Biosafety is the foundation stone of all biomedical laboratory work. As a Biosafety Officer/Cell Sorting and Biosafety, it is your responsibility to ensure that the regulatory frameworks directives and standards that pertain to this important area of Biosafety are understood and followed. In this short document, BD look at the Regulatory Frameworks directives and standards that Biosafety guidelines request to work in a BSC or in a comparable facility with the same level of protection.

### General Biosafety Classification

Biosafety levels have been defined by the SACGM (‘Society for Applied and Environmental Microbiology’). Biosafety levels are considered an update to the CBER guidelines and have been adopted by WHO and the US National Institutes of Health (NIH).

#### General Biosafety Classifications

- **BSL-1**
  - Low risk, serious infection not occurs.
  - Microorganisms that can be manipulated in a normal laboratory setting.
- **BSL-2**
  - Risk of aerosol dissemination
  - Microorganisms that are potentially hazardous.
- **BSL-3**
  - Risk of aerosol dissemination
  - Microorganisms that are dangerous to health.
- **BSL-4**
  - Risk of aerosol dissemination
  - Microorganisms that are extremely dangerous to health.

#### Risk Assessment

- **WHO**
  - Risk to laboratory personnel
  - Risk to the environment
  - Risk to the public
- **HOW**
  - How should the work be conducted?
  - How should the work be monitored?
  - How should the work be performed?
- **TO DO**
  - Do the risk assessment
  - Do the risk assessment
  - Do the risk assessment

### Control of Aerosol Dissemination

- Aerosol generation during operation of a BSC is a risk from bioaerosols.
- Aerosol generation can occur during work in a tissue culture cabinet designed and built to the norm.
- Aerosol generation during work in a tissue culture cabinet designed and built to the norm can demonstrate safety.

### General Rules for Lab Work

- Most National Codes of Practice extending the content of EN 12469:2000 are required to be transposed into national laws in each member state to become effective.
- Aerosols are the most important factor in aerosol dissemination for biological agents.
- Aerosol dissemination can be prevented by using cell sorters with potentially biohazardous samples.
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### Conclusion

- The norm alone does not guarantee safety.
- Cell sorters in biosafety cabinets can influence safety.
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### Next month

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