

## CERTIFICATE OF ANALYSIS

CLIENT DETAILS: Vape Element  
 DATE STARTED: March 2, 2022  
 CERTIFICATE NUMBER: CA22040  
 STUDY REFERENCE: PN22014

### SAMPLE DETAILS

SAMPLE DESCRIPTION: Lemon Tangerine Ice 20mg  
 USN: D065

### RESULTS (AEROSOL)

#### Aerosol mass

ANALYTE	TEST METHOD	UNIT	RESULT	STANDARD DEVIATION
E-liquid vaporised mass (EVM) <sup>N</sup>	TM 11.16.1	mg/20 inhalations	45.5	1.967

#### Aldehydes and ketones

ANALYTE	TEST METHOD	UNIT	RESULT	STANDARD DEVIATION
Formaldehyde <sup>N</sup>	TM 11.11.2	ug/ 10 inhalations	<1.27	-
Acetaldehyde <sup>N</sup>	TM 11.11.2	ug/ 10 inhalations	< 2.30	-
Acrolein <sup>N</sup>	TM 11.11.2	ug/ 10 inhalations	nd	-
Crotonaldehyde <sup>N</sup>	TM 11.11.2	ug/ 10 inhalations	nd	-
Diacetyl <sup>N</sup>	TM 11.15.1	ug/50 inhalations	nd	-
Acetyl propionyl <sup>N</sup>	TM 11.15.1	ug/50 inhalations	nd	-

#### Nicotine

ANALYTE	TEST METHOD	UNIT	RESULT	STANDARD DEVIATION
Nicotine <sup>N</sup>	TM 11.12.1	mg/g	19.38	0.621
	TM 11.12.1	mg/10 inhalations	0.80	-

## Propylene glycol and glycerin

ANALYTE	TEST METHOD	UNIT	RESULT
Propylene glycol <sup>N</sup>	TM 11.12.1	mg/g	305.7
Glycerin <sup>N</sup>	TM 11.12.1	mg/g	355.7

## RESULTS (LIQUID)

ANALYTE	TEST METHOD	UNIT	RESULT
Density <sup>N</sup>	OP 11.67.1	g/ml	1.1058

<sup>A</sup> Accredited to ISO 17025

<sup>N</sup> Not accredited to ISO 17025

ND Not detected

## REPORTING LIMITS

Compound	Unit	Limit of detection	Limit of quantification
Formaldehyde	ug/10 inhalations	0.454	1.27
Acetaldehyde	ug/10 inhalations	0.932	2.30
Acrolein	ug/10 inhalations	1.09	4.99
Crotonaldehyde	ug/10 inhalations	2.12	9.49
Diacetyl	ug/50 inhalations	0.2	0.4
Acetyl propionyl	ug/50 inhalations	1.0	1.1

## ADDITIONAL INFORMATION

Puffing carried out using the standard puffing regime

- 55ml volume
- 3 second duration
- 30 second inter-inhalation duration

Aerosol generation carried out using Cerulean CET18 and MV Sabre ENDS system

### TM 11.11.2

Sample aerosol was vaped through an impinger solution of 2,4 DNPH (dinitrophenylhydrazine) where analytes were derivatised. Analysis of standards and samples was carried out using high performance liquid chromatography with UV detection (HPLC-UV Agilent 1260 Infinity II) and the Thermo Scientific Acclaim Carbonyl C18 column 5um x 4.6 x 250mm.

### TM 11.15.2

Sample aerosol was captured using ORBO charcoal tubes. Analytes were desorbed using carbon disulphide and methanol. Analysis of standards and samples was then carried out using gas chromatography with mass spectrometry (GC/MS Agilent 7890B/5977B) and a DB-624 column 60m x 0.250mm x 1.40um.

### TM 11.12.1

Sample aerosol was captured on Cambridge Filter Pads before being extracted using propan-2-ol. Standards and samples were analysed using gas chromatography with flame ionisation detection (GC-FID Agilent 7890B) and a DB-ALC1 column 30m x 0.320mm x 1.80um.

## CONDITIONS OF CERTIFICATE

*This Certificate of Analysis relates only to the samples supplied to the laboratory. All samples have been provided by the Client. The results in this certificate should only be reproduced in full. All testing is carried out at the laboratory's permanent facilities.*

## CERTIFICATE APPROVAL

Laboratory Manager



Rachael Davis (Mar 15, 2022 15:26 GMT)

**Rachael Davis**

Quality Manager



David Lawson (Mar 15, 2022 15:40 GMT)

**David Lawson**

**Date: March 14, 2022**

## CHEMICAL CAS BREAKDOWN

Chemical Name	CAS Number	Concentrations (%)	Volume (mg/ml)
Propylene Glycol	57-55-6	27.09348	249.9
Glycerol	56-81-5	63.14252	90
TFN Nicotine Salt	22083-74-5	2	15
Lemon Oil	8008-56-8	0.898	19
2-Isopropyl-N,2,3-trimethylbutyramide	51115-67-4	1.166	20
Sucralose	56038-13-2	0.86	20
Water	7732-18-5	3.3884	78.8
Citric Acid	77-92-9	0.0516	1.2
Orange Oil	8008-57-9	2.26	10
	<b>Total</b>	<b>100</b>	









# CA22040

Final Audit Report

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