



Section 1. Product and Company Identification.

- 1.1 Model Number;** AK4560D v1
- 1.2 Description;** Battery for Oil Dispensing Pump Station Air Operated
- 1.3 Manufacturer;**
Sealey Group.
Kempson Way,
Bury St. Edmunds,
Suffolk.
IP32 7AR
- 1.4 Emergency telephone number;** 44 (0) 1284 757 500

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Section 2. Hazards Identification.

Invasion routes; eyes, skin contact, ingestion.

Health Hazard; Harmful if swallowed. Safe under normal conditions of use. Contents are non-reactive when the battery integrity and seals remain intact. **DO NOT OPEN or DISMANTLE. DO NOT EXPOSE TO FIRE or NAKED FLAME.** Burn / Explosion / Fire risks; do not mix with varying chemistries, sizes & types of battery. Do not crush or incinerate.

Environmental hazard; the internal electrolyte may cause adverse environmental impact.

Danger of fire and explosion; risk is increased by high temperature and short circuit.

Section 3. Substances.

3.1 Chemical Name (substance)	3.1 CAS No.	3.2 Percentage of Content (percent)
Manganese Dioxide	1313-13-9	33
Lithium	7439-93-2	2.4
Propylene Carbonate	108-32-7	6.25
Dimethyl Ether	115-10-6	6.25
Lithium Perchlorate	7791-03-9	1.4
Polypropylene	9003-07-0	2.1
Steel	7439-89-6	47.2
Aluminium	7429-90-5	1.4



Section 4. First aid measures.

Lithium Batteries do not pose a risk to eyes or skin under normal circumstances.

In the case of contact with internal substances;

EYE CONTACT: irrigate eyes with water for at least 15 minutes while raising eyelid(s).
Seek medical attention.

SKIN CONTACT: Remove contaminated clothing. Flush affected area(s) with copious amounts of water for at least 15 minutes. Seek medical attention.

INGESTION: If swallowed, do not induce vomiting. Give large amounts of water but *do not* do this if casualty is unconscious.

INHALATION: If breathing difficulties develop, remove the person to fresh air.
Loosen close fitting clothing.
Ensure that person is warm.
If breathing is difficult, give oxygen.
If mouth to mouth resuscitation is necessary, the person conducting this must take steps to reduce the risk of contamination from toxic / corrosive substances that may be present.

Protection of First Aiders:

Use personal protective equipment.

Avoid contact with skin, eyes and clothing.

Ensure that medical personnel are aware of the material(s) involved.

Ensure that medical personnel take precautions to protect themselves and prevent spread of contamination.



Section 5. Fire Fighting Measures.

Recommended practice; if a battery becomes hot, immediately remove it from flammable materials and place on a non-combustible surface. If possible, place a disintegrating device outdoors and allow it to burn out.

Fire condition; NB; ensure that electrical devices are turned off. Prevent electric shock risk.

In case of fire where lithium batteries are present, flood the area with water. Important; read Section 5.1.

If any batteries are burning, water may not extinguish them, but will cool the adjacent batteries and control the spread of fire.

5.1. Extinguishing media

Fragments may be ejected from a fire.

Extinguishers;

Only use Graphite based CO₂ (Carbon dioxide), Dry Powder or Foam.

Copper powder fire extinguishers, sand, dry ground dolomite or soda ash may also be used. These materials act as smothering agents.

If possible, use a **LITH-X (powdered graphite)** extinguisher on small fires. This material acts as a smothering agent. *A sodium chloride powder extinguisher IS NOT suitable for use on Lithium Batteries.*

It may not be possible to extinguish burning lithium batteries. Burning batteries will burn themselves out.

Do not use water with **LITH-X (powdered graphite)**.

- If a LITH-X (powdered graphite) extinguisher is not available;

Use copious amounts of water in a fine spray to swamp a fire.

Continue to use copious amounts of water until the fire is extinguished and the batteries are cooled.

NB: **Lithium reacts with water to form Hydrogen.** The fire will not be extinguished immediately.

Be aware of the increased risk of explosion.

NB; fire-fighting water runoff may be corrosive / toxic and may cause adverse environmental impact.

5.2. Special hazards arising from the substance or mixture

Hazard characteristics; thermal decomposition can lead to the release of toxic fumes.

Hazardous combustion products; carbon dioxide, carbon monoxide, lithium oxide fumes.

5.3. Advice for fire-fighters

Fire Fighters should wear self-contained breathing apparatus and appropriate Personal Protective Equipment.

Section 6. Accidental Release Measures.

In the event of battery rupture and leakage,

- ventilate the area.
- wear appropriate protective clothing (see Section 7) to prevent eye and skin contact and to prevent inhalation of vapours or fumes.
- remove sources of ignition.
- absorb released materials with inert absorbent (dry sand or soil).
- collect released materials into sealed plastic bag or container.

Prevent material from contaminating soil or entering sewers or waterways.

Do not dispose of released materials with domestic waste

Do not allow product to enter ground water, water course or sewerage system.

Dispose of released materials in accordance with local authority regulations.



Section 7. Handling and Storage.

Handling;

1. Never dismantle or modify a battery.
2. Do not immerse or expose a battery to water.
3. In the event of a battery becoming damaged and the battery contents are released, see section 8.
4. Do not short circuit a battery. A short circuit causes heating and can lead to ignition of surrounding materials. Physical contact with a short-circuited battery can cause skin burn. A short circuit will reduce the life of the battery.
5. To minimize the risk of a short circuit, always store batteries in an appropriate container to prevent contact with conductive materials.
6. Do not allow contact with water.
7. Do not remove the battery label.

Ensure that the area is well ventilated and away from sources of ignition.

Do not eat, drink or smoke when handling batteries.

Storage;

1. Store battery (ies) away from heat, spark hazards, fire risk and open flames and other sources of ignition.
2. Store battery (ies) at room temperature (<30°C) and in a well ventilated and dry environment.
3. Do not store in direct sunlight.
4. Keep batteries away from children.
5. Do not eat, drink or smoke in battery storage area.

Section 8. Exposure Controls/Personal Protection.

Body protection;

Not necessary under conditions of normal use.

Use a protective rubber apron when handling a leaking or ruptured battery.

Use appropriate Personal Protection with long sleeves and long trousers.

Eye protection;

Not necessary under conditions of normal use.

Wear chemical grade full face shield should be worn if handling a leaking or ruptured battery.

Hand protection;

Not necessary under conditions of normal use.

Use chemical resistant, natural rubber or neoprene acid resistant gloves, with elbow length gauntlet, if handling a leaking or ruptured battery.

Respiratory protection;

Not necessary under conditions of normal use.

In case of a damaged battery, use acid gas filter mask or self-contained breathing apparatus.

Ventilation;

Not necessary under conditions of normal use.

In case of a damaged battery, provide adequate general and/or local exhaust ventilation to control airborne levels of battery gas and fumes.

Refer also to Section 4 and Section 5.



Section 9. Physical and Chemical Properties.

9.1. Information on basic physical and chemical properties

(a) Appearance:	Lithium Salt;	white, crystalline powder
	Manganese Dioxide;	black.
	Organic Solvent;	colourless of light yellow liquid.
(b) Odour:	Lithium Salt;	odourless.
	Manganese Dioxide;	odourless.
	Organic Solvent;	odourless.
(c) Odour threshold;	No information available.	
(d) pH:	No information available.	
(e) Melting point;	Manganese Dioxide decomposes at 535°C	
(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;	No information available.	
(k) Vapour pressure;	No information available.	
(l) Vapour density;	No information available.	
(m) Relative density;	No information available.	
(n) Solubility(ies);	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.	

Section 10. Stability and Reactivity.

10.1. Reactivity	No information available.
10.2. Chemical stability	Stable.
10.3. Possibility of hazardous reactions	Hazardous polymerization will not occur.
10.4. Conditions to avoid	Do not heat, dismantle or charge.
10.5. Incompatible materials	No information available.
10.6. Hazardous decomposition products	No information available.



Section 11. Toxicological Information.

Potential health risks;

Eye; Contact with battery contents may cause severe irritation and burns. Eye damage is possible.

Skin; Contact with battery contents may cause severe irritation and burns.

Absorption through the skin will cause localized inflammation.

Ingestion; may cause severe and permanent damage to the digestive tract. May cause circulatory system failure.

Contents of an open battery can cause serious chemical burns to the mouth, oesophagus and gastrointestinal tract.

Inhalation; Inhalation of vapours or fumes released due to heat or leaking batteries may cause respiratory irritation.

Irritation may lead to chemical pneumonitis.

Inhalation can produce chronic productive cough and shortness of breath.

Section 12. Ecological Information.

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

Section 13. Disposal Considerations.

1. Disposal of the battery must be in accordance with local authority regulation requirements for hazardous waste treatment and hazardous waste transportation.
2. The battery should be completely discharged prior to disposal and the terminals taped or capped to prevent short circuit.
3. Do not dispose of batteries at landfill sites.
4. Do not incinerate batteries.



Section 14. Transport Information.

14.1. UN number	UN 3091
14.2. UN proper shipping name	<u>ADR:</u> Lithium metal Batteries contained / packed with Equipment
	Class 9
	Label 9
	Packaging Instructions P903 P903a P903b
	Special provisions 188 230 636 656
	<u>IATA:</u> Lithium metal batteries packed with equipment
	Class. 9
	Hazard Label. Miscellaneous
	Packaging Instructions Passenger 969
	Ltd Qty Forbidden
	Cargo 969
	ERG Code 9FZ
	<u>IMDG:</u> Lithium metal batteries contained in equipment or Lithium metal batteries packed with equipment
	Class. 9
	Packaging Instructions. P903
	Properties and observations. Electrical batteries containing lithium encased in a rigid metallic body. Lithium batteries may also be shipped in, or packed with, equipment. Lithium batteries may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants.
14.3. Transport hazard class(es)	Tunnel restriction code 8
14.4. Packing group	ADR; II IATA; II IMDG; II
14.5. Environmental hazards	No information available.
14.6. Special precautions for user	No information available.
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	IBC Code Instructions - Provisions -

The battery must be securely packaged so as to prevent the possibility of short circuiting.



Section 15. Regulatory Information.

No information available.

Section 16. Additional Information.

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	17/11/15	First issue.
2	24/12/15	Section 14