



WeCOExist — Classroom Risk Assessment

Risk assessment for the use of a WeCOExist smart bin device in a primary classroom (Years 5–6). Provided for school records; adapt to your school's risk assessment template if required.

Field	Detail
Activity	Use of a WeCOExist bin-fill sensor device and associated classroom investigations
Setting	Primary school, Years 5–6, under normal teacher supervision. The bin may be located inside the classroom or in an adjacent supervised area (e.g. corridor, veranda or yard).
Equipment	Battery-powered ultrasonic distance sensor (low-voltage ESP32 microcontroller) mounted at the top of the class bin (indoor bin or council-style wheelie bin); standard USB powerbank; USB cable
Provider	WeCOExist (sole trader, ABN) — contact details at wecoexist website
Assessment date / version	v1.1 — July 2026 (review annually or after any incident or device change)
Assessed by	[Provider name], reviewed by [Teacher name] for site-specific factors

How the device works (safety-relevant design)

- The device is unpowered almost all of the time. To take a reading, a student or teacher plugs in a standard USB powerbank; the device sends one reading within about 30 seconds, then is unplugged. There is no mains connection at the bin and no always-on equipment.
- Operating voltage is 5 volts via USB — the same as charging a phone. There are no exposed conductors, no heating elements and no moving parts.
- The ultrasonic sensor emits inaudible sound pulses (the same technology as car parking sensors). It emits no laser, no radio-frequency heating and no light hazard.
- The device does not connect to the school network. It uses a teacher-controlled phone hotspot or school guest WiFi for the seconds a reading is sent.



- No personal information is collected or stored. Devices are identified only by a number (e.g. device-001). No student accounts or logins exist.

Risk table

Hazard	Potential harm	Initial risk	Controls (resulting risk: Low)
Lithium powerbank (fire/heat if damaged or abused)	Burns, fire	Low–Medium	Use only a compliant, undamaged consumer powerbank (same type as in phones/schoolbags). Charge on a hard surface during school hours, not overnight and not unattended. Do not use if swollen, hot or damaged — remove and inform the provider. Store away from direct heat. Powerbank is connected only for ~30 seconds per reading.
Hygiene — contact with bin and contents	Illness from germs	Medium	The device mounts at the top/lid area and does not touch bin contents. Students handle only the USB plug and powerbank, not the bin interior. Hands washed or sanitised after the daily reading and after the bin-measuring activity (Investigation 1, empty bin only), including when the bin is located outdoors. A lined, closed bin is used for any capacity test.
Trip/entanglement — USB cable during reading	Trip, minor injury	Low	Cable is short (<1 m), used only during the ~30-second reading while a student is present, then removed. No permanent cabling at floor level.
Small parts / tampering with the device	Choking (younger siblings at home), damage	Low	Device is enclosed; no user-serviceable or removable small parts. Years 5–6 students are outside the choking-risk age band. Mounted out of casual reach inside the bin lid area; only the designated data monitor handles it, under class rules.



Hazard	Potential harm	Initial risk	Controls (resulting risk: Low)
Manual handling — measuring and moving the bin (Investigation 1)	Strain, pinched fingers, bin tipping	Low	Bin is emptied by adults/cleaners before the lesson. Students measure in groups without lifting, tipping or wheeling the bin; wheelie bins are positioned stable and upright on flat ground, and any repositioning is done by the teacher.
Ultrasonic emissions	None established at this power level	Very low	Sensor power is far below occupational exposure guidance; pulses occur only during the ~30-second reading window. No control needed beyond normal use.
Electrical fault in device	Minor shock (5 V — below hazardous voltage), device failure	Very low	USB 5 V is extra-low voltage. Devices are bench-tested before delivery. Visibly damaged devices are removed from use and replaced by the provider.
Allergy/asthma — dust near bins	Irritation for sensitive students	Low	Activities involve the bin exterior only; the bin is emptied and clean for the measuring lesson. Teachers apply existing student health-care plans as with any classroom activity.

Supervision and responsibilities

- **Teacher:** supervises the daily reading routine and Investigation lessons as normal classroom activities; charges/stores the powerbank per the controls above; reports damaged equipment.
- **Students:** handle only the powerbank and USB plug, under the class data-monitor roster; wash hands after readings; report anything unusual to the teacher.
- **Provider (WeCOExist):** supplies tested, enclosed devices; replaces damaged equipment; maintains this assessment; advises on safe mounting at installation.

Summary for approvers

The WCE device is a low-voltage (5 V USB), battery-operated classroom sensor with no mains connection at the bin, no school-network connection, no data collection about individuals, and power applied for only ~30 seconds per day under supervision. With the controls above, all identified risks are assessed as Low. The dominant everyday control is ordinary bin hygiene, which existing classroom routines already cover.



This generic assessment should be reviewed against site-specific factors (bin location indoors or outdoors, student health-care plans, school ICT and WHS policies) by the supervising teacher before first use. v1.1 — July 2026.