

# Health and Safety Risk Assessment for Project/Activity involving Hazardous Substances

Assessment reference

School / Dept / Unit	Technical Services/CAF (G44, Chemistry)							
<b>A. Identifying workplace hazards and existing control measures</b>								
1. Brief summary of work activity or project assessed	Handling of samples by users to run analysis at the thermal and optical platforms.							
2. Brief list of key stages of process	<ol style="list-style-type: none"> <li>1. COSHH assessment and general sample information must be sent by email to CAF technician to pre-arrange a booking.</li> <li>2. User comes to CAF lab by the door closest to lab G61. User must wear gloves and sanitize their hands.</li> <li>3. User clean the instrument touch points, bench, keyboards and mouse (with 70% EtOH, v:v with deionized water).</li> <li>4. User run the analysis (see separate R.A and SOP for sample analysis with an instrument).</li> <li>5. User cleans the instrument touch points, bench, keyboards and mouse after use and if the analysis are not finished, user must clean the sample container with 70% EtOH. When leaving users throw away used gloves and wash their hands</li> <li>6. If the results are not immediate, the CAF technician sends the results by email and organizes a remote control session with the user for data analysis. CAF technician returns samples to the drop off point (Lab G61), after cleaning the container with 70% EtOH (v:v with deionized water).</li> </ol>							
3. List significant hazards	<p><input type="checkbox"/> <b>Biological Hazards:</b> <i>Complete section 5, including hazard group.</i></p> <p><b>! Please note :</b> A Biological Agents Project Risk Assessment form should also be completed and for HG2 or above submitted to the Sub-committee for Biological Safety for approval .</p> <p><input checked="" type="checkbox"/> <b>Chemicals:</b> <i>Complete section 5.</i></p> <p><input type="checkbox"/> <b>Cryogenic gases</b> e.g Liquid nitrogen, dry ice - please list in table below and refer to local risk assessment/standard operating procedures)</p> <p><input checked="" type="checkbox"/> <b>Other significant hazards</b> (e.g. general health &amp; safety hazards such as heat, sharps, use of specialist equipment etc): <i>please fill in table below with significant hazards involved in the process and the control measures.</i></p> <table border="1" data-bbox="465 970 2132 1449"> <thead> <tr> <th data-bbox="465 970 864 1018">Hazard</th> <th data-bbox="864 970 1357 1018">Harm</th> <th data-bbox="1357 970 2132 1018">Control measures</th> </tr> </thead> <tbody> <tr> <td data-bbox="465 1018 864 1449">Transfer samples to the CAF lab and, if needed, from the CAF lab to the drop-off point.</td> <td data-bbox="864 1018 1357 1449">Spillages while carrying the samples Slips and trips</td> <td data-bbox="1357 1018 2132 1449">                     For returning already analysed samples there are trays available on a lab bench (Lab G61). Before carrying the samples be sure that all transit areas are clear of any obstacle.                      Inspect visually each sample container for any clear damage or contamination.                      All the samples must be in a capped container.                      Use a container with the appropriate dimensions to safely carry the samples. Special precaution for glass containers to prevent any break.                      If needed put a wedge under the door of the drop off lab to keep it open.                      Consider leaving the sample on the floor before opening CAF lab door or asking one colleague to hold the door.                      Pay attention to any passers-by. If possible carry the activity in the least busy time.                 </td> </tr> </tbody> </table>		Hazard	Harm	Control measures	Transfer samples to the CAF lab and, if needed, from the CAF lab to the drop-off point.	Spillages while carrying the samples Slips and trips	For returning already analysed samples there are trays available on a lab bench (Lab G61). Before carrying the samples be sure that all transit areas are clear of any obstacle. Inspect visually each sample container for any clear damage or contamination. All the samples must be in a capped container. Use a container with the appropriate dimensions to safely carry the samples. Special precaution for glass containers to prevent any break. If needed put a wedge under the door of the drop off lab to keep it open. Consider leaving the sample on the floor before opening CAF lab door or asking one colleague to hold the door. Pay attention to any passers-by. If possible carry the activity in the least busy time.
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			<p>Clean any spillage as soon as possible.  Additional measures (such as drop-off point in a fume hood) may be taken depending on sample COSHH.  Before entering the samples into CAF lab and leaving the samples at the drop-off point, the user or the CAF technician must disinfect outside of the container with 70% ethanol solution.</p>
	Manual handling	(Back injuries, strains and sprains)	<p>Trolley is used to move heavy items where possible  Heavy items are stored accessibly/ at a suitable height, not above head height and not on the floor (if they are needed regularly)  Users are aware/ trained of how to split heavy items to make them easier to handle  Where possible, staff use the lift to move materials between floors. If they have to carry materials (boxes etc) between floors, they ask a colleague to help if necessary.</p>
	Instrumental analysis	See additional risk assessments for analysis of samples using the different thermal and optical instruments.	See additional risk assessments for analysis of samples using the different thermal and optical instruments.
<b>4. List who might be exposed to the hazards</b> <i>(e.g. staff, students, visitors, consider numbers at risk)</i>	<input checked="" type="checkbox"/> Staff carrying out the activity <input checked="" type="checkbox"/> Students carrying out the activity <input checked="" type="checkbox"/> Other students/staff in the vicinity <input type="checkbox"/> Contractors, cleaners, maintenance staff <input type="checkbox"/> Others, please specify: visitors		

### 5. COSHH Assessment

Please Mark relevant hazards and control measures with an **X**

Hazards														How might they cause harm (including routes of exposure)		Control measures (please specify types of eye protection/gloves)						
Substance (include process by-products)	Form	Volumes used	Corrosive	Irritant	Harmful	Toxic	Carcinogenic	Oxidising	Flammable	Explosive	Environmental	Biological	List how these cause harm and routes of exposure	WEL	Fume cupboard	Microbiological safety cabinet	Laboratory coat	Eye protection	Gloves	Respiratory protection	Other /details*	
	Form	g/L	C	Xi	Xn	T	Car	O	F	Ex	Env	Biol			FC	MSC	Coat	Eyes	Glov	RPE		

<p>USERS MUST HAVE their own Risk assessment of the chemical products they are going to analyse and for their sample preparation. Each user must inform CAF technician of the basic sample information and send him the COSHH form if needed.</p>																						<p>Special precaution measures are taken depending on the sample. Users must prepare an appropriate sample container together with the samples and carry it undamaged and clean to CAF lab. Only undamaged, clean and clearly labelled sample containers should be handle always using protective gloves and any other safety measure considered according to the sample COSHH.</p>
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70% EtOH solution (v:v in water)	liquid	Few ml each time, applied as spray		H319				H225					<p>Spillages and inhalation  H225: Highly flammable liquid and vapour  H319: Causes serious eye irritation.</p>	1000 ppm\ 1.920mg/m <sup>3</sup>			X	Nitrile rubber for splash contact	Safety glasses	<p>Only a small bottle of 750ml is available with a dispenser. The bottle is kept in the bench away from the instrument. It is not directly applied into the instrument touching points, few ml (&lt;6.4ml, STEL) are soaked in a tissue. Only for the bench spray-on.</p> <p>P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P240: Ground/bond container and receiving equipment.</p> <p>P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p>
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<b>C. Assessing the level of risk and further action needed (please check relevant box)</b>					
<b>7.1 How severe is any injury or health effect likely to be?</b>	Tick one box (S =score given in brackets)	<b>Minor</b> <input checked="" type="checkbox"/> (1)	<b>Serious</b> <input type="checkbox"/> (2)	<b>Major</b> <input type="checkbox"/> (3)	<b>Fatal</b> <input type="checkbox"/> (4)
<b>7.2. How likely is exposure to the hazard?</b>	Tick one box (P =score given in brackets)	<b>Very unlikely</b> <input type="checkbox"/> (1)	<b>Unlikely</b> <input checked="" type="checkbox"/> (2)	<b>Possible</b> <input type="checkbox"/> (3)	<b>Likely</b> <input type="checkbox"/> (4)
<b>7.3. Calculate the risk score by multiplying the 2 scores in Q7.1 &amp; 7.2</b>	Risk Score (S x P) =	<b>Low</b> <input checked="" type="checkbox"/> (1-3)	<b>Medium</b> <input type="checkbox"/> (4-6)	<b>High</b> <input type="checkbox"/> (8-9)	<b>Very High</b> <input type="checkbox"/> (12-16)

<b>8. Further action to be taken to</b>	<b>Action to be taken by whom?</b>	<b>Timescale</b>	<b>Signed off (Initials and date)</b>
<b>a) Immediately (to make the situation safer/ reduce risk to health)</b>			
None			
<b>b) To reduce the risk as low as reasonably practicable</b>			
For the substances listed in section 5 special measures taken depending on the sample.	CAF technician and instrument user	Depending on the sample	PRR 17/08/2020

#### D. Waste disposal

<b>Please provide details on disposal of chemical and/or biological waste including any special requirements.</b>
The residues are correctly labelled and kept in a plastic tube until disposal according to the School rules. Spill kit available in Chemistry Ethanol: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal.

#### E. Emergency procedures

##### Spillages:

In case of a spill use the nearest available spill kit in Chemistry. Refer to risk assessment of user's sample to be analysed for details on emergency procedures.
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##### First Aid:

<b>In case of contact with eyes</b>	EtOH: Rinse out with plenty of water for at least 15 minutes. Call in ophthalmologist. Remove contact lenses.
<b>In case of skin contact</b>	EtOH Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
<b>In cause of ingestion</b>	EtOH Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

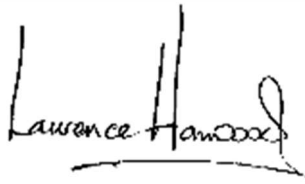

<b>In cause of inhalation</b>	EtOH If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>Special First aid considerations:</b> Taking additional measures depends on the sample to be analysed.	
<b>Burns:</b>	

**F. Health surveillance** *please provide details of chemicals or biological material which may require health surveillance:*

<b>Do any of the chemicals listed above require health surveillance?</b>	It depends on the sample.
<b>Is health surveillance required for the use of biological agents (if any)</b>	No

**G. Risk category for supervision**

- Inexperienced at procedure: work must not be started without direct supervision by a named supervisor
- Experienced worker: work may proceed – all workers are trained and competent in the procedures involved (as approved by H&S Coordinator / Associate Director)
- This procedure should not be performed out of normal working hours (Mon-Fri 8am-6pm).

<b>Name of Assessor: (please print)</b>	<b>Pedro Rivas Ruiz</b>	
<b>Signature of Assessor:</b>		<b>Date:</b>
<b>Assessment checked by:</b>		<b>17/08/2020</b>
<b>Signature of Head of Dept/School/Unit:</b>		<b>17/08/2020</b>
<b>Date for Review:</b>	Maximum 12 months for date of assessment or if procedure changes	<b>Date: 17/08/2021</b>





