Printing date 10/04/2022 Reviewed on 10/04/2022

1 Identification

Product identifier

Trade name: e-mark Go
Lithium Ion Battery: ICR14500-2S

Article number: 164238

Application of the substance / the mixture Rechargeable Li-ion battery

Details of the supplier of the safety data sheet

Manufacturer/Supplier:
COLOP Stempelerzeugung Skopek GmbH & Co. KG
Dr.-Arming-Straße 5
A-4600 Wels
T: +43 7242 66 104

Information department: Email: colop@colop.com

Emergency telephone number:
+43 7242 66 104
Available during office hours:
Mo-Th 8 a.m. – 4 p.m.
Fr 8 a.m. – 12 a.m.

Please contact your regional poison center or emergency call!

2 Hazard(s) identification

Classification of the substance or mixture
The product is not classified, according to the Globally Harmonized System (GHS).
Additional information:
The product itself is declared as an article and is not subject to the provisions of classification according to GHS Rev. 8 2019 (1.3.2) and OSHA HazCom Standard 29 CFR 1910.1200.

Label elements
GHS label elements Void
Hazard pictograms Void
Signal word Void
Hazard statements Void
Additional information:
The product itself is declared as an article and is not subject to the provisions of labeling according to GHS Rev. 8 2019 (1.3.2) and OSHA HazCom Standard 29 CFR 1910.1200.
Other hazards
Lithium-ion batteries are gas-tight and harmless if the manufacturer's instructions are observed during use and handling.
Never use chargers that are not suitable for the type of battery with rechargeable batteries. The limits for maximum current load, charging and discharging voltage must be strictly adhered to! Do not short-circuit. Do not damage mechanically (pierce, deform, disassemble, etc.). Do not heat or burn above the permissible temperature. Keep batteries away from small children. Always store batteries in a dry and cool place.

(Contd. on page 2)

(Contd. of page 1)

Lithium-ion batteries are safe to use when used properly and within the parameters specified by the manufacturer. Incorrect handling or circumstances resulting in improper operation may result in leakage of battery contents and decomposition products, resulting in severe reactions hazardous to health and the environment. In principle, contact with leaked battery components can pose a risk to health and the environment. Sufficient body and respiratory protection is therefore required in contact with conspicuous batteries (leakage of contents, deformation, discoloration, dents, etc.). Lithium-ion batteries can react very violently in combination with fire, for example. Battery components with considerable energy can be emitted.

As with other batteries, lithium batteries can continue to be a source of danger even when they are supposedly discharged.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description:

Rechargeable lithium-ion batteries are articles from which no substance is released when used properly.
Nominal voltage: 7.4 V
Typical capacity: 800 mAh (5.92 Wh)

Dangerous components:		
CAS: 12190-79-3	Lithuim-Cobalt(III)-oxid Carcinogenicity 2, H351; Toxic to Reproduction 1B, H360	25 - 30%
CAS: 7429-90-5	aluminium	21 - 23%
CAS: 7782-42-5	Graphite	15 - 20%
CAS: 21324-40-3	Lithiumhexafluorophosphat(1-) Specific Target Organ Toxicity - Repeated Exposure 1, H372 Skin Corrosion 1A, H314	10 - 15%
CAS: 7440-50-8	copper	10 - 11%
CAS: 1333-86-4	Carbon black Carcinogenicity 2, H351	0.5 - 0.3%
CAS: 24937-79-9	Polyvinylidenfluorid (PVDF)	1 - 5%

4 First-aid measures

Description of first aid measures

General information:

In normal cases no specific measures needed.
It always applies:
In case of discomfort or doubt, seek medical advice.

(Contd. on page 3)

(Contd. of page 2)

If unconscious, use a stable lateral position and do not administer anything through mouth.

The following measures apply to contact with the contents of a damaged battery:
After inhalation:
Supply fresh air; consult doctor in case of complaints.
In case of unconsciousness place patient stably in side position for transportation.
After skin contact:
Immediately wash with water and soap and rinse thoroughly.
Take off contaminated clothing and wash it before reuse.
Seek medical treatment in case of complaints.
After eye contact:
Rinse opened eye for several minutes under running water.
Remove contact lenses, if present and easy to do. Continue rinsing.
Consult an ophthalmologist or eye clinic immediately.
After swallowing:
Rinse mouth thoroughly with cold water. Do not induce vomiting. If the patient is fully conscious, give one or two glass of water to drink. Get medical attention immediately.
Most important symptoms and effects, both acute and delayed
No further relevant information available.
Indication of any immediate medical attention and special treatment needed
Depending on the condition of the patients, the doctor must assess the symptoms and the overall general condition.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray.
For safety reasons unsuitable extinguishing agents: Water with full jet
Special hazards arising from the substance or mixture
Batteries may burst at high temperatures, which may result in flammable, toxic and/or corrosive vapours.
Advice for firefighters
Protective equipment:
Wear self-contained respiratory protective device.
Wear fully protective suit.
Additional information
Remove container from fire, if possible without risk.
Cool endangered receptacles with water spray.
Ensure adequate ventilation.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Restricted access to the affected area until cleaning work is completed.
Wear protective equipment. Keep unprotected persons away.

(Contd. on page 4)

(Contd. of page 3)

Ensure adequate ventilation
Avoid skin and eye contact with damaged batteries.
Environmental precautions: Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up:
Cover leaked material with inert absorbent material (sand or soil) and dispose of in suitable containers.
Clean again.
Protective Action Criteria for Chemicals

PAC-1:		
CAS: 21324-40-3	Lithiumhexafluorophosphat(1-)	7.5 mg/m³
CAS: 7440-50-8	copper	3 mg/m³
CAS: 1333-86-4	Carbon black	9 mg/m³

PAC-2:		
CAS: 21324-40-3	Lithiumhexafluorophosphat(1-)	83 mg/m³
CAS: 7440-50-8	copper	33 mg/m³
CAS: 1333-86-4	Carbon black	99 mg/m³

PAC-3:		
CAS: 21324-40-3	Lithiumhexafluorophosphat(1-)	500 mg/m³
CAS: 7440-50-8	copper	200 mg/m³
CAS: 1333-86-4	Carbon black	590 mg/m³

Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

Precautions for safe handling
In any case, the warnings on batteries and the instructions for use of devices and other applications must be carefully observed.
Use only the recommended battery types.
Lithium-ion batteries should preferably be stored at room temperature and dry (max. 40°C), large temperature fluctuations should be avoided. (e.g. do not store near heaters, do not permanently expose to sunlight).
Never open, mechanically damage or burn the battery!
Observe protective measures and safety instructions.
Information about protection against explosions and fires:
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles:
Store in dry conditions.

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Store in a cool location.
Protect from heat and direct sunlight.
Store in accordance with local/regional/national/international regulations.
Information about storage in one common storage facility:
Store away from oxidizing agents.
Do not store together with acids.
Further information about storage conditions:
Recharge at regular intervals during prolonged storage.
Store in original container.
Recommended storage temperature: 0 °C - +35 °C
Storage class: 6.1 C
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Control parameters
Components with limit values that require monitoring at the workplace:
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

CAS: 7429-90-5 aluminium	
PEL	Long-term value: 15*; 5** mg/m³ *Total dust; ** Respirable fraction
REL	Long-term value: 10* 5** mg/m³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV	Long-term value: 1* mg/m³ as Al; *as respirable fraction, A4
CAS: 7782-42-5 Graphite	
PEL	Long-term value: 15 mppcf* mg/m³ *impinger samples counted by light field techn.
REL	Long-term value: 2.5* mg/m³ *respirable dust
TLV	Long-term value: 2* mg/m³ all forms except graphite fibers;*resp. fraction
CAS: 7440-50-8 copper	
PEL	Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume
REL	Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume
TLV	Long-term value: 1* 0.2** mg/m³ *dusts and mists; **fume; as Cu

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(Contd. of page 5)

CAS: 1333-86-4 Carbon black	
PEL	Long-term value: 3.5 mg/m³
REL	Long-term value: 3.5* mg/m³ *0.1 in presence of PAHs;See Pocket Guide Apps.A+C
TLV	Long-term value: 3* mg/m³ *inhalable fraction, A3

Regulatory information
PEL: Guide to Occupational Exposure Values (OSHA PELs)
REL: Guide to Occupational Exposure Values (NIOSH RELs)
TLV: Guide to Occupational Exposure Values (TLV)
Additional information: The lists that were valid during the creation were used as basis.

Exposure controls
Additional information about design of technical systems:
No further data; see item 7.
Technical measures and the use of suitable working methods take priority over the use of personal protective equipment.
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Do not eat or drink while working.
Avoid skin and eye contact with damaged batteries.
Avoid inhalation of spilled material.
Take off contaminated clothing and wash it before reuse.

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.
Eye wash bottles and emergency showers should be provided in the immediate area near the workplace.
Breathing equipment: Not required when handling undamaged batteries.
Protection of hands:
Not required when handling undamaged batteries.
Wear protective gloves made of chloroprene or rubber if batteries are damaged.
EN 374
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Eye protection:
Not required when handling undamaged batteries.
Wear protective goggles if batteries are damaged.
EN 166
Body protection: Not required when handling undamaged batteries.
Limitation and supervision of exposure into the environment
Do not allow to enter sewers/ surface or ground water.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information

Color:	Blue
Odor:	Odorless
Odor threshold:	No information available.
Melting point/Melting range:	No information available.
Boiling point/Boiling range:	No information available.
Flammability (solid, gaseous):	Not determined.
Explosion limits:	
Lower:	No information available.
Upper:	No information available.
Flash point:	Not applicable.
Decomposition temperature:	No information available.
pH-value:	Not applicable.
Viscosity:	
Kinematic:	Not applicable.
Dynamic:	Not applicable.
Solubility in / Miscibility with	
Water:	Insoluble.
Partition coefficient (n-octanol/water):	Not determined.
Vapor pressure:	Not applicable.
Density:	No information available.
Relative density	Not determined.
Vapor density	Not applicable.

Other information

Appearance:	
Form:	Solid
Important information on protection of health and environment, and on safety.	
Auto igniting:	No information available.
Danger of explosion:	Product does not present an explosion hazard.
Change in condition	
Oxidizing properties	No information available.

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Evaporation rate Not applicable.

10 Stability and reactivity

Reactivity No hazardous reactions known if stored and used as prescribed.
Chemical stability No decomposition if used and stored according to specifications.
Possibility of hazardous reactions No further relevant information available.
Conditions to avoid
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not expose the rechargeable Li-Ion battery to mechanical shock.
Do not disassemble, crush, short-circuit, or connect with incorrect polarity. Avoid mechanical or electrical abuse.
Incompatible materials: No further relevant information available.
Hazardous decomposition products: No decomposition if used and stored according to specifications.

11 Toxicological information

Information on toxicological effects
Inhalation: No probable route of exposure of the product itself. Inhalation of substances leaked from damaged batteries may irritate the respiratory tract and damage organs during prolonged or repeated exposure.

Skin contact: Contact with the undamaged battery does not present a hazard. Skin contact with damaged batteries may cause burns.

Eye contact: Contact with the undamaged battery does not constitute a hazard. Eye contact with spills from the damaged battery may cause burns.

Ingestion: No probable route of exposure of the product itself. Ingestion of spills may cause burns to the esophagus and stomach. Harmful if swallowed.

The product is declared as an article and is not subject to the GHS classification and labelling requirements.
There is no danger from the undamaged battery.
Acute toxicity: Based on available data, the classification criteria are not met.

LD/LC50 values that are relevant for classification:		
CAS: 7429-90-5 aluminium		
Oral	LD50	15,900 mg/kg (rat)
Inhalative	LC50/4h	> 888 mg/m³ (rat)
CAS: 7782-42-5 Graphite		
Oral	LD50	> 2,000 mg/kg (rat)

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CAS: 7440-50-8 copper		
Oral	LD50	> 2,000 mg/kg (rat)
CAS: 1333-86-4 Carbon black		
Oral	LD50	> 10,000 mg/kg (rat)

on the skin: Based on available data, the classification criteria are not met.
on the eye: Based on available data, the classification criteria are not met.
Sensitization: Based on available data, the classification criteria are not met.
Germ cell mutagenicity Based on available data, the classification criteria are not met.
Carcinogenicity Based on available data, the classification criteria are not met.
Reproductive toxicity Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure
Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure
Based on available data, the classification criteria are not met.
Aspiration hazard Based on available data, the classification criteria are not met.
Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer)		
CAS: 12190-79-3	Lithuim-Cobalt(III)-oxid	2B
CAS: 1333-86-4	Carbon black	2B

NTP (National Toxicology Program)
None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects
Additional ecological information:
General notes:
Avoid release to the environment.
Water hazard class 2 (Self-assessment): hazardous for water

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Do not allow product to reach ground water, water course or sewage system.

13 Disposal considerations

Waste treatment methods
Recommendation:
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Only dispose of product residues via authorised companies according to local legislation.

Uncleaned packagings:
Recommendation:
Dispose of packaging according to regulations on the disposal of packagings.
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

UN-Number
DOT, IMDG, IATA UN3481
UN proper shipping name
DOT Lithium ion batteries contained in equipment
IMDG, IATA LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT
Transport hazard class(es)

DOT, IMDG, IATA

Class 9 Miscellaneous dangerous substances and articles
Label 9A
Packing group
DOT, IMDG, IATA not regulated
Environmental hazards: Not applicable.
Special precautions for user Warning: Miscellaneous dangerous substances and articles
Hazard identification number (Kemler code): -
EMS Number: F-A,S-I
Stowage Category A
Stowage Code SW19 For batteries transported in accordance with SP 376 or SP 377 Category C, unless transported on a short international voyage.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
Transport/Additional information: **Special provision 188:**

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The transport of Li-Ion batteries is not subject to the provisions of ADR/RID/IMDG if the requirements specified therein are fulfilled.
The product has been tested according to the UN Manual of Tests and Criteria, Part III, Section 38.3.

IMDG

Limited quantities (LQ)	0
Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
UN "Model Regulation":	UN 3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, 9

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
Sara

Section 355 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

CAS: 12190-79-3	Lithuim-Cobalt(III)-oxid
CAS: 7429-90-5	aluminium
CAS: 7440-50-8	copper

TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

Hazardous Air Pollutants

CAS: 12190-79-3	Lithuim-Cobalt(III)-oxid

Proposition 65

Chemicals known to cause cancer:

CAS: 1333-86-4	Carbon black

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

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Carcinogenic categories

EPA (Environmental Protection Agency)		
CAS: 7440-50-8	copper	D

TLV (Threshold Limit Value)		
CAS: 7429-90-5	aluminium	A4
CAS: 1333-86-4	Carbon black	A4

NIOSH-Ca (National Institute for Occupational Safety and Health)	
CAS: 1333-86-4	Carbon black

GHS label elements
The product is declared as an article and is not subject to the provisions of classification and labeling according to GHS and OSHA HazCom Standard. There is no duty to create a safety data sheet for articles. This data sheet describes the safety requirements and is based on the Safety Data Sheet according to GHS.
Hazard pictograms Void
Signal word Void
Hazard statements Void

National regulations:

Global Automotive Declarable Substance List (GADSL):		
CAS: 12190-79-3	Lithuim-Cobalt(III)-oxid	D(FI)
CAS: 7782-42-5	Graphite	D(FI)
CAS: 7440-50-8	copper	D(LR)

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

IMPORTANT: The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.
However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance/mixture itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge.
For this and other reasons, we do not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product.
All materials may present unknown hazards and should be used with caution and only for identified uses described in section 1. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use.
No liability can be accepted for damage during handling or contact with the product.

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Training hints
Regular training of staff involved in the transport of dangerous goods (in accordance with Chapter 1.3 ADR).

Department issuing SDS:
UmEnA GmbH
http://umena.at
Email: office@umena.at
Date of preparation / last revision 10/04/2022
Abbreviations and acronyms:
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Corrosion 1A: Skin corrosion/irritation – Category 1A
Carcinogenicity 2: Carcinogenicity – Category 2
Toxic to Reproduction 1B: Reproductive toxicity – Category 1B
Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1