

## CERTIFICATE OF ANALYSIS

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by Intertek. Certificate Number. 2317548

Catalogue Number	23336
Lot Number	A0479126
Description	Polysorbate 20
CAS Number	9005-64-5
Quality Test/Release Date	22/Dec/2025
Suggested retest date	22/Dec/2027
Country of Origin	BELGIUM
Declaration of Origin	plant
BSE/TSE	sourced from coconut oil, palm kernel oil modified by chemical synthesis

Result Name	Units	Specifications	Test Value
Appearance (Color)		Clear to slightly hazy yellow to brown-yellow	Clear orange
Appearance (Form)		Viscous liquid	Viscous liquid
Appearance		May develop some turbidity or precipitate	May develop some turbidity or precipitate
Infrared spectrum		Conforms	Conforms
Water	%	≤3	0.6
Saponification value	mg KOH/g	40 to 50	46
Acid value	mg KOH/g	≤2	0.5
Hydroxyl value	mg KOH/g	96 to 108	107
Dioxane	ppm	≤10	≤10
Refractive index		1.4650 to 1.4750 (20°C, 589 nm)	1.4717 (20°C, 589 nm)



Geert Torfs  
Supervisor, QC

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third-party data or information associated with the product. Products are for research and development use only. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of the catalogue number listed above.