

COSHH Risk Assessment

Band Systems Ltd

This form should be completed electronically and signed by the Principal Investigator or responsible person. Guidance on completing this form is provided in the COSHH Risk Assessment section of Band Quality System.






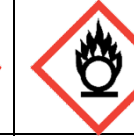

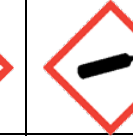
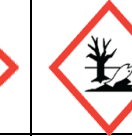
BS/DOC/024

Section 1: Project Details

1.1. Title of project or activity	Use of Batteries		
1.2. Principal investigator/responsible person	Steve Barford Managing Director & PI		
1.3. Business	Installation and servicing of Fire and Security systems		
1.4. Location of work building and room numbers	Clients premises, both new installations and existing service contracts		
Brief description of work activity	Carrying, installation, testing, and replacement of Batteries within control panels		
1.5. Date of assessment	02/04/2018	1.6. Revision date*	02/04/2019

Section 2: Emergency Quick Reference


The purpose of this section is to provide easy access to emergency information. A full assessment of risk will be provided in the next sections and **completing this section last is advisable.**

2.1. Hazard pictograms – select all that apply to the work activity.								
								
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.2 Name of Hazard					
Component	Classification according to Regulation (EC) No. 1272/2008 (ELP)1	Substances	Approximate % (W/W)	Chemical Symbol	CAS No.
Plate Grid		Metallic Lead	30-40	Pb	7439-92-1
		Calcium	<0.1	Ca	7440-70-2
		Tin	<2	Sn	7440-31-5
Active Materials	H360 H372 H400 H410	Lead Monoxide	<0.1	PbO	1317-36-8
		Lead Dioxide (Lead IV Oxide)	35-45	PbO ₂	1309-60-0
		Barium compound	<1.5	Ba	7440-39-3
Battery Electrolyte	H314	Dilute Sulphuric Acid	10-20	H ₂ SO ₄	7664-93-9
Case Material		Standard Grade, UL94:HB <input type="checkbox"/> _ABS (Acrylonitrile-Butadiene-Styrene Copolymer)	5-10		9003-56-9
		Flame Retardant (FR) Grade, UL94:V0 <input type="checkbox"/> _ABS (Acrylonitrile-Butadiene-Styrene Copolymer)	5-10		9003-56-9
		<input type="checkbox"/> Tetrabromobisphenol-A <input type="checkbox"/> Antimony trioxide	<0.1 <0.01		79-94-7 1309-64-4
Separator Material		Absorbent Glass Matt (AGM) Separator (100% Borosilicate Glass Microfibre)	2 to 5		65997-17-3

3.0 Description of first aid measures		
Components		Action
Plate Grids and Active materials	Inhalation:	Remove the person from exposure to fresh air. Seek advice from a medical doctor
	Ingestion	Wash out mouth with water and give plenty of water to drink. Do not induce vomiting. Seek advice from a medical doctor
	Skin Contact	Wash off with plenty of water and soap to prevent accidental ingestion or inhalation Seek medical advice if pain or rash does not reduce
	Eye Contact	Immediately irrigate with eyewash solution or clean water for at least 10 minutes, holding the eyelids apart. Then take the person to hospital without further delay
	Self-protection for the first aider	Eye protection (safety glasses or face shield), and heavy-duty gloves are required. In case of inhalation, a face mask or respirator may be required.
Battery Electrolyte		SPEED IS ESSENTIAL - OBTAIN IMMEDIATE MEDICAL ATTENTION.
	Inhalation:	Remove the person from exposure to fresh air. If the person continues to feel unwell seek advice from a medical doctor.
	Ingestion	Wash out mouth with water and give plenty of water to drink. Do not induce vomiting. If the person continues to feel unwell seek advice from a medical doctor.
	Skin Contact:	Drench with large quantities of water. Remove contaminated clothing and place in water to dilute the acid Continue to wash the affected area for at least 10 minutes. Seek advice from a medical doctor
	Eye Contact	SPEED IS ESSENTIAL - OBTAIN IMMEDIATE MEDICAL ATTENTION Immediately irrigate with eyewash solution or clean water for at least 10 minutes, holding the eyelids apart. Then take the person to hospital without further delay
Self-protection for the first aider	Eye protection (safety glasses or face shield), and heavy-duty gloves are required. In case of inhalation, a face mask or respirator may be required.	
Case Material	Inhalation:	Material can burn in a fire with toxic smoke and decomposition products. Upon inhalation of decomposition products, keep patient calm, remove to fresh air, and seek advice from a medical doctor. If a large quantity is inhaled take the person to hospital. Note to physician: Treat according to symptoms (decontamination, vital functions), no known specific antidote.
	Ingestion	Wash out mouth with water and give plenty of water to drink. Do not induce vomiting. If the person continues to feel unwell seek advice from a medical doctor.
	Skin Contact:	Areas affected by molten material should be quickly placed under cold running water and a sterile protective dressing applied. Seek advice from a medical doctor.
	Eye Contact:	May cause irritation or injury due to mechanical action and traces of Battery Electrolyte. Immediately irrigate with eyewash solution or clean water for at least 10 minutes, holding the eyelids apart. Then take the person to hospital without further delay
	Self-protection for the first aider	Eye protection (safety glasses or face shield), and disposable gloves are required. In case of inhalation, a face mask or respirator may be required.
Separator Material	Inhalation:	Remove patient from exposure to fresh air. If irritation persists, seek advice from a medical doctor
	Ingestion	Wash out mouth with water and give plenty of water to drink. Do not induce vomiting. If the person continues to feel unwell seek advice from a medical doctor
	Skin Contact	After contact with skin, wash immediately with plenty of soap and water. If irritation persists, seek advice from a medical doctor
	Eye Contact:	May cause irritation or injury due to mechanical action and traces of Battery Electrolyte. Immediately irrigate with eyewash solution or clean water for at least 10 minutes, holding the eyelids apart. Then take the person to hospital without further delay
	Self-protection for the first aider	Eye protection (safety glasses or face shield), and disposable gloves are required. In case of inhalation, a face mask or respirator may be required.

SECTION 4: FIRE-FIGHTING AND EXPLOSION HAZARD MEASURES 5

4	VRLA Battery	<p>General Information: Explosion Hazard</p> 	<p><input type="checkbox"/> _VRLA Batteries emit hydrogen gas which is highly flammable and will form explosive mixtures in air from approx. 4% to 76%. This can be ignited by a spark at any voltage, naked flames or other sources of ignition.</p> <p><input type="checkbox"/> _Batteries in use will be part of an electrical circuit and must be isolated from the power source before attempting to put out a fire. Switch the power OFF before disconnecting the batteries from the power source.</p> <p><input type="checkbox"/> _Damaged batteries may expose negative plates, grey in colour, which may ignite if allowed to dry out. These plates may be wetted down with water after the battery has been removed from all electrical circuits.</p>
---	--------------	--	--

4.1	Suitable Extinguisher types:	CO2; Foam; Dry Powder.
	Unsuitable Extinguisher types	Water extinguishers must never be used to put out an electrical fire.
4.2	Hazardous combustion & decomposition products:	Carbon monoxide, Sulphur Dioxide, Sulphur Trioxide, Lead fume and vapor, toxic fumes from decomposition of battery case materials.
4.3	Advice for fire-fighters	Full face visor or safety goggles; Respiratory equipment or self-contained breathing apparatus (SCBA); Full acid resistant protective clothing must be worn in fire-fighting conditions

5. Signal Word (CLP) - DANGER

Hazard Statements (CLP)	H314	Causes severe skin burns and eye damage
	H360Fd	May damage fertility. Suspected of damaging the unborn child
	H372	Causes damage to organs through prolonged or repeated exposure
	H400	Very toxic to aquatic life
	H410	Very toxic to aquatic life with long lasting effects
Precautionary Statements (CLP)	P201	Obtain special instructions before use
	P202	Do not handle until all safety precautions have been read and understood
	P260	Do not breathe dust/fume/gas/mists/vapours/spray
	P264	Wash Thoroughly after handling
	P270	Do not eat, drink or smoke when using this product
	P273	Avoid release to the environment

6. Other Hazards

VRLA Battery	Mechanical	VRLA Batteries can be heavy. Correct manual handling techniques and/or mechanical lifting aides (e.g. Fork Lift Truck) must be used.
	Electrical	VRLA Batteries can contain large amounts of electrical energy which can give very high discharge currents and severe electrical shock if the terminals are short circuited.
	Chemical	<input checked="" type="checkbox"/> _The VRLA Battery presents no chemical hazards during the normal operation provided the recommendations for handling, storage, transport and usage are observed. <input checked="" type="checkbox"/> _VRLA Batteries emit hydrogen gas which is highly flammable and will form explosive mixtures in air from approx. 4% to 76%. This can be ignited by a spark at any voltage, naked flames or other sources of ignition. <input checked="" type="checkbox"/> _If the battery is broken and the internal components exposed, hazards may exist which require careful attention.

7. Spillages

Clean-up Methods: Small spillages:	Neutralise and absorb the spillage using soda ash, sodium bicarbonate (available from supermarkets), sodium carbonate or calcium carbonate powder. Wet clean the spill area to remove all traces of debris. Battery debris and cleaning materials must be collected and placed in an inert sealed container (e.g. self-seal plastic bag or bucket) for disposal, see Section 13.	
Large spillages:	Large amounts of electrolyte spillage are unlikely with VRLA batteries since the electrolyte is fully absorbed in the active materials and separator. Bund the spillage area using dry sand, earth, sawdust or other inert material. Neutralise the electrolyte using soda ash, sodium bicarbonate (available from supermarkets), sodium carbonate or calcium carbonate powder. Wet clean the spill area to remove all traces of debris and electrolyte. Cleaning materials must be collected and placed in an inert sealed container (e.g. self-seal plastic bag or bucket) for disposal, see Section 13.	
Environmental Precautions:	Battery electrolyte must not be allowed to enter any drains or sewage system or water course.	
Case Material:	Clean-up Methods:	Assume battery case material is contaminated and proceed as for Plate Grids and Active Materials above.
Separator Material:	Clean-up Methods:	Assume battery case material is contaminated and proceed as for Plate Grids and Active Materials above.

8. Personal Protective Equipment Requirements



	Yes	No	Describe the findings of exposure monitoring or health surveillance
9. Is exposure monitoring required? For example, if you suspect that exposure to a chemical exceeds the workplace exposure limit. Contact OHSS for further advice		<input type="checkbox"/>	
9.1. Is health surveillance required? See Occupational Health surveillance policy and programme . Contact Occupational Health for further advice		<input type="checkbox"/>	

10. Assessment of the process/task (List existing arrangements in place)

Batteries are stored securely with fireproof boxes and with insulated terminal clips, with boxed batteries fixed securely whilst in transit. Batteries are sealed and considered low risk in their normal state.

Batteries must be replaced in vehicle stock on a rotation basis to avoid having out of date batteries.

Engineers will conduct discharge testes with battery testing meter before fitting and when in situation.

PPE is not normally required.

Care is taken to ensure control equipment to be installed is located in areas where there is good air flow and low room temperature

Discharged batteries and those defective are returned to the office for approved disposal in accordance with weee regulations.

11. Assessment of inherent risk to human health prior to the use of controls (please use the risk assessment matrix at the end of this form)	High	Medium	Medium/low	Low
			□	

12. Additional/Revised Controls

1. Reduce vehicle stock to limit the number of batteries carried to equal the number of jobs per day.
2. Unused batteries to be returned to the office for secure storage to remove possible risks with batteries being left in vehicles overnight.
3. PPE as indicated in section '8' to be enforced as common practice.
4. Vehicle first aid kits to include water
5. Engineers to attend training
6. Returned batteries to be subject to inspection upon arrival at office and secured in quarantine area whilst waiting for disposal.
7. Batteries to be clearly dated upon receipt from supplier of the date received and the expiry date.
8. Batteries regardless of health condition to be replaced at clients control panels every three years regardless of being healthy.
9. Annual battery testing to monitor temperature, voltage and amperage. Battery normal replacement at 4.5amps (7amp/hr battery).

13. Assessment of residual risk to human health after the application of controls	High	Medium	Medium/low	Low
				□

13.1 Note any monitoring that may be required

Company conduct regular site technical auditing as part of its health and safety and ISO 9001 compliance. Battery inspection and environment will now become a part of that audit process to monitor the new additional requirements.



Engineers vehicle audits are also regularly undertaken to assess stock being carried for rotation, storage, condition, and quantity records.

Batteries and first aid water has been added specifically to the audit process.

Accident records will be monitored and any accident in connection with batteries will be subject to full investigation with a view of possibly implementing additional preventative actions.

This COSHH assessment will be reviewed on an annual basis

14. Emergency contacts One of these should be the PI/responsible person.	Name:	Steve Barford	Dean Connell
	Position:	Managing Director (PI)	Senior Engineer
	Telephone number:	07831 314 272	07551 171 247

Approval I confirm that this is a suitable and sufficient risk assessment for the above described work activity	Name Steve Barford	Signature	Date 02/04/2018
Assessor This is the person who has completed this form	Steve Barford		02/04/2018
Principal Investigator/responsible person	As above		02/04/2018

Assessed By:	Steve Barford	Date:	02/04/2018	Review Date:	April 2019
Assessed By:	Dean Connell	Date:	02/04/2018	Review Date:	April 2019

