Let $V$ be a variety of algebras, and let $S$ be term-equivalent to the variety of semilattices. We show that if $V$ satisfies a strongly irregular identity then the Maltsev product $V \circ S$ will again be a variety. (In particular, it will be closed under homomorphic images.) By contrast, the class $S \circ S$ is not closed under homomorphic images. Members of $V \circ S$ are called *semilattice sums of $V$-algebras*. We provide some examples. (Received September 13, 2019)