Laboratory Risk Assessment

Procedure	Preparation of sediment samples for pollen analysis

Level of Risk	Medium

Hazard	**Risk**	**Recommended Control**
Preparation of 10% Hydrochloric Acid from Concentrated Acid	Personal injury - chemical burns, eye injury	?? Lab coat, safety glasses and gloves must be worn at all times ?? Conc. HCl must be used in the fume cupboard with the window pulled down to the safe working height as indicated ?? Always add acid to water.
Use of 10% HCl	Personal injury - chemical burns, eye injury,.	?? Lab coat, safety glasses and gloves must be worn at all times ?? Clear up any spillages immediately according to COSHH guidelines.
Unbalanced centrifuge	Damage to centrifuge rotor and risk of personal injury - *A broken rotor travelling at high speed is capable of breaking through the outer casing of the centrifuge.*	?? Ensure that the sample buckets positioned opposite each other on the rotor weigh the same. *The centrifuge does have a light to indicate whether it is properly balanced, but this will only come on once the speed of the rotor has reached 1000 rpm and this is often too late to prevent damage.*
Preparation of 10% Potassium Hydroxide Solution	Personal injury - chemical burns, eye injury	?? Lab coat, safety glasses and gloves must be worn at all times
Preparation of 10% Potassium Hydroxide Solution - Heat generated by dissolution of NaOH	Personal injury - burns, flawed glassware may crack	?? Ensure glassware is free from cracks or flaws. ?? Cool the exterior of the flask in a bowl of cold water ?? Do not handle the base of the flask until it has cooled
Use of Hydrofluoric acid	Personal injury - chemical burns, eye injury	?? Lab coat, safety glasses/face shield, apron and thick gloves must be worn at all times - the thin disposable gloves are NOT adequate when using HF. ?? HF must be used in the fume cupboard with the window pulled down to the safe working height as indicated. ?? Measure out HF using the dispenser

		provided and always on the tray provided. The tray should be washed and dried before returning to the cupboard. ?? Wipe down all surfaces in the fume cupboard after use to ensure there are no stray drips of acid. ?? Wash down apron and gloves before removing and before handling anything else. ?? Should HF come into contact with skin follow emergency first aid procedure outlined in the guidance leaflet (available from the Lab Supervisor).
Glacial Acetic Acid	Personal injury - chemical burns, eye injury, breathing difficulties	?? Lab coat, safety glasses and gloves must be worn at all times ?? Acetic Acid must be used in the fume cupboard with the window pulled down to the safe working height as indicated. ?? Tubes must be stoppered before centrifuging - do not remove unstoppered tubes from fume cupboard
Glacial Acetic Acid	Fire/explosion	?? Be aware that Acetic Acid is FLAMMABLE. Do Not use near naked flames or other sources of ignition
Acetolysis mixture - Acetic anhydride and sulphuric acid	Personal injury - chemical burns, eye injury, breathing difficulties	?? Lab coat, safety glasses and thick rubber gloves must be worn at all times - the thin disposable gloves are NOT adequate when using Sulphuric acid. ?? Acetolysis mixture must be used in the fume cupboard with the window pulled down to the safe working height as indicated. ?? Tubes must be stoppered before centrifuging - do not remove unstoppered tubes from fume cupboard
Use of safranin		?? Wear gloves ?? clear up any spillages immediately

Use of tert-butyl alcohol	fire /explosion	?? FLAMMABLE. Do Not use near naked flames or other sources of ignition
Use of tert-butyl alcohol	Personal injury - eye injury, breathing difficulties	?? Lab coat, safety glasses and gloves must be worn at all times ?? Tubes must be stoppered before centrifuging - do not remove unstoppered tubes from fume cupboard

Assessment for C.O.S.H.H.

Procedure	Preparation of sediment samples for pollen analysis

Substance/Procedure	Risk of exposure * L/M/H	HSE Exposure Limits (mg/m^3)	Local controls used	Disposal	Emergency procedures
Preparation of 10% Hydrochloric Acid from Concentrated Acid	L	7	F/C, PPE, DG,	B, G	1, 5, 6
Preparation of 10% Potassium Hydroxide	L	2	F/C, PPE, DG,	A, B	2, 4, 6
Hydrofluoric acid	L	2.5 HF	F/C, PPE RG	B, G	1, 5, 6 #See notes on use of HF
Glacial Acetic Acid	M	25	F/C, PPE DG	B, G	1, 5, 6,
Acetic Anhydride	M	20	F/C, PPE, DG	B, G	1, 6, 7
Sulphuric acid	M	1	F/C, PPE RG	B, G	1, 5, 6,
tert-Butyl Alcohol	L	300	F/C, PPE, DG	C	2, 6, 7
Safranin	L	not available	PPE, DG	A, F	4, 6
Silicon oil			PPE, DG	F	2, 6, 7

Available from the Lab Supervisor
***** Risk of exposure providing local controls are used
For Key to symbols - see separate table