

Faculty of Health and Applied Sciences

COSHH RISK ASSESSMENT FORM

No. T0133
BoxED 12

Activity Title: BoxED Crime Stoppers – Forensic Investigator skills	Type of activity: Schools Outreach/ Widening Participation Events	Location of activity: Anywhere with handwashing facilities available. Autoclaving of relevant material will be returned to UWE for processing.
Assessed by (+date): HAS Boxed 2019	Endorsed by (+date): Sarah Betteney October 2019	Assessment review date: January 2020

Section 1 – Activity

Description of experimental procedure. (Give sufficient detail so that it is clear as to the procedure being undertaken, to include substances to be used and importantly created)

- Lifting finger marks from white ceramic tile and paper using aluminium powder with zephyr brushes and Magneta flakes with magnetic wands.
- Examination of enlarged finger marks and prints using a hand lens.
- Presumptive testing the footwear for 'blood'. Using sterile swabs, sterile water and Hemastix.
- Examination of footwear mark from the scene and comparing it to a foot wear print from the packaged footwear.
- Blood splatter analysis including examination of the effects of height and angle on synthetic 'blood' (theatre blood) droplet size and shape.
- Simple colour change reaction using grape juice and bicarbonate of soda and water solution.

Section 2 – Substances

Have you used the least hazardous substances possible in this procedure in order to eliminate or minimise the hazards to health? (✓)

Yes ☒ No ☐ (If No please justify)

If you are planning to work with radioactive material you need to complete the radioactivity specific COSHH form available on the [Risk Assessment page](#)

Substance details

Substance (chemical, and/or pressurised gases. Including those created by	Quantity and concentration (Amount in mL or g then concentration	Classification (corrosive, toxic, flammable,) From pictogram 2.2 - Please use words to	Hazard Statements to include exposure routes & potential health effects.	Exposure Time (duration / frequency of use)
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<i>activity) Include the common chemical name from 1.1</i>	<i>in Mg/ML, %w/w, w/v, Molarity. Also include maximum amounts).</i>	<i>describe the pictogram. See end of this form for description.</i>	<i>From Label elements 2.2 – Hazard Statements (H-numerical and description only).</i>	
Fake Blood	50ml	Possible allergen	Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation or an allergic reaction. Eyes May cause eye irritation.	15 mins
Fake Blood plus haemoglobin	0.02µg/ ml of haemoglobin in fake blood	Possible allergen Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. This substance is not classified as dangerous according to Directive 67/548/EEC.	Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation or an allergic reaction. Eyes May cause eye irritation.	Short term exposure. Present on the surface of footwear that the students will be searching. <2 hours.
Hemastix© Presumptive test	<5 sticks	Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. This substance is not classified as dangerous according to Directive 67/548/EEC.	NON-HAZARDOUS	Short term exposure while testing footwear for blood.
Aluminium powder	Small amount loaded by student onto zephyr brush (~1g)	Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. This substance is not classified as dangerous according to Directive 67/548/EEC.	Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation or an allergic reaction. Eyes May cause eye irritation.	Short term exposure when dusting fingermarks
Magneta flake (aluminium powder + iron filings)	Small amount loaded by student onto wand (~1g)	Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. This substance is not classified as dangerous according to	Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation or an allergic reaction. Eyes May cause eye irritation.	Short term exposure to dust whilst developing a fingermark.

		Directive 67/548/EEC.		
50mm micro stainfree porelon ink pad	<5mL	Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.	Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation or an allergic reaction. Eyes May cause eye irritation.	15 mins
Purple grape juice	30µl	Possible allergen.	Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation or an allergic reaction. Eyes May cause eye irritation.	15 mins

Biological Agents, provide details below:

Biological Agent (inc. strain or Ref no.) + Hazard Group <i>(e.g. microorganisms, bodily fluids, tissues/cells and/or other infectious/harmful materials)</i> (Hazard Group 3 or 4 is not permitted) Genetically Modified Organisms (GMOs) Are you using Genetically Modified Organisms (GMOs)? If so what is the GM Risk Assessment number: No. _____ <i>Please note if your work involves Genetically Modified Organisms you must complete a specific GMO risk assessment and submit this to the GM Safety Committee for approval prior to commencing work.</i>	n/a
Quantity Used <i>(e.g. in ml – max culture volume)</i>	n/a
Exposure Route <i>(inhalation, ingestion, percutaneous, splash into eyes, other transmission routes / allergies caused)</i>	n/a
Hazard Description <i>(e.g. disease that may be caused, will the material have been screened before use? – provide details, is use of sharps planned?)</i>	n/a

Section 3 – Control Measures

Identify those persons who will be undertaking the activity and in particular actions for those persons at increased risk of harm (disabled, pregnancy, immuno-compromised etc)

School pupils (aged 10 and above), school staff, UWE students and Staff

Possible allergen risk from purple grape juice and fake blood (produced in a factory that processes nuts).
Asthmatics may be exposed to aluminium powder/magneta flakes.

Control measures for the activity – to minimise previously identified hazards *i.e.*: *Engineering controls e.g. use of fume cupboard, microbiological safety cabinet etc., Personal Protective Equipment / Respiratory Protective Equipment (PPE/RPE) (detail type), restricting quantity of substance used, containment level e.g. 1, 2 supervision or exposure monitoring, limiting persons in area, prohibiting lone working.*

- Laboratory coats, safety spectacles and chemical resistant nitrile gloves to be worn as directed within the session.
- Practical participants to wash their hands after practical work.
- Face masks shall be worn when handling possible inhalation irritants (Magneta flakes and Aluminium powder).
- Possible allergens will be identified and gloves will be available on request.

Further relevant information is available on the HLS Health and Safety intranet site:

<https://intranet.uwe.ac.uk/sites/hlshas/>

Are there other Risk Assessments or Procedures (Safe Systems of Work - SSW) that are relevant to this COSHH assessment *e.g. Centrifugation, Incubation, Neutralisation etc. If so please list below:*

n/a

Identify the Monitoring and Maintenance of Control Measures e.g. Fume Cupboards, Microbiological Cabinets, Local Exhaust Ventilation (LEV)

n/a

Additional special measures of control - *Please consider all sections below:*

Manual Handling: N/A

Specialist Training: N/A

Assistance / Supervision: At least 2 members of UWE trained staff and 1 teacher per 30 participants.

Health Surveillance: Monitor allergens and asthmatics.

Indicate any specialist information relating to any of the substances in use - *Please consider all sections below:*

Storage: n/a

Transportation: Kit is transported in plastic storage boxes.

Waste / Disposal: All waste can be disposed in normal waste bins onsite at venue.

Bio security requirements: n/a

Outline any Emergency Measures for the activity - *Please consider all sections below:*

Spillage: Any spillages that occurs can be mopped up with tissue and washed down with soapy water.

First aid: First Aider to be available onsite. No specific first aid instructions.

Emergency equipment: n/a

Will additional personnel be involved or exposed to the risk and what are their actions: n/a

Details of specific Information, Instruction and Training required, including any specific competencies to be checked.

n/a

Section 4 – DSEAR

Are any of the substances that you are using flammable, oxidising, pressurised or explosive (name them)?

n/a

Have you included suitable control measures above? yes

	GHS01	Explosive		GHS04	Gases under pressure		GHS07	Harmful / Irritant / Skin sensitiser
	GHS02	Flammable		GHS05	Corrosive		GHS08	Carcinogen / Germ cell mutagen / Reproductive toxicant
	GHS03	Oxidising		GHS06	Acute toxic		GHS09	Hazardous to the aquatic environment

Section 5 - Risk Rating

Overall assessment of the risk posed by this activity e.g. <i>Low, Medium, High</i>			
Low			
Additional Actions required to reduce the risk:			
Action	By Who	By When	Action Completed
Overall residual risk posed by this activity e.g. <i>Low, Medium, High</i>			