



Section 1. Product and Company Identification.

1.1 Model Number; AK433.V2-01 v1
1.2 Description; Battery for AK433 v2
Battery: 4 Volts. 1 Ah. 90 grams.

1.3 Manufacturer;
Sealey Group.
Kempson Way,
Bury St. Edmunds,
Suffolk.
IP32 7AR

1.4 Emergency telephone number; 44 (0) 1284 757 500 (Office Hours)

Date of source compilation; 10 February 2013

Section 2. Hazards Identification.

Battery is hermetically sealed and does not present a hazard under normal conditions of use. Inappropriate handling and / or use can cause electrolyte to leak.

Ingestion: Contents of an open battery can cause chemical burns of mouth, oesophagus, and gastrointestinal tract.
Inhalation: Contents of an open battery can cause respiratory irritation.
Skin Contact: Contents of an open battery can cause skin irritation.
Eye Contact: Contents of an open battery can cause irritation.



Section 3. Substances.

3.1 Chemical Name (substance)	3.1 CAS No.	3.2 Concentration Weight	Classification	
			Hazard Class & Category Code	Hazard Statements
Lead	7439-92-1	65 - 75%	Acute Tox. 4 Acute Tox. 4 Muta. 2 Carc. 2 Repr. 1A STOT RE 1 Aquatic Acute 1 Aquatic Chronic 1	H302 H332 H341 H351 H360 H372 H400 H410
Sulphuric Acid	7664-93-9	14 - 20%	Acute Tox. 4 Skin Corr. 1A Carc. 2 STOT SE 1 STOT RE 1 Aquatic Chronic 3	H312 H314 H351 H370 H372 H412
ABS	9003-56-9	5 - 10%	Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 STOT SE 3	H302 H315 H319 H335
Fibreglass Separator	-	5%	-	-
Tin	7440-31-5	< 0.5%	Flam. Sol. 2 Skin Irrit. 2 Resp. Sens. 1	H228 H315 H334
Calcium	7440-70-2	< 0.1%	Water-react. 2 Skin Corr. 1C Eye Dam. 1 STOT SE 2	H261 H314 H318 H371

For full text of Phrases and Statements, see Section 16.



Section 4. First Aid Measures.

4.1 Description of first aid measures

Inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Loosen close fitting clothing.

Ensure that person is warm.

Skin Contact

IF ON SKIN: Gently wash with plenty of soap and water.

Take off contaminated clothing and wash before reuse.

If skin irritation occurs: Get medical advice/attention.

Eye Contact

If eye irritation persists: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Ingestion

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

If the casualty is conscious, give large amounts of water.

Protection of First Aiders:

Do not get in eyes, on skin, or on clothing.

Use personal protective equipment as required.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

No information available.

Section 5. Fire Fighting Measures.

5.1. Extinguishing media

Dry chemical, carbon dioxide, foam.

Use appropriate media for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Battery case can be damaged by thermal shock.

NB; Batteries create flammable hydrogen when on charge.

Explosion risk when heated.

5.3. Advice for fire-fighters

Use appropriate media for surrounding fire. Do not use carbon dioxide directly on cells.

Avoid breathing vapours.

Use full protective equipment and self-contained breathing apparatus.

If batteries are on charge, turn off charging equipment.



Section 6. Accidental Release Measures.

6.1. Personal precautions, protective equipment and emergency procedures

Batteries do not leak under normal conditions.

If electrolyte has leaked;

- Ensure that there is no smoking in the area.
- Eliminate any sources of ignition.
- Wear suitable protective gloves/protective clothing and chemical grade eye/face protection.

6.2. Environmental precautions

Leaked electrolyte can be confined by using sand. Use sand dams to prevent electrolyte from entry into drains.

Do not allow discharge of acid to sewer.

Neutralise electrolyte by using sodium bicarbonate (baking soda), soda ash or lime.

Collect absorbed material for disposal in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Stop flow of material, contain / absorb small spills with dry sand, earth or vermiculite.

Do not use combustible materials.

Neutralise spilled electrolyte with soda ash, sodium bicarbonate or lime.

6.4. Reference to other sections

See Section 7 for information on Safe Handling

See Section 8 for information of Personal Protective Equipment.

See Section 13 for information on disposal.



Section 7. Handling and Storage.

7.1. Precautions for safe handling

- Batteries are designed to be recharged.
Batteries create flammable hydrogen when on charge, charge batteries in a well-ventilated area.
Improperly charging a battery may cause the battery to ignite.
Shut off power to chargers whenever not in use.
Shut off power to chargers before disconnecting batteries.
Batteries being charged will release flammable hydrogen gas.
- Explosion risk when heated.
- When charging the battery, use dedicated chargers and follow instructions.
- Do not allow conductive material to touch battery terminals, this will cause a short circuit.
- Short circuits cause fire.
- Never dismantle or modify a battery.
- If a battery is damaged the contents of a battery may be released.
- Avoid the inhalation of vapours.
- Evacuate an area where a spillage has occurred.
- Refer to Section 8 for recommended protective clothing.

7.2. Conditions for safe storage, including any incompatibilities

- Separate batteries from other materials.
- Do not place batteries near heating equipment,
- Do not expose batteries to direct sunlight.
- Store and use batteries away from heat, sparks and open flames.
- Store batteries in a dry and well-ventilated area.
- Prevent damage and short circuits. Battery case can be damaged by thermal shock.
- Do not store batteries above 35°C or below -20°C. Appropriate storage temperature is 20°C ± 5°C.
- Exposure to temperatures in excess of 60°C will result in the battery emitting flammable liquid and gases.
- Do not store different types of batteries in the same place.
- Prevent batteries from coming into contact with moisture, damp conditions and water.
- Keep batteries away from children.

7.3. Specific end use(s)

Intended for use as the battery for the Model Number identified in 1.1 with Description stated in 1.2.



Section 8. Exposure Controls/Personal Protection.

8.1. Control parameters

In the event of battery rupture and leakage:

In the event of battery rupture and leakage:

P261 Avoid breathing dust/fume/gas/mist/vapour/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

Contact with the internal components may cause irritation or severe burns. Avoid contact with internal acid.

Irritating to eyes. Respiratory system and skin.

P280 Wear protective gloves/protective clothing, eye protection/face protection.

8.2. Exposure controls

The use of Personal Protective Equipment (PPE) is not necessary under conditions of normal use.

If handling a leaking or ruptured battery, ensure that the following Personal Protective Equipment (PPE) must be used.

Eye/Face Protection

Chemical grade full face shield

Skin Protection

Acid resistant, natural rubber or neoprene gloves.

Protective rubber apron

Appropriate Personal Protection with long sleeves and long trousers.

Respiratory Protection

Acid gas filter mask or self-contained breathing apparatus.



Section 9. Physical and Chemical Properties.

9.1. Information on basic physical and chemical properties

The following information is not a technical specification or sales specification.

(a) Appearance:	Lead: Silver-Grey Lead Sulphate: White Powder Lead Dioxide: Brown Powder Sulphuric Acid: Clear Colourless Liquid Fibreglass Separator: White Fibrous ABS: Solid.
(b) Odour:	Lead: Odourless. Lead Sulphate: Odourless. Lead Dioxide: Odourless. Sulphuric Acid: Odourless. Fibreglass Separator: Odourless. ABS: Odourless.
(c) Odour threshold;	No information available.
(d) pH:	No information available.
(e) Melting point/freezing point;	Lead: 327°C Lead Sulphate: 1066°C Lead Dioxide: 290°C Sulphuric Acid: 95 - 116°C Fibreglass Separator: N/A ABS: N/A
(f) Initial boiling point and boiling range;	No information available.
(g) Flash point;	No information available.
(h) Evaporation rate;	No information available.
(i) Flammability (solid, gas);	No information available.
(j) Upper/lower flammability or explosive limits;	Lead and Sulphuric Acid: No information available. Hydrogen: LEL = 4.1% Fibreglass Separator: No information available. ABS: No information available.
(k) Vapour pressure;	No information available.
(l) Vapour density;	No information available.
(m) Relative density;	Lead: 11.34 Lead Sulphate: 6.20 Lead Dioxide: 9.40 Sulphuric Acid: About 1.30 Fibreglass Separator: N/A ABS: N/A



Section 9. Physical and Chemical Properties, continued.

(n) Solubility (ies);	Lead: No information available. Lead Sulphate: 40mg/l (60°F) Lead Dioxide: No information available. Sulphuric Acid: 100% Fibreglass Separator: Slight. ABS: No information available.
(o) Partition coefficient: n-octanol/water;	No information available.
(p) Auto-ignition temperature;	No information available.
(q) Decomposition temperature;	No information available.
(r) Viscosity;	No information available.
(s) Explosive properties;	No information available.
(t) Oxidising properties.	No information available.
9.2 Other information	No information available.

Section 10. Stability and Reactivity.

10.1. Reactivity	No information available.
10.2. Chemical stability	Stable.
10.3. Possibility of hazardous reactions	Sulphuric acid will not polymerize.
10.4. Conditions to avoid	Prohibit smoking, sparks, etc. from battery charging area. Avoid mixing with other chemicals.
10.5. Incompatible materials	Sulphuric Acid: Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, sulphur trioxide gas, strong oxidizers and water. Contact with metals may produce toxic sulphur dioxide fumes and may release flammable hydrogen gas. Lead Compounds: Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen and reducing agents.
10.6. Hazardous decomposition products	Sulphuric Dioxide, Trioxide, Hydrogen Sulphide and Hydrogen.

Section 11. Toxicological Information.

11.1. Information on toxicological effects

Lead.

Effects are accumulative and slow to appear. Kidney, reproductive and central nervous system are affected. Symptoms of overexposure; anaemia, vomiting, headache, stomach pain (lead colic), dizziness, loss of appetite, muscle and joint pain.

Sulphuric acid.

Strong corrosive. Contact can cause severe burns to the eyes and skin. Ingestion will cause burns to the gastro intestinal tract.

Fibreglass Separator.

Irritant to the upper respiratory tract, skin and eyes.



Section 12. Ecological Information.

When properly used and disposed of correctly, the battery does not present environmental hazard.
Do not release internal components into water ways, wastewater or ground water.

Section 13. Disposal Considerations.

Disposal of the battery must be in accordance with local authority regulations.
The battery should be completely discharged prior to disposal and the terminals taped or capped to prevent short circuit.
Do not dispose of batteries with household waste.
Do not dispose of batteries at landfill sites.
Do not incinerate batteries.



Section 14. Transport Information.

ADR. International Carriage of Dangerous Goods by Road.

These batteries are classified as Non-spillable and meet the non-spillable criteria listed in Special Provision 238.

Non-spillable batteries must be packed in accordance with Packing Instruction P003.

A Proper shipping name, hazard class, UN number, packing group and hazardous labels are not required when transporting a non-spillable battery.

These batteries are not subject to the ADR code provided that the batteries terminals are protected against short circuits according to Packing Provision PP16.

IATA. International Air Transport Association.

These batteries are classified as Non-spillable and meet the non-spillable criteria listed in Special Provision A67.

Non-spillable batteries must be packed in accordance with IATA Packing Instruction 872.

A Proper shipping name, hazard class, UN number, and packing group and hazardous labels are not required when transporting a non-spillable battery.

These batteries are not subject to IATA regulations provided that the battery terminals are protected against short circuits in accordance with Special Provision A67

The words 'Not Restricted' and the Special Provision number A67 must be included in the description on the Air Waybill.

IMDG. International Maritime Dangerous Goods.

These batteries that are classified as Non-spillable and meet the non-spillable criteria listed in Special Provision 238.

Non-spillable batteries must be packed in accordance with Packaging Instruction P003.

A Proper shipping name, hazard class, UN number, packing group and hazardous labels are not required when transporting a non-spillable battery.

These batteries are not subject to the IMDG code provided that the batteries terminals are protected against short circuits according to Packing Provision PP16.



Section 15. Regulatory Information.

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
No information available.

15.2. Chemical safety assessment
No information available.

Section 16. Additional Information.

Full text of Phrases and Statements used in Section 3;

- H228: Flammable solid.
- H261: In contact with water releases flammable gases.
- H302: Harmful if swallowed.
- H312: Harmful in contact with skin.
- H314: Causes severe skin burns and eye damage.
- H315: Causes skin irritation.
- H318: Causes serious eye damage.
- H319: Causes serious eye irritation.
- H332: Harmful if inhaled.
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335: May cause respiratory irritation.
- H341: Suspected of causing genetic defects.
- H351: Suspected of causing cancer.
- H360: May damage fertility or the unborn child.
- H370: Causes damage to organs.
- H371: May cause damage to organs.
- 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.
- H412: Harmful to aquatic life with long lasting effects.

The above information is believed to be accurate and represents the best information currently available.
No warranty is expressed or implied by the above information.
We assume no liability resulting from use of the above information.
The end user should conduct their own investigations to determine the suitability of the above information for their particular purpose.

Issue level	Date	Revisions
1	28/07/16	First issue.

End of Safety Data Sheet.