards and properties.

ISO Standard 6743 - Lubricants, industrial oils and related products (class L) - Classification is the foundation for these documents.

- a. Performance characteristics and test procedures are specified.
- b. For information, equivalent ISO, DIN, CEN, BSI, ASTM, AFNOR, CETOP, and IP test methods are referenced.¹

Industrial lubricant classifications targeted:

- a. Lubricants, Industrial Oils and Related Products - Classification (SAE MS1000)
- b. General purpose and total loss lubricants (SAE MS1001)
- c. Gear oils (SAE MS1002)
- d. Compressor oils (SAE MS1003)
- e. Hydraulic fluids (SAE MS1004)
- f. Fire resistant hydraulic fluids (SAE MS1005)
- g. Lubricants for spindle bearings and associated clutches (SAE MS1006)
- h. Slideway Lubricants – Specification (SAE MS1007)
- i. Metal removal fluids (SAE MS1008)
- j. Turbine oils (SAE MS 1010)
- k. Lubricating greases (SAE MS1011)

See SAE MS1000 - Index of lubricants and symbols.

NOTE: Environmental, Technical Reports, and/or health and safety regulations may present additional specifications to the supplier.

¹ International Standards Organization (ISO)
Deutsches Institut für Normung e. V. (DIN)
European Committee for Standardization (CEN)
American Society for Testing and Materials (ASTM)
Association of Française de Normalisation (AFNOR)
The Institute of Petroleum (IP) NOTE: Now combined with BSI
British Standards Institution (BSI), BS 2000: XXX where XXX is the corresponding IP number
European Committee on Hydraulic Oil and Pneumatics (CETOP)

1. SCOPE

See Table 1.

TABLE 1 - SCOPE AND FIELD OF APPLICATIONS

Code Letter	General Application	Particular Application	More specific application	Product type	Symbol	Typical application
P	Pneumatic tools and machinery	Percussive pneumatic tools	Automatic or manual lubrication	Non-inhibited straight mineral oil	PAA	Tools operating at low load, and without condensate present in the air
				Mineral oil with anti-corrosion and anti-wear properties	PAB	Tools operating at high load with condensate present in the air
				Mineral oil with anti-corrosion and anti-wear, emulsifying and foam inhibiting properties	PAC	Tools subject to extended service cycles, operating under moderate to severe load conditions and with condensate present in the air
				Synthetic base fluid lubricants	PAD	Especially for open-air operations at sub-zero temperatures
		Rotary pneumatic tools and air-driven machines	Greasing	Semi-fluid grease	PAE	For special operating conditions, e.g., reduced oil-mist exhaust ²
			Automatic or manual lubrication	Non-inhibited straight mineral oil	PBA	Tools operating at low load, and without condensate present in the air
				Mineral oil with anti-corrosion and anti-wear properties	PBB	Tools operating under low to moderate load conditions and with condensate present in the air
				Mineral oil with anti-corrosion and anti-wear, emulsifying and foam inhibiting properties	PBC	Tools subject to extended service cycles, operating under moderate to severe load conditions and with condensate present in the air
				Synthetic base fluid lubricants	PBD	For special applications

²An L-XB1B 000 type product in accordance with ISO 6743-9 may also be suitable.