

ICS 37.020
CCS N 32



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 26600-2024

Replacing GB/T 26600-2011

Microscopes - Immersion liquid for light microscopy

显微镜 光学显微术用浸液

(English Translation)

Issued on: April 25, 2024

Implemented on: November 1, 2024

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Preface
Introduction
1 Scope
2 Normative references
3 Terms and Definitions
4 Categories
5 Characteristics of the immersion liquid
6 Minimum Requirements
7 Ingredients
8 Identification of immersion liquid
9 Container labeling
10 Technical data sheet

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting:

This document replaces GB/T 26600-2011 "Immersion fluids for optical microscopy": Compared with GB/T 26600-2011, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- Change "immersion oil" to "immersion liquid" (see Chapter 4, Chapter 3 of the:2011 edition);
- Change "mercury-cadmium spectrum lamp" to "spectrum lamp with wavelengths of 546:07nm, 479:99nm and 643:85nm" (see 5.1,:2011 4:1 of the year);
- Change "Broade viscometer" to "Ubbelode viscometer" (see 5.4, 4:4 of the:2011 edition);
- Change "mixture" to "ingredient" (see Chapter 7, Chapter 6 of the:2011 edition);
- Deleted "The manufacturer shall provide users with products that comply with EU Technical Regulation 91/155/EEC and its amendment 93/112/EEC and 01/58/EC required safety data sheet: " (see Chapter 6 of the:2011 edition):

This document is modified to adopt ISO 8036:2015 "Immersion fluids for optical

microscopy":

This document has the following structural adjustments compared to ISO 8036:2015:

- Added a chapter on "Terms and Definitions";
- Chapter 4, Chapter 6 to Chapter 10 correspond to Chapter 3, Chapter 5 to Chapter 9 of ISO 8036:2015 respectively;
- Chapter 5 corresponds to Chapter 4 of ISO 8036:2015, and adds 5:6 and 5:7:

The technical differences between this document and ISO 8036:2015 and their reasons are as follows:

- Change "immersion oil" to "immersion liquid" (see Chapter 4) to meet the technical requirements used in my country;
- Added "ne---refractive index at a wavelength of 546:07nm;" (see 5.1) to conform to the standard terminology of my country;
- Change "mercury-cadmium spectrum lamp" to "spectrum lamp with wavelengths of 546:07nm, 479:99nm and 643:85nm" (see 5.1):

Meet the technical requirements of our country;

- Added the technical requirements of "chemical properties" (see 5.6) and "appearance" (see 5.7) to adapt to my country's technical conditions and ensure Safety and reliability of use:

The following editorial changes were made to this document:

- Changed the examples in Chapter 8;
- Combine the reference temperature tolerance in Table 1 into the reference temperature column:

Introduction

With the rapid development of various international and domestic scientific and technological fields, optical microscopes are widely used in scientific research, teaching, medical and health care, and in the modern optical microscope industry, especially in high-magnification microscopes, optical microscopy immersion fluids are widely used:

Companies that mass produce optical microscopy solutions differ in their labeling methods, container label information and technical data sheets, and application procedures:

This seriously affects the application of products and the evaluation of product performance:

It is necessary to standardize and unify the numbers to improve the scientific research

speed and product application of optical microscopes:

In view of the above reasons, in order to improve the production efficiency of enterprises, promote coordination between enterprises, and improve the research and development of scientific research projects and new products, in order to speed up the development of optical microscopy solutions, it is necessary to standardize and regularize the identification, labeling information, technical data sheets and methods of use of optical microscopy solutions:

Immersion fluids for light microscopy

1 Scope

This document describes the characteristics of immersion fluids used in microscopy, classifies them according to their application, and specifies the requirements for each type of immersion fluid:

The corresponding test methods are described:

This document specifies the method of identification of immersion liquids, the information to be included on the container label and the information to be provided on the technical data sheet:

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document:

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document:

ISO 2592 Petroleum and related products Determination of flash point and fire point Cleveland open cup method Note: GB/T 3536-2008 Determination of flash point and fire point of petroleum products - Cleveland open cup method (ISO 2592:2000, MOD) ISO 8255-1 Microscope cover glasses - Part 1: Dimensional tolerances, thickness and optical properties (Microscopes-Coverglas-ISO 8255-2 Microscope cover glasses Part 2: Material quality, processing and packaging methods (Microscopes-Coverglas-

3 Terms and definitions

There are no terms or definitions that require definition in this document:

4 Categories

Depending on the application, immersion liquids are divided into the following three categories:

---Type N: Immersion fluid for ordinary visible light microscopy:

---Type F: Immersion fluid suitable for fluorescence microscopy:

---Type G: Spectral pure glycerine (scientific name: propylene glycol) for glycerine immersion:

5 Characteristics of the immersion liquid

5.1

Optical properties the optical properties of the immersion liquid are determined by the refraction at a wavelength of 546:07 nm at a specified temperature (23°C) and atmospheric pressure (101:325 kPa):

The rate n_e , and the Abbe number n_{ue} are defined:

The Abbe number n_{ue} is calculated according to formula (1):

$n_{ue} =$

$n_e - 1$

$n_F' - n_C'$