REMS
for Professionals

REMS Akku CamScope
REMS Akku CamScope S

REMS GmbH & Co KG
Maschinen- und Werkzeugfabrik
Stuttgarter Straße 83
71332 Waiblingen
Deutschland
Telefon +49 7151 1707-0
Telefax +49 7151 1707-110
www.rems.de

08/2021

Material Safety Data Sheet

According to GB/T16483-2008&ISO11014:2009

Section 3 – Composition, Information on Ingredients

Classification of the substance or mixture: ☐ substance ☒ mixture

Chemical Composition	CAS No.	EC#	Weight（%）
Cobalt Oxide	1307-96-6	215-154-6	25 – 30
Graphite powder	7782-42-5	231-955-3	23 – 25
Electrolyte	21324-40-3	244-334-7	12 – 15
Polyethylene	9002-88-4	200-815-3	0.5 – 1
Cu	7440-50-8	231-159-6	5 – 10
Nickel	7440-02-0	231-853-9	2 – 3
Polyvinylidene Fluoride	24937-79-9	200-867-7	0.5 – 2
Polypropylene	9003-07-0	---	2 – 5
Aluminum foil	7429-90-5	231-072-3	7 – 10
silicon	7440-21-3	231-130-8	1 – 2
Epoxy Resin	38891-59-7	---	1.5 – 2
PVC	9002-86-2	---	0.2 – 0.5
Gold	7440-57-5	231-165-9	0.2 – 0.5
Sn	7440-31-5	231-141-8	0.05 – 0.1

Note: CAS：Chemical Abstracts Service (Division of the American Chemical Society).

EC#：European Inventory of Existing Commercial Chemical Substances

"---"：No Data

Section 4 – First Aid Measures

General information:

No special measures required.

After inhalation:

Remove victim to fresh area. Administer artificial respiration if breathing is difficult.

Seek medical attention.

After skin contact:

Remove contaminated clothing and shoes. Immediately wash with water and soap and rinse thoroughly. Wash clothing and shoes before reuse. If irritation occurs, get medical attention.

After eye contact:

Flush eyes with plenty of water for several minutes while holding eyelids open.

Get medical attention if irritation persists.

After swallowing:

Do not induce vomiting. Get medical attention.

Acute and delayed effects

The main symptoms:

No relevant details information.

Health effects:

No relevant details information.

To protect the rescuers advice:

No relevant details information.

To the doctor's advice:

Need timely medical treatment and special symptoms, no relevant details information.

Section 5 – Fire Fighting Measures

Suitable extinguishing agents:

Use extinguishing agent suitable for local conditions and the surrounding environment .

Such as dry powder , CO_2.

Special hazards arising from the substance or mixture:

Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium ion batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperature (>150℃ (302°F)), when damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in clothes proximity.

Attention extinguishing method and protective measures:

Wear self-contained respirator. Wear fully protective impervious suit.

Section 6 – Accidental Release Measures

Homework personnel protective measures, protective equipment and emergency disposal procedures:

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

Steps to be taken in case material is spilled or released and Waste disposal method:

Remove ignition sources, evacuate area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, placed the spilled material into a suitable disposal container. Keep spilled material out of sewers, ditches and bodies of water. All waste must refer to the United Nations, the national and local regulations for disposal.

To prevent the secondary disasters prevention measures:

See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

Section 7 – Handling and Storage

Precautions for safe handling:

Consumption of food and beverage should be avoided in work areas. Wash hands with soap and water before eating, drinking. Ground containers when transferring liquid to prevent static accumulation and discharge.

Information about fire and explosion protection:

Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

Conditions for safe storage, including any incompatibilities:

Requirements to be met by storerooms and receptacles. Store in a cool, dry, well-ventilated place. Keep away from heat, avoiding the long time of sunlight.

Section 8 – Exposure Controls, Personal Protection

Occupational exposure limit

Ingredients with limit values that require monitoring at the workplace:	
12190-79-3 Lithium Cobalt Oxide	
TLV (USA)	0.02mg/m^3.
MAK (Germany)	0.1mg/m^3.

Note: TLV: Threshold Limit Value

Biological limit:

no relevant details information.

Detection:

no relevant details information.

Engineering control

General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work.

Respiratory Protection:

Use suitable respirator when high concentrations are present.

Personal Protection

Hand protection	Eye protection
 Use hand protection	 Use eye protection

Section 9 – Physical and Chemical Properties

Information on basic physical and chemical properties	
Appearance	Silvery
Form	Prismatic
Odour	Odorless
Electrical properties information	
Voltage	3.7 V
Cell Voltage	3.7 V
Electric capacity	1200 mAh
Watt-hour	4.44 Wh

Section 10 – Stability and Reactivity

Chemical stability:

Stable in normal circumstances.

Possibility of hazardous reactions:

Data not available.

Conditions to Avoid:

Flames, sparks, and other sources of ignition, incompatible materials.

Incompatibilities:

Oxidizing agents, acid, base.

Hazardous Combustible Products:

Carbon monoxide, carbon dioxide, lithium oxide fumes.

Information on toxicological effects

Acute toxicity LD/LC50 Values relevant for classification:

Not available.

lethal concentration, 50 percent kill LD50: lethal dose, 50 percent kill

Skin irritation/corrosion:

No further relevant information available.

Eyes stimulus/corrosion:

No further relevant information available.

Breathing or skin irritation:

No further relevant information available.

Germ cell respectively:

No further relevant information available.

Carcinogenicity:

No further relevant information available.

Reproductive toxicity:

No relevant details information.

Specific target organ system toxicity disposable contact:

No further relevant information available.

Specific target organ system toxicity, repeated contact:

No further relevant information available.

Inhalation hazard:

No further relevant information available.

Potentially harmful effects:

No further relevant information available.

Section 12 – Ecological Information

Ecological toxicity

Aquatic toxicity:

No further relevant information available.

Persistence and degradability:

No further relevant information available.

Behaviour in environmental systems

Bioaccumulative potential:

No further relevant information available.

Mobility in soil:

No further relevant information available.

Ecological effects

Additional ecological information:

No further relevant information available.

General notes:

Do not allow material to be released to the environment without proper governmental permits.

Other adverse effects:

No further relevant information available.

Section 13 – Disposal Considerations

Waste treatment methods and Recommendation:

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packaging and Recommendation:

Disposal must be made according to official regulations.

Section 14 – Transport Information

	IATA	**IMDG**
UN Number	UN3480 UN3481	UN3480 UN3481
UN Proper shipping name	Lithium Ion Batteries Lithium Ion Batteries Packed With Equipment Lithium Ion Batteries Contained In Equipment	Lithium Ion Batteries Lithium Ion Batteries Packed With Equipment Lithium Ion Batteries Contained In Equipment
Transport hazard class(es)	9	9
Packing group	Ⅱ	Ⅱ
Marine pollutant	否 **No**	

Note: IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods

Transport information:

The Lithium Battery (365065 3.7V 1200mAh) has passed the test UN38.3.

The package of battery (365065 3.7V 1200mAh) should be complied with the requirements of Packing Instruction 965/966/967 of IATA DGR 60th Edition for transportation.

The package of battery (365065 3.7V 1200mAh) should be complied with the requirements of 188 of IMDG (39-18) or the <<Recommendations On The Transport Of Dangerous Goods-Model Regulations>> (20th). More information concerning shipping, testing, marking and packaging can be obtained from Label master at http://www.labelmaster.com.

Separate Lithium-ion batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport. Take in a cargo of them without falling, dropping, and breakage. Prevent collapse of cargo piles and wet by rain.

Note: Batteries weight in the package＜5kg (By air, Batteries packed with equipment).

Note: Batteries weight in the package＜5kg (By air, Batteries installed in equipment).

Transport Fashion: By air, by sea.

Section 15 – Regulatory Information

This Material Safety Data Sheet complies with the requirements of Regulation (EC) No. 1907/2006. The following laws, regulations, rules and standards of the substance or mixture of management to do the corresponding provisions:

Composition	CAS No.	IECSC	TSCA	DSL / NDSL	EINECS / ELINCS / NLP
Cobalt Oxide	1307-96-6	Listed	Listed	DSL	Listed
Graphite powder	7782-42-5	Listed	Listed	DSL	Listed
Electrolyte	21324-40-3	Listed	Listed	NDSL	Listed
Polyethylene	9002-88-4	Listed	Listed	DSL	Listed
Cu	7440-50-8	Listed	Listed	DSL	Listed
Nickel	7440-02-0	Listed	Listed	DSL	Listed
Polyvinylidene Fluoride	24937-79-9	Listed	Listed	DSL	Listed
Polypropylene	9003-07-0	Listed	Listed	DSL	Listed

Composition	CAS No.	IECSC	TSCA	DSL / NDSL	EINECS / ELINCS / NLP
Aluminum foil	7429-90-5	Listed	Listed	DSL	Listed
silicon	7440-21-3	Listed	Listed	DSL	Listed
Epoxy Resin	38891-59-7	Not Listed	Not Listed	Not Listed	Not Listed

PVC	9002-86-2	Listed	Listed	DSL	Listed
Gold	7440-57-5	Listed	Listed	DSL	Listed
Sn	7440-31-5	Listed	Listed	DSL	Listed

Note: EINECS: European Inventory of Existing Chemical Substances
ELINCS: European List of Notified Chemical Substances
DSL: Canadian Domestic Chemical Substances
IECSC: Inventory of Existing Chemical Substances in China
NDSL: Canadian non-domestic Chemical Substances
TSCA: Toxic Substances Control Act of USA

Declare to reader：

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.