David Ward

From: David P
Sent: Tuesday, 11 April 2023 4:53 PM
To: Ri
Cc: Jim; David W
Subject: RE: Chemical analysis of fresh and aged Australian e-cigarette liquids.pdf

Thanks Ri

Talk to you tomorrow.

Cheers,

David

From: R @health.qld.gov.au>
Sent: Tuesday, 11 April 2023 4:45 PM
To: David P health.qld.gov.au>
Cc: Jim health.qld.gov.au>; David W @health.qld.gov.au>
Subject: Chemical analysis of fresh and aged Australian e-cigarette liquids.pdf

Hi David,

Thanks for your time on the phone today. Further to our conversation, attached is the paper I mentioned to you.

In addition to nicotine, we are looking at testing for the following:

- PAHs
- Carbonyl compounds (aldehydes, ketones, acrolein)
- Flavourings
- Pesticides/insecticides/herbicides
- Heavy metals

I understand that your capacity is limited.

See you at the meeting tomorrow.

Regards,

Ri

David W

From: Ri s.73 - Irrelevant nt s.73 - Irrelevant information
Sent: Wednesday, 12 April 2023 9:17 AM
To: David P
Subject: Chemical analysis of fresh and aged Australian e-cigarette liquids
Attachments: Attachment 4 - Chemical analysis of fresh and aged Australian e-cigarette liquids.pdf

Hi David,

Attached is the other paper I was talking about.

Regards,

Ri s.73 - Irrelevan

Queensland Government

Dr Ri s.73 - Irrelevant information 73 - Irrelevant formation
Senior Environmental Health Scientist
Health Protection Branch, Queensland Public Health and Scientific Services | Queensland Health
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Queensland Health acknowledges the Traditional Owners of the land, and pays respect to Elders past, present and future.

Chemical analysis of fresh and aged Australian e-cigarette liquids

Alexander Larcombe[1,2,*], Sebastien Allard[3,*], Paul Pringle[3], Ryan Mead-Hunter[2,4], Natalie Anderson[1,2], Benjamin Mullins[2,4]

The known: E-cigarettes are increasingly popular in Australia, but little is known about the chemicals inhaled by users. Evidence is mounting that e-cigarettes are not benign and can pose significant health risks.

The new: Our comprehensive chemical assessment of Australian e-liquids identified a wide range of potentially harmful chemicals in these liquids, both in their purchased forms and after simulated vaping.

The implications: Australian e-liquids include potentially toxic chemicals, for many of which no information on inhalation health effects are available. Despite the sale of nicotine-containing e-liquids without prescription being illegal, trace amounts were detected in some samples, with implications for their effects on health and addiction.

Abstract

Objectives: To assess the chemical composition of electronic cigarette liquids (e-liquids) sold in Australia, in both their fresh and aged forms.

Design, setting: Gas chromatography–mass spectrometry analysis of commercial e-liquids sold in Australia (online and physical stores).

Main outcome measures: Chemical composition of 65 Australian e-liquids — excipients/solvents, flavouring chemicals, other known e-liquid constituents (including nicotine), and polycyclic aromatic hydrocarbons — before and after an accelerated ageing process that simulated the effects of vaping.

Results: The measured levels of propylene glycol and glycerol often diverged from those recorded on the e-liquid label. All e-liquids contained one or more potentially harmful chemicals, including benzaldehyde, menthol, *trans*-cinnamaldehyde, and polycyclic aromatic hydrocarbons. Nicotine or nicotyrine were detected in a small proportion of e-liquids at extremely low concentrations.

Conclusions: Australian e-liquids contain a wide variety of chemicals for which information on inhalation toxicity is not available. Further analyses are required to assess the potential long term effects of e-cigarette use on health.

Electronic cigarettes (e-cigarettes) are a relatively recent development, and are often marketed as alternative nicotine delivery systems for tobacco smokers.[1] Research into e-cigarettes has increased substantially in recent years, together with debate about their role in tobacco harm reduction and in normalising cigarette smoking. Central to the discussion are the potential health effects of e-cigarettes, many of which are related to the chemical composition of the "e-liquid" used.[2]

E-liquids typically consist of a glycerol and propylene glycol base, flavourings, nicotine, and other chemicals that are heated, aerosolised, and inhaled. An emerging body of evidence suggests that e-liquids often contain a range of potentially toxic chemicals.[2-10] However, information about the composition of e-liquids used in Australia is limited. This is important, as the Australian regulatory status of e-cigarettes and e-liquids is complex, differentiating the market from that of many other countries. E-cigarettes and e-liquids that do not contain nicotine are largely unregulated in most states, and no devices have been approved for therapeutic use.[11] However, we have previously reported that e-liquids labelled "nicotine-free" often contain nicotine.[6] Further, there is evidence that some common e-liquid ingredients react with each other[9] or with components of the e-cigarette device,[12] or may be converted into other chemical species when heated.

Analysis of e-liquids that have been "aged" by repeated heating and cooling may therefore provide additional information about the potential effects on health of e-cigarette use. We employed gas chromatography–mass spectrometry to analyse 65 Australian e-liquids for common excipients, flavourings, nicotine, polycyclic aromatic hydrocarbons, and other chemicals, both in their fresh state and after subjecting the e-liquids to an accelerated ageing process that simulates the effect of "vaping".

Methods

We purchased a range of e-liquids from Australian online and brick-and-mortar stores. Online suppliers of e-liquids were deemed eligible sources if they were operational, were based in Australia, sold e-liquids (some stores sold only e-cigarette devices), and sold their own brand of e-liquids. Online suppliers were identified in a Google search (February 2020) for the term "Australian e-liquid". Of the first 25 search results, ten were for eligible online e-liquid suppliers; we purchased the five best selling e-liquids from each supplier, as reported on their websites. We also purchased 15 e-liquids from brick-and-mortar stores in our home state, Western Australia, selected as a cross-section of local brands and manufacturers at the time of purchase; three were manufactured in New South Wales, 12 in Western Australia. All 65 e-liquids were described as being nicotine-free, and they encompassed a wide range of flavours, including ice/menthol, fruit, dessert, and tobacco (Supporting Information 1).

Selection of chemicals for analysis

On the basis of similar studies,[2,6,8] we selected chemicals for analysis that we expected to find in e-liquids or were known toxins associated with e-cigarettes, including common excipients and solvents (glycerol, propylene glycol, benzyl alcohol), flavouring chemicals (menthol, eugenol, thymol, benzaldehyde, *trans*-cinnamaldehyde, ethyl vanillin, ethyl maltol, furfural, 4-(4-methoxyphenyl)-2-butanone), and other e-liquid constituents (nicotine, nicotyrine, 2-chlorophenol, phenol). We also measured the levels of ten polycyclic aromatic hydrocarbons (PAHs) — large hydrocarbons associated with thermal degradation — for which certified reference material standards were available.

E-liquid analyses

Our analytical methods are fully described in online Supporting Information 2. Briefly, analytical standards for each chemical

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• doi: 10.5694/mja2.51280 • See Editorial (Advani)

were purchased from Sigma-Aldrich Australia, Rowe Scientific, or Cayman Chemical. As a simple solvent does not reflect the sample matrix of commercial e-liquids, standards were prepared for analysis in 50% propylene glycol/50% glycerol.

Analytes were extracted from the sample matrix by solid phase micro-extraction, which enables solventless extraction using a fused silica or stainless steel fibre coated with a thin film polymer. Headspace (gas phase) analysis using solid phase micro-extraction removes a large fraction of the interference by the propylene glycol/glycerol matrix (> 90% of the sample by mass), and has previously been used for the analysis of volatile compounds, additives, and flavours in e-liquids.[13] We used a divinylbenzene/carboxen/polydimethylsiloxane fibre for all analyses (Supelco). Polar compounds were separated on a 30 m × 0.25 mm HP-INNOWax (polyethylene glycol) analytical column (Agilent J&W), with a film thickness of 0.25 µm and 4-bromophenol-2,3,5,6-d4 as internal standard. Non-polar compounds and PAHs were analysed on a 30 m × 0.25 mm Zebron ZB-5MS analytical column (Phenomenex) with a film thickness of 1 µm and biphenyl-d10 as internal standard. Analytes were detected by mass spectrometry (Agilent 6890N GC/Agilent 5973 network mass selective detector) in electron impact ionisation mode (70 eV); to optimise sensitivity, compounds were quantified in selected ion monitoring mode.

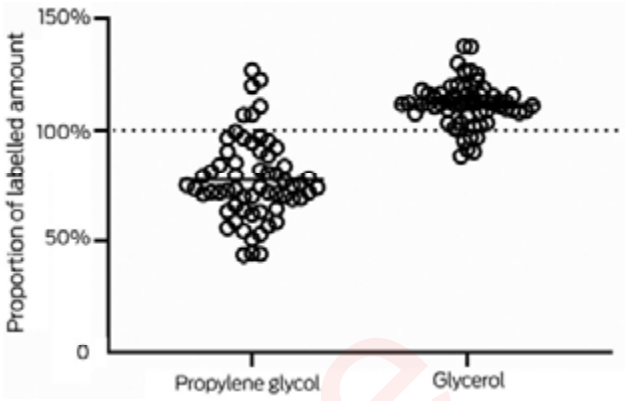
E-liquid ageing

To evaluate chemical changes resulting from vaping (aerosol generation from evaporation and condensation), which can cause thermal decomposition, oxidation, and polymerisation of e-liquid components, we developed a method for simulating the ageing of e-liquids (Supporting Information 2). After accelerated ageing, e-liquids were re-analysed using the same techniques as for fresh e-liquids.

Ethics approval

Ethics approval was not required for this study.

1 Propylene glycol and glycerol content of 62 e-liquids, as proportions of the labelled amount*



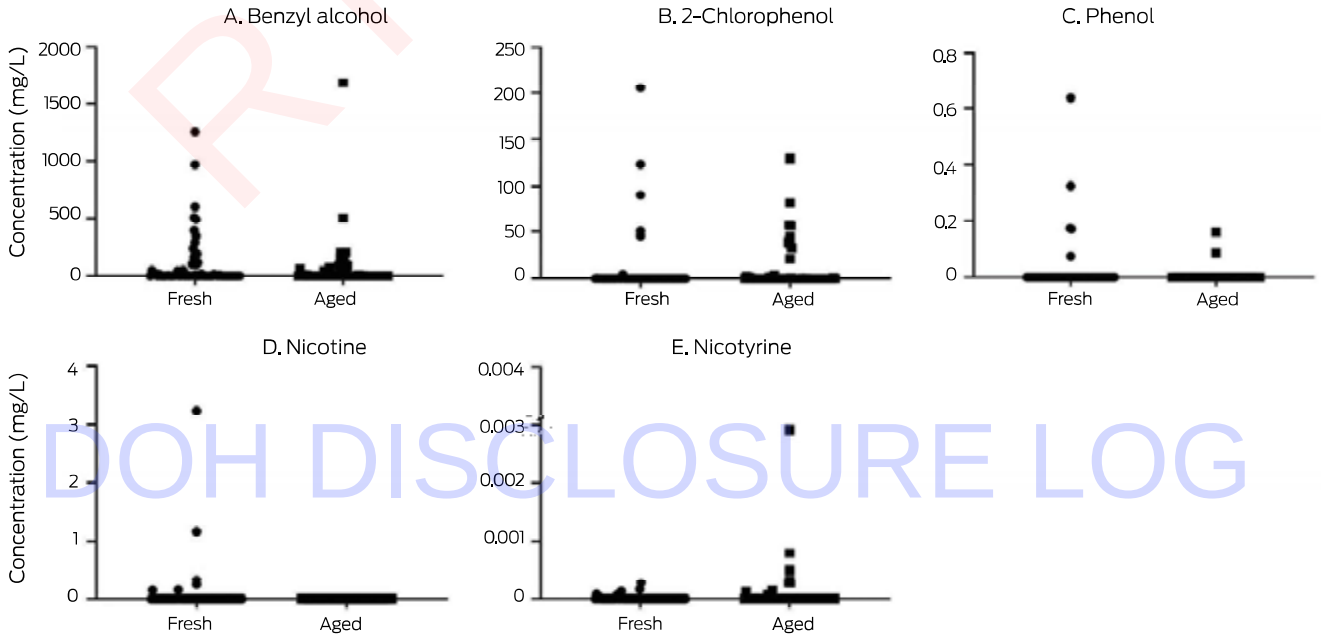
* The solid horizontal lines indicate the respective mean levels of propylene glycol or glycerol. ◆

Results and discussion

Excipients and solvents

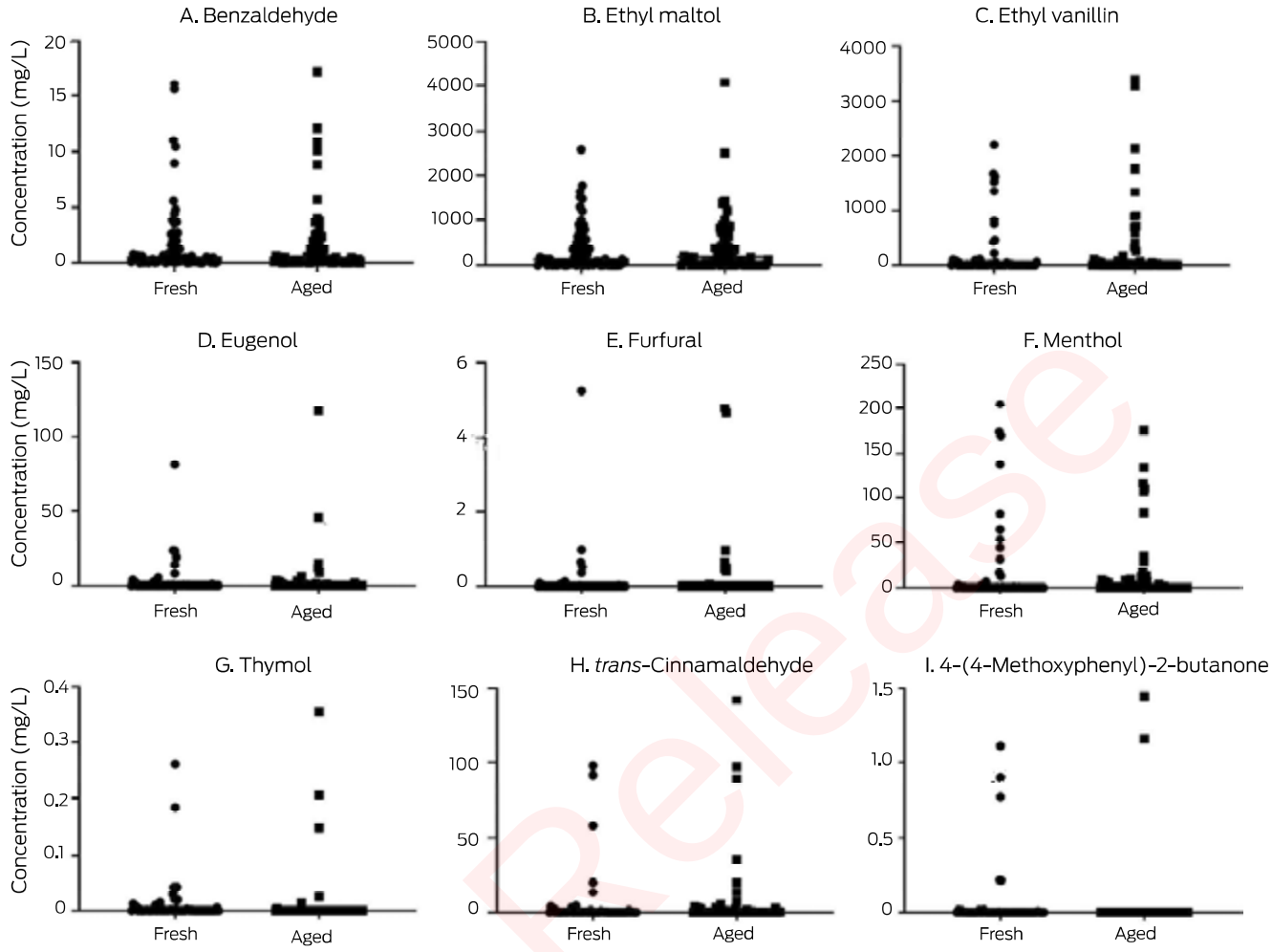
Propylene glycol and glycerol were the main ingredients by proportion in each e-liquid. The propylene glycol/glycerol ratio was not specified for three e-liquids. Most e-liquids were labelled as including 30% propylene glycol/70% glycerol, but the actual value was within 10 percentage points of the labelled amount for only 11 (propylene glycol) or 21 (glycerol) of these 62 e-liquids; in one case, the propylene glycol/glycerol ratio was the reverse of that indicated on the label. The mean propylene glycol content was 77.4% of the label value (standard deviation [SD], 18.5%; range 43.7–126.8%), the mean glycerol content was 111.8% of the label value (SD, 9.7%; range, 88.5–137.5%) (Box 1). The magnitude of these differences was consistent with manufacturers mixing propylene glycol and glycerol on a volume-for-volume rather than a weight-for-weight basis; as the density of propylene glycol is 1.04 g/cm³ and that

2 Concentrations of non-flavouring chemicals in 65 Australian e-liquids, fresh and after ageing



The values for individual products are included in the online Supporting Information 1. ◆

3 Concentration of flavouring chemicals in 65 Australian e-liquids, fresh and after ageing



The values for individual products are included in the online Supporting Information 1. ◆

of glycerol is 1.26 g/cm³, volume-based mixing will increase the amount of glycerol by about 21% of the intended level.

Benzyl alcohol, a solvent/flavour enhancer, was found in 42 of 65 e-liquids and 32 of 65 aged e-liquids, at levels of up to 1687 mg/L (Supporting Information 1). Benzyl alcohol, also found in e-liquids by other studies,[8,14,15] is a dermal sensitising agent and skin allergen that elicits severe reactions in some people.[16]

Nicotine

Nicotine was found in trace amounts in six fresh e-liquids (maximum, 3.25 mg/L) but not in aged e-liquids (Box 2; Supporting Information 1). In our earlier study, six of ten e-liquids contained nicotine (maximum, 2900 mg/L).[6] The results for our more recent samples may indicate cleaner manufacturing processes, or that nicotine was present as nicotine salts rather than as free-base nicotine.[17] Nicotine is relatively common in "nicotine-free" e-liquids,[18] with implications for health and addiction. Nicotine in Australian "nicotine-free" e-liquids could be the result of accidental contamination or poor quality control during manufacture.

Nicotyrine, formed by the dehydrogenation and oxidation of nicotine,[5] is not usually detected in e-liquids unless they have been exposed to air, in which case it accumulates over time. We detected it in seven fresh (including two that also contained nicotine) and nine aged e-liquids (maximum, 2.9 µg/L), indicating that they had previously contained nicotine.

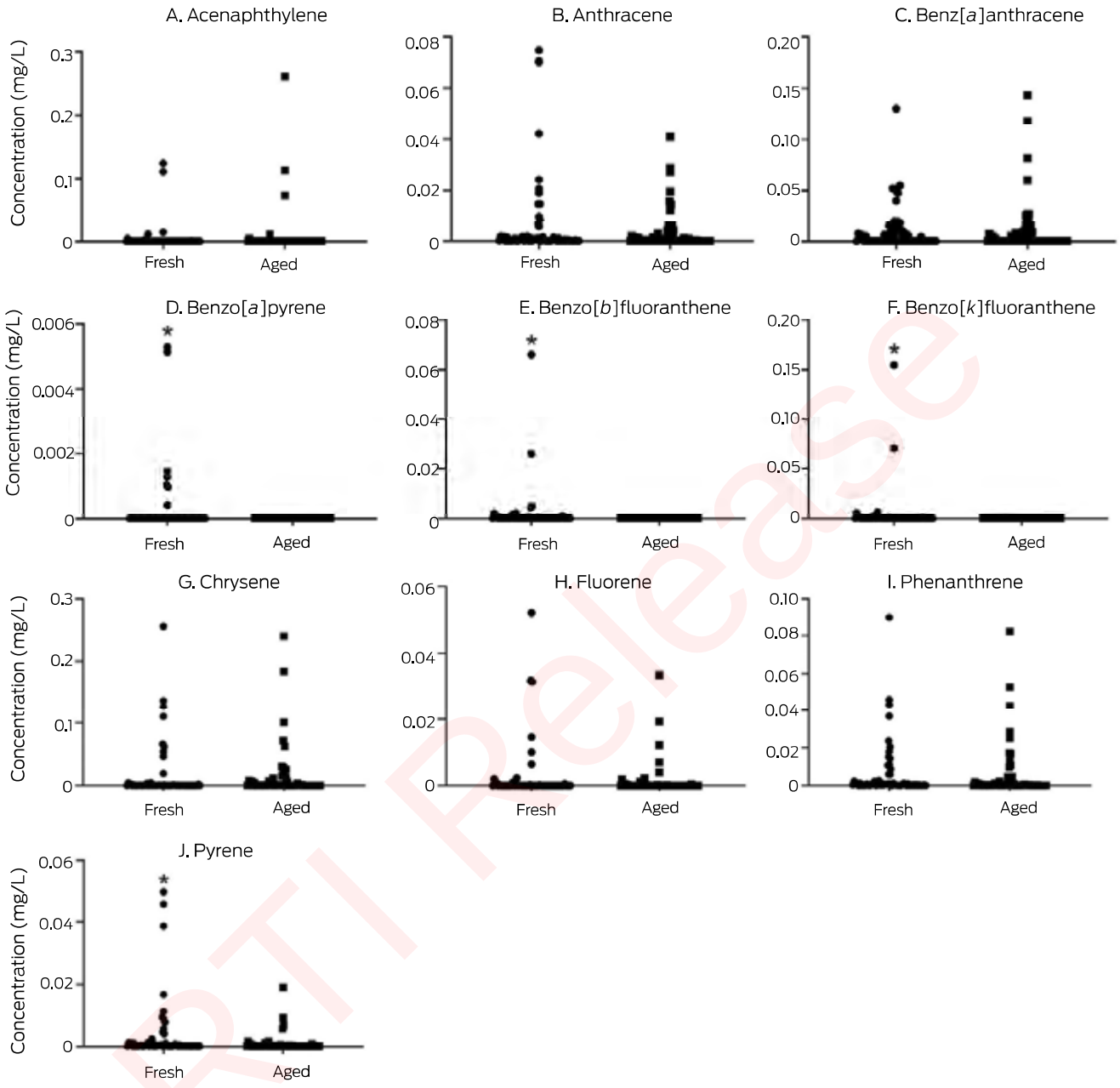
Flavouring chemicals

A range of flavouring chemicals were detected in fresh and aged e-liquids (Box 3; Supporting Information 1). Some, including furfural, thymol, and 4-(4-methoxyphenyl)-2-butanone were found only infrequently or at very low levels. Benzaldehyde, added to e-liquids for its almond-like flavour, was detected in 60 fresh and 61 aged e-liquids at concentrations ranging from 11.4 µg/L to 17.3 mg/L. Benzaldehyde inhibits microsomal cytochrome P450 2A6 (CYP2A6)[19] — increasing systemic nicotine exposure and blood nicotine concentrations in smokers[20] — reduces phagocytosis,[10] and is an inhalation irritant.[21] Benzaldehyde can also react with propylene glycol in e-liquids, producing aldehyde propylene glycol acetals[9] that activate airway irritant receptors.[22]

Other flavouring chemicals we found frequently or at high concentrations were:

- menthol: 44 fresh (maximum, 205 mg/L) and 50 aged e-liquids (maximum, 176 mg/L);
- ethyl maltol: 58 fresh (maximum, 2583 mg/L) and 52 aged e-liquids (maximum, 4084 mg/L);

4 Concentration of polycyclic aromatic hydrocarbons in 65 Australian e-liquids, fresh and after ageing



The values for individual products are included in the online Supporting Information 1. * Statistically significantly higher median concentration in fresh than aged samples (Mann–Whitney test; $P < 0.05$). ◆

- *trans*-cinnamaldehyde: 48 fresh (maximum, 97.9 mg/L) and 38 aged e-liquids (maximum, 142.5 mg/L); and
- ethyl vanillin: 59 fresh (maximum, 2192 mg/L) and 50 aged e-liquids (maximum, 3393 mg/L).

The high frequency of detection and the high concentrations of these chemicals have concerning health implications. Menthol enhances the addictive properties of nicotine[23] and inhibits nicotine metabolism.[20] Menthol was detected in most e-liquids, but only a small proportion were labelled as being "menthol"- or "ice"-flavoured. Conversely, one "menthol" e-liquid contained no menthol, and may have instead contained potentially carcinogenic analogues such as pulegone, or synthetic "coolants" such as *N*-ethyl-p-menthane-3-carboxamide.

Ethyl maltol is added to e-liquids as a sweetener. The effects of heating and inhaling it are largely unknown, but it increases free radical formation in e-cigarette aerosols.[4] Free radicals induce oxidative stress, which affect cell survival and proliferation, and inflammation. Ethyl maltol reacts with iron and copper (potentially present in e-liquids as coil residue) to produce toxic hydroxypyranone complexes.[12]

trans-Cinnamaldehyde impairs innate immune cell function in the lung,[3] suppresses bronchial airway epithelial cell ciliary motility and mitochondrial function,[7] inhibits microsomal CYP2A6, impairs neutrophil, macrophage and natural killer cell function, and reduces oxidative burst when heated and inhaled.[10]

Ethyl vanillin is used widely in foods, beverages, cosmetics, and drugs for its potent vanilla odour and flavour. In e-liquids, it

reduces oxidative burst[10] and inhibits *in vitro* free radical formation.[4] Like benzaldehyde, both *trans*-cinnamaldehyde and ethyl vanillin react with propylene glycol in e-liquids to produce aldehyde propylene glycol acetals.[9]

Other chemicals

We found 2-chlorophenol in 27 fresh and 30 aged samples, at concentrations of up to 206 mg/L (Box 2; Supporting Information 1). Similar chemicals have been identified as pesticide or herbicide residues or decomposition by-products in canola oil,[24] from which glycerol is derived. While not as ubiquitous as in our earlier study,[6] this acutely toxic chemical, used in disinfectants and insecticides, remains a problem for the e-liquid manufacturing process.

Polycyclic aromatic hydrocarbons

PAHs are produced during the thermal decomposition of organic material, including tobacco and fossil fuels. Lower temperature thermal decomposition in e-cigarettes generally produces a greater proportion of low molecular weight PAHs, such as acenaphthylene, fluorene, and anthracene. Most PAHs are known or suspected carcinogens, and exposure has been linked with a range of adverse health effects in humans.[25] The health effects of inhaling specific individual PAHs, however, have not been studied in detail. We generally detected PAHs at very low levels (Box 4; Supporting Information 1). The accelerated ageing process did not increase the levels of any PAH; those of benzo[*a*]pyrene, benzo[*b*]fluoranthene, benzo[*k*]fluoranthene, and pyrene were all markedly lower in aged than in fresh e-liquids; indeed, benzo[*a*]pyrene and benzo[*b*]fluoranthene were not detected in aged e-liquids. These high molecular weight PAHs may have been chemically modified to low molecular weight PAHs (which we did not analyse), or PAHs formed during the ageing process may have been preferentially volatilised and not recovered.

Health effects of inhaled e-liquid aerosols

To estimate the potential effect on health of inhaling aerosols generated from e-liquids, some assumptions must be made. As acute inhalation toxicity levels (median lethal concentrations that kill 50% of a test animal population [LC_{50}]) have not been established for most of the chemicals we detected, we cannot calculate no observed adverse effect levels (NOAELs). Of the chemicals with established inhalation LC_{50} values, we found that four (benzaldehyde, menthol, 2-chlorophenol, benzyl alcohol) were frequently detected in e-liquids at concentrations that exceeded the inhalation LC_{50}. However, the inhalation LC_{50} is measured in air, and it is not possible to directly convert concentrations in e-liquids to concentrations in air without assumptions about puff volume and rate of use. Further research is needed to determine whether aerosols generated from these e-liquids contain these chemicals at relevant concentrations.

Conclusion

Our findings support and build upon earlier reports on the chemical composition of e-liquids. We found that a range of harmful chemicals are present, and that the heating/cooling/ageing process can affect e-liquid chemical composition. We acknowledge some limitations to our investigation, including the fact that we measured only a pre-determined selection of chemical analytes. Future studies would benefit from a discovery approach to identifying novel chemicals in e-liquids. Further, we acknowledge that the chemical composition of e-liquids is not entirely representative of the aerosol inhaled by e-cigarette users. Nevertheless, our finding that every e-liquid tested contained one or more chemicals potentially harmful to health provides a clear motivation for further investigations.

Acknowledgements: This investigation was commissioned by Lung Foundation Australia and the Minderoo Foundation, and was funded by the Minderoo Foundation, Lung Foundation Australia, Cancer Council WA, and the Scottish Masonic Charitable Foundation.

Competing interests: No relevant disclosures.

Received 18 February 2021, accepted 19 June 2021

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Supporting Information

Additional Supporting Information is included with the online version of this article.

David W

From: David P
Sent: Wednesday, 12 April 2023 9:30 AM
To: Ri
Subject: RE: Chemical analysis of fresh and aged Australian e-cigarette liquids

Thanks Ri We'll make a start on the e-liquids today or tomorrow.

Cheers,

David

From: Ri @health.qld.gov.au>
Sent: Wednesday, 12 April 2023 9:29 AM
To: David P @health.qld.gov.au>
Subject: FW: Chemical analysis of fresh and aged Australian e-cigarette liquids

Hi David,

Here's the Supplementary document for the paper I just sent you.

Kind regards,

Ri

From: Ri
Sent: Wednesday, 12 April 2023 9:17 AM
To: David P <@health.qld.gov.au>
Subject: Chemical analysis of fresh and aged Australian e-cigarette liquids

Hi David,

Attached is the other paper I was talking about.

Regards,

Ri

Queensland Government

Dr Ri
Senior Environmental Health Scientist
Health Protection Branch, Queensland Public Health and Scientific Services | Queensland Health
Working hours Monday to Friday

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Queensland Health acknowledges the Traditional Owners of the land, and pays respect to Elders past, present and future.

From: David P
To: Jim ; Rebecca ; Elizabeth
Cc: U Ri
Subject: RE: vapes for testing by QH scientific services
Date: Friday, 28 April 2023 12:16:40 PM
Attachments: image001.png
image002.jpg
image003.jpg
image004.jpg
image005.png
image006.png
image007.png
image008.png
image009.png
image010.png
image011.jpg
image012.jpg
image013.jpg
image014.jpg
image015.jpg

The series of tests I suggested won't cover all the PAH's. I don't think it is necessary due to the excipients (i.e. not much in the way of aromatics) in the fluid. They are pretty simple mixtures. I will see some of the lighter PAHs in the general GCMS screen (if present). I haven't seen any to date and don't really expect to.

Carbonyl, flavours and metals will all be tested.

Cheers,

David

From: Jim health.qld.gov.au>
Sent: Friday, 28 April 2023 12:09 PM
To: David P <@health.qld.gov.au>; Rebecca @health.qld.gov.au>; Elizabet health.qld.gov.au>
Cc: U @health.qld.gov.au>; Ri health.qld.gov.au>
Subject: RE: vapes for testing by QH scientific services

Hi David, just checking will the analysis cover:

- PAHs
- Carbonyl compounds (aldehydes, ketones, acrolein)
- Flavourings
- Heavy metals

Regards Jim

From: David P health.qld.gov.au>
Sent: Friday, 28 April 2023 9:15 AM
To: Rebecca @health.qld.gov.au>; Jim @health.qld.gov.au>; Elizabeth hea v.au>
Cc: Colleen @health.qld.gov.au>; Mark <@health.qld.gov.au>; Stewart @health.qld.gov.au>; Stephen @health.qld.gov.au>
Subject: RE: vapes for testing by QH scientific services

G'day Rebecca,

Two weeks should be fine. The breadth of testing on the vape samples won't be as comprehensive as there's no point (correct me if I'm wrong) looking for pesticides/herbicides/fungicides in a manufactured product.

I intend to perform quantitative nicotine analysis, along with those compounds listed in the TGA document TGO110, as well as a general organics and inorganics screen. Let me know if that covers the bases you intend to.

Cheers,

David

From: Rebecca s.73 - Irrelevant information s.73 - Irrelevant information @health.qld.gov.au>
Sent: Friday, 28 April 2023 8:41 AM
To: David P s.73 - Irrelevant information @health.qld.gov.au>; Jim s.73 - Irrelevant information s.73 - Irrelevant information @health.qld.gov.au>; Elizabeth s.73 - Irrelevant information s.73 - Irrelevant information _health.qld.gov.au>
Cc: Colleen s.73 - Irrelevant information .73 - Irrelevant information @health.qld.gov.au>; Mark s.73 - Irrelevant information .73 - Irrelevant information _health.qld.gov.au>
Subject: Fwd: vapes for testing by QH scientific services

Good morning all,

Please see advice below that the E-cigarette samples sourced by the HE Committee are being couriered today.

David, as discussed letting you know so you can keep an eye out for their arrival. They note the delay at their end in sending to the lab and accept that this may mean results are later.

Based on current due date to the Committee and factoring in timeframes for clearance the timeframes look like this:

- 12 May 2023 - Analysis to HProt/PSB to prepare report, letter to HEC and Brief for DG
- 17 May 2023 – package cleared by HProt/PSB to SPRCORRO
- 19 May 2023 – cleared to CLLO for approval by DG
- 23 May 2023 – CLLO progress cleared report to HEC.

David this gives you two weeks – minus a public holiday. Please advise if you think that the proposed date of analysis completed by the above date remains reasonable?

Jim the turmaround for the report is tight but with clearance times this is what we have. Can you please advise which elements your unit will prepare for the package to clear which includes:

- Report of analysis
- DG Brief for approval
- Letter to committee from DG

s.73 - Irrelevant information

Happy to discuss these timeframes, however if possible it would be ideal if we can meet the original date of 23 May 2023.

Best Regards
Rebecca

Queensland Government

Rebecca s.73 - Irrelevant information
Advanced Health Promotion Officer
Prevention Strategy Branch
| Queensland Health
Working hours Monday to Friday

P s.73 - Irrelevant information
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W health.qld.gov.au
A 15 Butterfield Street, Herston

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From: CLLO s.73 - Irrelevant information @health.qld.gov.au>
Sent: Friday, April 28, 2023 7:42 am
To: Rebecca s.73 - Irrelevant information
Subject: FW: vapes for testing by QH scientific services

Hi there Rebecca

Happy Friday to you!

The vapes are on their way – as per the below email!

Cheers
Lou

Queensland Government

Louise s.73 - Irrelevant information she/her)
a/Manager Cabinet and Parliamentary Services
Cabinet and Parliamentary Services Strategy, Policy and Reform
Division | Queensland Health

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campaign image

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From: Health and Environment Committee s.73 - Irrelevant information parliament.qld.gov.au>
Sent: Thursday, 27 April 2023 3:21 PM
To: CLLO <s.73 - Irrelevant health.qld.gov.au>; Health and Environment Committee
s.73 - Irrelevant parliament.qld.gov.au>

Subject: vapes for testing by QH scientific services

This email originated from outside Queensland Health. DO NOT click on any links or open attachments unless you recognise the sender and know the content is safe.

Hi Lou and Alessandra

Just letting you know that we have packed up the vapes and sent them through our system for the courier.

They should either go today or tomorrow (to scientific services) so you might get a call from the contact there – I have put Lou as the 'reporting address' person on the form enclosed with them. Our number is down as the contact/client address.

If there is a problem with the reporting back date let me know, I am fine with telling the committee that the delay is from our end.

Thanks
Renee

Renee s.73 - Irrelevant information
Committee Secretary
Health and Environment Committee
QUEENSLAND PARLIAMENTARY SERVICE
Parliament House
Cnr George and Alice Streets Brisbane Qld 4000
Ph: s.73 - Irrelevant information
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David W

From: Jim
Sent: Frida 2023 12:33 PM
To: David P; Rebecca Elizabeth
Cc: U Ri
Subject: RE: vapes for testing by QH scientific services

No worries David, thanks that sounds fine given timeframes for analysis.
Cheers Jim

From: David P @health.qld.gov.au>
Sent: Friday, 28 April 2023 12:17 PM
To: Jim @health.qld.gov.au>; Rebecca @health.qld.gov.au>; Elizabeth @health.qld.gov.au>
Cc: U health.qld.gov.au>; Ri health.qld.gov.au>
Subject: RE: vapes for testing by QH scientific services

The series of tests I suggested won't cover all the PAH's. I don't think it is necessary due to the excipients (i.e. not much in the way of aromatics) in the fluid. They are pretty simple mixtures. I will see some of the lighter PAHs in the general GCMS screen (if present). I haven't seen any to date and don't really expect to.

Carbonyl, flavours and metals will all be tested.

Cheers,

David

From: Jim health.qld.gov.au>
Sent: Friday, 28 April 2023 12:09 PM
To: David P @health.qld.gov.au>; Rebecca @health.qld.gov.au>; Elizabeth @health.qld.gov.au>
Cc: U @health.qld.gov.au>; Ri health.qld.gov.au>
Subject: RE: vapes for testing by QH scientific services

Hi David, just checking will the analysis cover:

- PAHs
- Carbonyl compounds (aldehydes, ketones, acrolein)
- Flavourings
- Heavy metals

Regards Jim

From: David P @health.qld.gov.au>
Sent: Friday, 28 April 2023 9:15 AM
To: Rebecca @health.qld.gov.au>; Jim @health.qld.gov.au>; Elizabeth health.qld.gov.au>
Cc: Colleen health.qld.gov.au>; Mar @health.qld.gov.au>; Stewart

s.73 - Irrelevant information @health.qld.gov.au>; Stephen s.73 - Irrelevant information s.73 - Irrelevant information @health.qld.gov.au>
for testing by QH scientific services

G'day Rebecca,

Two weeks should be fine. The breadth of testing on the vape samples won't be as comprehensive as there's no point (correct me if I'm wrong) looking for pesticides/herbicides/fungicides in a manufactured product.

I intend to perform quantitative nicotine analysis, along with those compounds listed in the TGA document TGO110, as well as a general organics and inorganics screen. Let me know if that covers the bases you intend to.

Cheers,

David

From: Rebecca s.73 - Irrelevant information s.73 - Irrelevant information @health.qld.gov.au>
Sent: Friday, 28 April 2023 8:41 AM
To: David P s.73 - Irrelevant information @health.qld.gov.au>; Jim s.73 - Irrelevant information s.73 - Irrelevant information health.qld.gov.au>; Elizabeth s.73 - Irrelevant information s.73 - Irrelevant information @health.qld.gov.au>
Cc: Colleen s.73 - Irrelevant information s.73 - Irrelevant information @health.qld.gov.au>; Mark s.73 - Irrelevant information s.73 - Irrelevant information @health.qld.gov.au>
Subject: Fwd: vapes for testing by QH scientific services

Good morning all,

Please see advice below that the E-cigarette samples sourced by the HE Committee are being couriered today.

David, as discussed letting you know so you can keep an eye out for their arrival. They note the delay at their end in sending to the lab and accept that this may mean results are later.

Based on current due date to the Committee and factoring in timeframes for clearance the timeframes look like this:

- 12 May 2023 - Analysis to HProt/PSB to prepare report, letter to HEC and Brief for DG
- 17 May 2023 – package cleared by HProt/PSB to SPRCORRO
- 19 May 2023 – cleared to CLLO for approval by DG
- 23 May 2023 – CLLO progress cleared report to HEC.

David this gives you two weeks – minus a public holiday. Please advise if you think that the proposed date of analysis completed by the above date remains reasonable?

Jim the turmaround for the report is tight but with clearance times this is what we have. Can you please advise which elements your unit will prepare for the package to clear which includes:

- Report of analysis
- DG Brief for approval
- Letter to committee from DG

s.73 - Irrelevant information

Happy to discuss these timeframes, however if possible it would be ideal if we can meet the original date of 23 May 2023.

Best Regards
Rebecca

Queensland Government

Rebecca s.73 - Irrelevant information
Advanced Health Promotion Officer
Prevention Strategy Branch | Queensland Health
Working hours Monday to Friday

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Sent: Friday, April 28, 2023 7:42 am
To: Rebecca s.73 - Irrelevant information
Subject: FW: vapes for testing by QH scientific services

Hi there Rebecca

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The vapes are on their way – as per the below email!

Cheers
Lou

Queensland Government

Louise s.73 - Irrelevant information she/her)
a/Manager Cabinet and Parliamentary Services
Cabinet and Parliamentary Services Strategy, Policy and Reform Division | Queensland Health

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A Lvl 37 1 William St Brisbane

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From: Health and Environment Committee s.73 - Irrelevant information parliament.qld.gov.au>
Sent: Thursday, 27 April 2023 3:21 PM
To: CLLO s.73 - Irrelevant information health.qld.gov.au>; Health and Environment Committee s.73 - Irrelevant information@parliament.qld.gov.au>
Subject: vapes for testing by QH scientific services

Hi Lou and Alessandra

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They should either go today or tomorrow (to scientific services) so you might get a call from the contact there – I have put Lou as the 'reporting address' person on the form enclosed with them. Our number is down as the contact/client address.

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Thanks
Renee

Renee s.73 - Irrelevant information
Comm retary
Health and Environment Committee

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Cnr George and Alice Streets Brisbane Qld 4000
Ph: s.73 - Irrelevant information
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From: Jim s.73 - Irrelevant information
Sent: Monday, 31 July 2023 2:43 PM
To: Ri s.73 - Irrelevant information
Subject: FW: Reports for e-cigarette fluids
Attachments: SSP83440_QH_EnvCommittee_Report.pdf

From: David P s.73 - Irrelevant information health.qld.gov.au>
Sent: Friday, 12 May 2023 2:52 PM
To: Rebecca s.73 - Irrelevant information s.73 - Irrelevant information @health.qld.gov.au>; Jim s.73 - Irrelevant information s.73 - Irrelevant information health.qld.gov.au>
Subject: RE: Reports for e-cigarette fluids

G'day Jim, Rebecca,

Please find attached the report for the samples taken for the QP Health and Environment Committee. The LORs for some of the analyses are higher then usual as I haven't had time to run them are lower dilutions – if that's preferred/required I can do that next week.

I'll get the other report to you over the weekend along with the updated results for carbonyl analysis.

Have a good weekend.

Cheers,

David

From: Rebecca s.73 - Irrelevant information <s.73 - Irrelevant information health.qld.gov.au>
Sent: Friday, 12 May 2023 1:49 PM
To: David P s.73 - Irrelevant information health.qld.gov.au>; Jim s.73 - Irrelevant information s.73 - Irrelevant information health.qld.gov.au>
Subject: Re: Reports for e-cigarette fluids

Hello David,

It's ok first things monday is fine, I don't want to ask you to come in on the weekend.

Thanks for your assistance with this
Best regards
Rebecca

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From: David P s.73 - Irrelevant information health.qld.gov.au>
Sent: Friday, May 12, 2023 1:43:31 PM
To: Rebecca s.73 - Irrelevant information s.73 - Irrelevant information health.qld.gov.au>; Jim s.73 - Irrelevant information s.73 - Irrelevant information health.qld.gov.au>
Subject: RE: Reports for e-cigarette fluids

Hello Rebecca, Jim,

Sorry about this but I won't be able to produce both reports today. I'm going through the GCMS screening data for the e-fluids and it's more work than I'd anticipated. I'm afraid I need to leave early today at 3pm and can't get back.

I'll have the report for the samples taken for Aaron Harper MP done this afternoon but there'll be a delay for the other with the ten samples I've selected. The reports will be qualitatively similar with some differences in the volatile GCMS screens.

I'll come in Sunday morning to finish and email the second report. The second analysis for the aldehydes will be finished by then so will be able to update the data for both at that time as well.

Let me know if that's a problem as I can come in tomorrow if required.

David

From: Rebecca s.73 - Irrelevant information s.73 - Irrelevant information health.qld.gov.au>
Sent: Friday, 12 May 2023 10:30 AM
To: David Pass s.73 - Irrelevant information @health.qld.gov.au>; Jim s.73 - Irrelevant information s.73 - Irrelevant information @health.qld.gov.au>
Subject: Re: Reports for e-cigarette fluids

Thanks David. I really appreciate the further analysis.

Jim, I will draft the associated brief and letter and update with results when you have the report drafted.

I will check back in on Monday with you all.

Cheers
Rebecca

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From: David P s.73 - Irrelevant information @health.qld.gov.au>
Sent: Friday, May 12, 2023 10:11:02 AM
To: Jim s.73 - Irrelevant information - Irrelevant information @health.qld.gov.au>; Rebecca s.73 - Irrelevant information s.73 - Irrelevant information health.qld.gov.au>
Subject: Reports for e-cigarette fluids

G'day Jim, Rebecca,

As per our conversation this morning Rebecca, I'll release two reports today; one for the samples taken on behalf of Aaron Harper MP and the other for the ten selected samples we've previously analysed. These may be amended early next week when I rerun the carbonyl analysis at lower dilution. The amendments if required will be for that section of the report only.

Jim, the report contact I have for the QP Health & Environment Committee samples is Louise O'Neil of Qld Health Cabinet and Parliamentary Services, do you want it sent to her as well or will you be summarising it into a more digestible form and handing it on?

Cheers,

David

David P
Senior Chemist

Organics Laboratory
Forensic and Scientific Services
Prevention Division Queensland Health
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a 39 Kessels Road Coopers Plains Qld 4108
e s.73 - Irrelevant information @health.qld.gov.au **w** **www.health.qld.gov.au/fss**

Queensland Health acknowledges the Traditional Owners of the land, and pays respect to Elders past, present and emerging.

Queensland Government

Forensic and Scientific Services

CERTIFICATE OF ANALYSIS

CLIENT: QP Health & Environment Committee
Queensland Parliament
Alice St
BRISBANE QLD 4000

ATTN: Aaron Harper MP

CC: Louise [redacted]

Laboratory Reference	: SSP83440
Client Order Number	: n/a
Quote Number	: n/a
Client Project	: n/a
Client Batch Reference	: n/a
Date Received	: 28-Apr-2023
Date Commenced	: 1-May-2023
Laboratory Number/s	: 23KS935-941

Submitting Authority : Queensland Parliament Health & Environment Committee

Number of Samples : Seven (7) e-cigarette devices

Reason for Analysis : Quantitation of nicotine
Quantitation of compounds outlined in Subsection 7(3) Schedule 1 of the TGA document TGO 110
Quantitation of carbonyl compounds
Pesticide/Herbicide Screens
Heavy metals screen

Method/s of Analysis : QIS34310 – Nicotine Analysis

QIS15506 - Qualitative and/or Quantitative Analysis using Liquid Chromatography Separation with Mass Spectrometer Detection

QIS12659 - Determination of Trace Elements in Foods by ICP-MS after Microwave Digestion

QIS12792 – Analysis of drugs by classical (Pharmacopeia), GC, GCMS, HPLC, UV/VIS HPLC/MS methods

Remarks : Sample details and results are summarised in Tables 1 - 6

s.73 - Irrelevant information

David P[redacted]
Senior Chemist, Organics Laboratory
12th May 2023

Enquiries David P[redacted]
Phone s.73 - Irrelevant information
Email s.73 - Irrelevant information@health.qld.gov.au

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Email FSS@health.qld.gov.au

CERTIFICATE OF ANALYSIS

Laboratory Reference: SSP83440
Laboratory Number: 23KS935-941

Table 1: Nicotine Results for SSP83440

Lab No.	Sample Reference	Sample Description	Results (mg/kg)
23KS935	1 KIRWIN	IGET Bar Strawberry Watermelon Ice	45000
23KS936	2 KIRWIN	Vorteke Melon	< LOR
23KS937	3 WYNNUM	IGET Bar Strawberry Lemon Ice	54000
23KS938	4 WYNNUM	IGET Legend Passionfruit Watermelon Ice	52000
23KS939	5 BELLARA	IGET Bar Grape Ice	49000
23KS940	6 BELLARA	IGET Bar Kiwi Pineapple Ice	55000
23KS941	7 BELLARA	IGET Legend Blueberry Blackberry Ice	47000

Limit of Reporting (< LOR) – 200 mg/kg

Table 2: Carbonyl results for SSP83440

Client Reference				1 KIRWAN	2 KIRWAN	3 WYNNUM	4 WYNNUM	5 BELLARA	6 BELLARA	7 BELLARA
Sample Type				liquid	liquid	liquid	liquid	liquid	liquid	liquid
Sampling Time / Date				1707 04/04/2023	1712 04/04/2023	04/2023	04/2023	06/04/2023	06/04/2023	06/04/2023
Sample Description				IGET Bar Strawberry Watermelon Ice	Vorteke Melon	IGET Bar Strawberry Lemon Ice	IGET Legend Passionfruit Watermelon Ice	IGET Bar Grape Ice	IGET Bar Kiwi Pineapple Ice	IGET Legend Blueberry Blackberry Ice
Method	Analysis for drugs by GCMS	Units	Reporting Limit	23KS935	23KS936	23KS937	23KS938	23KS939	23KS940	23KS941
12792	Formaldehyde	%	0.2	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12792	Acetaldehyde	%	0.2	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12792	Acrolein	%	0.2	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12792	Propionaldehyde	%	0.2	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR

CERTIFICATE OF ANALYSIS

Laboratory Reference: SSP83440
Laboratory Number: 23KS935-941

Table 3: Results for TGO 110 compounds

Client Reference				1 KIRWAN	2 KIRWAN	3 WYNNUM	4 WYNNUM	5 BELLARA	6 BELLARA	7 BELLARA
Sample Type				liquid	liquid	liquid	liquid	liquid	liquid	liquid
Sampling Time / Date				1707 04/04/2023	1712 04/04/2023	04/2023	04/2023	06/04/2023	06/04/2023	06/04/2023
Sample Description				IGET Bar Strawberry Watermelon Ice	Vorteke Melon	IGET Bar Strawberry Lemon Ice	IGET Legend Passionfruit Watermelon Ice	IGET Bar Grape Ice	IGET Bar Kiwi Pineapple Ice	IGET Legend Blueberry Blackberry Ice
Method	Analysis for drugs by GCMS	Units	Reporting Limit	23KS935	23KS936	23KS937	23KS938	23KS939	23KS940	23KS941
12792	Butyraldehyde	mg/kg	2000	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12792	2,4-Butadione	mg/kg	2000	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12792	2,3-Pentadione	mg/kg	2000	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12792	Acetoin	mg/kg	2000	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12792	Benzaldehyde	mg/kg	2000	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12792	Tolualdehyde	mg/kg	2000	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12792	Cinnamaldehyde	mg/kg	2000	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
15506*	Vitamin E acetate	mg/kg	50	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12792	Ethylene glycol	mg/kg	2000	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12792	Diethylene glycol	mg/kg	2000	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR

* Analysed by QIS 15506 - Qualitative and/or Quantitative Analysis using Liquid Chromatography Separation with Mass Spectrometer Detection (LC-Orbitrap)

CERTIFICATE OF ANALYSIS

Laboratory Reference: SSP83440
Laboratory Number: 23KS935-941

Table 4: General Organic Screen by LC-Orbitrap (Pesticides/Herbicides/Fungicides) for SSP83440

Lab No.	Sample Reference	Sample Description	Compounds detected
23KS935	1 KIRWIN	IGET Bar Strawberry Watermelon Ice	Nicotine, Vanillin
23KS936	2 KIRWIN	Vorteke Melon	Nicotine (trace), Vanillin
23KS937	3 WYNNUM	IGET Bar Strawberry Lemon Ice	Nicotine, Vanillin
23KS938	4 WYNNUM	IGET Legend Passionfruit Watermelon Ice	Nicotine, Vanillin
23KS939	5 BELLARA	IGET Bar Grape Ice	Nicotine, Vanillin
23KS940	6 BELLARA	IGET Bar Kiwi Pineapple Ice	Nicotine, Vanillin
23KS941	7 BELLARA	IGET Legen Blueberry Blackberry Ice	Nicotine, Vanillin

Table 5: General Organic Screen by GCMS (Volatile Organic Compounds) for SSP83440

Lab No.	Sample Reference	Sample Description	Compounds detected
23KS935	1 KIRWIN	IGET Bar Strawberry Watermelon Ice	Propylene glycol, Glycerin, Nicotine, 2-Isopropyl-N,2,3-trimethylbutanamide (WS-23), Benzoic acid, 3-Hexene-1-ol, Neomenthol, gamma-Decanolactone, Methyl-cinnamate, Methyl-dihydrojasmonate
23KS936	2 KIRWIN	Vorteke Melon	Propylene glycol, Glycerin, Nicotine (trace), 2-Isopropyl-N,2,3-trimethylbutanamide (WS-23), Benzoic acid, Isobutyl acetate, Ethyl lactate, 3-Hexene-1-ol, gamma-Decanolactone,
23KS937	3 WYNNUM	IGET Bar Strawberry Lemon Ice	Propylene glycol, Glycerin, Nicotine, 2-Isopropyl-N,2,3-trimethylbutanamide (WS-23), Benzoic acid, 3-Hexene-1-ol, 2-Methyl butyric acid, Dihydro-Terpineol, Alpha-Terpineol, gamma-Decanolactone, N-ethyl-Dodecamide
23KS938	4 WYNNUM	IGET Legend Passionfruit Watermelon Ice	Propylene glycol, Glycerin, Nicotine, 2-Isopropyl-N,2,3-trimethylbutanamide (WS-23), Benzoic acid, 3-Hexene-1-ol, Neomenthol, gamma-Decanolactone,
23KS939	5 BELLARA	IGET Bar Grape Ice	Propylene glycol, Glycerin, Nicotine, 2-Isopropyl-N,2,3-trimethylbutanamide (WS-23), Benzoic acid, Methyl anthranilate, Ethyl propanoate, Ethyl butanoate, 3-Hexene-1-ol, Phenethyl alcohol, Neomenthol, gamma-Decanolactone,

CERTIFICATE OF ANALYSIS

Laboratory Reference: SSP83440
Laboratory Number: 23KS935-941

Table 5: General Organic Screen by GCMS (Volatile Organic Compounds) for SSP83440

Lab No.	Sample Reference	Sample Description	Compounds detected
23KS940	6 BELLARA	IGET Bar Kiwi Pineapple Ice	Propylene glycol, Glycerin, Nicotine, 2-Isopropyl-N,2,3-trimethylbutanamide (WS-23), Benzoic acid, Methyl anthranilate, Ethyl butanoate, 3-Hexene-1-ol, 3-Hexenol acetate, Allyl caproate, N-Ethyl dodecamide
23KS941	7 BELLARA	IGET Legend Blueberry Blackberry Ice	Propylene glycol, Glycerin, Nicotine, 2-Isopropyl-N,2,3-trimethylbutanamide (WS-23), Benzoic acid, Isoamyl acetate, 3-Hexene-1-ol

CERTIFICATE OF ANALYSIS

Laboratory Reference: SSP83440
Laboratory Number: 23KS935-941

Table 6: Results for Heavy Metal analysis#

Client Reference				1 KIRWAN	2 KIRWAN	3 WYNNUM	4 WYNNUM	5 BELLARA	6 BELLARA	7 BELLARA
Sample Type				**liquid**	**liquid**	**liquid**	**liquid**	**liquid**	**liquid**	**liquid**
Sampling Time / Date				1707 04/04/2023	1712 04/04/2023	04/2023	04/2023	06/04/2023	06/04/2023	06/04/2023
Sample Description				IGET Bar Strawberry Watermelon Ice	Vorteke Melon	IGET Bar Strawberry Lemon Ice	IGET Legend Passionfruit Watermelon Ice	IGET Bar Grape Ice	IGET Bar Kiwi Pineapple Ice	IGET Legend Blueberry Blackberry Ice
Method	**Vegetation ICP-MS analysis**	**Units**	**Reporting Limit**	**23KS935**	**23KS936**	**23KS937**	**23KS938**	**23KS939**	**23KS940**	**23KS941**
12659	Aluminium	mg/kg	0.1	**0.18**	**0.47**	**0.27**	**0.68**	**0.46**	**0.43**	**0.17**
12659	Vanadium	mg/kg	0.01	**0.032**	**0.039**	**0.1**	**0.11**	**0.1**	**0.09**	**0.12**
12659	Chromium	mg/kg	0.01	**0.021**	**0.1**	**0.011**	**0.019**	**0.024**	**0.031**	< LOR
12659	Manganese	mg/kg	0.01	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12659	Iron	mg/kg	0.1	< LOR	**2.3**	< LOR	< LOR	**0.2**	**0.2**	< LOR
12659	Cobalt	mg/kg	0.01	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12659	Nickel	mg/kg	0.01	< LOR	**0.1**	< LOR	**0.02**	< LOR	< LOR	< LOR
12659	Copper	mg/kg	0.05	**0.073**	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12659	Zinc	mg/kg	0.05	**0.9**	**14**	**0.35**	**1.3**	**4.5**	**4.2**	**0.9**
12659	Arsenic	mg/kg	0.005	**0.011**	**0.018**	**0.013**	**0.019**	**0.016**	**0.012**	**0.02**
12659	Selenium	mg/kg	0.01	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12659	Strontium	mg/kg	0.01	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12659	Molybdenum	mg/kg	0.01	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12659	Silver	mg/kg	0.01	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12659	Cadmium	mg/kg	0.005	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12659	Tin	mg/kg	0.05	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12659	Antimony	mg/kg	0.01	**0.47**	< LOR	< LOR	**0.45**	**0.68**	**0.02**	**0.59**
12659	Barium	mg/kg	0.01	< LOR	< LOR	< LOR	**0.019**	**0.015**	**0.011**	**0.025**
12659	Mercury	mg/kg	0.005	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR	< LOR
12659	Lead	mg/kg	0.005	< LOR	**0.06**	< LOR	< LOR	< LOR	< LOR	< LOR

Tobacco samples were prepared for analysis by microwave digestion in nitric acid according to method QIS12659v8 "Determination of Trace Elements in Foods by ICP-MS after Microwave Digestion". This method is applicable to the determination of trace elements (Al, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Sr, Mo, Ag, Cd, Sn, Sb, Ba, Hg, Pb) in a wide variety of food samples, including plants.
The resultant digest solution was then analysed by Triple Quadrupole Inductively Coupled - Mass Spectrometer (QQQ ICP-MS) for the aforementioned list of metals using instrument method QIS27441v5 "Determination of Trace Elements in Aqueous Solutions by ICP-MS".
The Inorganic Chemistry laboratory is accredited by NATA as compliant with ISO/IEC17025 (2017) for methods QIS12659v8 and QIS12659v5. Tobacco is dried plant material and therefore aligns to herbs, vegetables and vegetable products which are included in the current scope of accreditation for the Inorganic Chemistry laboratory. Tobacco is therefore covered under the scope of accreditation.

From: David W
Sent: Monday, 15 May 2023 10:35 AM
To: Jim [redacted] Ri [redacted] U [redacted]
Subject: RE: Reports for e-cigarette fluids

FYI - The IGET website does identify that their VAPES contain nicotine.

IGET Bar Collection | Iget Vapes Australia | Free Shipping

From: Jim [redacted] health.qld.gov.au>
Sent: Monday, 15 May 2023 9:48 AM
To: David W [redacted] health.qld.gov.au>; Ri [redacted] health.qld.gov.au>; U [redacted] health.qld.gov.au>
Subject: FW: Reports for e-cigarette fluids

Dave, Ri [redacted] and U [redacted]
This is the lab report for the 7 samples collected by the Parliament committee.
U [redacted] Ri [redacted] is going to write the analysis report.
Fyi, Dave from the lab will provide the second report shortly for the additional 10 samples, see email trail below.
Cheers Jim

From: David P [redacted] health.qld.gov.au>
Sent: Friday, 12 M [redacted] 2 PM
To: Rebecca [redacted] @health.qld.gov.au>; Jim [redacted] health.qld.gov.au>
Subject: RE: Reports for e-cigarette fluids

G'day Jim, Rebecca,

Please find attached the report for the samples taken for the QP Health and Environment Committee. The LORs for some of the analyses are higher then usual as I haven't had time to run them are lower dilutions – if that's preferred/required I can do that next week.

I'll get the other report to you over the weekend along with the updated results for carbonyl analysis.

Have a good weekend.

Cheers,

David

From: Rebecca [redacted] @health.qld.gov.au>
Sent: Friday, 12 May 2023 1:49 PM
To: David P [redacted] health.qld.gov.au>; Jim [redacted] health.qld.gov.au>
Subject: Re: Reports for e-cigarette fluids

Hello David,

It's ok first things monday is fine, I don't want to ask you to come in on the weekend.

Thanks for your assistance with this
Best regards
Rebecca

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From: David P s.73 - Irrelevant information health.qld.gov.au>
Sent: Friday, May 12, 2023 1:43:31 PM
To: Rebecca s.73 - Irrelevant information s.73 - Irrelevant information @health.qld.gov.au>; Jim s.73 - Irrelevant information s.73 - Irrelevant information health.qld.gov.au>
Subject: RE: Reports for e-cigarette fluids

Hello Rebecca, Jim,

Sorry about this but I won't be able to produce both reports today. I'm going through the GCMS screening data for the e-fluids and it's more work than I'd anticipated. I'm afraid I need to leave early today at 3pm and can't get back.

I'll have the report for the samples taken for Aaron Harper MP done this afternoon but there'll be a delay for the other with the ten samples I've selected. The reports will be qualitatively similar with some differences in the volatile GCMS screens.

I'll come in Sunday morning to finish and email the second report. The second analysis for the aldehydes will be finished by then so will be able to update the data for both at that time as well.

Let me know if that's a problem as I can come in tomorrow if required.

David

From: Rebecca s.73 - Irrelevant information s.73 - Irrelevant information @health.qld.gov.au>
Sent: Friday, 12 May 2023 10:30 AM
To: David P s.73 - Irrelevant information health.qld.gov.au>; Jim s.73 - Irrelevant information 3 - Irrelevant information @health.qld.gov.au>
Subject: Re: Reports for e-cigarette fluids

Thanks David. I really appreciate the further analysis.

Jim, I will draft the associated brief and letter and update with results when you have the report drafted.

I will check back in on Monday with you all.

Cheers
Rebecca

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From: David P s.73 - Irrelevant information @health.qld.gov.au>
Sent: Friday, May 12, 2023 10:11:02 AM
To: Jim s.73 - Irrelevant information - Irrelevant information health.qld.gov.au>; Rebecca s.73 - Irrelevant information s.73 - Irrelevant information health.qld.gov.au>
Subject: Reports for e-cigarette fluids

G'day Jim, Rebecca,

As per our conversation this morning Rebecca, I'll release two reports today; one for the samples taken on behalf of Aaron Harper MP and the other for the ten selected samples we've previously analysed. These may be amended

early next week when I rerun the carbonyl analysis at lower dilution. The amendments if required will be for that section of the report only.

Jim, the report contact I have for the QP Health & Environment Committee samples is Louise O'Neil of Qld Health Cabinet and Parliamentary Services, do you want it sent to her as well or will you be summarising it into a more digestible form and handing it on?

Cheers,

David

David P
Senior Chemist
Organics Laboratory
Forensic and Scientific Services
Prevention Division Queensland Health
p s.73 - Irrelevant information
a 39 Kessels Road Coopers Plains Qld 4108
e s.73 - Irrelevant information@health.qld.gov.au **w** **www.health.qld.gov.au/fss**

Queensland Health acknowledges the Traditional Owners of the land, and pays respect to Elders past, present and emerging.

David W

From: Jim
Sent: Monday, 15 May 2023 12:35 PM
To: David W; U
Cc: Ri
Subject: FW: Reports for e-cigarette fluids
Attachments: SSP83440_QH_EnvCommittee_Report_Amended.docx; SSP83440_QH_EnvCommittee_Report_Amended.pdf

Fyi…

From: David P health.qld.gov.au>
Sent: Monday, 15 May 2023 12:31 PM
To: Jim <@health.qld.gov.au>; Ri health.qld.gov.au>
Subject: RE: Reports for e-cigarette fluids

G'day Jim,

Attached is the amended report from Friday with the updated carbonyl analysis. I've also attached the word document for cutting and pasting.

I'm still working through the GCMS screens for the ten selected samples – I'll get that report to you in the next hour or two.

David

From: Jim @health.qld.gov.au>
Sent: Monday, 15 May 2023 10:41 AM
To: David P health.qld.gov.au>; Ri health.qld.gov.au>
Subject: RE: Reports for e-cigarette fluids

Hi David, is it possible to get the lab results in an excel spreadsheet form?
Cheers Jim

From: David P health.qld.gov.au>
Sent: Monday, 15 May 2023 9:57 AM
To: Jim health.qld.gov.au>; Rebecca @health.qld.gov.au>
Subject: RE: Reports for e-cigarette fluids

G'day Jim,

Yes I'm working on it now. I didn't end up coming in yesterday… I'll get it to you around midday.

Cheers,

David