FACT SHEET

Safe transport of uranium

Who is Cauldron Energy?

Cauldron Energy Ltd (Cauldron) is an Australian mineral exploration and resource development company listed on the Australian Securities Exchange (ASX:CXU). The company focuses on exploring uranium, a resource that is critical to the nuclear power renaissance occurring globally.

Cauldron's flagship project is the world-class Yanrey Uranium Project located in northern Western Australia (WA), which encompasses three separate uranium deposits – Bennet Well, Manyingee South and Manyingee North. In addition, Cauldron holds several sand tenements in the Onslow region of WA.

Subject to policy change in WA, Cauldron proposes to mine uranium via the in-situ recovery (ISR) mining method at Yanrey.

For further information, see our factsheet: 'In-situ recovery mining of uranium'.

How is uranium transported?

Uranium leaves a mine as uranium oxide concentrate, a dry powder often called 'yellowcake'.

The uranium oxide concentrate is sealed in steel drums, packed inside shipping containers and moved by truck or rail to a port for loading onto ships. Only two Australian ports are currently approved for uranium exports: Port Adelaide in South Australia (SA) and Darwin in the Northern Territory (NT).[1] Cauldron intends to export out of Adelaide, with potential local export in the future.

Under international transport rules, uranium oxide concentrate is classed as 'low specific activity' material: radioactive material with only a limited amount of radioactivity for its weight.[2, 3]

> **Uranium oxide concentrate has the lowest classification of radioactive material, according to the World Nuclear Transport Institute.[3]**

From the mine to the ship

1. **Processed** – Uranium is recovered and dried at the mine
2. **Packed in drums** – Sealed in labelled steel drums
3. **Loaded** – Drums are secured in containers
4. **Moved to the port** – By truck or rail along approved routes
5. **Shipped overseas** – From Port Adelaide or Darwin



A drum of uranium concentrate (Source: World Nuclear Transport Institute)



Drums of uranium concentrate secured inside a shipping container (Source: World Nuclear Transport Institute)

1. Government of South Australia 2026. 'Uranium in South Australia'. Accessed November 2026. **2.** Environment Protection Authority South Australia 2019. 'Uranium oxide concentrate (UOC) transport requirements for safe transport in South Australia'. Accessed November 2026. **3.** World Nuclear Transport Institute 2025. 'Uranium Ore Concentrate Transport'. Accessed November 2026.

Why is uranium oxide concentrate safe to transport?

Uranium oxide concentrate is safe to transport because it is low in radioactivity, chemically stable and packed to strict international standards set by the International Atomic Energy Agency, United Nations, and the International Maritime Organization.[5]

Low radioactivity
Radioactive, but only at relatively low levels.

Chemically stable
Does not burn, dissolve or react in water.

Strong packaging
Sealed steel drums secured inside containers.

Monitored
Radiation and contamination are checked.

> **There is a common misconception that uranium oxide concentrate is highly radioactive. This is incorrect – it is low in radioactivity.[6, 7]**

Regulating transport of uranium in Australia

Uranium oxide concentrate has been transported routinely in Australia since the 1980s by road, rail and sea from uranium mining sites in South Australia and the Northern Territory.[8]

Uranium transport is regulated by strict international rules, the Australian Government and the State or Territory Government where it travels. Companies that move uranium must also meet their own obligations.[5, 8, 9]

INTERNATIONAL
The International Atomic Energy Agency (IAEA) regulations, United Nations recommendations on dangerous goods and the International Maritime Dangerous Goods Code set the global standard.

AUSTRALIAN GOVERNMENT
The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Code for the Safe Transport of Radioactive Material adopts the IAEA rules. The Australian Safeguards and Non-proliferation Office (ASNO) issues permits, the Australian Border Force controls exports and the Australian Maritime Safety Authority covers shipping.

STATE AND TERRITORY
In South Australia, the Environment Protection Authority (EPA) regulates road and rail transport. In the Northern Territory, a licence is required from NT WorkSafe.[10]

COMPANIES
Mining companies and carriers must have a transport management plan, trained and assessed workers, emergency response arrangements and detailed records.

Case study: transport of uranium in South Australia

South Australia's mines send uranium oxide concentrate to export ports at Port Adelaide and Darwin.[11] The system combines strong regulation, detailed planning and trained people. This involves:

- Transport management plans that are reviewed by the EPA, SA Police, the Metropolitan and Country Fire Services, SafeWork SA and the Department of the Premier and Cabinet, then endorsed by Cabinet
- Advance notice to emergency services and regulators before every movement
- Trained and assessed workers, with drivers required to report any loss, damage or leak straight away. Fire services or police take control of an incident, with radiation advice from the EPA.

> **South Australia's Environment Protection Authority reports an excellent safety record for uranium oxide concentrate transport in Australia, with no incidents putting workers, communities or the environment at risk.[8]**

30+ years — South Australia's record of safe uranium handling and transport[11]

2 ports — Port Adelaide and Darwin are the only Australian ports approved for uranium exports[11]

7 days — Advance notice given to emergency services and regulators for every movement in South Australia[8]



Uranium oxide concentrate transport by road in South Australia (Source: ASNO).[12]

5. World Nuclear Transport Institute 2025. 'Q&A session on "Best Practice for Transport of Uranium Ore Concentrates"'. Accessed November 2026. **6.** World Nuclear Transport Institute 2022. 'Safe Transport of Uranium Ore Concentrates (fact sheet)'. Accessed November 2026. **7.** Uranium Council Transport Working Group 2012. 'Guide to Safe Transport of Uranium Oxide Concentrate'. Accessed November 2026. **8.** Environment Protection Authority South Australia 2019. 'Uranium oxide concentrate (UOC) transport requirements for safe transport in South Australia'. Accessed November 2026. **9.** Australian Radiation Protection and Nuclear Safety Agency 2026. 'Transport radioactive material within Australia'. Accessed November 2026. **10.** Australian Government Business Licence and Information Service 2026. 'Licence to Transport or Store Radioactive Material – Northern Territory'. Accessed November 2026. **11.** Government of South Australia 2026. 'Uranium in South Australia'. Accessed November 2026. **12.** Australian Safeguards and Non-Proliferation Office 2019. 'ASNO Annual Report 2018-19, Output 1.2: Nuclear Security'. Accessed November 2026.

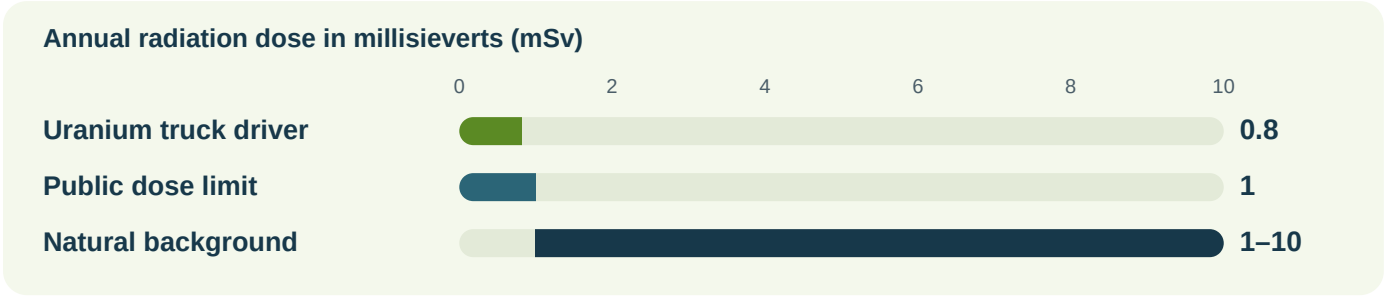


Port Adelaide, South Australia. Uranium oxide concentrate is moved from mine site by truck or rail to either Port Adelaide in South Australia or Darwin in the Northern Territory. Source: Flinders Ports.

How much radiation does a uranium truck driver receive?

Radiation dose is measured in millisieverts (mSv). The dose that people receive from transported uranium oxide concentrate is very small. The World Nuclear Transport Institute estimates that a driver making 100 eight-hour trips a year between Olympic Dam and Port Adelaide would receive about 0.8 mSv a year.[13]

That is below the public dose limit of 1 mSv a year, the most extra radiation a member of the public can receive in a year from regulated activities. Workers have a higher limit of 20 mSv a year.[14] Everyone also receives natural background radiation from rocks, soil and space, typically about 1 to 10 mSv a year depending on where they live. For comparison, a return flight from Melbourne to London delivers about 0.11 mSv[15] and a chest CT scan about 6.6 mSv.[13]



Community exposure and uranium transport

Radiation from a truck loaded with uranium oxide concentrate is practically undetectable four or five metres away, blending into normal background levels.[13]

Transport of uranium in Western Australia

Western Australia already regulates the transport of radioactive materials under the Radiation Safety (Transport of Radioactive Substances) Regulations 2002, which adopt the national Code for the Safe Transport of Radioactive Material.[16]

Subject to policy change in WA, Cauldron proposes to mine uranium at Yanrey using ISR. If that were allowed, uranium oxide concentrate from WA would be transported under the same international and national requirements that have applied in SA and the NT for decades, together with approvals from WA regulators.

Contact us

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13. World Nuclear Transport Institute 2025. 'Uranium Ore Concentrate Transport'. Accessed November 2026. **14.** Australian Radiation Protection and Nuclear Safety Agency 2026. 'Occupational exposure: Dental workers'. Accessed November 2026. **15.** Australian Radiation Protection and Nuclear Safety Agency 2026. 'What is background radiation?'. Accessed November 2026. **16.** Australian Government Business Licence and Information Service 2026. 'Code of Practice for the Safe Transport of Radioactive Material – Western Australia'. Accessed November 2026.