Ref:

University of Sussex

COSHH Assessment

A COSHH risk assessment is required for work with hazardous substances including source materials, products, known intermediates and by-products. The form should be completed electronically and approved and signed by the principal investigator or responsible person. (copy should be sent School Safety Advisor)

Title of project or activity	Using oxalic acid on honey bees to control varroa
Principal investigator / Responsible person	Norman Carreck
School/Dept	Life Sciences / EBE
Date of assessment	11/3/2015
Date for review	11/3/2016
Location of work (Buildings and room numbers)	OAB LASI and field sites

Section 1 Project or Activity

1.1: Brief description of project or activity

Colonies of honey bees are treated with oxalic acid to control the parasitic mite varroa. This may be in the form of a solution (various concentrations) applied by trickling or by spraying, or by sublimation of oxalic acid dihydride crystals.

Section 2 Hazardous Substances

2.1: Classification of Hazardous substances used and generated

Hazard type 	Hazardous substance	Risk identified	Workplace exposure limit (WEL) http://www.hse.gov.uk/coshh/table1.pdf
Chemicals	oxalic acid dihydride oxalic acid vapour oxalic acid solution	ingestion, inhalation, skin contact	1 mg m^{-3}
Carcinogens, mutagens or reproductive toxins			
Dusts or fumes	oxalic acid vapour	inhalation	
Asphyxiants			
Other substances hazardous to health			

2.2: Human diseases, illnesses or conditions associated with hazardous substances

Potential Acute Health Effects:
Hazardous in case of skin contact (irritant), or ingestion. Slightly hazardous in case of eye contact (irritant), or inhalation. Severe over-exposure can produce lung damage, choking, unconsciousness or death. The product is a severe irritant for lungs and respiratory tract. Ingestion may result in joint pain and kidney failure.

Potential Chronic Health Effects:
The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organ damage. Repeated or prolonged exposure to the gas can produce lung damage.

2.4: Potential routes of exposure	
Inhalation ☒ Ingestion ☒ Injection ☐ Absorption ☐ Other ☐	Select all that apply

Section 3 Risks

3.1: Quantity of hazardous substances to be used	
3.2: Frequency of use	
Daily ☒ Week ☐ Monthly ☐ Other ☐ when carrying out experiment	Select one
3.5: Who might be at risk (*Contact the University Occupational Health Service)	
Staff ☒ Students ☒ Visitors ☐ Public ☐ Young people (<18yrs) ☐ *New and expectant mothers ☐ Other ☐	

Section 4 Controls

4.1: Containment Required	
Laboratory ☒ Room ☐ Controlled area ☐ Total containment ☐ Glove box ☐ Fume cupboard ☐ Local exhaust ventilation (LEV) ☐ Access control ☐ Other ☐	Select all that apply
Prepare solution in laboratory. Treatment of colonies outside in field.	
4.2: Other controls	
Use PPE (see below)	
4.3: Storage requirements of hazardous substances	
Store crystals in original container in laboratory. Label solutions clearly.	
4.5: Personal protective equipment (PPE) for glove selection see - http://www.ansellpro.com/download/Ansell_8thEditionChemicalResistanceGuide.pdf	
Lab coat ☒ Overalls ☒ Special headwear ☐ Special footwear ☐ Apron ☐ Face shield ☒ Respiratory equipment ☒ Gloves ☐ Protective eyewear ☒ Other ☐	Select all that apply
When making up oxalic acid solution in laboratory wear labcoat, safety glasses and laboratory gloves. When using solution in field wear bee suit, wellingtons, safety glasses and laboratory gloves. When using sublimated oxalic acid in field wear bee suit, wellingtons, safety glasses and laboratory gloves and face mask.	
4.7: Waste management and disposal	
Liquid ☐ Solid ☐ Gas ☐ Inorganic ☐ Organic ☐ Aqueous ☐ Mixed ☐ Other ☐	
Excess unused solution can be diluted with water into drain.	
4.8: Monitoring exposure and or Health surveillance (If you need advice contact the University Occupational Health Service)	
None required	

Section 5 Emergency procedures

5.1: Emergency contact

Name	Position	Telephone
Norman Carreck	Principal Investigator / Responsible person	x 2587

5.2: Spillage or release

Specify procedure	**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.	
Other actions (if required)	Inform competent person (e.g. principal investigator / school safety officer etc.)	Yes ☐
	Evacuate and secure laboratory	Yes ☐
	Evacuate building by fire alarm	Yes ☐
	Evacuate WITHOUT fire alarm (e.g. where there is a risk of explosion)	Yes ☐
	Call security (3333 on campus) to alert fire brigade	Yes ☐

5.3: First aid

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:
Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:
Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

If in doubt call 3333 for emergency response team.

5.4: Actions in the event of failure of services (water, electricity, LEV etc.)

N/A

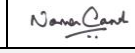
Section 6 Approval

6.1: Instruction, training and supervision

Special instructions are required to safely carry out the work (If yes enter details below)	Yes ☐
Special training is required to safely carry out the work (If yes enter details below)	Yes ☐
A: Work may not be carried out without direct personal supervision (If yes enter details below)	Yes ☐

B: Work may not be started without the advice and approval of supervisor (If yes enter details below)	Yes ☐
C: Work can be carried out without direct supervision	Yes ☐
Supervisor(s)	

6.2: Principal investigator / Responsible person

Name	Signature	Date
Norman Carreck		11/3/15

6.3: Personnel involved

Role	Print name	Signature	Date