

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 Accredited to ISO/IEC 17025:2017	Element Materials Technology Analytical Services Limited	
	Issue No: 030 Issue date: 19 October 2023	
	Waterside Court 1 Crewe Road Wythenshawe Manchester M23 9BE	Contact: Amber Simm Tel: +44 (0)161-286 7889 E-Mail: quality.manchester@element.com Website: www.element.com
Testing performed at the above address only		

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
SMOKELESS NICOTINE DELIVERY PRODUCTS (e-cigarettes, electronic cigarettes, vaping devices), smokeless nicotine delivery vapour or aerosol Electronic cigarette liquid	<u>Chemical Tests</u> Nicotine Propylene glycol Glycerol Menthol Tobacco Specific Nitrosamines N-nitrosoanatabine (NAT) N-nitrosoanabasine (NAB) N-nitrosornicotine (NNN) Nicotine-derived nitrosamine ketone (NNK) Protonated and Unprotonated Nicotine Ratio Nicotine/Nicotine+ Impurities Diethylene Glycol Ethylene Glycol Glycidol	 MAN-SOP-0096 vapour generation and collection followed by MAN-TM-0011 based on CORESTA Method No. 81 and 84 by 450e vaping machine and gas chromatography with flame ionisation detection (GC-FID) MAN-TM-0011 based on CORESTA method 84 using gas chromatography with flame ionisation detection (GC-FID) Documented in house method MAN-TM-0007 using Liquid Chromatography with tandem Mass Spectrometry (LC-MS-MS) Documented in house method MAN-TM-0004 using gas chromatography with flame ionisation detection (GC-FID) Documented in house method MAN-TM-0008 using Direct Injection Gas Chromatography with Mass Spectrometry (DI-GC-MS)



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SMOKELESS NICOTINE DELIVERY PRODUCTS Electronic cigarette liquid (cont'd)	<u>Chemical Tests</u> (cont'd) Water Content Saturated Monocarboxyls Acetaldehyde Butyraldehyde Formaldehyde Volatile Organic Compounds and Specific Flavour Compounds in Methanol 1-Butanol Benzene Diacetyl Acrylonitrile Isoamyl Acetate Isobutyl Acetate Methyl Acetate 2,3-Pentanedione Toluene Volatile Organic Compounds and Specific Flavour Compounds in Acetone Acrolein Benzaldehyde Benzyl Acetate Cinnamaldehyde Crotonaldehyde Ethyl Acetate Ethyl Acetoacetate Ethyl Vanillin Furfural Methyl Vanillin Propionic Acid Propylene Oxide Vanillin	Documented in house method MAN-TM-0009 using gas chromatography with thermal conductivity detection (GC-TCD) Documented in house method MAN-TM-0003 using Liquid Chromatography with tandem Mass Spectrometry (LC-MS-MS) Documented in house method MAN-TM-0001 using Direct Injection Gas Chromatography with Mass Spectrometry (DI-GC-MS) Documented in house method MAN-TM-0002 using Direct Injection Gas Chromatography with Mass Spectrometry (DI-GC-MS)



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SMOKELESS NICOTINE DELIVERY PRODUCTS Electronic cigarette liquid (cont'd)	<u>Chemical Tests</u> (cont'd) Elemental Impurities Antimony Arsenic Barium Cadmium Chromium Cobalt Copper Gold Iridium Lead Lithium Mercury Molybdenum Nickel Osmium Palladium Rhodium Ruthenium Platinum Selenium Silicon Silver Tin Titanium Thallium Vanadium	Documented in house method MAN-TM-0005 using inductively coupled plasma mass spectrometry (ICP-MS)



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SMOKELESS NICOTINE DELIVERY PRODUCTS Electronic Nicotine Delivery Systems (Electronic Cigarette Liquids and ENDS Emissions)	Chemical Tests (cont'd) Tobacco Specific Nitrosamines N-nitrosoanatabine (NAT) N-nitrosoanabasine (NAB) N-nitrosonornicotine (NNN) Nicotine-derived nitrosamine ketone (NNK) Protonated and Unprotonated Nicotine Ratio Nicotine/Nicotine+ Impurities Diethylene Glycol Ethylene Glycol Glycidol Saturated Monocarbonyls Acetaldehyde Butyraldehyde Formaldehyde Volatile Organic Compounds and Specific Flavour Compounds Benzaldehyde Benzyl Acetate Cinnamaldehyde Ethyl Acetoacetate Ethyl Vanillin Furfural Methyl Vanillin Propionic Acid Vanillin	 Documented In-House Method MAN-TM-0007 by LC-MS/MS MAN-SOP-0096 vapour generation followed by Documented In-House Method MAN-TM-0004 by GC-FID MAN-SOP-0096 vapour generation followed by Documented In-House Method MAN-TM-0008 by DI-GC-MS Documented In-House Method MAN-TM-0003 by LC-MS/MS By documented In-House Method MAN-TM-0002 by DI-GC-MS



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SMOKELESS NICOTINE DELIVERY PRODUCTS Electronic Nicotine Delivery Systems (Electronic Cigarette Liquids and ENDS Emissions) (Cont'd)	Chemical Tests (cont'd) Elemental Impurities Antimony Arsenic Barium Cadmium Chromium Cobalt Copper Gold Iridium Lead Lithium Mercury Molybdenum Nickel Osmium Palladium Platinum Rhodium Rubidium Selenium Silicon Silver Thallium Tin Titanium Vanadium	Documented in house method MAN-TM-0005 using inductively coupled plasma mass spectrometry (ICP-MS)
END		