PRESS RELEASE

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Black is the New Green for Roads

In what may be a world first, recovered carbon black (rCB) from end-of-life recycled tyres has been used as a substitute for hydrated lime in a new range of asphalt products.

A new, environmentally sustainable range of asphalt mixes has been created and tested as a replacement for virgin resources and broadening use of Entyr's tyre derived products.

"We are always looking for innovative ways to make roads safer and more sustainable. These mixes not only improve road safety but also lower emissions from the point of manufacturing through to the laying of the asphalt," said Materials and Performance Portfolio Leader for the National Transport Research Organisation (NTRO) Petar Davcev.

"We have assessed and tested Entyr's recovered carbon black in both the laboratory and on surfaced roads over the past two years with all results showing superior sustainability. To use rCB as a potential substitute for hydrated lime in asphalt is a win for environment and community," said Mr Davcev.

Hydrated lime (calcium hydroxide) is commonly used as a modifier in creating high performance asphalt pavements, but the mining and manufacturing process has serious negative environmental consequences.

"We know that hydrated lime manufacturing produces considerable CO_2 emissions so to be able to replace it in asphalt manufacturing with our rCB - which is actually proven to lower emissions throughout the asphalt production – the potential to substitute and impact on lowering emissions is incredibly exciting," said CEO of Entyr David Wheeley.

"Our assessment shows that for every tonne of tyres we process, we save ~0.5 tonnes of CO_2 emissions. For every tonne of hydrated lime made there is a negative CO_2 impact," said Mr Wheeley.

Research cites that the production of one tonne of calcium hydroxide generates around 1.2 tonnes of CO_2, contributing to about 1% to the global anthropogenic CO_2.[1]

"While we are yet to verify if this is world's first, we are not aware of anyone through our patent networks that has successfully replaced the use of lime in asphalt without compromising on quality and actually improving superiority of their products," said Mr Wheeley.

"Our collaboration with Entyr allows us to research and test improved road products which lower emissions and leave virgin resources in the earth – contributing to improvements on industry best practice," said Mr Davcev.

It is anticipated that this new mix will be applied to Queensland roads soon following the recent conditional approval for use by the Queensland Department of Transport and Main Roads.

[1]Laveglia, A. Sambataro, L. Ukrainczyk, N. De Belie, N. Koenders,E. (2022, July 30) *Journal of Cleaner Production*. Vol 369, 1 October 2022, 133224. https://www.sciencedirect.com/science/article/abs/pii/S0959652622028116

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