

# NSRRC EXPERIMENTAL SAFETY APPROVAL FORM

Beamline		Starting date		Ending date	
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Proposal title: \_\_\_\_\_

Proposal number : \_\_\_\_\_

Co-experimenters:

Name	Affiliation	Phone number

Emergency contact person: \_\_\_\_\_ Phone: ① \_\_\_\_\_ ② \_\_\_\_\_

Materials to be used\*:

Materials classification:(S) sample (C) chemical (G) gas												
Name	S	C	G	Quantity brought in	Quantity planned to use	Unit	Hazard property					
							none	toxic	flammable	corrosive	explosive	biohazard

\* I confirm the quantity and hazard property of the Materials. Do not leave blank. If hazardous materials are used, MSDS must be prepared. If Announced Toxic Chemicals are used, copies of Application Certificate must be provided.

Equipments to be used\*\*:

Name of equipment	Equipment classification					
	cryogenics	furnace	high pressure	laser	high voltage	other
①						
②						
③						
others						

\*\* I confirm specify the equipment, e.g. end station or detector, and its possible hazard. Do not leave blank.

Safety concerns and precautions†:

No  Yes, please explain.

† I confirm that the quantity and hazardous property of materials and equipment are truthfully reported. I also confirm that all the participants have completed safety training and are aware of possible hazards associated with this experiment and its safety operation procedures. I will audit the experiment with full compliance with the NSRRC safety regulations.

P.I. Signature : \_\_\_\_\_

Date : \_\_\_\_\_

Beamline manager and spokesperson's comments:	Safety officer's comments and approval:

## Note:

- \* List all the materials including samples, chemicals and gases brought to NSRRC and describe their quantities. Hazard properties, if known, should be indicated with check mark in this form.
- \*\* List major equipments and check their classification.
- † Describe hazard controls and standard operation procedure.

## Hazard Class Definitions:

**Hazard:** Any existing or possible condition that, by itself or through interaction with other conditions, has the capacity to cause death, injury, illness, property damage, unacceptable environmental impact, or other losses.

**Toxic:** Having the capacity to cause death, illness, or diminished function. A material that meets one or more of the following criteria should be considered toxic:

- Has a published LD<sub>50</sub> (Lethal Dose 50%) equal to or less than 0.5 g/kg of body weight.
- Has a published LC<sub>50</sub> (Lethal Concentration 50%) equal to or less than 1000 ppm.
- Has an OSHA permissible exposure limit (PEL) or ACGIH Threshold Limit Value (TLV) equal to or less than 5000 ppm.
- Has an OSHA PEL or ACGIH TLV equal to or less than 10 mg/m<sup>3</sup>.

**Flammable:** Susceptible to ignition during storage, normal handling, or use. The term includes, but is not necessarily limited to:

- All materials that ignite spontaneously when exposed to air.
- All gases easily ignited in atmospheres containing approximately 21% oxygen.
- All liquids having a flashpoint below 100°F (38°C).
- All combustible solids and liquids having a physical form that makes them easily ignitable if dispersed into ambient atmospheres.

**Corrosive:** Substances, by chemical action, can burn and destroy living tissues or other materials when brought in contact.

**Explosive:** Material that produces a sudden, almost instantaneous release of pressure, gas and heat when subjected to abrupt shock, pressure, or high temperature.

**Biohazard:** An agent of biological origin (e.g., all infectious organisms, their toxins, allergens of biological origin, and genetic fragments) that has the capacity to cause ill-effects in humans. Agents are classified into four Risk Groups (RGs) according to their relative pathogenicity for healthy adult humans by the following criteria: (1) Risk Group 1 (RG1) agents are not associated with disease in healthy adult humans. (2) Risk Group 2 (RG2) agents are associated with human disease which is rarely serious and for which preventive or therapeutic interventions are *often* available. (3) Risk Group 3 (RG3) agents are associated with serious or lethal human disease for which preventive or therapeutic interventions *may be* available. (4) Risk Group 4 (RG4) agents are likely to cause serious or lethal human disease for which preventive or therapeutic interventions are *not usually* available.

**Other:** Can include oxidizers, carcinogens, and any other hazard not listed.

Additional Information