


Deepening our understanding of tyre and road wear particles

Tyre and road wear particles (TRWP) are microparticles generated by the interaction of tyres with road surfaces. Through the SCaW Hub, the IP2 researchers are gaining a deeper understanding of TRWP sources, sinks and characteristics, adding to our work in creating a protocol for analysing microplastics.

- Tyre particles account for **~28%** of global microplastic pollution.
- In 2022-23, **760,000 tonnes** of tyres were consumed.
- **545,000 tonnes** of tyres were disposed of or recovered.
- Tyre particles pose environmental and health risks due to their composition.



TRWP can end up in our soil and environment via airborne particles or rain water runoff

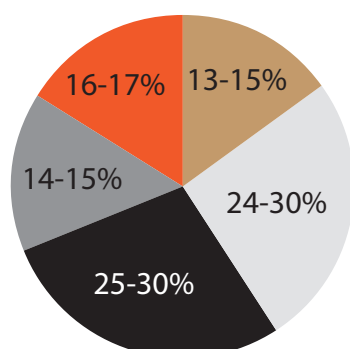
TRWP can end up in our marine environments via airborne particles or rain water runoff



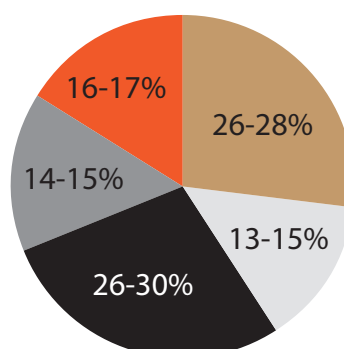
TRWP sources include
Tyre Treads,
Road Markings and
Bitumen Binders

Typical Tyre Composition

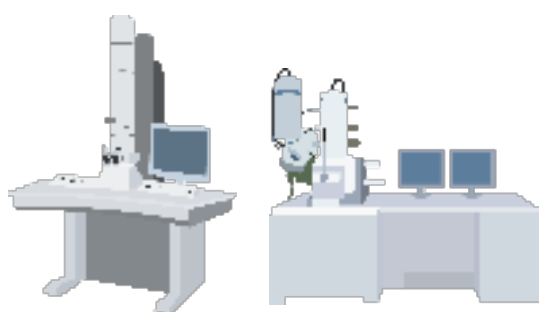
Passenger Tyre New:
11kg
Scrap: 9 kg



Truck Tyre
New: 54 kg
Scrap: 45 kg



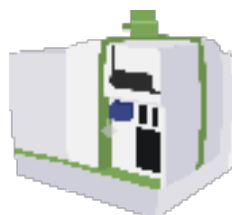
Microplastic Analytical Techniques



Light-based Microscopy and Electron Microscopes help visually assess the shape, size and surface morphology



Different Spectroscopy techniques like Raman and FTIR allow for polymer and additives identification



Spectrometry such as ICP-MS and GC-MS decompose the material to analyse the elements that are present, enabling a deeper understanding of the composition, additives and degradation pathways

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The SCaW Hub is funded by the Australian Government under the National Environmental Science Program.

To find out more, see our full report,

[IP2.02.01 Report on Investigating Tyre and Road Wear Particles.pdf](#)