

## Risk assessment

A full risk assessment must be carried out before embarking on any practical microbiological investigation.

For model risk assessments, adaptations to model risk assessments and factors which need to be considered when contemplating carrying out practical work that is not covered by a model risk assessment, see *CLEAPSS Laboratory Handbook* (revised 2001), section 15.2.2 and *CLEAPSS Guide L169, Managing Risk Assessment in Science 1997*.

### Factors to be considered in risk assessment

Factor	Relevance
Level of practical work [Level 1, Level 2, Level 3, <i>Topics in Safety</i> , 3rd edition (ASE, 2001), Topic 15; or <i>Appendix 1: Safety guidelines</i> ]	Degree of risk of microbial culture; expertise of teacher; age range of students
Choice of micro-organisms (ACDP Hazard Group 1)	Present minimum risk; refer to list of suitable cultures
Source of cultures	Reputable specialist supplier or approved environmental sample
Type of investigations/activities	Adequate containment of cultures; class practical work vs. teacher demonstration
Composition of culture media	Possibility of selecting for growth of pathogens
Volume of cultures	Increased risk with increase in volume of liquid culture
Laboratory facilities	Suitability for level of practical microbiological work
Equipment	Adequate for purpose
Incubation conditions	Possibility of selecting for growth of pathogens
Disposal procedures	Ensures elimination of risk to others
Expertise of technicians and teachers	Competence and level of training in techniques and procedures appropriate to level of practical work
Student age and discipline	Appropriate to level of practical work; confidence in class discipline
Sources of competent advice	ASE*, CLEAPSS*, MISAC, NCBE, SSERC* (*members only)
Useful check list	<i>CLEAPSS Laboratory Handbook</i> (2006), section 15.2 or <i>Topics in Safety</i> , 2nd edition (ASE, 1988), pp. 34–37
Essential reference	<i>Topics in Safety</i> , 3rd edition (ASE, 2001), Topic 15 or <i>CLEAPSS Laboratory Handbook</i> (2006), section 15.2 or <i>Appendix 1: Safety guidelines</i>

*Key to abbreviations:* ACDP, Advisory Committee on Dangerous Pathogens; ASE, Association for Science Education; MISAC, Microbiology in Schools Advisory Committee; NCBE, National Centre for Biotechnology Education; SSERC, Scottish Schools Equipment Research Centre.

[*Appendix 1: Safety guidelines*]

[*Appendix 2: Safe micro-organisms*]