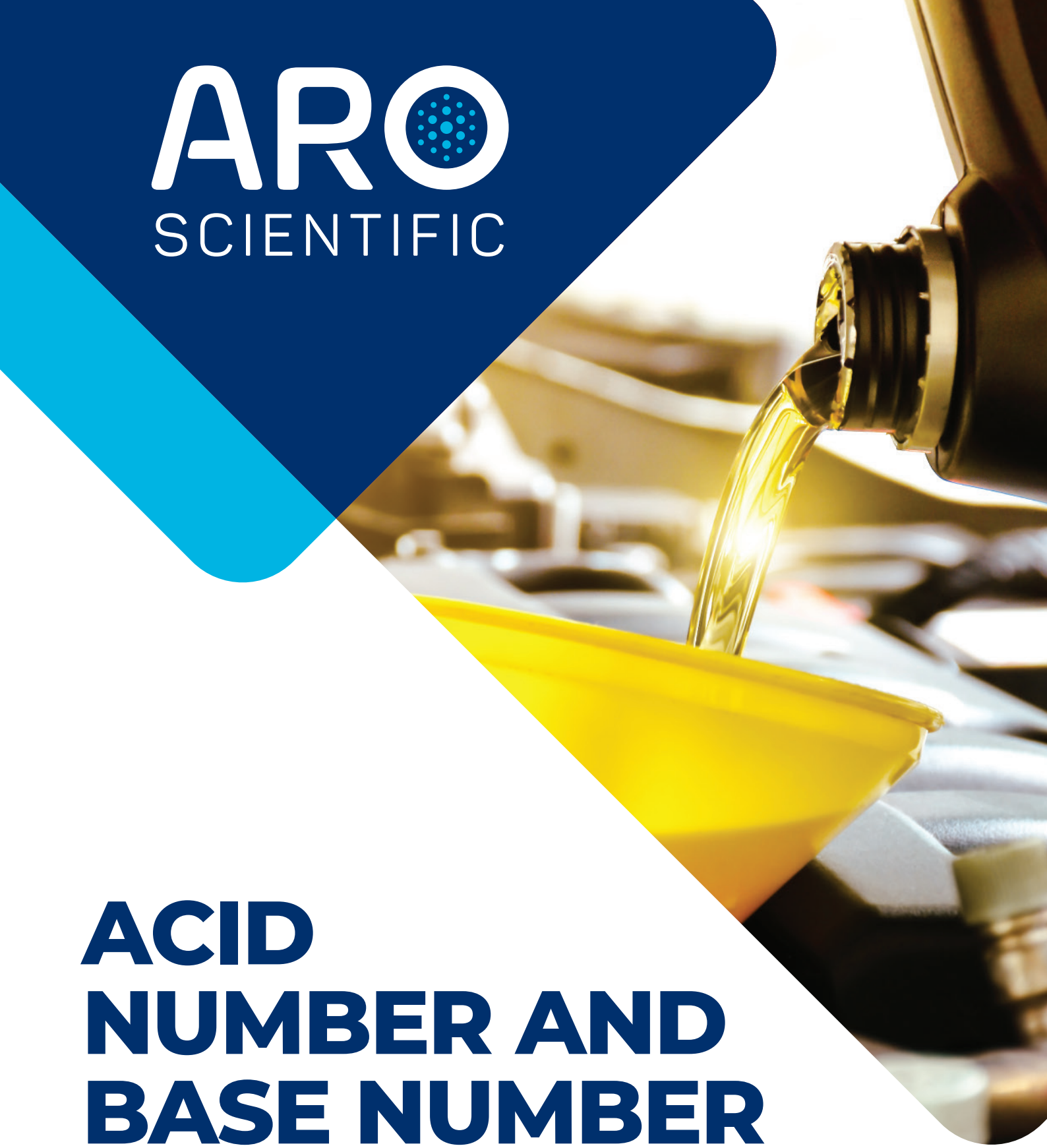
ARO SCIENTIFIC



ACID NUMBER AND BASE NUMBER

CERTIFIED REFERENCE MATERIALS

Precision. Accuracy. Measurement Certainty

ARO Scientific Ltd

ARO Scientific Ltd is an independent ISO 17034 accredited reference material producer with ISO/IEC 17025 accredited testing laboratories, providing high quality certified reference materials, reference materials, standards, and consumables for calibration of measuring equipment, verification of measuring equipment, method validation, method verification, or other quality control processes applicable for international test methods such as ASTM, IP, ISO, etc. Our management team has more than 35 years' experience in the manufacturing, characterisation and certification of certified reference materials, reference materials, standards, and consumables.

Accreditation

ARO Scientific Ltd holds dual accreditation status under The United Kingdom Accreditation Service (UKAS) to international standards ISO/IEC 17025 and ISO 17034, CAB No. 27393. The United Kingdom Accreditation Service (UKAS) is the sole national accreditation body recognised by the UK Government for certification and conformity to internationally agreed standards for testing, calibration and inspection. UKAS is a signatory to International Laboratory Accreditation Cooperation (ILAC) which is the international body for promoting cooperation between the various inspection body accreditation schemes that operate throughout the world. Other signatories include, but are not limited to, A2LA (USA), COFRAC (France), Dakks (Germany) and JAB (Japan). ISO 17025 / ISO 17034 accreditation denotes competence for customers to make an informed and confident choice in the procurement process.

The UKAS mark ensures buyers have peace of mind. ILAC also bridges international barriers, making trade easier, especially in new growth markets. Our Combined UKAS and ILAC-MRA Mark demonstrates that the accreditation we hold is recognised under the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement, our certificates are accepted around the world.

Quality Commitment

ARO Scientific Ltd recognises that our customers should be always provided with products and services they can reply upon, trust and have confidence to use on a daily basis. Our commitment to quality and our accreditations demonstrates that we have rigorous quality systems in place that allow us to provide customers with the highest quality products possible, which are accepted globally.

UKAS REFERENCE MATERIALS 27393

UKAS TESTING 27393

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ACID NUMBER /
TOTAL ACID NUMBER

ISO/IEC 17025 and ISO 17034 Acid Number (AN) / Total Acid Number (TAN)
Certified Reference Materials intended to be used for verification of measuring equipment, method validation, method verification, or other quality control processes applicable for the test method ASTM D664, or test methods IP 177, ISO 6619, where applicable.

UKAS REFERENCE MATERIALS 27393
UKAS TESTING 27393

New and used petroleum products are measured to confirm the Acid Number of the product under test. The Acid Number is an important quality control test for new and used products. The product under test may contain acidic constituents that are present as additives or from oxidation, contamination or degradation of products formed during use and service. These acidic constituents may indicate the presence of harmful acidic compounds that can accelerate the degradation of oil and lead to equipment failure. Regular monitoring of Acid Number can identify potential issues so that preventative measures can be taken to prevent costly breakdowns and extend the lifespan of machinery. This proactive approach helps in optimising maintenance schedules, reducing downtime, and maximizing operational efficiency.

Acid number - The quantity of base, expressed in milligrams of potassium hydroxide per gram of sample, required to titrate a sample in the solvent from its initial meter reading to a meter reading corresponding to a freshly prepared aqueous basic buffer solution or a well-defined inflection point as specified in the test method.

Our Acid Number (AN) / Total Acid Number (TAN) Certified Reference Materials have been characterised in accordance with ASTM D664, Method A. Manufacture and characterisation has been performed in accordance with our accreditation to ISO/IEC 17025 and ISO 17034, UKAS CAB No. 27393.

Part No.	Certification	Matrix	Nominal Value	Pack Size
TAN001	ISO 17025 / ISO 17034	Mineral Oil	0.1 mg KOH/g	125 g
TAN001/3	ISO 17025 / ISO 17034	Mineral Oil	0.1 mg KOH/g	3 x 125 g
TAN005	ISO 17025 / ISO 17034	Mineral Oil	0.5 mg KOH/g	125 g
TAN005/3	ISO 17025 / ISO 17034	Mineral Oil	0.5 mg KOH/g	3 x 125 g
TAN010	ISO 17025 / ISO 17034	Mineral Oil	1.0 mg KOH/g	125 g
TAN010/3	ISO 17025 / ISO 17034	Mineral Oil	1.0 mg KOH/g	3 x 125 g
TAN015	ISO 17025 / ISO 17034	Mineral Oil	1.5 mg KOH/g	125 g
TAN015/3	ISO 17025 / ISO 17034	Mineral Oil	1.5 mg KOH/g	3 x 125 g
TAN020	ISO 17025 / ISO 17034	Mineral Oil	2.0 mg KOH/g	50 g
TAN020/3	ISO 17025 / ISO 17034	Mineral Oil	2.0 mg KOH/g	3 x 50 g
TAN025	ISO 17025 / ISO 17034	Mineral Oil	2.5 mg KOH/g	50 g
TAN025/3	ISO 17025 / ISO 17034	Mineral Oil	2.5 mg KOH/g	3 x 50 g
TAN030	ISO 17025 / ISO 17034	Mineral Oil	3.0 mg KOH/g	50 g
TAN030/3	ISO 17025 / ISO 17034	Mineral Oil	3.0 mg KOH/g	3 x 50 g
TAN050	ISO 17025 / ISO 17034	Mineral Oil	5.0 mg KOH/g	50 g
TAN050/3	ISO 17025 / ISO 17034	Mineral Oil	5.0 mg KOH/g	3 x 50 g

Nominal values are for reference only. Please refer to our website, customer services or appointed distributors for certified values of current batches.

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BASE NUMBER /
TOTAL BASE NUMBER

ISO/IEC 17025 and ISO 17034 Base Number (BN) / Total Base Number (TBN) Certified Reference Materials intended to be used for verification of measuring equipment, method validation, method verification, or other quality control processes applicable for the test method ASTM D2896, or test methods IP 276, ISO 3771, where applicable.

UKAS REFERENCE MATERIALS 27393
UKAS TESTING 27393

New and used petroleum products may contain basic constituents that are present as additives. The relative amounts of these materials can be determined by titrating with acids. The neutralisation number, which is expressed as base number, is a measure of this amount of basic substance in the oil always under the conditions of the test. The neutralisation number is used as a guide in the quality control of lubricating oil formulations. It sometimes is used as a measure of lubricant degradation in service.

base *number*, n—the quantity of a specified acid, expressed in terms of the equivalent number of milligrams of potassium hydroxide per gram of sample, required to titrate a sample in a specified solvent to a specified endpoint using a specified detection system.

Our Base Number (BN) / Total Base Number (TBN) Certified Reference Materials have been characterised in accordance with ASTM D2896, Procedure A. Manufacture and characterisation has been performed in accordance with ARO's accreditation to ISO/IEC 17025 and ISO 17034, UKAS CAB No. 27393.

Part No.	Certification	Matrix	Nominal Value	Pack Size
TBN1	ISO 17025 / ISO 17034	Mineral Oil	1.0 mg KOH/g	125 g
TBN1/3	ISO 17025 / ISO 17034	Mineral Oil	1.0 mg KOH/g	3 x 125 g
TBN3	ISO 17025 / ISO 17034	Mineral Oil	3.0 mg KOH/g	50 g
TBN3/3	ISO 17025 / ISO 17034	Mineral Oil	3.0 mg KOH/g	3 x 50 g
TBN6	ISO 17025 / ISO 17034	Mineral Oil	6.0 mg KOH/g	50 g
TBN6/3	ISO 17025 / ISO 17034	Mineral Oil	6.0 mg KOH/g	3 x 50 g
TBN10	ISO 17025 / ISO 17034	Mineral Oil	10.0 mg KOH/g	50 g
TBN10/3	ISO 17025 / ISO 17034	Mineral Oil	10.0 mg KOH/g	3 x 50 g
TBN15	ISO 17025 / ISO 17034	Mineral Oil	15.0 mg KOH/g	50 g
TBN15/3	ISO 17025 / ISO 17034	Mineral Oil	15.0 mg KOH/g	3 x 50 g
TBN30	ISO 17025 / ISO 17034	Mineral Oil	30.0 mg KOH/g	50 g
TBN30/3	ISO 17025 / ISO 17034	Mineral Oil	30.0 mg KOH/g	3 x 50 g
TBN40	ISO 17025 / ISO 17034	Mineral Oil	40.0 mg KOH/g	50 g
TBN40/3	ISO 17025 / ISO 17034	Mineral Oil	40.0 mg KOH/g	3 x 50 g
TBN70	ISO 17025 / ISO 17034	Mineral Oil	70.0 mg KOH/g	50 g
TBN70/3	ISO 17025 / ISO 17034	Mineral Oil	70.0 mg KOH/g	3 x 50 g

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