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

1.1. Product identifier

Product form : Article

Trade name/designation : SHIDO
Lithium-Ion battery

Product group : Trade product

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Starter battery

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

DC-AFAM NV
Venecoweg 20A – De Prijkels E17
B 9810 Nazareth
T +32 (0) 9 243 73 73 - F +32 (0) 9 243 73 95
service@dc-afam.com

1.4. Emergency telephone number

Emergency number : +32 9 243 73 90
Only available during office hours.

Country	Official advisory body	Address	Emergency number
IRELAND (REPUBLIC OF)	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	+353 18 37 99 64/+353 1 809 21 66
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, Monday to Friday, 08.00 to 18.00 hours, healthcare professionals only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

2.2. Label elements

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

Not applicable.

2.3. Other hazards

Other hazards : PBT/vPvB data : Not applicable . This article contains neither dangerous substances nor dangerous mixtures which are 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. Mixture

Substance name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
LITHIUM IRON PHOSPHATE CARBON COATED (LiFePO4)	(CAS No.) 15365-14-7	28	Not classified
Copper	(CAS No.) 7440-50-8 (EC No) 231-159-6 (EC Index) -	13	Not classified
Graphite	(CAS No.) 7782-42-5 (EC No) 231-955-3	12	Not classified
Lithium hexafluorophosphate(1-)	(CAS No.) 21324-40-3 (EC No) 244-334-7 (EC Index) -	9	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314
Ethylene carbonate	(CAS No.) 96-49-1 (EC No) 202-510-0	9	Eye Irrit. 2, H319
Dimethyl carbonate	(CAS No.) 616-38-6 (EC No) 210-478-4 (EC Index) 607-013-00-6	9	Flam. Liq. 2, H225
Aluminium powder (stabilized)	(CAS No.) 7429-90-5 (EC No) 231-072-3 (EC Index) 013-002-00-1	7	Flam. Sol. 1, H228 Water-react. 2, H261
Polypropylene	(CAS No.) 9003-07-0 (EC No) 618-352-4 (EC Index) -	5	Not classified
Polyethylene	(CAS No.) 9002-88-4 (EC No) 618-339-3	5	Not classified
Poly(vinylidene fluoride)	(CAS No.) 24937-79-9 (EC No) - (EC Index) -	2	Not classified
Sodium carboxymethyl cellulose	(CAS No.) 9004-32-4 (EC No) 618-378-6	0,5	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 person to fresh air and keep comfortable for breathing. Get medical advice/attention. Artificial respiration and/or oxygen may be necessary.

Skin contact : Remove contaminated, saturated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. Get immediate medical advice/attention.

Eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

In case of ingestion : Call a physician immediately. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Aspiration hazard if swallowed - can enter lungs and cause damage. Observe risk of aspiration if vomiting occurs.

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

Inhalation : None under normal processing. Inhalation of fumes or vapours may cause respiratory irritation. (Electrolyte).

Skin contact : None under normal processing. May cause skin irritation. Burns . (Electrolyte).

Eye contact : None under normal processing. May cause eye irritation. Burns . (Electrolyte).

Ingestion : None under normal processing. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract . (Electrolyte).

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 chemical powder. Fire class B. Dry sand.

Unsuitable extinguishing media : Water.

5.2. Special hazards arising from the substance or mixture

Specific hazards : Do not allow run-off from fire-fighting to enter drains or water courses. Dispose of waste in accordance with environmental legislation.

Explosion hazard : Heating may cause an explosion.

Hazardous decomposition products in case of fire : Metallic oxides. Carbon dioxide. Carbon monoxide.

5.3. Advice for firefighters

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

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 : Provide adequate ventilation. Evacuate personnel to a safe area. Avoid contact with skin, eyes and clothing. Do not breathe vapours. Concerning personal protective equipment to use, see section 8. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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 contact with soil, surface or ground water.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Wipe up with absorbent material (eg. cloth, fleece). Dispose of contaminated materials in accordance with current regulations.

6.4. Reference to other sections

Disposal: 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. Disconnect the battery before working on or near any disposed part of the vehicle electrical system. Take any precaution to avoid mixing with incompatible materials. Refer to Section 10 on Incompatible Materials. 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 : Do not store near or with any of the incompatible materials listed in section 10. Store in dry, cool, well-ventilated area. Store at room temperature. Protect from moisture. Protect from sunlight. Keep away from heat. Remove all sources of ignition. Avoid shock and friction.

7.3. Specific end use(s)

Not applicable.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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)
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)

Graphite (7782-42-5)		
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)

Polypropylene (9003-07-0)		
Czech Republic	Expoziční limity (PEL) (mg/m³)	5 mg/m³ (dust)
Latvia	OEL TWA (mg/m³)	5 mg/m³ (dust)
Lithuania	IPRV (mg/m³)	10 mg/m³ (not stabilized)
Slovakia	NPHV (priemerná) (mg/m³)	5,0 mg/m³ (total solid aerosol)

Polyethylene (9002-88-4)		
Bulgaria	OEL TWA (mg/m³)	10,0 mg/m³ (dust)
Czech Republic	Expoziční limity (PEL) (mg/m³)	5 mg/m³ (dust)
Latvia	OEL TWA (mg/m³)	5 mg/m³ (dust)
Lithuania	IPRV (mg/m³)	10 mg/m³
Slovakia	NPHV (priemerná) (mg/m³)	5,0 mg/m³ (total solid aerosol)

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 fumes)
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)
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)

Copper (7440-50-8)		
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)
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)

Copper (7440-50-8)		
USA - OSHA	OSHA PEL (TWA) (mg/m³)	0,1 mg/m³ (fume) 1 mg/m³ (dust and mist)
Aluminium powder (stabilized) (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)
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)

Aluminium powder (stabilized) (7429-90-5)		
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)

Additional information : Concentration measurement in air. Personal 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. Take precautionary measures against static discharges. Organisational measures to prevent /limit releases, dispersion and exposure : See also section 7 .

Hand protection : Not required for normal conditions of use. Protective gloves (EN 374) -. NBR (Nitrile rubber) . 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.

Eye protection : Not required for normal conditions of use. Safety glasses (EN 166)

Body protection : Not required for normal conditions of use

Respiratory protection : No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Full face mask (EN 136). Half-face mask (DIN EN 140). Filter type: AP (EN141).

Environmental exposure controls : Comply with applicable Community environmental protection legislation. Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Unit. Hermetically sealed.

Colour : black case & blue lid.

Odour : None.

Odour threshold : No data available

pH : No data available

Relative evaporation rate (butylacetate=1) : No data available

Melting point/freezing point : No data available

Freezing point : No data available

Initial boiling point and boiling range : No data available

Flash point : Not applicable

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapour pressure : No data available

Vapour density : No data available

Relative density : Not applicable

Solubility : Insoluble in water.

Partition coefficient n-octanol/water : No data available

Kinematic viscosity : No data available

Dynamic viscosity : No data available
Explosive properties : Not applicable.
Oxidising properties : No data available
Explosive limits : Not applicable

9.2. Other information

Further information : see technical data sheet. 12,0 V / 1,6 - 8 Ah / 19 - 96 Wh

SECTION 10: Stability and reactivity

10.1. Reactivity

Reference to other sections: 10.5.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

Keep away from heat. Avoid shock and friction. See also section 7 : Handling and storage .

10.5. Incompatible materials

Strong oxidizing agents. Acids. Water. See also section 7 .

10.6. Hazardous decomposition products

None under normal conditions. Hazardous decomposition products : Carbon oxides,. Copper oxides,. metal oxides, ... Reference to other sections: 5.2.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Article: Not applicable)

Sodium carboxymethyl cellulose (9004-32-4)	
LD50/oral/rat	27000 mg/kg
LC50/inhalation/4h/rat	> 5800 mg/m³ (Exposure time: 4 h)

Lithium hexafluorophosphate(1-) (21324-40-3)	
LD50/oral/rat	> 1702 mg/kg (big rat)

Ethylene carbonate (96-49-1)	
LD50/oral/rat	10 g/kg

Dimethyl carbonate (616-38-6)	
LD50/oral/rat	> 6000 mg/kg (small rat) >13000 mg/kg (big rat)

Skin corrosion/irritation : Not classified (Article: Not applicable)
Serious eye damage/eye irritation : Not classified (Article: Not applicable)
Respiratory or skin sensitisation : Not classified (Article: Not applicable)
Germ cell mutagenicity : Not classified (Article: Not applicable)
Carcinogenicity : Not classified (Article: Not applicable)
Reproductive toxicity : Not classified (Article: Not applicable)
STOT-single exposure : Not classified (Article: Not applicable)
STOT-repeated exposure : Not classified (Article: Not applicable)
Aspiration hazard : Not classified (Article: Not applicable)

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	0,03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	< 0,3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

12.2. Persistence and degradability

SHIDO Lithium-Ion battery	
Persistence and degradability	No data available.

12.3. Bioaccumulative potential

SHIDO Lithium-Ion battery	
Bioaccumulative potential	No data available.

12.4. Mobility in soil

SHIDO Lithium-Ion battery	
Ecology - soil	No data available.

12.5. Results of PBT and vPvB assessment

SHIDO Lithium-Ion battery	
Results of PBT assessment	Not applicable.

12.6. Other adverse effects

Other adverse effects : No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

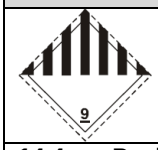
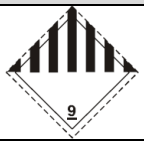
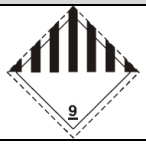
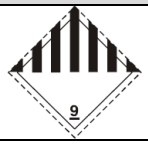
Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not puncture or incinerate.

Codes of waste (2001/573/EC, 75/442/EEC, 91/689/EEC) : The following Waste Codes are only suggestions:
16 06 05 - other batteries and accumulators
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
3480	3480	3480	3480	3480
14.2. UN proper shipping name				
LITHIUM ION BATTERIES	LITHIUM ION BATTERIES	Lithium ion batteries	LITHIUM ION BATTERIES	LITHIUM ION BATTERIES
Transport document description				
UN 3480 LITHIUM ION BATTERIES, 9, II, (E)	UN 3480 LITHIUM ION BATTERIES, 9, II			
14.3. Transport hazard class(es)				
9	9	9	9	9

ADR	IMDG	IATA	ADN	RID
				
14.4. Packing group				
II	II	Not applicable	II	II
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

- Overland transport

Classification code (ADR) : M4
Special Provisions : 188, 230, 310, 348, 636
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P903, P903a, P903b
Transport category (ADR) : 2
tunnel restriction code : E
EAC code : 4W

- Transport by sea

Special provisions (IMDG) : 188, 230, 310, 348, 957
Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P903
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-I
Stowage category (IMDG) : A
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) : See 965
PCA max net quantity (IATA) : See 965
CAO packing instructions (IATA) : See 965
CAO max net quantity (IATA) : See 965
Special provisions (IATA) : A88, A99, A154, A164, A183
ERG code (IATA) : 9F

- Inland waterway transport

Classification code (ADN) : M4
Special provisions (ADN) : 188, 23, 31, 348, 636, 661

Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP
Number of blue cones/lights (ADN)	: 0
Carriage prohibited (ADN)	: No
Not subject to ADN	: No

- Rail transport

Classification code (RID)	: M4
Special provisions (RID)	: 188, 230, 310, 348, 636, 661
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P903, P903a, P903b
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE2
Hazard identification number (RID)	: 90
Carriage prohibited (RID)	: No

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 substance on the REACH candidate list

15.1.2. National regulations

Germany

VwVwS Annex reference	: Water hazard class (WGK) nwg, Non-hazardous to water (Classification according to VwVwS, Annex 4)
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 applicable.

SECTION 16: Other information

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 IMDG = International Maritime Dangerous Goods Code 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 : SDS Manufacturer/Supplier.

Full text of H- and EUH-statements:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Oral)	Acute toxicity Category 4
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Sol. 1	Flammable solids, Hazard Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Water-react. 2	Substances and Mixtures which, in contact with water, emit flammable gases, Hazard Category 2
H225	Highly flammable liquid and vapour.
H228	Flammable solid.
H261	In contact with water releases flammable gases.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.

The contents and format of this SDS are in accordance with EEC Commission Directive 1999/45/EC, 67/548/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

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