Health & Safety Notice & Risk Assessment

In collaboration with cell EXPLORERS

This document outlines the health and safety considerations for the SeedPop! seed-germination experiment and should be read before carrying out the activity. The risk assessment identifies potential hazards, rates each risk from very low to high according to its likelihood and severity, and outlines the steps that can be taken to reduce those risks.

1. Chemical Included in the Experiment Kit

Material	Chemical	Amount	CAS number	Hazard label
Salt tube	Sodium chloride (NaCl)	105 mg of solid sodium chloride per tube	7647-14-5	No hazard pictogram required

2. Storing the Experiment Kit

The SeedPop! experiment kit is designed for use in primary-school classrooms under teacher supervision.

When not in use, the kit should be **stored in a cool, dry place away from direct sunlight and heat**, and kept out of pupils' reach until required. The kit does not contain hazardous chemicals or genetically modified organisms. Materials supplied in the kit are not intended for consumption.

3. Using the Experiment Kit

The SeedPop! experiment kit is designed as an engaging and informative classroom activity. Teachers should read the guidance and safety information supplied with the kit before carrying out the activity.

The kit should be used in a school setting under teacher supervision. **The kit and its components should be used only as directed and should not be distributed to third parties or taken home by pupils**.

Each salt tube contains 105 mg of sodium chloride (NaCl or salt). During the activity, pupils add 12 mL of water to the pre-measured sodium chloride to prepare an approximately 150 mM salt solution. The solution and all other materials supplied in the kit are not intended for consumption.

Any spills should be wiped up promptly. If salt solution enters the eyes, rinse with clean water and follow the school's usual first-aid procedures. Pupils should wash their hands after completing the experiment.

4. Cleaning, Reuse and Disposal

Where practical, experiment-kit components may be retained for reuse. Provided that no mould or other contamination is present, Petri dishes, tubes and other reusable plastic components may be washed with warm soapy water, rinsed thoroughly and allowed to dry completely before storage.

The small quantity of salt solution may be poured down the sink with running water. Used seeds, filter paper and other non-reusable materials may be placed in the school's general waste.

To help reduce unnecessary waste, please return any unused kits or unused components to the visiting University scientist volunteers during Session 5. These materials may then be reused in another participating school.

Any damaged components should be removed from use and disposed of in accordance with the school's usual waste-management procedures. Clean, uncontaminated packaging should be recycled where suitable and where accepted by the school's recycling system.

If mould is observed:

- Do not open the affected Petri dish or plastic bag.
- Keep the Petri dish sealed inside the plastic bag and place the entire sealed item in the school's general waste.
- Do not wash, reuse, recycle or return any affected components.
- Wash hands thoroughly with soap and water after handling the sealed item.

5. Contact Information

For any enquiries about the health and safety or risk assessment information outlined in this document, please contact the SeedPop! Project Manager:

Yoshiko Nishigori (she/her)
Email: yoshiko.nishigori@universityofgalway.ie

6. SeedPop! Seed-Germination Experiment Risk Assessment

The standard controls for the activity are listed in column iii. Schools may use column iv to record any additional actions required under their own health and safety procedures; otherwise, it may be left blank.

i. Hazards	What is the Risk?	ii. Risk Rating	iii. Controls/Arrangements	iv. Actions to take in your school
Water and salt-solution spills	Slips or falls; minor contact with eyes or skin	Low	• Only small volumes are used • Use paper towels to wipe up spills promptly • The teacher supervises the activity	
Sodium chloride	Accidental ingestion or eye contact	Very Low	• Only 105 mg of sodium chloride is supplied in a sealed, labelled tube • Pupils add 12 mL of water under teacher supervision • Materials are not intended for consumption • Pupils wash their hands after the activity • Check relevant allergies or sensitivities	
Toothpick and small pointy components (tubes & pipette)	Minor puncture, splinter, poking eyes, choking or misuse	Low	• The toothpick is used only to move seeds • The teacher demonstrates its correct use and supervises the pupils • Collect toothpicks after the activity	
Rubber bands	Snapping or projectile injury; possible latex allergy or sensitivity	Low	• Rubber bands are used only to secure the trays • The teacher instructs the pupils not to overstretch them or aim them at anyone • Check for relevant latex allergies or sensitivities • If required, use latex-free bands instead	
Plastic bag and measuring string	Suffocation and entanglement if misused	Low	• Items are used only for their intended experimental purpose and under teacher supervision	
Rapeseed and other small components	Accidental ingestion, choking, allergy or sensitivity	Low	• Materials are not intended for consumption • The teacher instructs not to place materials in their mouths • Pupils wash their hands after the activity • Check for any relevant allergies or sensitivities	
Mould	Handling mouldy seeds or dishes after several days in damp, closed conditions.	Low	• If mould is observed, do not open the Petri dish or plastic bag. • Keep the affected materials sealed and dispose of them immediately following the instructions in Section 4. • Wash hands thoroughly after handling. • Do not retain used seeds, filter paper or other biological materials beyond the programme timeline.	
Allergy or sensitivity (general)	Reaction to any kit component (rapeseed, latex, plastics).	Low	• Check for any known relevant allergies or sensitivities • Take appropriate precautions before pupils participate	
Limited or unclear information about kit contents	Incorrect use of materials or failure to follow safety measures	Very Low	• The teacher guide, experiment protocol/video, health and safety information and project risk assessment are provided for teachers • Kit contents are clearly identified and packaged • Contact the SeedPop! team if anything is unclear	
Poor storage arrangements for the kit	Unsupervised access, damage, leakage or misuse	Low	• Kits are securely packed and delivered before the programme begins • Materials remain sealed until required and are stored away from unsupervised pupil access	
Manual handling	Musculoskeletal injury	Low	• Box weight kept to a minimum (≤4.5kg) • Box limited in size so easy to carry • Avoid storing box above head level	
Classroom use and supervision	Kit misused, taken off-site, or used without oversight.	Low	• Kits are intended for supervised classroom use only. • The teacher supervises pupils through the activities. • Kits should not be taken home or passed to third parties.	