

# 6PPD-Quinone

For decades, researchers have been attempting to find the source of the mass coho salmon die offs in the Pacific Northwest of North America. They have finally found the culprit and this compound is found on roadways all over the world, in the form of car tyre fragments.

6PPD-quinone comes from its parent molecule, 6PPD, which is an additive found in tyre production that prevents degradation<sup>1</sup>. Once 6PPD interacts with ozone, the harmful by-product called 6PPD-quinone is formed (Figure 1). This anti-oxidant chemical is estimated to be more than 100 times as toxic as 6-PPD<sup>1</sup>, and ultimately ends up in important migratory streams through stormwater runoff.

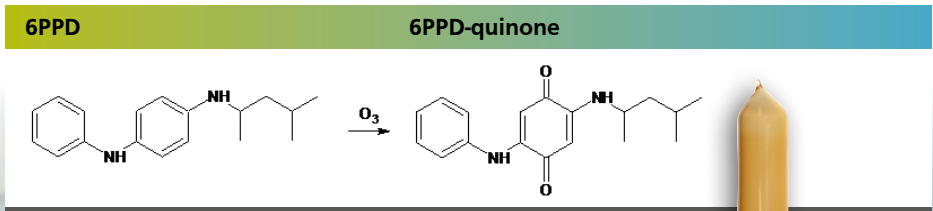
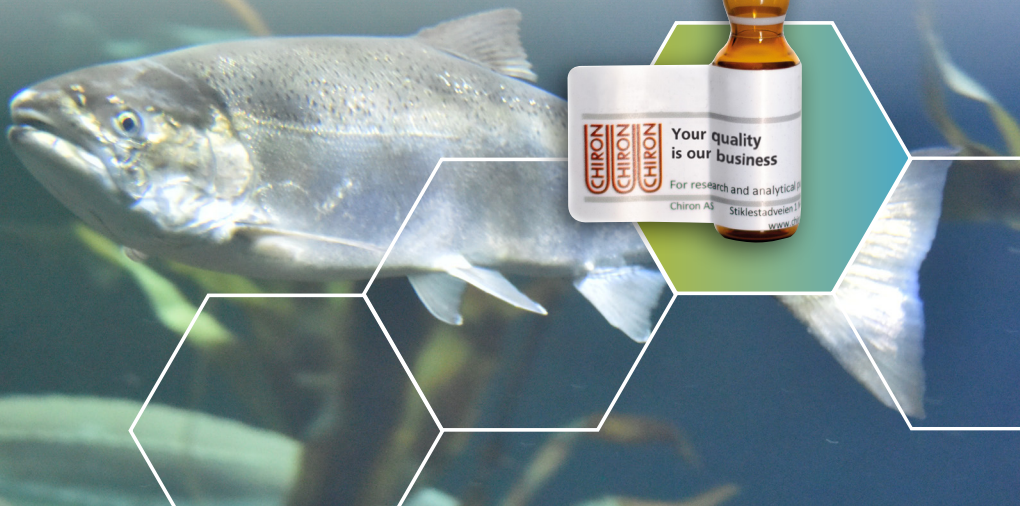


Figure 1. Formation of 6PPD-quinone from 6PPD





Coho salmon have been exposed to this compound in a lab and they have shown the same symptoms that field researchers have been seeing for years like surface gaping, swimming in circles, equilibrium issues, and death<sup>2</sup>. Studies have shown that 40–90% of Coho Salmon die before

spawning while migrating through urban waterways<sup>3</sup>. More studies are being conducted on the deadly effects 6PPD-quinone has on coho and other fish populations. Interest is also being aimed at other species in the food web, including humans. One thing is certain, 6PPD-quinone will have the attention of researchers globally as we attempt to find out more about its toxic effects.

### Chiron is proud to offer:

<b>14685.18-100MG</b>	<b>6PPD</b>	neat	100 mg
<b>14686.18-100-AN</b>	<b>6PPD-quinone</b>	100 µg/mL in Acetonitrile	1 mL
<b>14686.18-5MG</b>	<b>6PPD-quinone</b>	neat	5 mg
<b>14686.18-10MG</b>	<b>6PPD-quinone</b>	neat	10 mg
<b>14740.18-100-AN</b>	<b>6PPD-quinone-d5</b>	100 µg/mL in Acetonitrile	1 mL
<b>14740.18-5MG</b>	<b>6PPD-quinone-d5</b>	neat	5 mg

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## References

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2. Z. Tian et al., (2020) A ubiquitous tire rubber–derived chemical induces acute mortality in coho salmon. Science. 371 (6525) pp. 185-189.
3. Alla Katsnelson. (2020) Tire-derived chemical kills salmon [Online]. C&EN. Available from <https://cen.acs.org/environment/pollution/Tire-derived-chemical-kills-salmon/98/web/2020/12>



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