INTERNATIONAL UNION
OF PURE AND APPLIED CHEMISTRY

CZECH CHEMICAL SOCIETY

**1998 PRAGUE MEETINGS ON macromolecules**

18th DISCUSSION CONFERENCE

# MECHANICAL BEHAVIOUR OF POLYMERIC MATERIALS

PRAGUE, 20 - 23 JULY 1998

INSTITUTE
OF MACROMOLECULAR CHEMISTRY
ACADEMY OF SCIENCES
OF THE CZECH REPUBLIC

# PC15

## STUDY OF THE SOLUBILITY IN WATER OF $CuSO_4$ IMPREGNATED IN POLYMERIC TABLETS

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To study the solubility of the copper sulphide in water, different types of tablets were prepared from different polymers with different percentages of $CuSO_4$. The tablets were left in water for some days and the amount of $CuSO_4$ released from the tablets was determined by measuring the absorbency of the final solution.

In the first phase of this work 10 samples were prepared, corresponding to two similar sets. The results from these two sets were not much different, and similar samples registered approximately the same amount of $CuSO_4$ in the water.

By the seventh day more than the maximum amount of $CuSO_4$ expected was already registered in the solution, meaning that all the copper sulphide present had been transferred from the tablets to the water.

To try to get some more information about the influence of various factors on the solubility of the $CuSO_4$, another experiment was carried out and more tablets of different sizes and from different polymers were prepared.

From the results obtained it was possible to take some conclusions regarding the way both factors, thickness and type of polymer, influence the release of the copper sulphide from the tablets.

Table 1 – Degree of solubility of the $CuSO_4$.

| Polymer code | Type of tablet | % of solubility at last day |
|---|---|---|
| P - 300 | Thin | > 100 |
| | Thick | > 100 |
| P - 700 | Thin | 87 |
| | Thick | 51 |
| P - 767 | Thin | 75 |
| | Thick | 37 |
| Capa 650 | Thin | 76 |
| | Thick | 32 |