Nicotine use in adolescence is associated with impaired brain development, affecting parts of the brain related to attention, learning, mood, and susceptibility to future addiction.

It is impossible for users to know what they are vaping.

Cooling agents may make inhaling high doses of nicotine easier which increases the risk of nicotine poisoning and dependence.

Banned substances included ethylene glycol, a harmful chemical used in anti-freeze and engine coolant.

Tampering with vapes increases the risk of nicotine poisoning and risk of burns as a result of devices exploding.

Vapes are designed to target children by using appealing flavours and product features. Fruit flavoured vapes are particularly common in schools.

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**What?**

NSW Health collaborated with the University of Wollongong to conduct the NSW e-cigarette analysis project. The project aimed to enhance understanding of e-cigarette devices ('vapes') available in NSW, and to inform future awareness campaigns and enforcement activities.

**Methods**

- 750 vapes analysed for nicotine and other harmful substances
- 428 provided by NSW Health
- 322 collected from nine high schools across Sydney

**Results**

Of the 322 devices collected from schools, there were 22 models, 15 brands, and 97 flavours. Key findings include:

1. 97.5% of vapes contained high concentrations of nicotine.
2. Most vapes did not mention the word nicotine but did contain nicotine.
3. Contained cooling agents.
4. 3.7% contained substances banned by the TGA for use in e-cigarettes.
5. 22.7% of vapes had been tampered with, possibly to refill or recharge.
6. 89.9% of vapes used by students were fruit flavoured.

**Why does this matter?**

1. Nicotine use in adolescence is associated with impaired brain development, affecting parts of the brain related to attention, learning, mood, and susceptibility to future addiction.
2. It is impossible for users to know what they are vaping.
3. Cooling agents may make inhaling high doses of nicotine easier which increases the risk of nicotine poisoning and dependence.
4. Banned substances included ethylene glycol, a harmful chemical used in anti-freeze and engine coolant.
5. Tampering with vapes increases the risk of nicotine poisoning and risk of burns as a result of devices exploding.
6. Vapes are designed to target children by using appealing flavours and product features. Fruit flavoured vapes are particularly common in schools.

**References**

1. Centre for Population Health. NSW E-Cigarette Analysis Project - Summary Report. 2023

Updated 2 November 2023
# NSW E-cigarette Chemical Analysis Project

## Resources

### School staff

- **Video:** Vaping and young people - PDHPE curriculum resources to address vaping, NSW Department of Education
- **Website:** Vaping resources for teachers, Illawarra Shoalhaven LHD
- **Podcast:** The Research Files Episode 84: Empowering young people to prevent e-cigarette use, Teacher Magazine (ACER)

### Students

- **Video:** Dr Karl’s vape truths, Queensland Government
- **Website:** All about e-cigarettes, Your Room
- **Podcast:** E-cigarettes (vaping) and young people, RACGP and NSW Health

### Parents

- **Video:** E-cigarettes and teens, The Royal Children’s Hospital Melbourne
- **Website:** Electronic e-cigarettes and vaping: factsheet, Positive Choices
- **Podcast:** How to talk to teens about vaping, ABC

### For more information

- **Website:** The Vaping Information Hub, Northern Sydney LHD
- **Website:** Do You Know What You’re Vaping? Toolkit, NSW Health
- **Website:** The Unpacking Vaping in Schools Project, PERU
- **Email:** catriona.lockett@health.nsw.gov.au, Research Officer, PERU