

BIENNIAL REPORT OF THE OCCUPATIONAL HEALTH AND SAFETY COMMITTEE, 2008–2009

1. The IARC Occupational Health and Safety Committee (OHSC) met eight times during 2008–2009. The minutes of these meetings are placed on the OHSC website [<http://intranet.iarc.fr/labcom/index.htm>].
2. At the end of 2008, Dr Robert, the Staff Physician left the Agency after 16 years of service. The Committee expressed its gratitude to Dr Robert for her long-standing dedication to safety at IARC. IARC welcomed Dr Cuhe at the beginning of 2009.

A. Staff Training

3. Each year, the Agency welcomes more than a hundred newcomers (trainees, fellows, visitors, staff members) who have to complete a general safety introduction course and present it to the Laboratory Safety Officer, Brigitte Chapot, for assessment in order to obtain a Safety Questionnaire Certificate.
4. Newcomers working in the laboratories or handling biological samples must also attend a training course on laboratory safety and good practices. Seven of these information meetings were held and attended by 38 persons in 2008 and 23 in 2009, respectively.
5. A refresher course on the handling of radioisotopes and on radioprotection was held by the Laboratory Safety Officer (B. Chapot) and the Staff Physician (Dr Robert) in December 2008. All radioisotope users had to attend this course.
6. A one-day course given by Air Liquide Santé on the risks associated with working with liquid nitrogen and the use of oxygen in case of an emergency was given in December 2008 (see section C below).
7. A full course for the emergency first aid team was conducted in November 2008 and a refresher course was held in October 2009. These courses included the use of defibrillators. In 2009, the Agency bought three defibrillators which have been placed on the ground floor of each of the three buildings. Information has been given to all personnel by the Staff Physician.
8. A fire exercise took place in March 2009 (evacuation of the Biological Resources Centre (BRC) building and intervention of the fire brigade on a simulated incident in one of the cryogenic rooms).
9. A fire extinguisher briefing was held in September 2009.

B. Safety manual

10. The safety manual has been entirely revised and updated with large portions re-written to reflect improved safety measures as well as changes in activities. A new version in English and in French was made available in September 2009, with both paper copies and electronic versions on the Intranet. Information has been made available to all staff and one paper copy of each version has been displayed on each floor.

C. Biological Resource Centre (BRC) and liquid nitrogen facilities

11. Over the past few years, the use of liquid nitrogen has increased at IARC. With the development of the activities of the BioBank, the exposure of the BRC staff is becoming high in particular when retrieving and sorting out aliquots stored in liquid nitrogen. An audit of our cryogenic facilities was requested from Air Liquide Santé in April 2008. The main observations were: a) the three cryogenic rooms contained pieces of equipment dedicated to other laboratory activities and were overcrowded; b) the doors of these rooms were open most of the time; c) the air extraction should be improved; d) the position of the oxygen measurement points was too high; and e) there is a need of information for all the personnel working in these areas.

12. Following their recommendations, a huge amount of work was done in 2008 to reorganize all the laboratories in the BRC to clear all non-storage equipment from the cryogenic rooms and restrict working time in these rooms to storage/retrieval tasks. Modifications have been made to improve ventilation. The doors are maintained closed and there is controlled access to authorized personnel only. A specific first aid supply ('cagoule oxalair', oxygen bottle and respiratory system) have been installed for use in case of an emergency. A training course was organized in December 2008 for all BRC technicians and key staff safety team members on the risks associated with working with liquid nitrogen and the use of this first aid equipment.

13. Moreover, individual oxygen detectors have been bought to monitor oxygen levels during work in these rooms. Their alarm is activated when the level goes below 19%. The oxygen atmosphere concentration is also monitored in the three rooms and an audible and visible alarm is activated when the level reaches 17%.

D. L3 facility and Genetically Modified Organisms (GMOs)

14. The L3 laboratory (for use of infectious agents that are pathogenic to humans) was shut down in January 2009 for routine general cleaning and maintenance (overall disinfection, changes of filters, culture cabinet and autoclave checks) as this process should take place every 18 months. Access to this laboratory is restricted to accredited and appropriately trained staff (at the moment, eight members of the ICB Group and two of the MOC Group are authorized to work in this laboratory).

15. The use of infectious agents and GMOs is submitted for a five-year authorization from the French body "*Commission du Génie Génétique*". In early 2008 laboratory groups were asked to update their projects and a joint proposal was sent for approval. Authorization was given in October 2008 for another five years.

E. Handling radioisotopes

16. The number of IARC laboratories in which radioisotopes can be handled is now stable (seven rooms) after a large reduction in the previous years. At the same time, the number of registered radioisotope users has remained constant (below 20 persons).

17. The use of radioisotopes is also submitted for a five-year authorization by the French "Autorité de Sûreté Nucléaire". A valid authorization is a prerequisite for ordering radioactive sources. Our project has been updated to reflect the decreasing use of radioisotopes and to produce all the necessary documents. The Agency was given a new authorization for the period September 2009 to September 2014.

18. The monitoring of individual external exposure through chest and wrist dosimeters revealed no contamination of laboratory staff during the period in question. However, two dosimeters placed on the 6th floor regularly show slightly positive results which are not associated with a beta exposure of a laboratory radioactive source. Environmental dosimeters have been placed on different floors of the tower building to better investigate the nature of this radiation. There are no health problems for personnel as the levels remain very low.

F. Inventory of chemicals products

19. An inventory of all chemical products stored in IARC laboratories has been made. The inventory is posted on the Intranet and the aim is that researchers use in stock chemicals instead of ordering new ones. This list is kept up to date.

G. Publications

20. Following analysis of questionnaires focussing on potential laboratory hazards, a paper was published in September 2008 in the French journal *Association Nationale de Médecine du Travail et d'Ergonomie du Personnel des Hôpitaux* and in English in *The Annals of Occupational Hygiene* entitled "Exposure to hazardous substances in a standard molecular biology laboratory environment".

H. Incidents/Accidents

21. Several minor incidents were reported during the period, mainly small cuts. In each case, the wound was washed and disinfected with a solution of Dakin available in all the first aid kits on each floor.

22. A more significant incident occurred in November 2008: while doing a DNA extraction, a trainee noticed a burning smell from the centrifuge. The trainee called the responsible student who came immediately to try to find the problem. Without taking the time to wear a laboratory coat and gloves, she removed the rotor from the centrifuge. Her hand and arm were contaminated because of a phenol leak from the tubes in the rotor holes. She was taken to hospital and treated for a second degree burn. This incident was followed with a debriefing and several important issues were taken up and notified to all laboratory personnel: a) protection is very important even in case of an emergency; b) quality of the microtubes should be suitable for

phenol use; and c) doctors in hospitals do not know the effects of all chemical products; the patient should be able to inform them. Concerning this last remark, the OHSC has prepared information cards on the most commonly used dangerous chemicals. These cards are displayed on each laboratory floor and can be easily taken to the hospital if necessary.

I. Influenza A, H1N1

23. The OHSC has prepared a document that outlines IARC's response to situations that may emerge from the development of flu pandemics such as influenza H1N1/A. It outlines (1) a strategy of graded response to adapt the work schedule according to the level of risk and, (2) information on individual conduct and protective measures to be given to staff.

24. This plan is based on recommendations by WHO and by the French health authorities. In the event of an increased threat in the Lyon area, IARC may be requested to provide a copy of such a document and to comply with measures taken by the local authorities (Préfecture).

25. This plan may be implemented in two situations. The first is the occurrence of cases or suspected cases among IARC staff. The second is a general increase of the level of the epidemic in the area, which may not specifically affect IARC but may require preventive action. Access to vaccination is under discussion.

26. A letter has been sent to the French authorities requesting the inclusion of IARC staff and their dependants in the national plan of vaccination.