

A recurrence for A363870.

$$9*(3922n^4-22260n^3+47263n^2-44484n+15659)(3n-1)^2*(3n-2)^2n^2*a(n) =$$
$$2*(46695332n^{10}-405113556n^9+1528810051n^8-3296903772n^7+4489777532n^6-$$
$$4027484310n^5+2406987303n^4-945493014n^3+233484034n^2-32727000n+1980000)*a(n-1) +$$
$$9*(3922n^4-6572n^3+4015n^2-1050n+100)(n-1)^2(3n-4)^2(3n-5)^2a(n-2)$$

with $a(0) = 1$ and $a(1) = 7$.

Peter Bala, 27 Jun 2023