



## Material Safety Data Sheet

Effective Date: 2020.08.26

Section 1 – Chemical Product	
Product Name:	Lithium Ion Battery
Manufacture:	Axis Technology Corp.
Address:	8F-1, 96, Long An Street, Taoyuan 33057, Taiwan.
Model:	<b>110-0327 / C-216-019760SAA</b>
Nominal Voltage	<b>21.6V</b>
Rated Capacity	<b>19.76Ah, 426.8Wh</b>
Emergency Tel:	+886-3-369-8818
MSDS No.:	<b>M20200826-01</b>

Section 2 – Hazards Identification	
Classification of Danger	See section 14
Primary Route(s) of Exposure	Eye, skin contact, ingestion
Health Hazard	The batteries are not hazardous when used according to the instructions of manufacturer under normal conditions. In case of abuse, there's risk of rupture, fire, heat, leakage of internal components, with could cause casualty loss. Abuses include but not limited to the following cases: charged for long time, short circuited, put into fire, whacked with hard object, punctured with acute object, crushed, and broken.

Section 3 – Composition / Information on Ingredients		
Chemical Name	Concentration or concentration ranges (%)	CAS Number
Lithium Cobalt Oxide	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

Labeling according to EC directives.

No symbol and risk phrase are required.

Note: CAS number is Chemical Abstract Service Registry Number.

N/A=Not apply.



### Section 7 – Handling and Storage

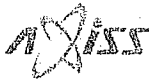
Handling	In case of rupture. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.
Storage	Store in a cool, dry, well-ventilated area away from incompatible substances. Store locked up. Keep out of the reach of children.
Other Precautions	The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

### Section 8 – Exposure Controls / Personal Protection

Engineering Controls	Use adequate ventilation to keep airborne concentrations low. If used under conditions that generate particulates, the ACGIH TLV-TWA of 3mg/m respirable fraction (10mg/m total) should be observed.
Personal Protective Equipment	<p>Eye and Face Protection: None required for consumer use. If there is a risk of contact: Tight sealing safety goggles. Face protection shield.</p> <p>Skin and Body Protection: None required for consumer use. If there is a risk of contact: Wear protective gloves and protective clothing.</p> <p>Respiratory Protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.</p>

### Section 9 – Physical and Chemical Properties

Physical State	Appearance: Prismatic
	Color: Silvery
	Odour: If leaking, smells of medical ether.
Change in condition	
pH	Not applicable as supplied.
Flash Point	Not applicable unless individual components exposed.
Flammability	Not applicable unless individual components exposed.
Relative density	Not applicable unless individual components exposed.
Solubility (water)	Not applicable unless individual components exposed.
Solubility (other)	Not applicable unless individual components exposed.



**Section 14 – Transport Information**

UN number	UN3480 & UN3481
Proper shipping name	Lithium ion Batteries (limited to a maximum of 30% SoC) or; Lithium ion Batteries packed with equipment (Including lithium ion polymer batteries) or Lithium ion Batteries contained in equipments (Including lithium ion polymer batteries)
Class or division	9
Marine pollutant (Yes/No)	No
Label(s) / Placard Required	Miscellaneous Lithium batt.
Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.	
ICAO/ IATA:	Can be shipped by air in accordance with International Civil Aviation Organization (ICAO). TI or International Air Transport Association (IATA), DGR Packing Instructions (PI) 965 Section II/ Section IB, PI966 Section II and PI967 Section II appropriate of IATA DGR 61 <sup>th</sup> (2020 Edition) for transportation.
IMDG CODE:	The batteries are not restricted to IMDG Code 2018 Edition (Amdt 39-18) according to special provision 188.
DOT:	Other requirements for the US Department of Transportation (DOT) Subchapter C, Hazardous Materials Regulations if shipped in compliance with 49 CFR 173.185.
ADR/ AND:	The batteries are not subject to the provisions of United Nations Economic Commission for Europe (UNECE) ADR/ADN if they meet the requirements of special provision 188 of Chapter 3.3. Applicable as from 1 January 2017.
In addition, to be permitted in transport each lithium cell and battery types must have passed the applicable tests set out in Subsection 38.3 of the UN Manual of Tests and Criteria.	