

Bringing Irradiated Samples to DESY

1. Introduction

This document summarizes all items to fulfill the administrative and radiation safety requirements for using irradiated samples at DESY by users at the DESY-II Test Beam Facility and at other user facilities at DESY. The general DESY radiation safety rules can be found at <http://www.desy.de/d3/sdocs/RadProtInstructions.pdf>.

a. Checklist

Before contacting the appropriate contact persons (see below), please have the following information ready

1. Detailed list of the irradiated components
2. A detailed activity measurement of the irradiated components
3. A dose rate measurement of each irradiated component
 - a) at 30 cm distance of the irradiated component
 - b) at the surface
4. Declaration that the samples will be shipped back to the home institution of the user and all shipping costs are in the responsibility of the user

NOTE

- The IAEA has defined an exemption limit ($<5 \mu\text{Sv/h}$) below which a shipment is not considered as a shipment of radioactive material. If your sample exceeds that level, special preparations for the shipment have to be made.
- Depending on institution/country, the procedure may be slightly different
- If your samples exceed $5 \mu\text{Sv/h}$ at 30 cm distance, then you have to wear a DESY-issued dosimeter as well
- In terms of radiation safety your sample is in the latter case treated like all other kinds of radioactive sources

b. Contact Persons

- DESY-II Test Beam Facility: Test beam coordinators (testbeam-coor@desy.de)
- FS experimental areas: Radiation protection officers of "FS"
- All other: Radiation protection officers of "DESY Allgemeiner Strahlenschutz"

2. Preparation

Contact the appropriate contact person at least six weeks before the samples are going to be shipped to DESY following the checklist above. The contact person will get in touch with D3 (DESY radiation safety group) and D3 will determine beforehand, if the irradiated components may be shipped to and handled at DESY. You also have to inform the sender about the shipment, he is responsible for the whole shipment procedure (also for correct labeling) and he might has to check if handling at DESY is allowed before he is able to start the shipment procedure.

Suggestion:

You also have to inform the person handling the shipment at your institute, as he is responsible for the whole shipment procedure (also for correct labeling) and he might has to check that handling at DESY is allowed before he is able to start the shipment procedure.

Never ever just send samples and hope for the best.

Be aware, that issuing Dosimeters (for samples with $> 5 \mu\text{Sv/h}$ at 30 cm) needs to be prepared as well, so in this case please provide a list of people that are going to handle the samples beforehand.

If you are already wearing a dosimeter issued by your home institution, additional regulations apply

- for German institutions
- for all others

Please contact the appropriate contact person for details.

3. Shipment

Please follow the detailed instructions that will be provided to you:

The recipient of all irradiated and activated sample shipments is:

DESY Radiation Protection Group D3
Deutsches Elektronen-Synchrotron DESY
Notkestraße 85
D-22607 Hamburg

If your shipment is below the IAEA exemption limit ($< 5 \mu\text{Sv/h}$), normally you don't need to use a specialized transport service (see special note below). Make sure to properly declare all the items and to fill out the customs forms correctly. It is your responsibility to make sure, that the samples get to DESY.

NOTE

- Please find an appropriate courier service, as not all of them are willing to handle radioactive samples, even if they are below the IAEA exemption limits.
- Please send the tracking number of your shipment as well, so we exactly know, when the package will arrive at DESY.

4. Your Experiment

D3 will measure your samples again in order to determine their current radiation levels and will label the samples according to DESY and federal regulations.

If the samples exceed 5 $\mu\text{Sv/h}$ at 30 cm distance, you need to have the DESY Radiation Safety training and need to wear a dosimeter when handling the samples. Appropriate warning signs have to be posted in the area and the samples have to be properly stored according to the DESY regulations.

Always practice ALARA (As Low As Reasonably Achievable) when handling these samples.

5. Shipping Samples Back

The samples must not remain on the DESY site; therefore shipping them back to your home institute is obligatory. Preparing the paperwork will require at least two days, so please get in touch with the appropriate contact person as soon as you have arrived at DESY. It is your responsibility to properly pack the samples and have them send back to your home institution and you are responsible for the costs of that shipment.

Please inform the radiation safety group of your home institution as well, so that they are aware of the shipment and check the rules of your home institute as well before starting the shipment procedure.

Sample Declaration

City, Country

Date

The group _____

represented by _____

from (Home Institution) _____

Hereby declare that all radioactive samples that have been shipped by us to DESY will be shipped back to the Home Institution and all associated expenses will be covered by the group

(Signature)