S10 DIESEL - BRAZIL ANP “A S10” & “B S10” DIESEL SPECIFICATIONS

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The details are already published on the main website ***https://EN590Diesel.com*** *and the* ***S10 Diesel (Brazil ANP) Product Information & Specifications Page****.*

*This specification file contains the Brazil ANP S10 Diesel Product Specifications for the Variants “****A S10****” and “****B S10****”, as well as additional specifications*



S10 Diesel Specifications - Technical & International Grade Standards

Under Brazilian ANP regulations, Óleo Diesel A S10 is the 100% pure mineral base fuel imported via maritime tankers and traded at refinery gates, whereas Óleo Diesel B S10 is the finished commercial blend (mixed with mandatory domestic biodiesel) distributed to gas stations and end-user fleets across Brazil.

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1. Brazil ANP Óleo Diesel A S10 Variant Technical Parameters (Óleo Diesel A S10 – Pure Mineral Base)

In Brazil's regulatory framework, **Óleo Diesel A S10** denotes the pure, unblended mineral petroleum distillate delivered at the refinery gate or import port terminal prior to mandatory domestic biodiesel addition (which produces commercial *Óleo Diesel B S10*). The following specification table details the exact laboratory parameters required for S10 Diesel imports and wholesale distribution:

Property / Characteristic	ABNT NBR / ASTM Test Method	Unit	ANP S10 Specification Limit
Appearance	Visual / ASTM D4176	—	Clear and bright, free of impurities
Color (max)	NBR 14483 / ASTM D1500	ASTM Color	3.0 max (Colorless to yellowish; no red dye)
Total Sulfur Content (max)	NBR 14533 / ASTM D5453	mg/kg (ppm)	10.0 mg/kg (ppm) max
Cetane Number (min)	ASTM D613 / D6890	—	48.0 min
Flash Point (min)	NBR 14598 / ASTM D93	°C	38.0°C min
Density at 20°C	NBR 7148 / ASTM D4052	kg/m³	815.0 to 850.0 kg/m³

Kinematic Viscosity at 40°C	NBR 10441 / ASTM D445	mm^2/s (cSt)	2.0 to 4.5 mm^2/s
Distillation – 10% Recovered	NBR 9619 / ASTM D86	°C	180.0°C min
Distillation – 50% Recovered	NBR 9619 / ASTM D86	°C	245.0°C to 295.0°C
Distillation – 85% Recovered (max)	NBR 9619 / ASTM D86	°C	360.0°C max
Distillation – 95% Recovered (max)	NBR 9619 / ASTM D86	°C	370.0°C max
Cold Filter Plugging Point (CFPP)	NBR 14747 / ASTM D6371	°C	0°C to +12°C max (Regional/Seasonal)
Water Content (max)	ASTM D6304	mg/kg	200 mg/kg max

Total Contamination (max)	EN 12662	mg/kg	24 mg/kg max
Polycyclic Aromatic Hydrocarbons (PAH)	EN 12916 / ASTM D6591	% by mass	11.0% max
Lubricity (HFRR Wear Scar at 60°C)	ASTM D6079 / ISO 12156	µm	460 µm max
Copper Strip Corrosion (3h at 50°C)	NBR 14359 / ASTM D130	Rating	Class 1 max
Ash Content (max)	NBR 9842 / ASTM D482	% by mass	0.010% max
Carbon Residue (10% distillation residue)	NBR 14318 / ASTM D4530	% by mass	0.25% max

2. Brazil ANP Óleo Diesel B S10 Variant Technical Parameters (Commercial Blended Fuel – B14 / B15)

In Brazil's domestic distribution and retail network, **Óleo Diesel B S10** is the finished commercial diesel blend created by combining pure mineral *Óleo Diesel A S10* with mandatory domestic fatty acid methyl ester (FAME) biodiesel (B100) in accordance with **ANP Resolution No. 968/2024** (updating Resolution No. 50/2013) and CNPE blending mandates. The following specification matrix details the mandatory laboratory limits for commercial **Óleo Diesel B S10** dispensed at retail stations and delivered to end-user fleets across Brazil:

Property / Characteristic	ABNT NBR / ASTM / EN Test Method	Unit	ANP B S10 Specification Limit
Appearance	Visual / ASTM D4176	—	Clear and bright, free of impurities
Color (max)	NBR 14483 / ASTM D1500	ASTM Color	3.0 max (Colorless to yellowish; no red dye)

Biodiesel (FAME) Content	EN 14078 / NBR 15568	% by volume	Mandatory CNPE Blend (14.0% – 15.0% ± 0.5%)
Total Sulfur Content (max)	NBR 14533 / ASTM D5453	mg/kg (ppm)	10.0 mg/kg (ppm) max
Cetane Number (min)	ASTM D613 / D6890	—	48.0 min
Flash Point (min)	NBR 14598 / ASTM D93	°C	38.0°C min
Density at 20°C	NBR 7148 / ASTM D4052	kg/m^3	815.0 to 853.0 kg/m^3
Kinematic Viscosity at 40°C	NBR 10441 / ASTM D445	mm^2/s (cSt)	2.0 to 4.5 mm^2/s

Distillation – 10% Recovered	NBR 9619 / ASTM D86	°C	180.0°C min
Distillation – 50% Recovered	NBR 9619 / ASTM D86	°C	245.0°C to 295.0°C
Distillation – 85% Recovered (max)	NBR 9619 / ASTM D86	°C	360.0°C max
Distillation – 95% Recovered (max)	NBR 9619 / ASTM D86	°C	370.0°C max
Cold Filter Plugging Point (CFPP)	NBR 14747 / ASTM D6371	°C	0°C to +12°C max (Regional/Seasonal)
Water Content (max)	ASTM D6304	mg/kg	250 mg/kg max (Distribution) / 350 mg/kg max (Retail)

Total Contamination (max)	EN 12662	mg/kg	24 mg/kg max
Oxidation Stability (at 110°C) (min)	EN 15751	Hours	20.0 hours min
Lubricity (HFRR Wear Scar at 60°C)	ASTM D6079 / ISO 12156	µm	460 µm max
Copper Strip Corrosion (3h at 50°C)	NBR 14359 / ASTM D130	Rating	Class 1 max
Ash Content (max)	NBR 9842 / ASTM D482	% by mass	0.010% max
Carbon Residue (10% distillation residue)	NBR 14318 / ASTM D4530	% by mass	0.25% max

3. Global Specification Cross-Reference: Brazil S10 vs. USA ASTM D975 (Grade 1-D S15 & Grade 2-D S15) vs. EU EN 590

For multinational procurement teams, global shipping operators, and international trading houses operating across the Americas and Europe, understanding the technical nuances between **Brazil's S10 Diesel**, **United States ASTM D975 (Grade 1-D S15 and Grade 2-D S15)**, and **European EN 590** is critical. While all three standards govern Ultra-Low Sulfur Diesel (ULSD), Brazil's S10 specification enforces stricter sulfur limits (10 ppm max vs. 15 ppm in the US) and higher minimum cetane ratings (48.0 vs. 40.0 in the US), aligning closely with European EN 590 quality benchmarks.

Key Parameter	Brazil ANP S10 (Óleo Diesel A S10)	USA ASTM D975 Grade 1-D S15 (Winter / Light)	USA ASTM D975 Grade 2-D S15 (General / Heavy-Duty)	European Union EN 590 (B0 / B7)
Maximum Sulfur Content	**10 mg/kg (ppm) max**	15 mg/kg (ppm) max	15 mg/kg (ppm) max	10 mg/kg (ppm) max
Minimum Cetane Number	**48.0 min**	40.0 min	40.0 min	51.0 min

Minimum Flash Point	**38.0°C min**	38.0°C (100°F) min	52.0°C (125.6°F) min	> 55.0°C min
Kinematic Viscosity (at 40°C)	**2.0 – 4.5 mm²/s**	1.3 – 2.4 mm²/s	1.9 – 4.1 mm²/s	2.0 – 4.5 mm²/s
Lubricity (HFRR Wear Scar)	**460 µm max**	520 µm max	520 µm max	460 µm max
Primary Market Role	Brazilian Euro V/VI transport, agribusiness & mining	North American extreme cold weather & winterized fleets	Standard US highway trucking, rail & heavy industry	European commercial road diesel & industrial power

4. Brazilian Biodiesel Blending Variants (Óleo Diesel A S10 vs. Óleo Diesel B S10 – B0, B14, B15)

Brazil operates one of the world's most advanced biofuel integration programs under the national **RenovaBio** framework and CNPE (Conselho Nacional de Política Energética) mandates. International cargo deliveries arriving at Brazilian ports consist of pure mineral base diesel (**Óleo Diesel A S10 / B0**), which licensed Brazilian distributors subsequently blend with domestic fatty acid methyl ester (FAME) biodiesel (B100) prior to retail or commercial fleet dispensing.

Fuel Designation	Biodiesel (FAME) Content	Regulatory Classification	Commercial Supply & Operational Use
Óleo Diesel A S10 (B0)	0% FAME (100% Pure Mineral ULSD)	ANP Import / Refinery Gate Base Fuel	International maritime cargoes (CIF/FOB), long-term strategic tank storage, and base stock for authorized distributors.
Óleo Diesel B S10 (B14 / B15)	14% – 15% Mandatory Biodiesel Blend	ANP / CNPE Commercial Retail & Fleet Standard	Mandatory commercial blend dispensed at retail fuel stations, highway truck stops, and commercial fleet depots across Brazil.

S10 Export / Cross-Compliant (B0 – B7)	0% up to 7% Biodiesel	ANP S10 / EN 590 / ASTM D975 Harmonized	Multi-jurisdictional storage and export allocations bridging South American, European, and North American terminals.

About S10 Diesel

S10 Diesel (Óleo Diesel S10) represents the premier ultra-low sulfur distillate fuel standard mandated across the Federative Republic of Brazil under the strict regulatory oversight of the **Agência Nacional do Petróleo, Gás Natural e Biocombustíveis (ANP)**. Engineered specifically for high-efficiency, modern compression-ignition engines complying with PROCONVE P7 and P8 emissions protocols (equivalent to Euro V and Euro VI), S10 Diesel serves as the lifeblood of Brazil's massive agribusiness sector, long-haul road freight corridors, mining operations, and industrial power generation infrastructure.

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