

7.0 HAZARDOUS MATERIAL AND HAZARDOUS WASTE MANAGEMENT REQUIREMENTS FOR VISITING SCIENTIFIC PARTIES

Visiting scientific parties pose unique challenges for OMAO to comply with applicable environmental regulated related to hazardous materials and hazardous waste. This section provides general and specific requirements for visiting scientific parties working aboard NOAA vessels.

7.1 GENERAL REQUIREMENTS

Scientific parties will write the following information into their cruise instructions and provide it to the Commanding Officer/Master of the respective ship 60 to 90 days before the departure date for the cruise:

- C A list of hazardous materials by name and the anticipated quantity to be brought aboard
- C A list of the neutralizing agents, buffers, and/or absorbents required for these hazardous materials, if they are spilled
- C A chemical hygiene plan

Scientific parties will supply neutralizing agents, buffers, and/or absorbents in amounts adequate to address spills of a size equal to the amount of chemicals brought aboard. This spill response material must accompany the chemicals when they come aboard.

Hazardous materials brought aboard NOAA ships by visiting scientific parties will be accompanied by an inventory list showing the actual amount and a manufacturer's MSDS for each hazardous material. This information will be provided to the commanding officers/master upon embarkation. Any inconsistency between anticipated and actual inventories may result in a Commanding Officer/Master disapproval for any amount of actual materials in excess of anticipated amounts to be brought aboard. The commanding officers/master will then make the MSDS available to the ship's complement.

Upon departure from the ship, visiting scientific parties will provide the Commanding Officer/Master an inventory of hazardous materials showing that all hazardous materials brought aboard have been depleted or removed as an unused but usable product. The visiting scientific party is responsible for the off loading and disposal/transportation of all hazardous waste or unused but usable product unless otherwise arranged with the Commanding Officer/Master.

Hazardous materials other than waste can be off loaded by visiting scientists at any port other than home port as long as they manifest, label, and transport the hazardous material in compliance with DOT regulations.

The OMAO will inspect for compliance with this manual during the annual NOAA fleet inspections.

7.2 FLAMMABLES FROM VISITING SCIENTIFIC PARTIES

Scientific parties can stage chemicals at the OMAO MOCs before loading onto ships. The two most common flammable chemical used are formalin solutions and ethanol. Requirements for the safe handling of these chemicals also apply aboard ship and will be repeated in the ships at sea section.

Formalin (37 percent formaldehyde in water) is a combustible and a corrosive liquid that has special incompatibility restrictions. Formalin can be stored with other flammable liquids in a flammable liquid storage cabinet, in a flammable storage room, or in the outside flammable storage locker. Formalin must not be stored with amines, acids, or strong oxidizers (including organic peroxides). Heated storage is required to prevent polymerization of the formalin.

Water and formalin solutions with less than 10 percent formalin are not considered a flammable or combustible liquid; however, these solutions should not be stored with amines, acids, or strong oxidizers. Follow general storage requirements for these solutions.

Ethanol is a highly flammable liquid (Class IA) and should be stored in either a flammable liquid cabinet or a flammable storage room. Ethanol should not be stored with acetaldehyde, barium perchlorate, chlorine, diethyl aluminum bromide, ethylene oxide, hexamethylene diisocyanate, hydrogen peroxide, or sulfuric acids. Mixtures of ethanol and any of these compounds can form explosive mixtures.

Solutions of water and ethanol with less than 24 percent ethanol are not considered flammable liquids (International Air Transport Association 1991) and can be stored in normal storage areas as long as they are isolated from the compounds listed above that form explosive mixtures with ethanol.

7.3 RADIOACTIVE MATERIALS FROM VISITING SCIENTIFIC PARTIES

Radioactive material on board a ship poses special problems not found in onshore base laboratories. Instead of being in a dedicated laboratory, radioactive materials occasionally may be used in the same areas that are used by other scientific projects. Because of issues involving security, access, spill containment, and personnel safety, OMAO restricts the use of radioactive materials to specially designed and designated vans.

The MOC Director may consider allowing radioactive material use in spaces other than a van in some special cases. Written permission from the MOC Director must be obtained to use radioactive materials in the ship's laboratories or anywhere else on the ship other than the van.

The van arrangements are the Chief Scientist's/Cruise Leader's responsibility. Vans must be compatible with normal ship's services, and must incorporate some means of internal holding capacity to keep radioactive liquids or waste isolated from the ship's normal drainage system and holding tanks.

Disposal including overboard discharges of low-level radioactive waste at sea from NOAA ships is prohibited.

Principal Investigators(PI) using radioactive material on board NOAA ships are required to meet NRC licensing and other Federal regulations or agreement states.

The PI will request an authorization form – Application for Authorization to Use Radioactive Material on NOAA Ships. The Radiation Safety Officer or the Authorized User or Technician Level User must submit the form to the MOC for approval. For additional information refer to Appendix M, which contains the Env7 Radioactive Material (RAM) Aboard NOAA Ships Policy that provides guidance and policy for NOAA vessels.

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Number: FEC 07
Owner: Bill Cunningham
FAA: Evelyn Fields, Rear Admiral, NOAA

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