



The tetra-coordinated new nickel compound, an orange-red solid, decomposes at 100 °C. At room temperature it is stable in air. Solutions in chlorinated hydrocarbons (e.g., CH<sub>2</sub>Cl<sub>2</sub> and CHCl<sub>3</sub>) decompose rather fast with formation of black solids; the compound is slightly soluble in alcohol and insoluble in hydrocarbons.

<sup>1</sup>H n.m.r. and i.r. spectra are recorded in Table I; analytical data are given in Table II.

### Experimental

#### *Ethylenebis(diphenylphosphine)dihydrogensulfide-nickel(II), (diphos)Ni(SH)<sub>2</sub>*

To a solution of 0.28 g (5.00 mmol) sodium hydrogensulfide (prepared from 5.00 mmol NaOEt and hydrogensulfide [6]) in 25 ml ethanol and 10 ml benzene are added 1.30 g (2.50 mmol) (diphos)NiCl<sub>2</sub> under N<sub>2</sub> atmosphere; the suspension slowly turned orange-red. After stirring for 24 h, filtration, washing with water, ethanol and n-hexane, the product was dried.

#### *Ethylenebis(diphenylphosphine)dihydrogensulfide-palladium(II), (diphos)Pd(SH)<sub>2</sub>*

Synthesis and treatment like (diphos)Ni(SH)<sub>2</sub>: 0.28 g (5.00 mmol) sodium hydrogensulfide, 1.44 g (2.50 mmol) (diphos)PdCl<sub>2</sub>.

#### *Bis(triphenylphosphine)dihydrogensulfideplatinum(II), (PPh<sub>3</sub>)<sub>2</sub>Pt(SH)<sub>2</sub>*

Synthesis and treatment like (diphos)Ni(SH)<sub>2</sub>, in addition, boiling under reflux: 0.28 g (5.00 mmol) sodium hydrogensulfide, 1.98 g (2.50 mmol) (PPh<sub>3</sub>)<sub>2</sub>-PtCl<sub>2</sub>.

### References

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