05. PHYSICAL PROPERTIES AND STRUCTURE

05.1—65 STRUCTURAL STUDY OF THE N-ISOPROPYLOCARBAZOLE PHASE TRANSITION. By F. Baert and A. Mierzejewski, U.S.R. de Physique Fondamentale, U.S.T.L., 39655 Villeneuve d'Ascq, France.

The N-isopropylocarbazole is a piezoelectric solid suitable for piezoelectric transducers and pyroelectric detectors. The compound can be considered as a linearly polarizable molecule with a high degree of symmetry. The molecule has a planar geometry with the nitrogen atom in the center of a square, with the carbon and hydrogen atoms on the corners.

The compound is known to undergo a phase transition at 130 °C, which is accompanied by a change in the crystal structure. The transition is first order and involves a change in the lattice parameters and the unit cell volume. The high temperature phase is characterized by a monoclinic crystal structure with space group P21/n, while the low temperature phase has a trigonal structure with space group P3121.

05.1—66 PHASE TRANSITIONS IN BETAINES. By P. Bartuska, M. Simerská, and P. Bartuska, Institute of Physics, Czechoslovak Academy of Sciences, 180 00 Prague, Czechoslovakia.

Several simple amino carboxylic acids form dielectrically interesting substances. The structure of the compound depends on the phase transition temperature and the crystal structure.

In general, the transition temperatures are lower for the monoclinic phases than for the trigonal phases. The monoclinic phase is usually the high temperature phase, while the trigonal phase is the low temperature phase.

The phase transition can be induced by a variety of methods, including heating, cooling, and pressure. The transition temperature can be controlled by changing the temperature or pressure.

The phase transition is accompanied by a change in the crystal structure, which results in a change in the dielectric properties of the compound. The transition is often accompanied by a change in the optical properties, such as the optical activity.

05.1—67 TRANSFORMATION PROCESSES IN AL—Zn-Cu ALLOY. By M. Simerska and P. Bartuska, Institute of Physics, Czechoslovak Academy of Sciences, 180 00 Prague, Czechoslovakia.

Al—Zn—Cu alloys are of interest because of their high strength and ductility. The transformation processes in these alloys are complex and depend on a variety of factors, including the composition, temperature, and cooling rate.

The alloys can undergo a variety of transformations, including solid-state transformations and phase transformations. The solid-state transformations are often induced by a change in the phase sequence, which results in a change in the crystal structure.

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