

ONYX Rechargeable Lithium-Ion Battery — Model QJ-VC-SXi

Prepared in accordance with the Globally Harmonized System (GHS) and the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

SECTION 1 IDENTIFICATION

Product Name	ONYX Rechargeable Lithium-Ion Battery — Model QJ-VC-SXi
Product Identifier	QJ-VC-SXi
Synonyms	Rechargeable Li-ion battery; Lithium iron phosphate (LiFePO ₄) battery pack
Battery Parameters	72 V · 60 Ah · 4320 Wh (individually packed cells/pack)
CAS No. / EC No.	Not applicable (article / manufactured battery)
Recommended Use	Rechargeable energy storage / power source for ONYX powered equipment.
Uses Advised Against	Any use other than the intended application; do not open, modify, or repurpose cells.

Company Identification — Supplier / Responsible Party

Company	ONYX Systems, LLC (d/b/a ONYX Solutions)
Address	12605 Commerce Station Drive, Suite 700, Huntersville, NC 28078, USA
Telephone	+1 704-827-9368
E-mail	sales@onyxsolutions.com
Website	https://www.onyx solutions.com

Emergency Phone	+1 704-827-9368 (Mon–Fri, business hours, ET)
Manufacturer (data source)	Battery cells manufactured by Taizhou Vetch New Energy Limited, Taizhou, Zhejiang Province, China. Technical data in this SDS is derived from the manufacturer's documentation.

SECTION 2 HAZARDS IDENTIFICATION

This product is an article (a manufactured battery). Under the Globally Harmonized System (GHS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200), articles are generally outside the scope of classification, and the battery is not classified as hazardous for normal handling and use. The information below applies to the contents of a cell that is damaged, opened, short-circuited, overheated, or otherwise abused.

GHS Classification	Not classified (article).
Signal Word	None
Pictogram	None
Hazard Statements	None under normal conditions of use.

Precautionary Statements

Prevention	Do not open or disassemble. Do not expose to high temperatures or open fire. Do not mix with batteries of varying sizes, chemistries, or types. Avoid mechanical/external impact to the battery.
Response	Not applicable under normal use.
Storage	Store under roof in a cool, dry, well-ventilated area.

Disposal	Dispose of contents/container in accordance with local, regional, national, and international regulations.
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Note: Lithium-ion cells can present a fire, explosion, or chemical burn hazard if mishandled. Do not crush, puncture, incinerate, short-circuit, or expose to water.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Component	Weight %	CAS No.	EC No.
Lithium iron phosphate	35.7	15365-14-7	—
Stainless steel	14.9	12597-68-1	—
Graphite	17.6	7782-42-5	231-955-3
Copper	7.1	7440-50-8	231-159-6
Dimethyl carbonate	6.6	616-38-6	210-478-4
Aluminium	3.3	7429-90-5	231-072-3
Ethylene carbonate	4.7	96-49-1	202-510-0
Lithium hexafluorophosphate	2.7	21324-40-3	244-334-7
Polyethylene	2.1	9002-88-4	—
Ethyl methyl carbonate	2.1	623-53-0	—
Carbon black	0.9	1333-86-4	215-609-9
Polyethylene glycol terephthalate	0.8	25038-59-9	—
Polyvinylidene fluoride	0.7	24937-79-9	—
Styrene-butadiene rubber	0.4	9003-55-8	—
Carboxymethylcellulose sodium	0.3	9004-32-4	—
Polypropylene	0.1	9003-07-0	—

The battery is a sealed article; the components above are not exposed during normal use. Percentages are nominal by weight.

SECTION 4 FIRST-AID MEASURES

First-aid measures apply only if a cell is breached and the internal materials/electrolyte are released.

General Advice	Immediate medical attention is required. Show this safety data sheet to the attending physician.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if discomfort persists.
Skin Contact	Remove contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if discomfort persists.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Inhalation	Move victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a physician immediately.
Protection of First-Aiders	Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves and prevent spread of contamination.

Most important symptoms/effects: Long-term or repeated occupational exposure to released substances may cause concern due to substance accumulation in the body. Treat symptomatically; symptoms may be delayed.

SECTION 5 FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Dry chemical, carbon dioxide (CO ₂), or alcohol-resistant foam. Large fires: flood with water from a distance to cool battery and surroundings.
Unsuitable Extinguishing Media	Do not use a solid water stream, as it may scatter or spread the fire.

Specific Hazards Arising from the Substance

- Containers / cells may explode when heated.
- Fire-exposed cells may vent contents through pressure-relief valves.
- May expand or decompose explosively when heated or involved in a fire.

Advice for Firefighters

- As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
- Fight fire from a safe distance, with adequate cover.
- Prevent fire-extinguishing water from contaminating surface water or the ground-water system.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

- Ensure adequate ventilation. Remove all sources of ignition.
- Evacuate personnel to safe areas. Keep people away from and upwind of the spill/leak.
- Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

Environmental Precautions

- Prevent further leakage or spillage if safe to do so.
- Discharge into the environment must be avoided.

Methods and Materials for Containment and Cleaning Up

- Absorb spilled material (electrolyte) in dry sand or inert absorbent. For large spills, contain by bunding.
- Promptly dispose of adhered/collected material in accordance with applicable laws and regulations.
- Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling

- Handle in a well-ventilated place.
- Wear suitable protective equipment.
- Avoid contact with skin and eyes (if a cell is breached).
- Keep away from heat / sparks / open flames / hot surfaces.
- Take precautionary measures against static discharge.

Conditions for Safe Storage

- Keep containers tightly closed.
- Keep in a dry, cool and well-ventilated place.
- Keep away from heat / sparks / open flames / hot surfaces.
- Store away from incompatible materials and foodstuff containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limit Values

Component	Country / Region	ppm (8h)	mg/m ³ (8h)	ppm (STEL)	mg/m ³ (STEL)
Graphite (7782-42-5)	USA — OSHA	—	15	—	—
	South Korea	—	2	—	—
	Ireland	—	10	—	—
	Germany (DFG)	—	4	—	—
	Denmark	—	2.5	—	5
Copper (7440-50-8)	Australia	—	3 (4)	—	—
	The Netherlands	—	0.1	—	—
	Poland	—	0.2	—	—
	Latvia	—	0.5	—	1
	Germany (DFG)	—	0.01	—	0.02
Aluminium (7429-90-5)	USA — OSHA	—	15	—	—

Component	Country / Region	ppm (8h)	mg/m ³ (8h)	ppm (STEL)	mg/m ³ (STEL)
	South Korea	—	10	—	—
	Ireland	—	1	—	—
	Germany (DFG)	—	4	—	—
	Denmark	—	5	—	10
	Australia	—	10	—	—
Carbon black (1333-86-4)	USA — OSHA	—	3.5	—	—
	South Korea	—	3.5	—	—
	Ireland	—	3.5	—	7
	France	—	3.5	—	—
	Denmark	—	3.5	—	7
	Australia	—	3	—	—
PET glycol (25038-59-9)	Latvia	—	5	—	—

Biological limit value — Lithium hexafluorophosphate: SCOEL(EU), fluoride/urine, 8 mg/L, end of shift. Monitoring methods: EN 14042; GBZ/T 160; GBZ/T 300.

Engineering Controls

- Ensure adequate ventilation, especially in confined areas.
- Ensure eyewash stations and safety showers are close to the workstation.
- Use explosion-proof electrical / ventilating / lighting equipment.
- Set up an emergency exit and a necessary risk-elimination area.

Personal Protection Equipment

Eye Protection	Tightly fitting safety goggles (EN 166 / NIOSH).
Hand Protection	Protective gloves such as butyl rubber, passing EN 374 / US F739 / AS-NZS 2161.1.
Respiratory Protection	If exposure limits are exceeded or symptoms occur, use a full-face respirator with multi-purpose combination cartridges or type AXBEK (EN 14387).
Skin and Body Protection	Wear fire/flame-resistant, retardant clothing and antistatic boots.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Lithium-ion battery, individually packed; 72 V / 60 Ah / 4320 Wh	Upper / Lower Explosive Limits: No information available
Odor: No information available	Vapor Pressure: Not applicable
Odor Threshold: No information available	Relative Vapour Density (Air = 1): Not applicable
pH: No information available	Relative Density (Water = 1): No information available
Melting / Freezing Point: No information available	Solubility: No information available
Initial Boiling Point / Range: No information available	n-Octanol/Water Partition Coeff.: No information available
Flash Point (Closed Cup): Not applicable	Auto-Ignition Temperature: No information available
Evaporation Rate: Not applicable	Decomposition Temperature: No information available
Flammability: No information available	Kinematic Viscosity: Not applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
Chemical Stability	Stable under proper operation and storage conditions.
Possibility of Hazardous Reactions	Mixtures with metallic acetylide, when heated, cause a fire or incandescence. Reacts severely with halogens, interhalogens, or other strong oxidants, or causes a fire. Ultrafine powder will self-ignite in air at room temperature.

Conditions to Avoid	Incompatible materials, heat, flame and spark.
Incompatible Materials	Metal acetylide, halogen, interhalogen, halogen oxides, nitric acid, nitrous oxide, nitrates, nitrites, halogen oxyacid salts, chromates, permanganates, inorganic peroxides, metal oxides, peroxyformic acid, strong oxidants, water, acids, and mercury.
Hazardous Decomposition Products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity

Component	CAS No.	LD ₅₀ (Oral)	LD ₅₀ (Dermal)	LC ₅₀ (Inhal., 4h)
Carbon black	1333-86-4	> 15400 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	No data
Ethylene carbonate	96-49-1	10000 mg/kg (Rat)	> 3000 mg/kg (Rabbit)	No data
Carboxymethylcellulose sodium	9004-32-4	27000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.8 mg/L (Rat)
Dimethyl carbonate	616-38-6	13000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	No data

Skin corrosion/irritation, serious eye damage/irritation, skin sensitization, respiratory sensitization, germ cell mutagenicity, reproductive toxicity, STOT (single & repeated exposure), and aspiration hazard: No information available.

Carcinogenicity

Component	CAS No.	IARC	NTP
Lithium iron phosphate	15365-14-7	Not Listed	Not Listed
Stainless steel	12597-68-1	Not Listed	Not Listed
Graphite	7782-42-5	Not Listed	Not Listed
Copper	7440-50-8	Not Listed	Not Listed
Dimethyl carbonate	616-38-6	Not Listed	Not Listed
Aluminium	7429-90-5	Not Listed	Not Listed
Ethylene carbonate	96-49-1	Not Listed	Not Listed
Lithium hexafluorophosphate	21324-40-3	Not Listed	Not Listed
Polyethylene	9002-88-4	Category 3	Not Listed
Ethyl methyl carbonate	623-53-0	Not Listed	Not Listed
Carbon black	1333-86-4	Category 2B	Not Listed
Polyethylene glycol terephthalate	25038-59-9	Not Listed	Not Listed
Polyvinylidene fluoride	24937-79-9	Not Listed	Not Listed
Styrene-butadiene rubber	9003-55-8	Category 3	Not Listed
Carboxymethylcellulose sodium	9004-32-4	Not Listed	Not Listed
Polypropylene	9003-07-0	Category 3	Not Listed

SECTION 12 ECOLOGICAL INFORMATION

Acute Aquatic Toxicity

Component	CAS No.	Fish	Crustaceans	Algae
Aluminium	7429-90-5	LC ₅₀ : 1.55 mg/L (96h, Fish)	No data	No data
Carboxymethylcellulose sodium	9004-32-4	No data	EC ₅₀ : 87.3 mg/L (48h)	No data
Copper	7440-50-8	LC ₅₀ : 0.665 mg/L (96h, Fish)	EC ₅₀ : 0.02 mg/L (48h)	ErC ₅₀ : 7.9 mg/L (96h)

Chronic Aquatic Toxicity	No information available.
Persistence and Degradability	No information available.
Bioaccumulative Potential	No information available.

Mobility in Soil	No information available.
Results of PBT and vPvB Assessment	None of the listed components meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Treatment Methods	Before disposal, refer to relevant national and local laws and regulations. Recycle through an authorized battery recycler where available.
Contaminated Packaging	Containers may still present a chemical hazard when empty. Keep away from heat and ignition sources. Return to supplier for recycling if possible.
Disposal Recommendations	Refer to Waste Treatment Methods and Contaminated Packaging above. Do not incinerate or dispose of in municipal trash.

SECTION 14 TRANSPORT INFORMATION

UN Number	UN 3480
UN Proper Shipping Name	Lithium ion batteries (including lithium ion polymer batteries)
Transport Hazard Class	9 (Miscellaneous dangerous goods)
Subsidiary Hazard Class	None
Packing Group	Packagings shall conform to Packing Group II performance level.
Marine Pollutant	None
Transport Label	Class 9 — Lithium battery label / mark
Special Provisions	Lithium batteries must be tested in accordance with the UN Manual of Tests and Criteria, Part III, sub-section 38.3 (UN 38.3) prior to transport. Ship in accordance with IATA DGR, IMDG Code, and 49 CFR (US DOT) as applicable.

SECTION 15 REGULATORY INFORMATION

US — TSCA	All intentional components are listed on the U.S. TSCA Inventory, with the exception of stainless steel (an alloy; its constituent metals are listed).
US — OSHA	Prepared in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200). As an article, the battery is generally exempt from SDS requirements; this SDS is provided as a courtesy and for transport/handling reference.
US — SARA 311/312 Hazard Categories	Fire hazard (if abused). No other categories apply to the intact article.
US — California Proposition 65	Carbon black (airborne, unbound particles) is listed under Proposition 65. Carbon black is bound within the sealed cell and is not released during normal use.

International chemical inventory status (EINECS, TSCA, DSL, IECSC, NZIoC, PICCS, KECI, AICS, ENCS): the majority of components are listed on these inventories. Full inventory detail is available on request.

SECTION 16 OTHER INFORMATION

Issue / Creation Date	June 03, 2026
Revision Date	June 03, 2026
Revision	1.0
SDS Number	ONYX-SDS-QJVC SXi
Prepared By	ONYX Systems, LLC

Basis	UN GHS (10th revised edition) and OSHA HazCom 2012 (29 CFR 1910.1200).
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Disclaimer

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