

EQUIVALENCE À LA MUNDICI FOR LATTICE-ORDERED MONOIDS

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ABSTRACT. Mundici proved that the category of unital ℓ -groups is equivalent to the category of MV-algebras. We provide a generalization: the category of *unital ℓ -monoids* is equivalent to the category of what we call *MMV-algebras* (for *Monoidal MV-algebras*), which is a finitely based variety of finitary algebras. Roughly speaking, unital ℓ -monoids are unital ℓ -groups without the unary operation $x \mapsto -x$; a set of primitive operations is given by $+, \vee, \wedge, 0, 1, -1$. Analogously, MMV-algebras are MV-algebras without the negation $x \mapsto \neg x$; a set of primitive operations is given by $\oplus, \odot, \vee, \wedge, 0, 1$. We obtain the original Mundici's equivalence as a corollary.