

ISOTOPES OF HYDROGEN Hydrogen has three naturally occurring isotopes, denoted 1H , 2H and 3H . Department of Chemistry 15 Ortho and Para hydrogen Ortho hydrogen para hydrogen Ordinary dihydrogen is an equilibrium mixture of ortho and para hydrogen Ortho hydrogen Para hydrogen The amount of ortho and para hydrogen varies with temperature as: At 0°K , hydrogen contains mainly para hydrogen which is more stable. IONIC OR SALINE HYDRIDES o These are stoichiometric compounds of dihydrogen formed with most of the s-block elements which are highly electropositive in character. IONIC OR SALINE HYDRIDES o These are stoichiometric compounds of dihydrogen formed with most of the s-block elements which are highly electropositive in character. These hydrides conduct heat & electricity though not as efficiently as their parent metals do. Unlike saline hydrides, they are almost non-stoichiometric, being deficient in hydrogen. Deuterium and its compounds are used as a non-radioactive label in chemical experiments and in solvents for 1H -NMR spectroscopy. 20 Department of Chemistry COVALENT OR MOLECULAR HYDRIDE Dihydrogen forms molecular compounds with most of the p-block elements