7.02 STANDARD OPERATING PROCEDURE

Ethanol, absolute (Ethyl alcohol) (EtOH); C_2H_5OH
CAS # 0064-17-5

HAZARDS:

Health: Irritant (1), flammable (7)

Inhalation: irritates respiratory tract; may cause mental excitement followed by drowsiness, headache, impaired vision, ataxia, and stupor.
Skin and eyes: burning, stinging, defatting, dermatitis.
Ingestion: similar to inhalation, plus GI tract and CNS effects, liver damage
Treatment: In case of eye contact, flush with cold water for 15 minutes and get medical attention. In case of skin contact, flush with soap and cold water, apply cream. In case of ingestion, give milk or water and induce vomiting if conscious. If unconscious, get medical help immediately.

Flammability: Severe (7); Flash point 13°C

Incompatibilities: heat, sparks, and flames, oxidizing agents, strong acids, nitrates, perchlorates, peroxides, silver and potassium compounds.

PROTECTIVE EQUIPMENT: gloves, goggles; dispense >200 ml in fume hood.

USE AND HANDLING PROCEDURES: Absolute ethanol is a controlled substance, and procurement requires authorization by a professor. It is used at 70%, 95% and 100% in the RDM and Development sections for DNA and RNA purification. The largest quantity given to students is 8 ml, which poses a minimal threat and can be handled safely at the bench away from sources of ignition. Dilution to 95% with water renders it significantly less flammable. Some antibiotics are also dissolved in 40 or 50% ethanol to be stored in the freezer. Store absolute ethanol in a locked flammables cabinet. Do not store it in a freezer unless it is explosion-proof (ours is not).

DISPOSAL: Any pourable quantities must be discarded in a break-resistant screw-cap solvent waste container under the hood ("Ethanol waste"); and removed by the Safety Office. May not go down the drain. Residual quantities in tubes and pipet tips may be evaporated under the hood and disposed of in regular trash.

SPILL CLEANUP: Extinguish all sources of ignition. If it is a small volume (<100 ml) under the hood, it should evaporate quickly. If it is a larger volume under the hood, or a small volume outside the hood, use the solvent spill kit (in Alcove 1). If a large volume of spills outside the hood, evacuate the lab and call 100 (danger of explosion).