

Beamline Hazard Analysis - Beamline X21

LS-BHA-X21

Revision: 02

Effective: 10/17/11

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The following tasks are included in the beamline safety review. Any operations not listed here, or performed by others than those listed, need additional review by ES&H personnel and/or beamline personnel.

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Tasks / Equipment	Performed by:		Controls
	Beamline Staff	Users	
Inert compressed gas	Y	Y	<ul style="list-style-type: none"> Compressed gas training – TQ-COMPGAS1 or NSLS User training Transport cylinders using a cylinder cart Properly secure cylinders Wear safety glasses with side shields while connecting lines Leak check gas lines
Toxic compressed gases	Y	Y	<ul style="list-style-type: none"> Compressed gas training – TQ-COMPGAS1 or NSLS User training Transport cylinders using a cylinder cart Properly secure cylinders Use small quantities or a ventilated gas cabinet Wear safety glasses with side shields while connecting lines Leak check gas lines
Solvents	Y	Y	<ul style="list-style-type: none"> Limit quantities at beamline to < 250 ml Use PPE - safety glasses, nitrile gloves
Pouring cryogen \leq 5L	Y	Y	<ul style="list-style-type: none"> Use goggles Long pants and sleeves - avoid clothing which can trap cryogen (pockets, cuffs) Cryogen or heavy gloves Enclosed shoes Never pour from above chest level
Using the LN2 Fill Station or pressurized transfer	Y	Y	<ul style="list-style-type: none"> LS-PROC-LN2FILL-MANL training for fill station Use full face shield along with goggles or safety glasses Long pants and sleeves - avoid clothing which can trap cryogen (pockets, cuffs) Cryogen or heavy gloves Enclosed shoes
Liquid helium transfer	Y	Y	<ul style="list-style-type: none"> Use full face shield along with goggles or safety glasses Long pants and sleeves - avoid clothing which can trap cryogen (pockets, cuffs) Cryogen or heavy gloves Enclosed shoes

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			<ul style="list-style-type: none"> • Use guidance/checklist from PRM 5.1.0
Ergonomics concerns – moving/lifting	Y	N	<ul style="list-style-type: none"> • Be aware of body posture, • Ask for help in moving or lifting
Ergonomics concerns – awkward postures	Y	N	<ul style="list-style-type: none"> • Be aware of body posture • Take frequent breaks
Working at heights	Y	Y	<ul style="list-style-type: none"> • Be aware of body posture, training
Beryllium use			<ul style="list-style-type: none"> • Handle articles with gloves, • Leave area and contact OpCo if damaged
Material Handling/Crane	Y	N	<ul style="list-style-type: none"> • Training
Cutting/razor blades	Y	Y	<ul style="list-style-type: none"> • Be aware of hand positioning • Use safety knife when possible • Consider using cut resistant gloves for frequent cutting tasks