Department of **Mines and Petroleum**
Department of **Commerce**
Department of **Health**

GOVERNMENT OF WESTERN AUSTRALIA

INFORMATION SHEET

Frequently asked questions on cracker dust

1. What is cracker dust?

Cracker dust, also known as quarry fines, comes from the crushing of aggregate during the quarrying process. Cracker dust is used throughout the Pilbara, and sourced from a number of quarries. It is used around mine sites for lining trenches, as road base, and in landscaping, footpaths, car parks and children's playground surfaces.

2. What are fibrous minerals?

For the purposes of controlling asbestos contamination, the Mines Safety and Inspection Regulations 1995 define a countable fibre as having a maximum width of 1 micrometre or less and length exceeding 5 micrometres. Fibrous minerals only present a hazard if fibres of respirable size become airborne.

Fibrous minerals occur naturally in many rock formations in the Pilbara.

3. Does cracker dust have fibrous minerals in it?

Some batches of crushed material from two quarries in the Pilbara have been found to contain actinolite that meets the regulatory definition of a fibre.

The Department of MInes and Petroleum has audited the remaining quarries throughout Western Australia and found that fibre contamination is not an issue. Nevertheless, the Department will continue to monitor existing sites and new projects as they develop.

4. What is actinolite?

Actinolite is an amphibole mineral that is fibrous in some geological settings. Further investigation into the nature of actinolite particles in Pilbara cracker dust found that they were cleavage fragments formed during the crushing process. These cleavage fragments can be easily distinguished from asbestos fibres.

5. Is this type of actinolite associated with asbestos-related disease?

No. The actinolite cleavage fragments are much less significant in relation to potential health concerns than naturally occurring fibrous actinolite.

6. What are the risks of exposure to these fibres?

Exposure monitoring results gathered during air monitoring programs at quarries and mine sites show that the levels of exposure from airborne mineral fibres are below the national occupational exposure standard and therefore present a low health risk. Existing dust controls at these workplaces will also protect against exposure to fibres.

A health risk assessment of public exposure to cracker dust in urban environments, initiated by the Department of Health, found that the potential exposure of the public is likely to be of low frequency, duration and impact.

A slightly higher risk is allocated to children potentially exposed to cracker dust by playing directly on the material in a playground. As a result, a precautionary approach is recommended in the independent report, and cracker dust should not be used in playgrounds.

7. What is a national occupational exposure standard?

The national occupational exposure standard (or level) is the airborne concentration of a particular substance within a worker's breathing zone that the person can be exposed to on a daily basis for a working lifetime without an increased risk of adverse health effects. For actinolite fibres, this is 0.1 fibres per millilitre per eight hour shift. Diseases related to fibrous minerals (e.g. asbestos) normally involve concentrations hundreds of times greater than this level.

8. What do the air monitoring results tell you?

Personal air monitoring is where an air sample is collected at the worker's breathing zone to assess the level of their exposure to a contaminant throughout a work day. The results are compared to the national occupational exposure standard to determine if there is a health risk.

9. I have been exposed to cracker dust – should I be concerned?

No. The risk of adverse health impacts is low. This is based on industry monitoring of workplace exposures.

10. Is there a risk associated with other Pilbara quarry products like ballast and aggregate?

No. Ballast and large aggregate have a larger crush size than cracker dust and therefore present an even lower risk.

11. Where can I get more information?

Contact the supplier of the material and request a Material Safety Data Sheet (MSDS).

Refer to the guideline on managing fibrous minerals in Western Australian mining operations, which is available in the Resources Safety section of the Department of Mines and Petroleum website (visit **www.dmp.wa.gov.au/ResourcesSafety**) or contact the relevant company personnel (e.g. supervisor, OSH officer, safety and health representative).

The Department of Health has a guidance note on public health risk management of asbestiform minerals associated with mining (visit **www.public.health.wa.gov.au/3/1143/2/asbestos_in_the_home.pm**). The Department's Toxicology Section can be contacted for risk management advice in the case of potential public or private residential exposure situations, such as from the use of cracker dust in landscaping.

Safe Work Australia has a national code of practice for the management and control of asbestos in the workplace [NOHSC: 2018 (2005)] (visit **www.safeworkaustralia.gov.au**).

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