

Group Report Technical Support Group - August 2012

Group Update

User Experiment Preparation Laboratory II – Soft Matter and Biomaterials (User Lab II)

The CROSS-Tokai User Lab II (IQBRC Rm B403) has been open since April 2012. Information about the laboratory and the available facilities can now be viewed on the CROSS-Tokai website (<http://www.cross-tokai.jp/en/facilities/others/index.shtml>) .

In recent months, the equipment and facilities in User Lab II have been enhanced to facilitate the preparation of liquid samples. For detailed information about the equipment, apparatus and reagents that are available to users, please see the above URL and follow the link.

Anyone wishing to make use of User Lab II is requested to contact the Laboratory Administrator, [Dr Toshiyuki Yamashita](#), in advance. .

Safety Rules for Chemicals Handling Strengthened

To ensure the safety of CROSS-Tokai users and staff, new rules and guidelines have been developed for the handling of chemicals in User Lab II.

Table 1 below lists the type that classes of chemicals that may be handled in the User Lab II. Table 2 summarizes the handling requirements for harmful chemicals.

Table 1: Summary of Chemical Handling Rules for User Lab II

Type of Chemical	Examples	Handling Rules for User Lab II
Radioactive materials	uranium, technetium, ^{14}C , ^{32}P etc.	May <i>not</i> be used
Harmful chemicals	potassium cyanide, formaldehyde, mercury etc.	May be used
Harmless chemicals	sodium chloride, calcium chloride, ethanol etc.	May be used

Table 2: Handling Rules for Harmful Chemicals in User Lab II

Type of Chemical	Examples	Handling Rules for User Lab II
Poisonous materials	sodium cyanide, nitrobenzene, acrylamide, hydrogen peroxide etc.	Volatile and powder materials are to be used in the fume hood

Organic solvents	acetone, chloroform, methanol, octanol, <i>n</i> -hexane, ethyl acetate etc.	All organic solvents are to be used in the fume hood
Designated chemical substances	benzene, mercury, hydrochloric acid, hydrofluoric acid, ammonia, sodium hydroxide* etc.	Volatile and powder materials are to be used in the fume hood

Non-volatile or solid chemicals, for example cadmium plate and sodium hydroxide, can be used anywhere in User Lab II.

Whenever handling dangerous materials, protective equipment should be worn. If in need of any protective equipment, please contact the Laboratory Manager, [Mr Kazuhiro Akutsu or Makoto Kobayashi](#), in advance.

Use of User Lab II

Some examples of the work carried out in User Lab II between April and July are shown below.

Preparation of liquid samples for small angle neutron scattering experiments (BL15 <i>TAIKAN</i>)	Check and select a single crystal for neutron diffraction experiment (BL18 <i>SENJU</i>)
Preparation of a neutron reflectivity sample by electrodeposition method (BL17 <i>SHARAKU</i>)	Preparation of a neutron diffraction sample by annealing method (BL19 <i>TAKUMI</i>)

The range of available reagents and equipment in User Lab II will continue to expand in the future in response to the needs of the user community.

Detailed information about User Sample Preparation Laboratory I

Information about User Lab I will be presented in a future Group Report.