

Stockton chromium results confirm no health risk to residents

16 August 2011

This factsheet provides details of the samples collected in the Stockton community between 9 and 12 August 2011 to test for the presence of hexavalent chromium (chromium VI) following an incident at the Orica plant on Kooragang Island on 8 August. A total of 71 samples were analysed. Chromium VI could not be detected in 60 samples and low levels of chromium VI were detected in 11 samples.

Key messages

1. Chromium VI was not detectable in the vast majority of samples. No chromium was detected in the 5 samples from the child care centre in Barrie Crescent.
2. When detected, chromium VI was at low levels that do not represent a risk to the health of Stockton residents.
3. Chromium VI was only detected in the area identified as most likely to be exposed when the initial risk to residents was assessed considering the prevailing wind.
4. The concentrations of chromium VI detected are consistent with expectations based on the amount of chromium VI estimated to have been released outside the plant.
5. Chromium VI converts to a much safer, naturally occurring form of chromium (III) within 10 days of contact with the environment.
6. Residents of Stockton within the area bounded by Fullerton Street, Griffith Avenue, Barrie Crescent and Flint Street (six block area) should follow the simple precautionary measures previously advised until Friday 19 August. No precautionary measures are required after this date.
7. The Office of Environment and Heritage has defined an outer area larger than the confirmed affected area in the Clean Up Notice issued to Orica. This is a precautionary approach to not limit Orica's area of responsibility in relation to any cleanup activities that may be required.

Detailed sample results

Seventy-one samples were analysed; 35 surface swabs, 16 soil samples, 12 vegetation samples, 1 bird sample and 7 water samples. The levels of chromium VI for the 11 samples with chromium detected are summarised below:

Type of sample	Sample details	Chromium VI concentration
Surface swab	7 samples from external surfaces: sign, mailbox, boat, fence, window, door, switchboard	0.003 µg/cm ² , 0.007 µg/cm ² , 0.019 µg/cm ² , 0.028 µg/cm ² , 0.35 µg/cm ² , 0.58 µg/cm ² , 1.1 µg/cm ²
Vegetation	2 samples of tree leaves	0.6 mg/kg, 0.8 mg/kg
Water	1 rainwater tank sample 1 bird bath sample	0.012 mg/L (total chromium 0.013 mg/L) 0.049 mg/L (total chromium 0.059 mg/L)

The chromium concentration is expressed in different units for each type of sample. The Australian Drinking Water Guidelines set the acceptable level of chromium VI in drinking water at 0.05 mg/L. Both water samples were below this guideline level and neither water sample was

from a source intended for human consumption. Skin contact with chromium at these concentrations does not pose a risk to health.

The two water samples with chromium detected were collected immediately south of the six-block area. Multiple other tests of soil, vegetation and surface swabs outside the six block area detected no chromium. Residents in these areas do not need to take any additional precautionary measures. Tap drinking water from Hunter Water is unaffected. Extensive sampling has not detected chromium in any other areas of Stockton.

Results are available at the Office of Environment and Heritage website:
<http://www.environment.nsw.gov.au/>

Sample locations

This map shows the location for each sample collected.

Samples with no chromium detected are marked with green dots.

Samples with chromium detected are marked with other colours:

Surface swabs with pink dots; water samples with blue dots and vegetation samples with orange dots.

Legend - Sampling Points

- Detected - Swab
- Detected - Vegetation
- Detected - Water
- Not detected



Conclusion

The testing results have been considered in detail by an expert panel which included Professor Alison Jones, an independent expert clinical toxicologist. Professor Jones has advised that the levels of chromium VI in these samples from Stockton are very low and that these results confirm that there is no health risk to the residents of Stockton from the release of chromium VI on Monday 8 August.

For more information see: <http://www.health.nsw.gov.au/whatsnew/orica.asp>

For further information please contact:

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Regulatory Support: Office of Environment and Heritage on 131555