Designation: D 5273 – 92 (Reapproved 1997)

AMERICAN SOCIETY FOR TESTING AND MATERIALS
100 Barr Harbor Dr., West Conshohocken, PA 19428
Reprinted from the Annual Book of ASTM Standards. Copyright ASTM

Standard Guide for Analysis of Propylene Concentrates[1]

This standard is issued under the fixed designation D 5273; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide lists the major grades of propylene concentrates produced in North America. It includes possible components and test methods, both ASTM and other, either actually used, or believed to be in use, to test for these properties. This guide is not intended to be used or construed as a set of specifications for any grade of propylene concentrate.

1.2 The values stated in SI units are to be regarded as the standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*

D 2163 Test Method for Analysis of Liquefied Petroleum (LP) Gases and Propene Concentrates by Gas Chromatography[2]

D 2384 Test Methods for Traces of Volatile Chlorides in Butane-Butene Mixtures[2]

D 2504 Test Method for Noncondensable Gases in C_2 and Lighter Hydrocarbon Products by Gas Chromatography[2]

D 2505 Test Method for Ethylene, Other Hydrocarbons, and Carbon Dioxide in High-Purity Ethylene by Gas Chromatography[2]

D 2712 Test Method for Hydrocarbon Traces in Propylene Concentrates by Gas Chromatography[3]

D 3227 Test Method for Mercaptan Sulfur in Gasoline, Kerosine, Aviation Turbine, and Distillate Fuels (Potentiometric Method)[3]

D 3246 Test Method for Sulfur in Petroleum Gas by Oxidative Microcoulometry[3]

D 3700 Practice for Containing Hydrocarbon Fluid Samples Using a Floating Piston Cylinder[3]

D 4178 Practice for Calibrating Moisture Analyzers[3]

D 4468 Test Method for Total Sulfur in Gaseous Fuels by Hydrogenolysis and Rateometric Colorimetry[4]

D 4629 Test Method for Trace Nitrogen in Liquid Petroleum Hydrocarbons by Syringe/Inlet Oxidative Combustion and Chemiluminescence Detection[3]

D 4864 Test Method for Determination of Traces of Methanol in Propylene Concentrates by Gas Chromatography[5]

3. Terminology

3.1 *Definitions:*

3.1.1 *outaging, n*—practice of removing a portion of liquid contents from a conventional sampling cylinder after filling to provide expansion room.

3.1.2 *propylene concentrate, n*—hydrocarbon product containing more than 50 % propylene.

3.1.2.1 *Discussion*—Grades of propylene concentrates listed in this guide are: polymer, 99.0 % minimum propylene content; chemical, 92.0 %; and refinery, 60 %.

3.2 *Symbols:Symbols:*

3.2.1 *AgDDC, n*—silver diethyldithiocarbamate.

3.2.2 *GC, n*—gas chromatograph.

3.2.3 *GC-AED, n*—gas chromatography atomic emission detector.

3.2.4 *GC-ECD, n*—gas chromatography electron capture detector.

3.2.5 *GC-FPD, n*—gas chromatography flame photometric detector.

3.2.6 *GC-PID, n*—gas chromatography photoionization detector.

3.2.7 *GC-SCD, n*—gas chromatography sulfur chemiluminescent detector.

3.2.8 *IC, n*—ion chromatography.

3.2.9 *ICP-MS, n*—inductively coupled plasma-mass spectrometry.

3.2.10 *LPG or LP gases, n*—liquified petroleum gas.

4. Significance and Use

4.1 This guide is intended to provide information on the likely composition of propylene concentrates and on probable ways to test them. Since there are currently no ASTM test methods for determining all components of interest, this guide provides information on other potentially available test methods.

[1] This guide is under the jurisdiction of ASTM Committee D-2 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.D0.03on C4 Test Methods.

Current edition approved Aug. 15, 1992. Published October 1992.

[2] *Annual Book of ASTM Standards*, Vol 05.01.

[3] *Annual Book of ASTM Standards*, Vol 05.02.

[4] *Annual Book of ASTM Standards*, Vol 05.05.

[5] *Annual Book of ASTM Standards*, Vol 05.03.