SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Trade name/designation : Polymer Lithium-ion Battery (2)

Product code : 752439-650mAh, 102053-1000mAh, 423040-450mAh, 852439-750mAh, 703062-1400mAh, 401225-80mAh, 401722-100mAh, 531728-175mAh, 451730-190mAh, 511643-300mAh, 611343-300mAh, 502530-300mAh, 423040-450mAh, 602248-560mAh, 702050-670mAh, 411740-240mAh, 511740-900mAh, 903242-1000mAh, 105085-5200mAh, 821960-1000mAh, 952439-850mAh, 602530-400mAh, 701953-700mAh,602234-420mAh, 362843-350mAh

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Cell battery

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Shenzhen Hugnen Technology (HGT) Co., LTD
N°2, Yinhu, baolihua Village, Guangming, Shenzhen City
GuangDong Province - China
T +0086-0755-23420683 - F +0086-0755-23420686
327876811@qq.com

1.4. Emergency telephone number

Emergency number : +0086-0755-23420683
Only available during office hours.

Country	Official advisory body	Address	Emergency number
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	+353 1 809 21 66 (public, 8am - 10pm, 7/7) +353 01 809 2566 (Professionals, 24/7)
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle	0844 892 0111 (UK only, 24/7, healthcare professionals only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Sens. 1 H317

Aquatic Acute Not classified

Full text of hazard classes and H-statements: see section 16

2.2. Label elements

Article. According to EC directives or the corresponding national regulations there is no labelling obligation for this product.

2.3. Other hazards

Other hazards : PBT/vPvB data : Not applicable . This article doesn't contain dangerous substances or preparations intended to be released under normal or reasonably foreseeable conditions of use.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixtures

Substance name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Cobalt lithium dioxide	(CAS-No.) 12190-79-3 (EC-No.) 235-362-0	30 - 40	Skin Sens. 1, H317
Iron	(CAS-No.) 7439-89-6 (EC-No.) 231-096-4 (EC Index) -	15 - 25	Not classified
Organic electrolyte	(CAS-No.) - (EC-No.) - (EC Index) -	15 - 20	Not classified
Copper (Cu)	(CAS-No.) 7440-50-8 (EC-No.) 231-159-6 (EC Index) -	5 - 15	Aquatic Acute 1, H400
Graphite	(CAS-No.) 7782-42-5 (EC-No.) 231-955-3 (EC Index) -	5 - 10	Not classified
Carbon (C)	(CAS-No.) 7440-44-0 (EC-No.) 231-153-3	5 - 10	Not classified
Aluminium	(CAS-No.) 7429-90-5 (EC-No.) 231-072-3 (EC Index) 013-002-00-1	1 - 5	Not classified

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Additional advice : First aider: Pay attention to self-protection. See also section 8 . Show this safety data sheet to the doctor in attendance. Treat symptomatically. Never give anything by mouth to an unconscious person or a person with cramps. In case of doubt or persistent symptoms, consult always a physician.

Inhalation : Remove affected person from the danger area and lay down. Provide fresh air. In case of shortness of breath, give oxygen. Call a physician immediately.

Skin contact : Remove contaminated, saturated clothing immediately. Rinse immediately with plenty of water for at least 15 minutes. Get medical advice/attention.

Eye contact : Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

In case of ingestion : Drink 1 or 2 glasses of water. Induce vomiting, but only if victim is fully conscious. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation : None under normal processing. May cause nose, throat, and lung irritation. (Symptoms of Overexposure).

Skin contact : None under normal processing. Causes burns.

Eye contact : None under normal processing. Causes burns.

Ingestion : None under normal processing. May cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Burns to the gastric/intestinal mucosa.

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry extinguishing powder /. Carbon dioxide . Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

Specific hazards : Fire or intense heat may cause violent rupture of the packages. Hazardous decomposition products. Carbon oxides . Fumes (Li2O). Do not allow run-off from fire-fighting to enter drains or water courses. Dispose of waste in accordance with environmental legislation.

5.3. Advice for firefighters

Firefighting instructions : Special protective equipment for firefighters. In case of fire: Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

For non-emergency personnel : Evacuate personnel to a safe area. Provide adequate ventilation. Use personal protective equipment as required. Reference to other sections: 8 . Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid contact with skin and eyes. Do not breathe vapour.

6.1.2. For emergency responders

For emergency responders : Ensure procedures and training for emergency decontamination and disposal are in place. Reference to other sections: 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite or powdered limestone. Collect in closed and suitable containers for disposal. Clean with detergents. Avoid solvents. Ensure all waste water is collected and treated via a waste water treatment plant.

6.4. Reference to other sections

Concerning disposal elimination after cleaning, see section 13. Concerning personal protective equipment to use, see section 8 .

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide adequate ventilation. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not pierce or burn, even after use. Do not allow to enter into surface water or drains. Avoid shock and friction.

Hygiene measures : Use only in area provided with appropriate exhaust ventilation. Wash hands and face before breaks and immediately after handling of the product. When using do not eat, drink or smoke. Keep good industrial hygiene.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Refer to the detailed list of incompatible materials in section 10 Stability/Reactivity. Keep container tightly closed in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid shock and friction. Protect from sunlight. Recommended storage temperature: 0°C~+35°C.

Packaging materials : Do not pierce or burn, even after use.

7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Copper (7440-50-8)		
Austria	MAK (mg/m³)	1 mg/m³ (inhalable fraction) 0,1 mg/m³ (respirable fraction, smoke)
Austria	MAK Short time value (mg/m³)	4 mg/m³ (inhalable fraction) 0,4 mg/m³ (respirable fraction, smoke)
Belgium	Limit value (mg/m³)	0,2 mg/m³ (fume) 1 mg/m³ (dust and mist)
Bulgaria	OEL TWA (mg/m³)	0,1 mg/m³ (metal vapor)
Croatia	GVI (granična vrijednost izloženosti) (mg/m³)	0,2 mg/m³ (fume) 1 mg/m³ (dust)
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m³)	2 mg/m³ (dust and fume)
Czech Republic	Expoziční limity (PEL) (mg/m³)	1 mg/m³ (dust) 0,1 mg/m³ (fume)
Denmark	Grænseværdie (langvarig) (mg/m³)	1,0 mg/m³ (dust and powder) 0,1 mg/m³ (fume)

Copper (7440-50-8)		
Estonia	OEL TWA (mg/m³)	1 mg/m³ (total dust) 0,2 mg/m³ (respirable dust)
Finland	HTP-arvo (8h) (mg/m³)	1 mg/m³ 0,1 mg/m³ (respirable dust and fume)
France	VME (mg/m³)	0,2 mg/m³ (fume) 1 mg/m³ (dust)
France	VLE (mg/m³)	2 mg/m³ (dust)
Greece	OEL TWA (mg/m³)	0,2 mg/m³ (fume) 1 mg/m³ (dust)
Greece	OEL STEL (mg/m³)	2 mg/m³ (dust)
Hungary	AK-érték	1 mg/m³ 0,1 mg/m³ (fume)
Hungary	CK-érték	4 mg/m³ 0,4 mg/m³ (fume)
Ireland	OEL (8 hours ref) (mg/m³)	0,2 mg/m³ (fume) 1 mg/m³ (dust and mist)
Ireland	OEL (15 min ref) (mg/m3)	0,6 mg/m³ (calculated-fume) 2 mg/m³ (dust and mist)
Latvia	OEL TWA (mg/m³)	0,5 mg/m³
Lithuania	IPRV (mg/m³)	1 mg/m³ (inhalable fraction) 0,2 mg/m³ (respirable fraction)
Netherlands	Grenswaarde TGG 8H (mg/m³)	0,1 mg/m³ (inhalable fraction)
Poland	NDS (mg/m³)	0,2 mg/m³
Portugal	OEL TWA (mg/m³)	0,2 mg/m³ (fume) 1 mg/m³ (dust and mist)
Romania	OEL TWA (mg/m³)	0,50 mg/m³ (powder)
Romania	OEL STEL (mg/m³)	0,20 mg/m³ (fume) 1,50 mg/m³ (dust)
Slovakia	NPHV (priemerná) (mg/m³)	1 mg/m³ (dust) 0,1 mg/m³ (fume)
Slovakia	NPHV (Hraničná) (mg/m³)	2 mg/m³ (dust) 0,2 mg/m³ (fume)
Slovenia	OEL TWA (mg/m³)	1 mg/m³ (inhalable fraction) 0,1 mg/m³ (respirable fraction, fume)
Slovenia	OEL STEL (mg/m³)	4 mg/m³ (inhalable fraction) 0,4 mg/m³ (respirable fraction, fume)
Spain	VLA-ED (mg/m³)	0,2 mg/m³ (fume) 1 mg/m³ (dust and mist)
Sweden	nivågränsvärde (NVG) (mg/m³)	1 mg/m³ (total dust) 0,2 mg/m³ (respirable dust)
United Kingdom	WEL TWA (mg/m³)	1 mg/m³ (dust and mists) 0,2 mg/m³ (fume)
United Kingdom	WEL STEL (mg/m³)	0,6 mg/m³ (calculated-fume) 2 mg/m³ (dust and mist)
Norway	Grenseverdier (AN) (mg/m³)	0,1 mg/m³ (fume) 1 mg/m³ (dust)
Norway	Grenseverdier (Korttidsverdi) (mg/m3)	0,1 mg/m³ (fume) 1 mg/m³ (dust)
Switzerland	VME (mg/m³)	0,1 mg/m³ (inhalable dust)

Copper (7440-50-8)		
Switzerland	VLE (mg/m³)	0,2 mg/m³ (inhalable dust)
Australia	TWA (mg/m³)	1 mg/m³ (dust and mist) 0,2 mg/m³ (fume)
Canada (Quebec)	VEMP (mg/m³)	0,2 mg/m³ (fume) 1 mg/m³ (dust and mist)
USA - ACGIH	ACGIH TWA (mg/m³)	0,2 mg/m³ (fume)
USA - IDLH	US IDLH (mg/m³)	100 mg/m³ (dust, fume and mist)
USA - NIOSH	NIOSH REL (TWA) (mg/m³)	1 mg/m³ (dust and mist) 0,1 mg/m³ (fume)
USA - OSHA	OSHA PEL (TWA) (mg/m³)	0,1 mg/m³ (fume) 1 mg/m³ (dust and mist)

Aluminium (7429-90-5)		
Austria	MAK (mg/m³)	10 mg/m³ (inhalable fraction)
Austria	MAK Short time value (mg/m³)	20 mg/m³ (inhalable fraction)
Belgium	Limit value (mg/m³)	1 mg/m³
Bulgaria	OEL TWA (mg/m³)	10,0 mg/m³ (metal dust) 1,5 mg/m³ (respirable fraction)
Croatia	GVI (granična vrijednost izloženosti) (mg/m³)	10 mg/m³ (total dust) 4 mg/m³ (respirable dust)
Czech Republic	Expoziční limity (PEL) (mg/m³)	10,0 mg/m³ (dust)
Denmark	Grænseværdie (langvarig) (mg/m³)	5 mg/m³ (dust, fume and powder, total) 2 mg/m³ (dust and powder, respirable)
Estonia	OEL TWA (mg/m³)	10 mg/m³ (total dust) 4 mg/m³ (respirable dust)
France	VME (mg/m³)	10 mg/m³ (metal) 5 mg/m³ (dust)
Greece	OEL TWA (mg/m³)	10 mg/m³ (inhalable fraction) 5 mg/m³ (respirable fraction)
Hungary	AK-érték	6 mg/m³ (respirable dust)
Ireland	OEL (8 hours ref) (mg/m³)	1 mg/m³ (respirable dust)
Ireland	OEL (15 min ref) (mg/m3)	3 mg/m³ (calculated-respirable dust)
Latvia	OEL TWA (mg/m³)	2 mg/m³
Lithuania	IPRV (mg/m³)	5 mg/m³ (inhalable fraction) 2 mg/m³ (respirable fraction) 1 mg/m³
Poland	NDS (mg/m³)	2,5 mg/m³ (inhalable fraction) 1,2 mg/m³ (respirable fraction)
Portugal	OEL TWA (mg/m³)	10 mg/m³ (metal dust)
Romania	OEL TWA (mg/m³)	3 mg/m³ (dust) 1 mg/m³ (fume)
Romania	OEL STEL (mg/m³)	10 mg/m³ (powder) 3 mg/m³ (fume)
Slovakia	NPHV (priemerná) (mg/m³)	1,5 mg/m³ (metal) 6 mg/m³ (total aerosol)
Spain	VLA-ED (mg/m³)	10 mg/m³ (dust)
Sweden	nivågränsvärde (NVG) (mg/m³)	5 mg/m³ (total dust) 2 mg/m³ (respirable dust)

Aluminium (7429-90-5)		
United Kingdom	WEL TWA (mg/m³)	10 mg/m³ (inhalable dust) 4 mg/m³ (respirable dust)
United Kingdom	WEL STEL (mg/m³)	30 mg/m³ (calculated-inhalable dust) 12 mg/m³ (calculated-respirable dust)
Norway	Grenseverdier (AN) (mg/m³)	5 mg/m³ (pyrotechnical-powder)
Norway	Grenseverdier (Korttidsverdi) (mg/m3)	5 mg/m³ (pyrotechnical-powder)
Switzerland	VME (mg/m³)	3 mg/m³ (respirable dust)
Australia	TWA (mg/m³)	10 mg/m³ (dust) 5 mg/m³ (welding fume)
Canada (Quebec)	VEMP (mg/m³)	10 mg/m³
USA - ACGIH	ACGIH TWA (mg/m³)	1 mg/m³ (respirable fraction)
USA - NIOSH	NIOSH REL (TWA) (mg/m³)	10 mg/m³ (total dust) 5 mg/m³ (respirable dust)
USA - OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)

Graphite (7782-42-5)		
Austria	MAK (mg/m³)	5 mg/m³ (alveolar dust with <1% Quartz, respirable fraction)
Austria	MAK Short time value (mg/m³)	10 mg/m³ (alveolar dust with <1% quartz, respirable fraction)
Belgium	Limit value (mg/m³)	2 mg/m³ (except fibers-alveolar fraction)
Bulgaria	OEL TWA (mg/m³)	5,0 mg/m³ (inhalable fraction)
Croatia	GVI (granična vrijednost izloženosti) (mg/m³)	4 mg/m³ (respirable dust) 10 mg/m³ (total dust)
Czech Republic	Expoziční limity (PEL) (mg/m³)	2,0 mg/m³
Denmark	Grænseværdie (langvarig) (mg/m³)	2,5 mg/m³ (natural-respirable)
Estonia	OEL TWA (mg/m³)	5 mg/m³ (dust)
Finland	HTP-arvo (8h) (mg/m³)	2 mg/m³
France	VME (mg/m³)	2 mg/m³ (alveolar fraction)
Greece	OEL TWA (mg/m³)	10 mg/m³ (inhalable fraction) 5 mg/m³ (respirable fraction)
Ireland	OEL (8 hours ref) (mg/m³)	10 mg/m³ (total inhalable dust) 4 mg/m³ (respirable dust)
Ireland	OEL (15 min ref) (mg/m3)	30 mg/m³ (calculated-total inhalable dust) 12 mg/m³ (calculated-respirable dust)
Latvia	OEL TWA (mg/m³)	2 mg/m³
Lithuania	IPRV (mg/m³)	5 mg/m³ (dust)
Poland	NDS (mg/m³)	4,0 mg/m³ (natural-inhalable fraction) 1,0 mg/m³ (natural-respirable fraction) 6,0 mg/m³ (synthetic-inhalable fraction)
Portugal	OEL TWA (mg/m³)	2 mg/m³ (all forms except Graphite fibers-respirable fraction)
Romania	OEL TWA (mg/m³)	2 mg/m³ (SiO2 <5%-respirable fraction, dust)
Slovakia	NPHV (priemerná) (mg/m³)	2,0 mg/m³ (respirable fraction, 5% or less fibrogenic component) 10 mg/m³ (respirable fraction, greater than 5% fibrogenic component) 10 mg/m³ (total aerosol)

Graphite (7782-42-5)		
Spain	VLA-ED (mg/m³)	2 mg/m³ (dust)
Sweden	nivågränsvärde (NVG) (mg/m³)	5 mg/m³ (total dust)
United Kingdom	WEL TWA (mg/m³)	10 mg/m³ (inhalable dust) 4 mg/m³ (respirable dust)
United Kingdom	WEL STEL (mg/m³)	30 mg/m³ (calculated-inhalable dust) 12 mg/m³ (calculated-respirable dust)
Norway	Grenseverdier (AN) (mg/m³)	5 mg/m³ (natural-total dust) 2 mg/m³ (natural-respirable dust) 10 mg/m³ (synthetic-total dust) 4 mg/m³ (synthetic-respirable dust)
Norway	Grenseverdier (Korttidsverdi) (mg/m3)	5 mg/m³ (natural-total dust) 2 mg/m³ (natural-respirable dust) 10 mg/m³ (synthetic-total dust) 4 mg/m³ (synthetic-respirable dust)
Switzerland	VME (mg/m³)	2,5 mg/m³ (natural-respirable dust) 5 mg/m³ (natural-inhalable dust)
Australia	TWA (mg/m³)	3 mg/m³ (containing no asbestos and <1% crystalline silica, all forms except fibres, natural and synthetic-respirable dust)
Canada (Quebec)	VEMP (mg/m³)	2 mg/m³ (containing no Asbestos and <1% Crystalline silica, except Graphite fibres-respirable dust)
USA - ACGIH	ACGIH TWA (mg/m³)	2 mg/m³ (all forms except graphite fibers-respirable fraction)
USA - IDLH	US IDLH (mg/m³)	1250 mg/m³
USA - NIOSH	NIOSH REL (TWA) (mg/m³)	2,5 mg/m³ (natural-respirable dust)
USA - OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (synthetic-total dust) 5 mg/m³ (synthetic-respirable fraction)

Carbon (C) (7440-44-0)		
Austria	MAK (mg/m³)	5 mg/m³ (alveolar dust with <1% Quartz, respirable fraction)
Austria	MAK Short time value (mg/m³)	10 mg/m³ (alveolar dust with <1% Quartz, respirable fraction)
Poland	NDS (mg/m³)	4 mg/m³ (natural-inhalable fraction) 1 mg/m³ (natural-respirable fraction) 6 mg/m³ (synthetic-inhalable fraction)

Iron (7439-89-6)		
Bulgaria	OEL TWA (mg/m³)	6 mg/m³ (containing <2% free Crystalline silicon dioxide in respirable fraction-dust, inhalable fraction)
Slovakia	NPHV (priemerná) (mg/m³)	6 mg/m³ (total aerosol)

Additional information : Concentration measurement in air. Personal air monitoring

8.2. Exposure controls

Engineering control measures : Provide adequate ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Eye wash bottle with pure water. Use only at a place, which is equipped with a safety shower. Take precautionary measures against static discharges. Organisational measures to prevent /limit releases, dispersion and exposure : See also section 7.

Personal protection equipment	:	Wear suitable protective clothing.
Hand protection	:	Not required for normal conditions of use. Protective gloves (EN 374). The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves. (neoprene gloves. NBR (Nitrile rubber))
Eye protection	:	Not required for normal conditions of use. Safety glasses (EN 166)
Body protection	:	Wear suitable coveralls to prevent exposure to the skin
Respiratory protection	:	Not required for normal conditions of use. In case of insufficient ventilation, wear suitable respiratory equipment. Full face mask (EN 136). Half-face mask (DIN EN 140). Filter type: ABEKP (EN141)
Thermal hazard protection	:	Not required for normal conditions of use.
Environmental exposure controls	:	Do not allow to enter into surface water or drains. Comply with applicable Community environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Sealed metallic canister.
Colour	:	Silvery-white.
Odour	:	odourless.
Odour threshold	:	Not applicable
pH	:	Not applicable
Relative evaporation rate (butylacetate=1)	:	No data available
Melting / freezing point	:	Not applicable
Freezing point	:	No data available
Initial boiling point and boiling range	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not self-igniting
Decomposition temperature	:	Not applicable
Flammability (solid, gas)	:	No data available
Vapour pressure	:	Not applicable
Vapour density	:	Not applicable
Relative density	:	Not applicable
Solubility	:	Insoluble in water.
Partition coefficient n-octanol/water	:	Not applicable
Kinematic viscosity	:	Not applicable
Dynamic viscosity	:	Not applicable
Explosive properties	:	Not applicable.
Oxidising properties	:	Not applicable.
Explosive limits	:	Not applicable

9.2. Other information

Additional information	:	Values : 3,7V

SECTION 10: Stability and reactivity

10.1. Reactivity

Reference to other sections: 10.5.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Avoid shock and friction. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. See also section 7.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Base metal. See also section 7.

10.6. Hazardous decomposition products

Burning produces noxious and toxic fumes. Carbon oxides (CO, CO2)/. LiOx.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met.)

Carbon (C) (7440-44-0)	
LD50/oral/rat	> 10000 mg/kg

Iron (7439-89-6)	
LD50/oral/rat	984 mg/kg bw

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met.)
pH: Not applicable

Serious eye damage/eye irritation : Not classified (Based on available data, the classification criteria are not met.)
pH: Not applicable

Respiratory or skin sensitisation : May cause an allergic skin reaction.
Substances are only released upon destruction of the system.

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met.)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met.)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met.)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met.)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met.)

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

Other information : Symptoms related to the physical, chemical and toxicological characteristics.
Reference to other sections: 4.2.

SECTION 12: Ecological information

12.1. Toxicity

Environmental properties : Ecological injuries are not known or expected under normal use.

Copper (7440-50-8)	
LC50 fish 1	0,0068 - 0,0156 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	(Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	< 0,3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Iron (7439-89-6)	
LC50 fish 1	13,6 mg/l (Morone saxatilis)

12.2. Persistence and degradability

Polymer Lithium-ion Battery (2)	
Persistence and degradability	No data available.

12.3. Bioaccumulative potential

Polymer Lithium-ion Battery (2)	
Partition coefficient n-octanol/water	Not applicable
Bioaccumulative potential	No data available.

12.4. Mobility in soil

Polymer Lithium-ion Battery (2)	
Mobility in soil	No data available
Ecology - soil	Not applicable.

12.5. Results of PBT and vPvB assessment

Polymer Lithium-ion Battery (2)	
Results of PBT assessment	Not applicable

12.6. Other adverse effects

Additional information : No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Handle with care. Reference to other sections: 7. Handling and storage . Dispose of as hazardous waste in compliance with local and national regulations. Refer to manufacturer/supplier for information on recovery/recycling. Collect and dispose of waste product at an authorised disposal facility.

Additional information : Do not pierce or burn, even after use. Dispose of contaminated materials in accordance with current regulations.

European waste catalogue (2001/573/EC, 75/442/EEC, 91/689/EEC) : Classified as hazardous waste according to European Union regulations

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
3481	3481	3481	3481	3481
14.2. UN proper shipping name				
LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT / LITHIUM ION BATTERIES PACKED WITH EQUIPMENT	LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT	Lithium ion batteries contained in equipment	LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT	LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT
Transport document description				
UN 3480 LITHIUM ION BATTERIES, 9, (E)	UN 3480 LITHIUM ION BATTERIES, 9	UN 3480 Lithium ion batteries, 9	UN 3480 LITHIUM ION BATTERIES, 9	UN 3480 LITHIUM ION BATTERIES, 9
14.3. Transport hazard class(es)				
9A	9A	9	9A	9A
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
Not applicable				

14.6. Special precautions for user

Special precautions for user : No data available

- Overland transport

Classification code (ADR) : M4

Special Provisions : 188, 230, 310, 360, 348, 376, 377, 636

Limited quantities (ADR) : 0

Excepted quantities (ADR) : E0

Packing instructions (ADR) : P903, P908, P909, P910, LP903, LP904

Transport category (ADR) : 2

tunnel restriction code : E

EAC code : 4W

- Transport by sea

Special provisions (IMDG) : 188, 230, 348, 360, 376, 377, 384

Limited quantities (IMDG) : 0

Excepted quantities (IMDG) : E0

Packing instructions (IMDG)	: P903, P908, P909 , P910, LP903, LP904
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-I
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW19
Properties and observations (IMDG)	: Electrical batteries containing lithium ion encased in a rigid metallic body. Lithium ion batteries may also be shipped in, or packed with, equipment. Electrical lithium batteries may cause fire due to an explosive rupture of the body caused by improper construction or reaction with contaminants.
- Air transport	
PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: 965~967
PCA max net quantity (IATA)	: 5 kg
CAO packing instructions (IATA)	: 965~967
CAO max net quantity (IATA)	: 35 kg
Special provisions (IATA)	: A48, A99, A154, A164, A181, A185, A88, A206
ERG code (IATA)	: 9F
- Inland waterway transport	
Classification code (ADN)	: M4
Special provisions (ADN)	: 188, 230, 310, 348, 360, 376, 377, 636
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP
Number of blue cones/lights (ADN)	: 0
- Rail transport	
Classification code (RID)	: M4
Special provisions (RID)	: 188, 230, 310, 348, 360, 376, 377, 636
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P903, 908, 909, LP903, LP904
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE2
Hazard identification number (RID)	: 90

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Code: IBC : Not applicable.

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

Reference to AwSV	: Water hazard class (WGK) 1, low hazard to waters (Classification according to AwSV, Annex 1)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV	: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen	: None of the components are listed
SZW-lijst van mutagene stoffen	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid	: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling	: None of the components are listed

15.2. Chemical safety assessment

Not required

SECTION 16: Other information

Indication of changes:

14	UN number	Modified
16	Indication of changes	Modified

Abbreviations and acronyms:

	ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC IATA = International Air Transport Association (DGR 59th Edition) IMDG = International Maritime Dangerous Goods Code (Special provision 188) LEL = Lower Explosive Limit/Lower Explosion Limit UEL = Upper Explosion Limit/Upper Explosive Limit REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
	EC50 = Median Effective Concentration
	LC50 = Median lethal concentration
	LD50 = Median lethal dose
	TLV = Threshold limits
	TWA = time weighted average
	STEL = Short term exposure limit
	persistent, bioaccumulating and toxic (PBT).
	vPvB = very persistent and very bioaccumulating
	WGK = Wassergefährdungsklasse (Water Hazard Class under German Federal Water Management Act)

Sources of key data used to compile the datasheet : Name (SDS) Polymer Li-ion Battery. Report N° STR17059153S. Manufacturer/Supplier Shenzhen Hugnen Technology (HGT) Co, LTD. ECHA (European Chemicals Agency).

Full text of H- and EUH-statements:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Oral)	Acute toxicity Category 4
Carc. 2	Carcinogenicity, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Sens. 1	Skin sensitisation, hazard category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.

The contents and format of this SDS are in accordance with EEC Commission Directive 2015/830/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

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