

Elettra Sincrotrone Trieste



## **Users Safety Management**

January 30, 2024



### **Premise**

With this presentation we want to show you, in short, how we are managing users safety now and how we want to do so in the near future.



## We have to manage two different flows of safety information

## **USERS**



**Proposal Safety Information** 

**Beamline or laboratory** safety information and regulations

## **Elettra Sincrotrone Trieste**





# NOW



## **Proposal Safety Information**

Now we receive safety information mainly via a Safety Form.

The Safety Form is available on our Virtual Unified Office (VUO) and users must send it to us at least one week before the start of the experiment.

This form contains information on the quality and safety of the substances used during the experiment but it is very concise and may not always be able to provide all the safety information we need (e.g. storaging, packaging, emergency response in case of accident, etc.)

Further exchanges of information between the beamline coordinator and the user may be necessary before starting the measurements.



	View Safetyinfo
	Sample(s) and chemical substance(s) to be used in this experiment
Substance	Silicon molybdenum
Chemical formula	Si/Mo
Physical state	Multilayer
Other physical state	Fidulityer
	400
Size (in mm <sup>3</sup> )	
Mass (in mg)	2000
Surface area (in mm <sup>2</sup> )	
Space group (if known)	
Unit cell dimensions at	T: a= b= c= alpha= beta= gamma=
Sample container	cell
(capillary, flat plate, pressure cell, etc.)	Cen
	Safety aspects
Values of adjudents he would (in an 3)	Sarety aspects
Volume of cylinder to be used (in cm <sup>3</sup> )	
Pressure of gas in cylinder (in mbar)	
Risk in sample, preparation or equipment	No
Radioactive	No
Corrosive	No
Contaminant	No
A biological hazard	No
Toxic	No
Oxidising	No
Combustive	No
Cancerogenic/mutagenic/teratogen	No
Inflammable	No
Explosive	No
Exhaust disposal conditions	
Sample disposal:	Parameter to the control of the cont
Afther the experiment the sample will be	Removed by user
Validation status	Not certified
fab., ababus	Reserved to the Safety Officer
fety status	Not checked \$
fety comment	
attended Operation of the Reamline	
attended Operation of the Beamline not Permitted	



## Beamline or laboratory safety information and regulations



















About us

**User Area** 

**Lightsources & Laboratories** 

Science

**Technology** 

Industry

Intranet

### Radiation Protection and Safety

#### On line training.

Home

Elettra and FERMI users are required to perform the Radiation Protection and Safety training available on line in the Virtual Unified Office (VUO). If you are already registered, please login-in, check the "Downloads" section and follow the instructions. Users who will not follow the on-line training, will be asked to perform them upon arrival at the Research Centre.

#### Manuals.

Before your arrival at Elettra, you are kindly invited also to download and read the Users' Radiation Protection Manuals and the Emergency Management information.

#### Contacts.

For any further information, please do not hesitate to contact:

- the Radiation Protection Service
- the Prevention and Safety Service



# SOON



## From simple Proposal Safety Information to a **Risk Assessment of Users Proposals**

In order to identify a process that guarantees health and safety of anyone who comes to interact, directly or indirectly, with a particular experiment, the following considerations must be taken into account:

- The current Safety Forms are sheets identifying only the risks of the substances used for an experiment;
- The simple classification of the risk of a substance is not sufficient to evaluate the risk of an experiment;
- The risk of an experiment is also associated with other factors such as quantitative of the substances, the type of treatment necessary to carry out the measurements, the physical state of the sample, the specific conditions of the beamline/laboratory, etc...



Our goal is to have:

For every proposal



A specific risk assessment



A specific protocol to apply

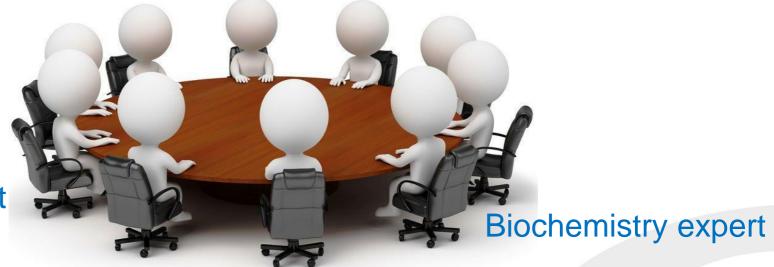
Please note: the technical feasibility assessment does correspond to a risk assessment of the experiment.



The risk assessment of a proposal will be done by a team of specialist Protection and safety expert

Biology expert

Chemistry expert



Radiation protection expert



The team of specialists will have to consider the following aspects:

- Substance description: this information will emerge from the proposal description and a new safety form, more complete and specific than the one we are using
- Substance safety aspects: this information will be deduced from the Safety Data Sheet, when available, and from the new safety form

The team will have to consider the different substances involved (e.g. biological sample, chemical sample, etc.) and carry out an initial risk classification as better specified below



## They will identify 4 different risk levels:

- Very Low (GREEN) -> (e.g. BSL1) Authorised without prescription
- Low/Medium (YELLOW) -> (e.g. BSL2) Authorised by applying a standard protocol
- Medium/High (RED) -> (e.g. BSL3) Authorised by applying a specific protocol
- Not manageable (BLACK)-> No technical assessment and no scientific evaluation (e.g. radioactive sample, BSL4 sample)



## Beamline or laboratory safety information and regulations

- A risk assessment will be made for each beamlines or laboratory
- A safety manual will be created for each beamline or laboratory (it will contain safety instructions for users and for all those who work there, in any capacity)
- A safety course will be created for each beamline or laboratory, to be attended online (with final test)
- A field training will be given by the beamline coordinator before the measure starting (with registration of this activity on our VUO)



## Thank you very much for your attention!