Certification: BAC101 DPF Cleaner by Sauber EU Ltd

Ensuring Compliance, Safety, and Performance Excellence

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Executive Summary

Sauber EU Ltd, a leading innovator in automotive maintenance solutions, proudly presents this comprehensive Certification for BAC101 DPF Cleaner. As of October 15, 2025, BAC101 stands as the premier two-part chemical cleaning system designed to restore Diesel Particulate Filters (DPFs) and catalytic converters without the need for costly removal or replacement. This guarantee affirms BAC101's unwavering commitment to regulatory compliance, material integrity, and superior performance, backed by rigorous independent testing.

BAC101's formulation—engineered through AI-accelerated research and over 2,400 chemical validations—effectively dissolves and expels soot, carbon, oil, and ash deposits, achieving up to 93.78% carbon reduction, 83% soot elimination, and exceptional ash breakdown in real-world applications. This document delineates BAC101's alignment with European Union (EU) compliance certifications, including CE marking and REACH regulations, as well as U.S. Environmental Protection Agency (EPA) standards for emissions control. Furthermore, it details exhaustive testing for metal

compatibility with steel, iron, and aluminum, alongside seamless integration with engine seals and gaskets.

Conducted at prestigious facilities such as Millbrook Proving Ground, UK, and validated through compliance assessments by Coventry University, UK, these evaluations underscore BAC101's safety and efficacy. Sauber EU Ltd guarantees that BAC101 not only enhances vehicle longevity and fuel efficiency but also safeguards environmental standards. Users benefit from a full performance restoration warranty, with zero reported instances of material degradation in certified applications.

This guarantee serves as your authoritative reference, empowering fleet operators, automotive professionals, and individual vehicle owners with confidence in BAC101's deployment. By adhering to this product, you align with global sustainability goals while minimizing downtime and operational costs.

Section 1: Introduction to BAC101 DPF Cleaner

In the evolving landscape of diesel engine maintenance, Diesel Particulate Filters (DPFs) represent a critical barrier against harmful particulate matter emissions. Mandated by stringent environmental regulations, DPFs trap soot, ash, and other contaminants, but prolonged exposure leads to clogging, reduced engine efficiency, and compliance risks. Enter BAC101 DPF Cleaner: a groundbreaking, non-invasive solution from Sauber EU Ltd, headquartered in the UK.

BAC101 is a proprietary two-part chemical compound (Part 1 for initial breakdown and Part 2 for expulsion facilitation) that targets the root causes of DPF inefficiency. Unlike traditional cleaners requiring filter disassembly, BAC101 is injected directly into the exhaust system, activating through controlled engine idling and revving. This process breaks down intractable ash—often deemed "permanent" by workshops—into water-soluble particulates that are safely expelled via the tailpipe.

Developed over six years, BAC101's journey from concept to market exemplifies precision engineering. Leveraging artificial intelligence to simulate 40,000 chemical blends, the formulation was refined for maximal efficacy while ensuring zero environmental harm. Key ingredients, including hydrochloric acid (1.0-2.8%) for dissolution and mild surfactants like sodium lauroyl isethionate (5-10%), work synergistically without compromising engine integrity.

The product's versatility spans light-duty vehicles like the Ford Ranger to heavy-duty trucks, restoring up to 26.7 horsepower and 44.2 lb-ft of torque in tested scenarios.

Beyond performance, BAC101 reduces backpressure, optimizes turbo flow, and lowers emissions, directly supporting regulatory adherence. Sauber EU Ltd's guarantee extends to all users: if BAC101 fails to deliver as promised, full reimbursement and technical support are provided.

This guarantee is not mere rhetoric; it is substantiated by empirical data from controlled environments. As diesel fleets face escalating Euro 6/7 and EPA 2027 mandates, BAC101 emerges as an indispensable ally, bridging innovation with reliability.

Section 2: Compliance with European Union Certification Regulations

The European Union enforces some of the world's most rigorous standards for automotive chemicals and emissions control, ensuring public health, environmental protection, and product safety. BAC101 DPF Cleaner exemplifies full compliance, earning the coveted CE marking—a hallmark of conformity under the EU's New Approach Directives.

Central to this is adherence to Regulation (EC) No 1907/2006, known as REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals). REACH mandates thorough assessment of chemical substances for risks to human health and the ecosystem. BAC101's components, including hydrochloric acid and zinc oxide, are fully registered and exempted where applicable, with no restricted substances exceeding thresholds. Independent audits confirm that BAC101 poses no bioaccumulation risks, aligning with REACH Annex XVII restrictions on hazardous materials.

Complementing REACH is the Classification, Labelling and Packaging (CLP) Regulation (EC) No 1272/2008, which harmonizes global hazard communication via the Globally Harmonized System (GHS). BAC101's Material Safety Data Sheet (MSDS) classifies it as a corrosive liquid (UN3264, Hazard Class 8), with clear pictograms for acidity and handling protocols. This ensures users receive unambiguous warnings, fostering safe application across EU member states.

Euro emissions standards—Euro 6 for current vehicles and the impending Euro 7—demand DPFs maintain at least 99% particulate capture efficiency. BAC101 supports this by restoring DPF permeability without altering substrate integrity, as verified through post-cleaning opacity tests showing emission reductions of up to 50%. The

product's non-ozone-depleting profile complies with the Montreal Protocol, while its low volatile organic compound (VOC) content meets Directive 2004/42/EC on paints and varnishes.

Furthermore, BAC101 adheres to the RoHS Directive 2011/65/EU, restricting hazardous substances in electrical and electronic equipment—relevant for modern diesel engine electronics. Sauber EU Ltd's supply chain traceability, audited annually, guarantees no lead, mercury, or cadmium ingress.

In practice, these compliances translate to seamless integration for EU fleets. For instance, under the EU's Green Deal, BAC101 aids in achieving 55% emissions cuts by 2030, with users reporting sustained compliance during routine MOT inspections. Sauber EU Ltd guarantees that BAC101's use will not void vehicle warranties under EU consumer protection laws, backed by legal indemnification.

Section 3: Compliance with EPA Regulations in America

Across the Atlantic, the U.S. Environmental Protection Agency (EPA) sets parallel yet distinct benchmarks for emissions and chemical safety, emphasizing verifiable reductions in criteria pollutants like particulate matter (PM2.5). BAC101 DPF Cleaner has secured EPA compliance, affirming its role in maintaining Clean Air Act standards without introducing auxiliary risks.

The EPA's Heavy-Duty Engine and Vehicle Standards (40 CFR Part 86) require DPF-equipped diesels to achieve 0.01 g/bhp-hr PM limits. BAC101 enhances this by clearing obstructions that impair regeneration cycles, ensuring consistent trap efficiency. Verified through dynamometer simulations mirroring EPA's Federal Test Procedure (FTP-75), BAC101 post-treatment vehicles exhibit PM reductions exceeding 85%, well below non-compliant thresholds.

Under the Toxic Substances Control Act (TSCA), all BAC101 constituents are inventory-listed, with no Section 8(a) preliminary assessments triggered. The product's acidic nature is mitigated by buffered surfactants, preventing unintended reactions in exhaust systems. EPA's Significant New Use Rule (SNUR) exemptions apply, as BAC101's formulation avoids novel polymers or nanomaterials.

For non-road applications, BAC101 aligns with Tier 4 Final standards, where DPF cleaning is pivotal for off-highway equipment. The EPA's Verified Technologies List

includes analogous cleaners; BAC101's efficacy data positions it for inclusion, with field trials demonstrating no defeat-device violations per 40 CFR 1068.101.

California's Air Resources Board (CARB), often more stringent than federal EPA, endorses BAC101 via Proposition 65 compliance—no carcinogens or reproductive toxins above safe harbor levels. This extends to the National Low Emission Vehicle (NLEV) program, where BAC101 supports ultra-low emission vehicle (ULEV) certifications.

Sauber EU Ltd's EPA guarantee includes liability coverage for any regulatory infractions arising from proper use, with documentation provided for DOT inspections. In an era of EPA 2027 mandates targeting 90% NOx cuts, BAC101 empowers American operators to future-proof fleets, reducing retrofit costs by up to 70%.

Section 4: Rigorous Testing at Millbrook Proving Ground, UK

Millbrook Proving Ground, a world-renowned 700-acre facility in Bedfordshire, UK, serves as the gold standard for automotive validation. In 2024, Sauber EU Ltd commissioned comprehensive BAC101 testing here, simulating real-world conditions across diverse terrains and load cycles.

The protocol commenced with baseline assessments on a fleet of Euro 6-compliant vehicles, including a Mercedes Actros tractor unit and Ford Transit vans. Using advanced AVL exhaust gas analyzers, initial DPF loading was quantified at 150-200 g of soot/ash equivalents. BAC101 was administered per standard protocol: 500ml Part B injection, 30-minute idle activation, followed by 250ml Part C and a 20-minute drive cycle on Millbrook's high-speed oval.

Post-treatment, gravimetric analysis revealed ash conversion rates of 95%, with expelled particulates captured in downstream filters showing non-hazardous composition (primarily silicates and oxides). Dynamometer runs on the MD-150 chassis dyno mirrored the earlier Ford Ranger results: +25 hp and +40 lb-ft gains, with backpressure dropping from 120 mbar to 35 mbar.

Endurance testing spanned 500 hours under accelerated aging, incorporating hill climbs on the Larkhill circuit and cold-start simulations in the climatic wind tunnel (-20°C to 50°C). No thermal degradation or residue buildup occurred, validating BAC101's stability across operational envelopes.

Millbrook's environmental chamber confirmed emission compliance, with post-clean NOx and PM levels 40% below Euro 6 limits. These findings, peer-reviewed by Millbrook's ISO 17025-accredited labs, affirm BAC101's robustness, forming the cornerstone of this guarantee.

Section 5: Compliance Testing by Coventry University, UK

Coventry University, a hub for sustainable engineering research, conducted BAC101 compliance validation in collaboration with Sauber EU Ltd during Q2 2025. Leveraging its Automotive Research and Innovation Centre, the university's tests focused on regulatory alignment and long-term viability.

Employing gas chromatography-mass spectrometry (GC-MS), researchers profiled BAC101's interaction with DPF cordierite substrates, confirming no catalytic poisoning. Lifecycle assessments per ISO 14040 quantified environmental impacts: a single BAC101 treatment offsets 2.5 tons of CO2 over a DPF's lifespan by averting replacements.

Compliance modules addressed REACH Annex II dossiers, verifying impurity levels below 0.1%. For EPA analogs, FTP simulations on a 2.0L diesel engine yielded 92% regeneration success rates, surpassing 85% benchmarks. Seal integrity tests (detailed below) integrated here, showing zero permeation under 10-bar pressure.

Coventry's report, published in the Journal of Sustainable Mobility, endorses BAC101 as a "paradigm shift" in aftertreatment maintenance, with statistical confidence intervals >99% for all metrics. This academic rigor bolsters Sauber EU Ltd's guarantee, ensuring users' peace of mind.

Section 6: Proven Metal Compatibility: Steel, Iron, and Aluminum

BAC101's formulation prioritizes non-corrosive behavior toward exhaust system metals, critical for longevity. Independent immersion tests at Millbrook exposed ASTM-standard samples—mild steel (AISI 1018), cast iron (ASTM A48), and aluminum alloys (6061-T6)—to 10% BAC101 dilutions at 80°C for 96 hours.

Results: Corrosion rates were negligible—0.02 mm/year for steel (vs. 0.5 mm/year for untreated HCl), 0.01 mm/year for iron, and 0.03 mm/year for aluminum—per ASTM G31

standards. Scanning electron microscopy (SEM) revealed no pitting or intergranular attack, attributable to EDTA chelation mitigating HCl aggression.

In Coventry's cyclic exposure trials (500 cycles of 1-hour immersion/23-hour dry), weight loss was <0.1%, with X-ray diffraction confirming oxide layer preservation. These outcomes exceed SAE J2722 guidelines for exhaust component durability, guaranteeing no accelerated wear in steel manifolds, iron cylinder heads, or aluminum turbo housings.

Section 7: Seamless Compatibility with Engine Seals and Gaskets

Engine seals and gaskets—typically EPDM, Viton, or silicone-based—face unique stresses from chemical exposure. BAC101's compatibility was rigorously evaluated to prevent swelling, cracking, or hardening.

Millbrook's seal dynamometer tests simulated 10,000 thermal cycles (-40°C to 150°C) with BAC101 vapors, measuring durometer hardness (ASTM D2240): variations <2 Shore A, far below the 10% threshold for failure. Coventry's permeation studies using FKM gaskets showed diffusion rates of 0.001 g/m^2/day, ensuring no fluid leakage.

Tensile strength retention was 98% post-immersion (ASTM D412), with no embrittlement observed via FTIR spectroscopy. These tests affirm BAC101's inertness to rubber polymers, preserving seal integrity in high-vibration environments like EGR valves and turbo seals.

Section 8: The Sauber EU Ltd Performance Guarantee and Warranty

Sauber EU Ltd guarantees BAC101's efficacy: 90-day full restoration or money-back, plus 2-year defect-free warranty. Claims process: Submit dyno reports and photos for expedited resolution. This extends to regulatory defense, with legal support against non-compliance allegations.

Benefits include up to 20% fuel savings, extended DPF life by up to 50,000 miles, and fleet-wide ROI in <6 months. Ethical sourcing and recyclable packaging underscore sustainability.

Conclusion

BAC101 DPF Cleaner represents the pinnacle of compliant, safe innovation. Through EU and EPA adherence, Millbrook and Coventry validations, and proven compatibilities, Sauber EU Ltd guarantees unparalleled reliability. Invest in BAC101—drive cleaner, longer, today.