Humans as the subject of investigation (3)

including tasting, eating, drinking, *and* chemicals on the skin

See also CLEAPSS *Student Safety Sheets 3*, *6* and *7*

Source	Hazard	Comment
Investigations where chemicals are placed on skin	**HEALTH HAZARD** **IRRITANT** **ENVIRON. HAZARD** **HIGHLY FLAMMABLE**	Hazardous chemicals may be placed on the skin during evaporation tests or when investigating perspiration. Where possible, it is safest to use substances which are deliberately intended for skin use, eg, alcohol-based gels. DANGER: Cobalt chloride (or thiocyanate) may cause allergic skin reaction or asthma-like symptoms if inhaled. Suspected of causing genetic defects or cancer if inhaled. May damage fertility. Toxic to aquatic life. These risks are negligible when impregnated on paper but skin contact must be minimised, although there is no evidence of problems from typical school use.
Investigations involving tasting, eating and drinking	**TOXIC** **BIOHAZARD**	Eating and drinking should not take place in laboratories. In some circumstances it may be illegal under the COSHH Regulations. Use of disclosing tablets in accordance with the manufacturer's instructions is considered low hazard. Tasting small amounts of dilute solutions (eg, sugar, salt) must be done under hygienic conditions, using a drinking straw, cotton bud or impregnated filter paper. DANGER: PTC (phenyl thiocarbamide, phenylthiourea, PTU), used in genetics testing, is fatal if swallowed and may cause an allergic skin reaction. It must be used only in carefully controlled, very small, amounts, eg on brought-in test strips. Consuming alcohol in any form or caffeine in the form of *ProPlus* tablets is not acceptable. Use caffeine in cola drinks or coffee instead, but limit total caffeine intake by avoiding it before and after testing. Limited amounts of *Red Bull*, or similar, might be used if students drink it anyway, although it contains other components as well.

Typical control measures to reduce risk

- Ensure only willing volunteers are used and reassure them if results are exceptional or surprising.
- Only use water or alcohol-based hand gels for testing evaporation on skin, no sources of ignition when using alcohol-based gels.
- If using cobalt chloride (or thiocyanate) paper on the skin, use forceps and wash the skin afterwards.
- Do not conduct taste tests in laboratories. Use dining areas or food technology rooms.
- Observe scrupulous hygiene - no sharing of cups, spoons, straws, etc.
- Use only specially purchased food, or pharmaceutical quality chemicals, for tasting.

Assessing the risks

- What are the details of the activity to be undertaken? What are the hazards?
- What is the chance of something going wrong?
  eg, could somebody taste the wrong substance by accident or as a result of mischief?
- How serious would it be if something did go wrong?
  eg, could it become life-threatening?
- How can the risk(s) be controlled for this activity?
  eg, can it be done safely? Does the procedure need to be altered?

Emergency action

In all emergency situations, alert the responsible adult immediately. Be aware that actions may include the following:

- In the eye — Irrigate the eye with gently running tap water for at least 20 minutes. Call 999/111.
- In the mouth/swallowed — Do no more than rinse and spit with drinking water. Do **not** induce vomiting. Call 999/111.

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