



# ASSIST

AUSTRALIAN SCHOOL SCIENCE  
INFORMATION SUPPORT FOR  
TEACHERS AND TECHNICIANS

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## Portable bunsen burners

Posted by Anonymous on Tue, 2015-08-04 15:34

Portable Bunsen burners: In August 2013, a Qld Dept Education Health and Safety Consultant advised us that the Australian Gas Association (AGA) and Qld Petroleum and Gas Inspectorate have decided that the puncture-type C206 disposable gas canisters that fuel clip-on Bunsen burner attachments are not suitable for use in schools indoors or outdoors.

I cannot find any documentation from any of these organisations that detail this decision. Could you advise that portable Bunsens should not be used?

### Voting:



No votes yet

### Year Level:

7

8

9

10

Senior Secondary

### Laboratory Technicians:

Laboratory Technicians

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## Portable bunsen burners

Submitted by sat on 14 August 2015

Answer reviewed 30 January 2023

We have confirmed with the Queensland Department of Education and Training that it consulted with the Australian Gas Association (responsible for accredited gas product certification in Australia) and the Qld Petroleum and Gas Inspectorate in 2013 (i.e., the Regulator for gas safety in Qld) regarding the use of portable gas fuel canisters with clip-on Bunsen burner attachments in schools. The outcome of this consultation was that these bodies informed DET that such combinations of devices are not suitable for use in schools.

This was the advice that was sent out by the Queensland Department of Education and Training:

### **Can schools use portable Bunsen burners fuelled by disposable gas canisters?**

The Australian Gas Association (AGA) and the Queensland Petroleum and Gas Inspectorate have advised that puncture-type C206 disposable gas canisters that fuel clip-on Bunsen burner attachments are **not suitable** for use in schools. This is because the canisters are certified for outdoor camping and leisure use only. This certification is based on maximising safety levels from potential gas leakage as use in outdoor areas provides lower risk because there is greater natural ventilation.

The Regulator has also advised that it is inappropriate to use the Bunsen fitting on a canister and take it outside to conduct activities. This is because the Bunsen appliance is designed for indoor use and users of such appliances are required to stay within the design requirements of the equipment when using it. Outdoor use of the Bunsen may affect its performance and significantly increase safety risks associated with its operation.

Schools may like to consider using electric hotplates as an alternative portable heating device when considering the purchase of curriculum resources.

### **Science ASSIST does not recommend the use of the puncture-style portable Bunsen's burners.**

In this type of portable Bunsen burner, the burner assembly is clamped on top of the canister and is used to puncture it. The potential for gas leakage is high with this type of canister, sometimes occurring when the puncture procedure is faulty or not performed correctly, or if the burner assembly is removed before the canister is empty. As the canister has no valve or sealing mechanism, the canister cannot be safely removed from the burner until empty. The puncture-style portable Bunsen burners can pose the following significant risks to users.

- Explosion: Removal of the burner assembly prior to the canister being empty has the potential risk of a fireball or explosion if: the burner is in operation, there is a nearby source of ignition, or the burner is still hot.
- "Cold burns" The cooling caused by the rapid loss of gas could cause 'cold' burns if the canister is being handled.
- Tipping over: The height to width ratio of the burner assembly when attached to the canister enables it to be tipped over easily. If in use, this presents a fire risk, especially as there is no master safety shutoff as in a plumbed in gas supply.

### **References**

AGA. (2022). Welcome to AGA. Retrieved from AGA: <https://www.aga.asn.au/> (Accessed 30 Jan 2023)

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<https://www.business.qld.gov.au/industry/mining/safety-health/petroleum-gas> (Accessed 30 Jan 2023)

Science ASSIST. (2019, June 20). *AIS: Portable Bunsen burners*. Retrieved from the Science ASSIST website: <https://assist.asta.edu.au/resource/4185/ais-portable-bunsen-burners> (Accessed 30 Jan 2023)

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