



IN THE CORONERS COURT  
OF VICTORIA  
AT MELBOURNE

**COR 2022 005920**

**FINDING INTO DEATH WITHOUT INQUEST**

*Form 38 Rule 63(2)*

*Section 67 of the Coroners Act 2008*

Findings of:	Deputy State Coroner Paresa Antoniadis Spanos
Deceased:	AJ
Date of birth:	1 April 1992
Date of death:	15 October 2022
Cause of death:	1(a) Immersion in the setting of alcohol consumption and nitrous oxide use
Place of death:	9 Booran Parade, Tootgarook, Victoria, 3941
Key Words:	Nitrous oxide; Accidental Death; Nangs; Drowning.

## INTRODUCTION

1. On 15 October 2022, AJ was 30 years old when he was found deceased in a pool at an Airbnb property in Tootgarook in circumstances suggestive of drowning. At the time, Mr AJ lived in Preston, Victoria.
2. Mr AJ was born in 1992 in Cairo, Egypt to mother CJ. Sadly, Mr AJ never knew his father who passed away before he was born. Mr AJ had two younger half siblings, a brother and a sister. Mr AJ and his mother emigrated to Australia when he was only a few months old and settled in the Fitzroy area. Both he and his family were heavily involved in the local Ethiopian Tigrayan community.
3. Mr AJ is remembered by family and friends as a protecting, caring, and loving young man. At the time of his death, Mr AJ was employed with the Darebin City Council as a youth social worker working with disadvantaged children. He enjoyed playing basketball, socialising, and was a keen surfer who was confident in the water.
4. Mr AJ attended multiple General Practitioners (GPs) at the Dundas Street Clinic in Thornbury. Medical records suggest that apart from a history of mild asthma, Mr AJ was not known to have any significant underlying natural disease.

## THE CORONIAL INVESTIGATION

5. Mr AJ's death was reported to the Coroner as it fell within the definition of a reportable death in the *Coroners Act 2008* (the Act). Reportable deaths include deaths that are unexpected, unnatural or violent or result from accident or injury.
6. The role of a coroner is to independently investigate reportable deaths to establish, if possible, identity, medical cause of death, and surrounding circumstances. Surrounding circumstances are limited to events which are sufficiently proximate and causally related to the death. The purpose of a coronial investigation is to establish the facts, not to cast blame or determine criminal or civil liability.
7. Under the Act, coroners also have the important functions of helping to prevent deaths and promoting public health and safety and the administration of justice through the making of comments or recommendations in appropriate cases about any matter connected to the death under investigation.

8. Victoria Police assigned Senior Constable Natalie Burgess (**SC Burgess**) to be the Coroner's Investigator for the investigation of Mr Aklilu's death. The Coroner's Investigator conducted inquiries on my behalf, including taking statements from witnesses – such as family, the forensic pathologist, treating clinicians and investigating officers – and submitted a coronial brief of evidence.
9. This finding draws on the totality of the coronial investigation into the death of AJ including evidence contained in the coronial brief. Whilst I have reviewed all the material, I will only refer to that which is directly relevant to my findings or necessary for narrative clarity. In the coronial jurisdiction, facts must be established on the balance of probabilities.<sup>1</sup>

## **MATTERS IN RELATION TO WHICH A FINDING MUST, IF POSSIBLE, BE MADE**

### **Identity of the deceased**

10. On 15 October 2022, AJ, born 1 April 1992, was visually identified by his family friend, FN, who signed a formal Statement of Identification to this effect.
11. Identity is not in dispute and requires no further investigation.

### **Medical cause of death**

12. Forensic Pathologist Dr Judith Fronczek, from the Victorian Institute of Forensic Medicine (**VIFM**), conducted an examination on 19 October 2022, and provided a written report of her findings dated 2 February 2023.
13. The post-mortem examination showed no natural disease that could have caused or contributed to death. A post-mortem computerised tomography (**CT**) scan was performed which showed no intracranial haemorrhage, no skull fractures, fluid in sinuses, brain swelling, and bilateral enhanced lung markings.
14. Routine toxicological analysis of post-mortem samples detected ethanol (alcohol) at a blood concentration of 0.11 g/100 mL. Cocaine<sup>2</sup> metabolites were detected in urine samples.

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<sup>1</sup> Subject to the principles enunciated in *Briginshaw v Briginshaw* (1938) 60 CLR 336. The effect of this and similar authorities is that coroners should not make adverse findings against, or comments about, individuals unless the evidence provides a comfortable level of satisfaction as to those matters taking into account the consequences of such findings or comments.

<sup>2</sup> Cocaine is an alkaloid found in the leaves of *Erythroxylon coca* and is abused for its stimulant properties.

According to Dr Fronczek, this indicated that cocaine was being eliminated from the body. The prescription medication, lignocaine,<sup>3</sup> was also detected in urine samples but not blood.

15. Dr Fronczek advised that testing for nitrous oxide exposure is not possible at the Victorian Institute of Forensic Medicine as it is a volatile and ubiquitous gas.
16. Dr Fronczek provided an opinion that the medical cause of death was *1(a) immersion in the setting of alcohol consumption*. I note that Dr Fronczek could not verify the contribution of nitrous oxide to the death and therefore omitted it from her formulation of the cause of death.
17. I accept Dr Fronczek's report and, as will be seen below, intend making a formal coronial finding that Mr AJ's death was caused by *1(a) immersion in the setting of alcohol consumption and nitrous oxide use*.

### **Circumstances in which the death occurred**

18. On the afternoon of 14 October 2022, Mr AJ and his friends arrived at an Airbnb which they had rented in Tootgarook, a small town on the Mornington Peninsula. There were eight men in the group of friends, and they were all celebrating a buck's weekend for soon to be groom, Mr ML.
19. The Airbnb property the group rented in Tootgarook was a two-storey property with three bedrooms and space for nine people. The front deck of the property had an inbuilt deck pool with a spa. The pool was a rectangular shape and wholly contained within it was the spa section, which was a smaller rectangular shape. The pool and spa are fenced off from the remainder of the deck and property.
20. Throughout the evening, Mr AJ and his friends consumed several mixed alcoholic drinks. According to other members of the group, Mr AJ brought with him a box of nitrous oxide cannisters (colloquially known as 'nangs' and hereby referred to as '**nitrous oxide**') which Mr AJ and the others inhaled throughout the evening. According to members of the party, Mr AJ purchased the nitrous oxide earlier that day from his local IGA supermarket.
21. At around 10.00 pm, Mr AJ and several other members of the buck's party headed to the Continental Hotel in Sorrento where they continued to drink, dance, socialise and otherwise have a good time.

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<sup>3</sup> Lignocaine (lidocaine) is an amide local anaesthetic and antiarrhythmic drug.

22. In the early hours of 15 October 2022, Mr AJ and the members of the group returned to the Airbnb in Tootgarook. They dispersed throughout the house with Mr AJ and the groom Mr ML entering the pool.
23. Closed circuit television (CCTV) obtained from the property shows Mr AJ and Mr ML inhaling nitrous oxide while in the pool. At the relevant time, Mr AJ is seen wading through the main section of the pool, whereas Mr ML is in the separated spa section.
24. At 2.14 am, the footage shows Mr AJ inhale nitrous oxide, pass the device to Mr ML, before seemingly losing consciousness in the water. After losing consciousness, Mr AJ quickly became submerged in the water and sank to the bottom of the pool. At the same time, Mr ML is depicted reaching for a replacement nitrous oxide cannister, apparently unaware that his friend has gone under the water.
25. Half an hour later at 2.45 am, three of the other group members enter the fenced pool area and notice that Mr AJ is nowhere to be seen. At this time, Mr ML is still in the spa section of the pool. The three men outside the water quickly spot Mr AJ unresponsive at the bottom of the pool and raise the alarm. Mr ML immediately swims over to his friend, dives to the bottom of the pool and returns Mr AJ to the surface.
26. The men extract Mr AJ from the water and onto the deck. They immediately commence cardiopulmonary resuscitation (CPR) and contact emergency services.
27. Fire Rescue Victoria members were the first to arrive minutes later and continued CPR. Ambulance Victoria paramedics arrived a short time later at 2.58 am and on their arrival, they assumed primary care of Mr AJ. Attending paramedics intubated Mr AJ and administered multiple doses of adrenaline intravenously to no effect.
28. Tragically and despite all efforts, Mr AJ was unable to be revived and at 3.20 am on 15 October 2023, resuscitation was ceased and Mr AJ was formally verified deceased.
29. Victoria Police attended the Airbnb and conducted a search of the scene a short time later. Police discovered a number of used and unused nitrous oxide cannisters and did not identify anything to suggest that Mr AJ had died in suspicious circumstances.
30. Following Mr AJ's death, a Council Officer from the Mornington Peninsula Shire Council attended the Airbnb property in Tootgarook where Mr AJ passed away. The Council Officer

examined the pool and its surroundings and found that the safety barriers were compliant with the current safety standards.

## FINDINGS AND CONCLUSION

31. Pursuant to section 67(1) of the *Coroners Act 2008* I make the following findings:
  - a) the identity of the deceased was AJ, born 1 April 1992;
  - b) the death occurred on 15 October 2022 at 9 Booran Parade, Tootgarook, Victoria, 3941;
  - c) the cause of Mr AJ's death was immersion in the setting of alcohol consumption and nitrous oxide use; and
  - d) the death occurred in the circumstances described above.
32. I direct the Principal Registrar of the Coroners Court of Victoria to notify the Registrar of Births, Deaths and Marriages of the change required to be made to the registered cause of death of Mr AJ in accordance with the above finding.
33. The available evidence, including the CCTV footage, supports a finding that Mr AJ's nitrous oxide misuse caused him to become submersed in the water in the early hours of 15 October 2022 and subsequently drown.
34. The available evidence supports a finding that Mr AJ died from misadventure involving the use of alcohol, nitrous oxide and proximity to a body of water.
35. The evidence does not suggest there was any suspicious circumstances in Mr AJ's death.

## COMMENTS

Pursuant to section 67(3) of the Act, I make the following comment:

1. Accidental deaths directly linked to recreational nitrous oxide use<sup>4</sup> rarely occur in Victoria. The Coroners Prevention Unit (CPU)<sup>5</sup> advised that a total of six such deaths occurred in

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<sup>4</sup> I use the term "recreational" here neutrally to describe non-clinical use of nitrous oxide for its psychoactive effects.

<sup>5</sup> The CPU was established in 2008 to strengthen the coroners' prevention role and assist in formulating recommendations following a death. The CPU is comprised of health professionals and personnel with experience in a range of areas including medicine, nursing, mental health, public health, family violence and other generalist non

Victoria between 1 January 2000 and 19 May 2023, with four (including Mr AJ's death) occurring after 2018.

2. While rare, the impact of these deaths on loved ones is profound and traumatic, and justifies consideration of potential prevention opportunities.

#### *How recreational use of nitrous oxide can lead to death*

3. Nitrous oxide is an odourless, colourless gas. When inhaled, it is rapidly absorbed by the body and produces a rush of euphoria, heightened consciousness and disassociation that includes both anaesthetic and sedative components. Nitrous oxide does not interact strongly with most other drugs, and its effects only last for about a minute after inhalation. These properties make nitrous oxide a suitable mild anaesthetic and anxiolytic in surgical and dental settings, as well as a desirable recreational drug; nitrous oxide has been used both clinically and recreationally for more than two centuries.<sup>6</sup>
4. Nitrous oxide is considered to be a relatively safe drug. While there is some evidence it may have a positive reinforcing effect on users (ie using it produces pleasant effects that make the person more likely to use it again), it does not appear to be nearly as addictive as most drugs of dependence. Furthermore, its serious toxic effects - primarily neurogenic symptoms such as peripheral neuropathy, spinal cord degeneration, loss of balance, impaired memory and cognition, and lower limb weakness caused by vitamin B-12 deficiency - result only from chronic use.<sup>7</sup>
5. However, as the tragic circumstances of Mr AJ's death demonstrate, the way in which nitrous oxide is used can present serious risks. In particular, if a person concentrates and inhales nitrous oxide in a quantity sufficient to lose consciousness, and they are subsequently unable to breathe oxygen-containing air, they may fatally asphyxiate. Most Victorian deaths in a setting of nitrous oxide inhalation occurred because the person was using a mask of some type

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clinical matters. The unit may review the medical care and treatment in cases referred by the coroner, as well as assist with research related to public health and safety.

<sup>6</sup> Allan J, et al, "A Systematic Review of Recreational Nitrous Oxide Use: Implications for Policy, Service Delivery and Individuals", *International Journal of Environmental Research and Public Health*, 19(18), September 2022, 11567; Jay M, "Nitrous oxide: recreational use, regulation and harm reduction", *Drugs and Alcohol Today*, 8(3), September 2008, pp.22-23.

<sup>7</sup> Gillman MA, "Nitrous Oxide, an Opioid Addictive Agent: A Review of the Evidence", *American Journal of Medicine*, 81(1), July 1986, pp.100-101; Gillman MA, "Nitrous Oxide Abuse in Perspective", *Clinical Neuropharmacology*, 15(4), 1992, p.304; Doran M, et al, "Toxicity after intermittent inhalation of nitrous oxide for analgesia", *British Medical Journal*, 328, 5 June 2004, p.1364; Weimann J, "Toxicity of nitrous oxide", *Best Practice and Research in Clinical Anaesthesiology*, 17(1), 2003, pp.57-58; Gable R, "Comparison of acute lethal toxicity of commonly abused psychoactive substances", *Addiction*, 99(6), 2004, p.692.

to assist in inhaling the nitrous oxide: they lost consciousness while still wearing the mask, and continually re-inhaled the contents of the mask leading to asphyxia. On the advice of the CPU, Mr AJ's death is the only such death since 2000 in Victoria where respiration post-use of nitrous oxide was compromised by immersion.<sup>8</sup>

### *Regulation*

6. Nitrous oxide sold for clinical use is classified as a Schedule 4 poison in the Commonwealth's Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP, commonly referred to as the Poisons Standard). This means that in Victoria it can only be accessed via prescription from a registered medical practitioner.
7. Nitrous oxide sold for non-clinical purposes, - for example as a whipping agent for food, or an additive to boost oxygen supply in combustion engines, - is subject to far less regulation than clinical nitrous oxide. It is classified as a Schedule 6 poison in the Poisons Standard, and therefore in Victoria there are no restrictions on who is authorised to supply or sell it.
8. Section 58 of the Drugs Poisons and Controlled Substances Act 1981 (Vic) (the DPCS Act) establishes an offence for a person to sell nitrous oxide<sup>9</sup> in Victoria if they know or reasonably ought to have known or have reasonable cause to believe that the other person intends:
  - a) To use the substance by drinking, inhaling, administering or otherwise introducing it into his body; or
  - b) To sell or supply the substance to a third person for use by that third person in a manner mentioned in paragraph (a).
9. However, the practical utility of this legislation for preventing people from accessing nitrous oxide for recreational purposes would appear to be low or non-existent. Mr AJ purchased nitrous oxide cannisters from his local supermarket and, although there is no evidence as to whether he was asked why he was purchasing the cannisters, he would only have needed to state that he was making whipped cream for the sale to be permitted under the DPCS Act.

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<sup>8</sup> I note recent news reports about a similar death that occurred in a Queensland spa; see Webster K and Cansdale D, "Man drowns in Surfers Paradise spa after inhaling 'nangs', police say", *ABC News*, 20 February 2023, <<https://www.abc.net.au/news/2023-02-20/man-drowned-at-surfers-paradise-spa-after-inhaling-nangs/101997266>>, accessed 19 December 2023.

<sup>9</sup> As it falls under the definition of a 'deleterious substance' per section 57 of the DPCS Act.



10. Further to this point, the CPU drew my attention to a number of Australian websites that offer nitrous oxide cannisters for sale online. Such websites are readily accessible via internet search, are littered with references to ‘nangs’, are open 24 hours per day offering delivery within the hour; and hint (with varying degrees of subtlety) at their products being suitable for recreational use.
11. In short, while it is illegal to sell nitrous oxide for recreational use in Victoria, anybody who wishes to access the substance can do so.

#### *Efforts to tighten regulation over access to nitrous oxide*

12. In December 2020, in response to concerns about harms associated with the recreational (mis)use of nitrous oxide, the Therapeutic Goods Administration (TGA) announced a public consultation process for a proposed amendment to the Poisons Standard, which would create a new Schedule 10 entry for nitrous oxide in small cannisters (ie nangs). The effect of a Schedule 10 listing would have been that small cannisters of nitrous oxide are essentially banned from sale.
13. In March 2021, the TGA determined not to proceed with a Schedule 10 listing for several reasons (including a concern it may drive recreational users to more dangerous types of nitrous oxide use). Instead, the TGA resolved to schedule nitrous oxide under Schedule 6 for non-therapeutic use such that it is required to be sold with a warning label about the dangers of nerve damage when inhaled.
14. In South Australia, the Controlled Substances (Poisons) (Nitrous Oxide) Variation Regulations were introduced in 2019, creating an offence to sell or supply nitrous oxide to people under the age of 18, or to sell nitrous oxide between the hours of 10pm and 5am. The impact of this approach is not yet known, and the feasibility of policing it in the context of a competitive national online nitrous oxide marketplace is unclear.

#### *User education*

15. The TGA review of nitrous oxide was well-considered and thorough, and I have no reason to doubt its conclusion that essentially, there are no clear opportunities at present to reduce nitrous oxide related harms through new regulation. I note that instead of recommending new regulation, the TGA recommended a user education measure: a warning about risks of using the substance.

16. User education is an important component of drug harm reduction approaches. The underlying principle is that people will use drugs regardless of any legal or regulatory hurdles, so it is important for them to understand the risks entailed in drug use as well as countermeasures they can implement to reduce or otherwise manage associated harms. A recent Australian-authored systematic review of research into recreational nitrous oxide use noted there was evidence that potential harms are not well understood by users, and that education should be considered to increase awareness of these risks.<sup>10</sup>
17. The tragic circumstances of Mr AJ's death highlight one such risk that all recreational users of nitrous oxide could potentially be taught: reduced consciousness or unconsciousness can result from nitrous oxide inhalation, so users must ensure they are in an environment where this will not create a danger to life.
18. I therefore invite the Victorian Department of Health to consider whether there is any opportunity for targeted education about the risks of nitrous oxide use and how they can be managed.

I convey my sincere condolences to Mr AJ's family for their loss.

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<sup>10</sup> Allan J, et al, "A Systematic Review of Recreational Nitrous Oxide Use: Implications for Policy, Service Delivery and Individuals", *International Journal of Environmental Research and Public Health*, 19(18), September 2022, 11567.

## PUBLICATION OF FINDING

Pursuant to section 73(1B) of the Act, I order that this finding be published on the Coroners Court of Victoria website in accordance with the rules.

## DISTRIBUTION OF FINDING

I direct that a copy of this finding be provided to the following:

The senior next of kin

Department of Health

Therapeutic Goods Administration

Senior Constable Natalie Burgess, Victoria Police, Coroner's Investigator

Signature:



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Paresa Antoniadis Spanos

Deputy State Coroner

Date: 5 January 2024

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NOTE: Under section 83 of the *Coroners Act 2008* ('the Act'), a person with sufficient interest in an investigation may appeal to the Trial Division of the Supreme Court against the findings of a coroner in respect of a death after an investigation. An appeal must be made within 6 months after the day on which the determination is made, unless the Supreme Court grants leave to appeal out of time under section 86 of the Act.

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