

IUPAC Project Progress Report

Date : December 2005 ; Period: July 2005 – February 2006

Project Number: 2002-036-1-500

Project Title: Solubility data of compounds relevant to human health. Solubility of hydroxybenzoic acids and hydroxybenzoates

Task Group Leader: Ayako Goto and Hiroshi Miyamoto

Report:

1. Projected completion data(documents ready for external review:

All of the solubility data of hydroxyl benzoic acids and hydroxybenzoates have been compiled. A total of 440 original studies treating ternary systems published from 1898 to 2001 have been carried out. The solubilities of hydroxyl benzoic acids and alkyl p-hydroxybenzoates in water and in various alcohols could be statistically evaluated at various temperatures.

2. Have the project objectives been modified during the last 6months?

Now I am writing a manuscript to submit to Journal of Physical and Chemical Reference Data.

3.Please list task group members involved in the work during the 6 months.

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4.Difficulties encountered (or concerned):

I don't have sufficient time to finish the paper, but our group will continue to make an effort.

5.Please lists the to-date results(outputs) of the project.

The solubilities of hydroxyl benzoic acids and alkyl p-hydroxybenzoates

In water and in various alcohols.

In nonaqueous solvents

In amides solvent.

6.Please list the dissemination events(viz.articles, CD, Conference presentations; etc)

There are no events.

7.If your project is within 6months of completion,how do you plan to utilize any remaining budget for this project.?

We have not got any budget for our project, though we asked for some budget last year. We would like to get some budget for our project hereafter. If possible, we hope to get some traveling expense for our group,

8.Work on this project may have identified new problems, issues, challenges, emerging topics, opportunities for related projects, etc. Please indicate these here so that the Division can follow up on them.

Recently, the possibilities of nanotechnology have been focused, but at the same time the effect of nano-sized particles on human health have been feared. Especially, the fullerene, carbon-nano-tubes and TiO₂ should be remarked. ISO as well as OECD are starting their standardization, and Japanese government is organizing the project.

I believe that it is very important to study the solubilities of fullerene, carbon-nano-tubes and TiO_2 in various solvents. The makers argue that fullerene and carbon nano-tubes will give hardly any risks to human health because they are easily condensed. However, this argument is sometimes doubtful. The publication of reliable data for their solubilities will play an important role to provide eventually secure markets for nanotechnology.