


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p>Accredited to ISO/IEC 17025:2017</p>	Element Materials Technology Analytical Services Limited	
	<p>Issue No: 029 Issue date: 25 September 2023</p>	
	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	ANA_LWI_020 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)



1938
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<p>SMOKELESS NICOTINE DELIVERY PRODUCTS</p> <p>Electronic cigarette liquid (cont'd)</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Water Content</p> <p>Saturated Monocarboxyls Acetaldehyde Butyraldehyde Formaldehyde</p> <p>Volatile Organic Compounds and Specific Flavour Compounds in Methanol 1-Butanol Benzene Diacetyl Acrylonitrile Isoamyl Acetate Isobutyl Acetate Methyl Acetate 2,3-Pentanedione Toluene</p> <p>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</p>	<p>Documented in house method MAN-TM-0009 using gas chromatography with thermal conductivity detection (GC-TCD)</p> <p>Documented in house method MAN-TM-0003 using Liquid Chromatography with tandem Mass Spectrometry (LC-MS-MS)</p> <p>Documented in house method MAN-TM-0001 using Direct Injection Gas Chromatography with Mass Spectrometry (DI-GC-MS)</p> <p>Documented in house method MAN-TM-0002 using Direct Injection Gas Chromatography with Mass Spectrometry (DI-GC-MS)</p>



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<p>SMOKELESS NICOTINE DELIVERY PRODUCTS</p> <p>Electronic cigarette liquid (cont'd)</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Elemental Impurities</p> <p>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 Tin Titanium Thallium Vanadium</p>	<p>Documented in house method MAN-TM-0005 using inductively coupled plasma mass spectrometry (ICP-MS)</p>



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<p>SMOKELESS NICOTINE DELIVERY PRODUCTS</p> <p>Electronic Nicotine Delivery Systems (Electronic Cigarette Liquids and ENDS Emissions)</p>	<p>Chemical Tests (cont'd)</p> <p>Tobacco Specific Nitrosamines N-nitrosoanatabine (NAT) N-nitrosoanabasine (NAB) N-nitrosonornicotine (NNN) Nicotine-derived nitrosamine ketone (NNK)</p> <p>Protonated and Unprotonated Nicotine Ratio Nicotine/Nicotine+</p> <p>Impurities Diethylene Glycol Ethylene Glycol Glycidol</p> <p>Water Content</p> <p>Saturated Monocarboxyls Acetaldehyde Butyraldehyde Formaldehyde</p> <p>Volatile Organic Compounds and Specific Flavour Compounds Benzaldehyde Benzyl Acetate Cinnamaldehyde Ethyl Acetoacetate Ethyl Vanillin Furfural Methyl Vanillin Propionic Acid Vanillin</p>	<p>Documented In-House Method MAN-TM-0007 by LC-MS/MS</p> <p>ANA_LWI_020 vapour generation followed by Documented In-House Method MAN-TM-0004 by GC-FID</p> <p>ANA_LWI_020 vapour generation followed by Documented In-House Method MAN-TM-0008 by DI-GC-MS</p> <p>Documented In-House Method MAN-TM-0009 by GC-TCD</p> <p>Documented In-House Method MAN-TM-0003 by LC-MS/MS</p> <p>By documented In-House Method MAN-TM-0002 by DI-GC-MS</p>



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<p>SMOKELESS NICOTINE DELIVERY PRODUCTS</p> <p>Electronic Nicotine Delivery Systems (Electronic Cigarette Liquids and ENDS Emissions) (Cont'd)</p>	<p>Chemical Tests (cont'd)</p> <p>Elemental Impurities</p> <p>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</p>	<p>Documented in house method MAN-TM-0005 using inductively coupled plasma mass spectrometry (ICP-MS)</p>
END		