Safety Data Sheet	Document ID:	UNI111 28
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In accordance with REACH Regulation (EC) 1907/2006, as amended by Regulation (EU) 2020/878

SECTION 1: Identification of the Substance / Mixture and Supplier

1.1 Product Identifier

Product Name:	Unilite Lithium-Ion Battery 3.7v Li-ion 2000mAh
Part Number:	3.7v Li-ion 2000mAh
Manufacturer Part Number:	3.7v Li-ion 2000mAh
UN Number:	UN3480/UN3481
Nominal Voltage:	3.7
Nominal Capacity:	2000mAh
Wh Rating:	7.4Wh
Article Status/Form:	Sealed lithium-ion battery (article under REACH)

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified Use:	Power supply for portable electronic devices
Uses Advised Against:	Do not disassemble, incinerate, or short-circuit
Portable Electronic Device/Equipment:	PS-HDL9R

1.3 Details of EU Responsible Entity (Importer)

Supplier Name:	Aspen Pumps France
Address:	353, Allée des Vergers,76360 Barentin, France
Telephone:	+33 (0) 1 78 95 88 82
Emergency Phone:	+33 (0) 1 78 95 88 82
Email:	ventes@aspenpumps.com
Website:	https://www.aspenpumps.com/fr

1.4 Details of UK Responsible Entity (Importer)

Supplier Name:	Unilite Limited
Address:	The LAB, Winyates Way, North Moons Moat Industrial Estate, Redditch, UK, B98 9FG
Telephone:	+44 (0) 1527 584344
Emergency Phone:	+44 (0) 1527 584344
Email:	Support@unilite.co.uk
Website:	https://unilite.co.uk

1.5 Battery Manufacturer

Manufacturer Name:	Dongguan ADF Battery Co. Ltd
Address:	No 88, Xiangrong Road, Songmushan Village, Dalang Town, Dongguan City, Guangdong Province
Telephone:	+86- 13662963781
Emergency Phone:	+86- 13662963781

SECTION 2: Classification of the Substance/ Mixture

2.1 Classification of the Substance or Mixture

EU: Not classified as hazardous under Regulation (EC) No 1272/2008 (CLP)
UK: Not classified as hazardous under GB CLP Regulation
Product Type: Sealed lithium-ion battery (article)
Intact batteries present no specific hazards under normal conditions of use.

2.2 Signal Word / Pictogram

Nonapplicable

2.3 Hazard Statements (H)

Nonapplicable

2.4 Precautionary Statements

P-phrases apply **only if the battery is damaged**.
P210: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P251: Do not pierce, crush, or burn, even after use.
P264: Wash hands thoroughly after handling damaged batteries.
P280: Wear protective gloves and eye protection when handling damaged batteries.
P301+P330+P331: If swallowed (rare – damaged battery contents), rinse mouth. Do not induce vomiting. Seek medical attention immediately.
P501: Dispose of contents/container in accordance with local regulations.

2.5 Article Declaration (REACH)

This product is an **article** within the meaning of **REACH Article 3(3)**.
Chemicals are contained; intact batteries **do not require classification as hazardous** under CLP when used as intended.
Exposure to hazardous substances may occur only if the battery is damaged, punctured, or improperly disposed of.

SECTION 3: Composition / Information on Ingredients

Hazardous Ingredients (Chemical Name)	*Concentration or concentration ranges (%)*	*CAS Number*
Lithium Cobalt Oxide ($CoLiO_2$)	15-40	12190-79-3
Graphite	10-30	7782-42-5
Phosphate(1-), hexafluoro-, lithium	10-30	21324-40-3
Copper	7-13	7440-50-8
Aluminum foil	5-10	7429-90-5
Nickel	1-5	7440-02-0
PVC	1-5	9002-86-2

SECTION 4: First Aid Measures

4.1 Description of First Aid Measures

Inhalation:

Normal use (intact battery): No first aid required.
Exposure to fumes from damaged or burning battery: Move to fresh air, administer oxygen if necessary, and seek medical attention.

Skin Contact:

Intact battery: No risk.
Leaking battery: Remove contaminated clothing, rinse skin with water for at least 15 minutes, seek medical attention if irritation or burns occur.

Eye Contact:

Leaking battery: Rinse eyes with water for at least 15 minutes, lift eyelids to ensure complete flushing, seek medical attention if irritation persists.

Ingestion:

Intact battery: Not applicable.
Battery contents (rare, damaged battery): Do not induce vomiting, rinse mouth with water, seek immediate medical attention.

4.2 Most Important Symptoms/Effects

Intact battery: None
Damaged / leaking battery: Skin or eye irritation, respiratory irritation, chemical burns in severe cases

4.3 Indication of Immediate Medical Attention and Special Treatment

Treat symptomatically.
Monitor chemical burns or respiratory distress after exposure to leaking electrolyte.
For fumes from burning batteries: Administer oxygen if needed, monitor respiratory function.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

Suitable: CO_2 extinguisher, dry chemical powder (ABC), dry sand, inert extinguishing agents.
Unsuitable: Direct water jets. Avoid agents that may react with battery components.

5.2 Special Hazards Arising from the Substance or Mixture

Thermal runaway can occur if battery is punctured, crushed, overcharged, or exposed to high temperatures.
Burning batteries may release toxic and flammable gases: HF, CO, CO_2, and organic decomposition products.
Risk of fire spreading to nearby materials or explosion exists.

5.3 Special Protective Actions for Firefighters

Wear full protective clothing, including SCBA, heat-resistant gloves, and face shield.
Evacuate non-essential personnel.
Cool surrounding intact batteries without direct water contact.
Avoid contact with hot or reactive battery fragments.
Fight fire defensively; ventilate CO_2 before re-entry.

5.4 Additional Notes

Do not dispose of burning or damaged batteries in household waste.
Collect fire debris for disposal according to local hazardous waste regulations.
Refer to Section 6 for cleanup guidance.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

Intact battery: No precautions required.
Damaged/leaking battery: Avoid contact with electrolyte, wear protective gloves, goggles, and clothing, and ensure adequate ventilation. Keep unprotected personnel away.

6.2 Environmental Precautions

Prevent leaks from entering drains, waterways, or soil.
Contain spills using inert absorbents.
Dispose of waste according to local environmental regulations.

6.3 Methods and Materials for Containment and Cleaning Up

Collect spilled battery fragments and leaked material carefully.
Place damaged batteries in non-combustible containers for disposal.
Use inert absorbents (sand, vermiculite) and non-sparking tools.
Avoid water contact with large lithium pieces.
Dispose of collected waste according to local hazardous waste regulations.

6.4 Additional Notes

Do not crush or incinerate batteries.

Refer to Section 5 for fire or thermal runaway risk.
Wash hands and exposed skin after cleanup.

SECTION 7: Handling & Storage

7.1 Precautions for Safe Handling

Handle batteries carefully; do not drop, crush, puncture, or disassemble.
Avoid short-circuiting battery terminals; use insulated tools when handling multiple batteries.
Do not expose batteries to heat, flames, or high temperatures.
Avoid water or moisture contact.
Protective gloves and eye protection recommended only for damaged batteries.
Keep batteries out of reach of children.
Follow manufacturer instructions for installation, charging, and disposal.

7.2 Conditions for Safe Storage, Including Incompatibilities

Store in a cool, dry, well-ventilated area, away from sunlight and ignition sources.
Protect battery terminals to prevent short circuits.
Keep away from strong oxidizers, acids, bases, flammable materials, or metal objects that could short terminals.
Store in original packaging or approved battery boxes.

7.3 Additional Notes

Do not store damaged or leaking batteries; handle as per Section 6.
Rotate stock to use older batteries first; avoid prolonged storage at full charge.
Do not overcharge batteries.
Comply with local or EU/UK regulations for lithium-ion battery storage.

SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Intact battery: No occupational exposure limits; chemicals are contained.
Damaged or leaking battery: Rare exposure to electrolytes or metals may occur; no specific WELs apply.

8.2 Appropriate Engineering Controls

Normal use: No special controls required.
Damaged or leaking battery: Use well-ventilated areas, local exhaust ventilation if multiple damaged batteries are handled. Avoid inhaling fumes.

8.3 Personal Protective Equipment (PPE)

Exposure Type	Recommended PPE
Handling intact battery	None required
Handling damaged/leaking battery	Chemical-resistant gloves, safety goggles, protective clothing
Risk of inhaling fumes	Respiratory protection (mask or SCBA if high concentrations)

8.4 Hygiene Measures

Wash hands after handling damaged batteries.
Avoid eating, drinking, or smoking near damaged batteries.
Remove and clean contaminated clothing before reuse.

8.5 Environmental Exposure Controls

Prevent chemicals from damaged batteries from entering drains, water, or soil.
Follow spill containment and disposal procedures (see Section 6).

SECTION 9: Physical and Chemical Properties

9.1 Appearance	**Form:** Lithium-ion battery, Rectangular **Color:** Black/Blue
9.2 Odor	Odorless under normal conditions (no fumes when intact)
9.3 Odor Threshold	Not applicable
9.4 pH	Not applicable for sealed batteries
9.5 Melting Point / Freezing Point	Not applicable; battery is a solid article
9.6 Initial Boiling Point and Boiling Range	Not applicable
9.7 Flash Point	Not applicable for intact battery; electrolyte inside is flammable but contained
9.8 Evaporation Rate	Not applicable
9.9 Flammability (solid, gas)	Battery is **not flammable under normal conditions** If damaged: internal electrolyte may catch fire
9.10 Upper / Lower Flammability or Explosive Limits	Not applicable
9.11 Vapor Pressure	Not applicable
9.12 Vapor Density	Not applicable
9.13 Relative Density	---
9.14 Solubility	Insoluble (as a sealed battery)
9.15 Partition Coefficient (n-octanol/water)	Not applicable
9.16 Auto-ignition Temperature	Not applicable for intact battery. Risk if internal cells are exposed or damaged
9.17 Decomposition Temperature	Not applicable; thermal runaway risk if damaged
9.18 Viscosity	Not applicable
9.19 Explosive Properties	Intact battery: None Damaged battery: potential thermal runaway or short circuit
9.20 Oxidizing Properties	Not applicable
Nominal Voltage:	3.7
Nominal Capacity:	2000mAh
Wh Rating:	7.4Wh
Battery Weight:	43.3g

SECTION 10: Stability and Reactivity

10.1 Reactivity

Intact battery: Stable under normal use.
Damaged battery: Risk of chemical reaction, thermal runaway, or fire if punctured, crushed, or short-circuited.

10.2 Chemical Stability

Stable under intended use, storage, and handling.
No decomposition under normal temperatures (< 60 °C typical).
Thermal runaway can occur if battery is overcharged, short-circuited, punctured, crushed, or exposed to high heat.

10.3 Possibility of Hazardous Reactions

Normal use: None.
Abuse/damage: Lithium or electrolyte may react with moisture, water, or fire to generate toxic gases; fire or explosion possible if cells are breached.

10.4 Conditions to Avoid

High temperatures, flames, sparks
Mechanical abuse (puncture, crush, disassemble)
Short-circuiting terminals
Contact with water or conductive materials

10.5 Incompatible Materials

Strong oxidizers, acids, bases
Metals that could short-circuit the battery

10.6 Hazardous Decomposition Products

Hydrogen fluoride (HF)
Carbon monoxide (CO)
Carbon dioxide (CO_2)
Other organic decomposition products from electrolyte

SECTION 11: Toxicological Information

11.1 Information on Likely Routes of Exposure

Inhalation: Minimal risk under normal handling. Fumes from burning/damaged batteries may irritate the respiratory system.
Skin contact: Intact battery: minimal risk. Leaking electrolyte may cause irritation or chemical burns.
Eye contact: Intact battery: minimal risk. Leaking electrolyte may cause serious eye damage.
Ingestion: Intact battery: negligible risk. Contents from damaged battery may be harmful; seek medical attention.

11.2 Acute Toxicity

Intact battery: no acute toxic effects under normal use.
Damaged/leaking battery: internal components may irritate skin, eyes, or respiratory system.

11.3 Chronic Toxicity / Long-Term Effects

Cobalt (from lithium cobalt oxide) is a suspected human carcinogen.
No other chronic effects reported for intact batteries.

11.4 Sensitization, Teratogenicity, Reproductive Toxicity

Sensitization: No
Teratogenicity: No
Reproductive Toxicity: No
Acute Toxicity: No

11.5 Other Information / Notes

Does not contain halogenated flame retardants, mercury, cadmium, lead, or lithium-metal above thresholds.
Internal components are irritants if cells are punctured or damaged.
Handle damaged batteries with gloves, goggles, and protective clothing.
Avoid disassembly, puncture, crushing, or incineration.

SECTION 12: Ecological Information

12.1 Ecotoxicity

Intact battery: No known environmental hazards.
Damaged/leaking battery: May be toxic to aquatic organisms (cobalt, electrolyte).

12.2 Persistence and Degradability

Battery is a finished article; components are not biodegradable.
Chemicals inside may persist in soil or water if damaged.

12.3 Bioaccumulative Potential

Intact battery: No bioaccumulation expected.
Damaged components (e.g., cobalt) may bioaccumulate in aquatic organisms.

12.4 Mobility in Soil

Battery is solid and immobile under normal conditions.

Leaked electrolyte may penetrate soil; proper containment is required.

12.5 Other Adverse Effects

Avoid disposal in landfill, drains, or water bodies.
Incineration of damaged batteries may release toxic fumes and heavy metals.

Follow EU/UK battery recycling and hazardous waste regulations.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

Intact batteries: Recycle according to EU/UK regulations; do not dispose in household waste.
Damaged/leaking batteries: Treat as hazardous waste; place in sealed non-combustible containers; deliver to authorized hazardous waste facilities.

13.2 Contaminated Packaging

Empty/damaged packaging may contain residual electrolyte.
Dispose with collected hazardous materials according to local regulations.

13.3 Regulatory References

EU: Battery Regulation (EU) 2023/1542 (replacing Batteries Directive 2006/66/EC), REACH/CLP requirements, and related waste/recycling provisions.
UK: Batteries and Accumulators Regulations 2009 and hazardous waste regulations.
Intact batteries are articles; chemical registration obligations are generally not triggered.

SECTION 14: Transportation Information

UN Number:

UN 3480 — Lithium-ion batteries (cells or batteries shipped alone)
UN 3481 — Lithium-ion batteries contained in equipment or packed with equipment

UN Proper Shipping Name:

Lithium-ion batteries
Lithium-ion batteries contained in equipment (if the battery is contained inside equipment)

Transport Hazard Class(es):

Class 9 — Miscellaneous dangerous goods

Packing Group:

Not assigned

Environmental Hazards:

Not a marine pollutant (for intact sealed batteries)

Special Precautions for User:

Verify that batteries show **no leakage or overspill** before transport.

Handle carefully to avoid **dropping, puncture, crushing, or shocks**.
Prevent **cargo collapse** or exposure to **rain or moisture**.
Protect battery terminals during transport.
Refer also to **Section 7 — Handling and Storage** for further precautions.

Transport Regulations:

Air: ICAO Technical Instructions, IATA Dangerous Goods Regulations (PI965–967)
Sea: IMDG Code (special provision 188 applies)
Road/Rail: ADR: European Agreement Concerning International Carriage of Dangerous Goods by Road.
UN Recommendations on the Transport of Dangerous Goods — Manual of Tests and Criteria, Section 38.3.

UN 38.3 Test Summary

Test Item	Result
T1 – Altitude Simulation	Pass
T2 – Thermal Test	Pass
T3 – Vibration	Pass
T4 – Shock	Pass
T5 – External Short Circuit	Pass
T6 – Impact	Pass
T7 – Overcharge	Pass
T8 – Forced Discharge	Pass

Additional Notes:

Batteries conform to **IATA PI 965–967 packing instructions** for air transport.
These instructions ensure compliance with **international transport regulations** for lithium-ion batteries.

SECTION 15: Regulatory Information

15.1 Applicable EU Regulations

Battery Regulation (EU) 2023/1542 – Replaces Batteries Directive 2006/66/EC; sets requirements for safety, labelling, collection, recycling, and traceability.
REACH (EC 1907/2006) – Chemicals in batteries may be registered; intact batteries as articles do not require registration.
CLP Regulation (EC 1272/2008) – Classification, labelling, and packaging of substances; intact batteries not classified as hazardous.
Transport Regulations: ADR/RID (road/rail), IMDG Code (sea), ICAO/IATA (air).

15.2 Applicable UK Regulations

Batteries and Accumulators Regulations 2009 – Waste collection, recycling, and disposal requirements for batteries placed on the UK market.
UK REACH and CLP – Hazardous chemical obligations; intact batteries are generally **exempt as articles**.
UK ADR/RID, IMDG Code, ICAO/IATA – Transport regulations for lithium-ion batteries.

15.3 Chemical Inventories

All chemical components in the battery are listed in applicable inventories.

Intact batteries are **articles**, so **chemical registration obligations** (REACH/UK REACH) are generally **not triggered**.

This product **does not contain**:
Halogenated flame retardants (PBB, PBDE, PCB, PBBO, TBBPA)
Mercury, cadmium, lead, or lithium-metal above regulatory thresholds

15.4 Other Relevant Information

Batteries are considered **articles**, so most chemical registration obligations are not triggered for intact units.
Damaged or leaking batteries may fall under **hazardous substance regulations**, depending on local laws.
Follow **local recycling and disposal regulations** for damaged or end-of-life batteries.
SDS is provided in compliance with **REACH/CLP and UK SDS requirements**.

SECTION 16: Other Information

16.1 Key References and Sources

UN Recommendations on the Transport of Dangerous Goods – Manual of Tests and Criteria, Section 38.3
IATA Dangerous Goods Regulations (PI965–967)
IMDG Code, Special Provision 188
ADR/RID European Agreement concerning the International Carriage of Dangerous Goods by Road/Rail
EU Battery Regulation (EU) 2023/1542
REACH Regulation (EC 1907/2006) and CLP Regulation (EC 1272/2008)
UK Batteries and Accumulators Regulations 2009
UK REACH and CLP regulations

16.2 Additional Information

This SDS provides guidance for the **safe handling, storage, transport, and disposal** of lithium-ion batteries. It is intended for **industrial and professional users** and may not anticipate all conditions of use.

Users should **evaluate their specific use cases** and implement additional safety measures if necessary.

Intact batteries are considered **articles and not classified as hazardous under GHS/CLP**.

Damaged or leaking batteries may present **chemical hazards**; follow Sections 2, 4, 6, 7, 8, and 13 for precautions.

16.3 Disclaimers

Information in this SDS is believed to be accurate and reliable at the time of publication.
No warranty is made regarding merchantability or fitness for a particular purpose.
Users are responsible for ensuring compliance with local regulations when handling, storing, transporting, or disposing of batteries.
This SDS is provided for informational purposes only and does not replace regulatory requirements.
Users should refer to Sections 2–15 for detailed guidance on hazard identification, handling, storage, transport, and regulatory compliance.

Document Approval: Louie Lostitch (Compliance Officer)