Beiblatt zum Sicherheitsdatenblatt / *Supplement to the safety data sheet*

Abschnitt 1 / *Section 1*

s. Original-Datenblatt / see original safety data sheet

1.1 Produktidentifikation / *Product identification* s. Original-Datenblatt / *see original safety data sheet*

1.2 Verwendungen des Stoffs / *Uses of the substance* s. Original-Datenblatt / *see original safety data sheet*

1.3 Einzelheiten zum Lieferanten / *Details of the supplier*

Firmenname /	*Supplier*	Stürmer Maschinen GmbH,
Straße /	*Street*	Dr.-Robert-Pfleger-Str. 26,
Ort /	*City*	D-96103 Hallstadt
Tel. /	*Phone*	+49 (0)951 96555 - 0 (07:00 - 17:00 Uhr / *07:00 am - 05:00 pm*)
E-Mail /	*E-Mail*	info@stuermer-maschinen.de

1.4 Notrufnummer / *Emergency Telephone*

Wählen Sie die passende Notrufnummer anhand des GHS-Symbols auf Ihrem Gefahrgut oder entsprechend Abschnitt 2.2 des orig. Sicherheitsdatenblattes *.
*Call the appropriate emergency number using the GHS symbol on your dangerous goods or according to section 2.2 of the original safety data sheet *.*

GHS Gefahren-piktogramm / *GHS symbol*	**GHS-Kürzel/ *GHS-no.***	**Mögliche Signalwörter/ *Warning***	**Gefährdungsklassen / *Description of hazards***	**Notrufnummer */ *Emergency Phone **
	GHS01 bis GHS09			+49 (0)951 96555 **- 590** Sammelnotrufnummer Gefahrstoffe
	GHS01	Gefahr oder Achtung / *Danger or Attention*	Explosive Stoffe/Gemische und Erzeugnisse mit Explosivstoff, selbstzersetzliche Stoffe/Gemische, organische Peroxide / *Explosive substances / mixtures and products containing explosives, self-reactive substances / mixtures, organic peroxides*	**- 591**
	GHS02	Gefahr oder Achtung / *Danger or Attention*	Selbstzersetzliche Stoffe/Gemische, organische Peroxide, entzündbare Gase, Aerosole Flüssigkeiten, Feststoffe, selbsterhitzungsfähige Gemische, pyrophore Flüssigkeiten und Feststoffe, Stoffe/Gemische, die bei Berührung mit Wasser entzündbare Gase bilden / *Self-reactive substances / mixtures, organic peroxides, flammable gases, aerosols, liquids, solids, self-heating mixtures, pyrophoric liquids and solids, substances / mixtures which form flammable gases on contact with water*	**- 592**
	GHS03	Gefahr oder Achtung / *Danger or Attention*	Oxidierende Gase, Flüssigkeiten, Feststoffe / *Oxidizing gases, liquids, solids*	**- 593**
	GHS04	Achtung / *Attention*	Verdichtete, verflüssigte, gelöste und tiefgekühlt verflüssigte Gase / *Compressed, liquefied, dissolved and refrigerated liquefied gases*	**- 594**
	GHS05	Gefahr oder Achtung / *Danger or Attention*	Verätzung der Haut, schwere Augenschäden, auch metallkorrosive Eigenschaften / *Chemical burns to the skin, severe eye damage, also metal-corrosive properties*	**- 595**
	GHS06	Gefahr / *Danger*	Äußerst schwere und schwere akute Gesundheitsschäden oder Tod / *Extremely severe and severe acute damage to health or death*	**- 596**
	GHS07	Achtung / *Attention*	Akute Gesundheitsschäden, Reizung der Haut, der Augen und der Atemwege, Sensibilisierung der Haut, narkotisierende Wirkungen / *Acute damage to health, irritation of the skin, eyes and the respiratory tract, sensitization of the skin, narcotic effects*	**- 597**
	GHS08	Gefahr oder Achtung / *Danger or Attention*	Chronische Gesundheitsschäden (Organschädigungen) bei einmaliger oder mehrmaliger Exposition, krebserzeugende, erbgutverändernde und fort-pflanzungsgefährdende Wirkungen, Lungenschäden durch Eindringen von Substanzen in die Lunge (Aspirationsgefahr), Sensibilisierung der Atemwege / *Chronic damage to health (damage to organs) after single or multiple exposure, carcinogenic, mutagenic and reproductive effects, lung damage due to the penetration of substances into the lungs (risk of aspiration), sensitization of the respiratory tract*	**- 598**
	GHS09	Achtung oder ohne Signalwort/ *Attention or without wording*	Giftig für Wasserorganismen mit kurz- und langfristiger Wirkung / *Toxic to aquatic organisms with short and long-term effects*	**- 599**

* 07:00 - 17:00 Uhr, außerhalb dieses Zeitraums kann die Nummer auf dem Sicherheitsdatenblatt angerufen werden /
07:00 am - 05:00 pm, outside this time, the number on the safety data sheet can be called

Für alle anderen Informationen siehe Original-Sicherheitsdatenblatt / *For all other information, see the original safety data sheet*

中国认可
检验
INSPECTION
CNAS IB0071

NO.2622010088

SAFETYDATASHEET

Product Name: Polymer Lithium Battery HJ01L-16-GFP 12V 1.6Ah 19.2Wh

Effective Date: 2022-01-01

Compiler: Chen Yushuang

Checker: Liu Linlin

Approver: Zhangxiaojin

上海化工院检验有限公司 检验检测专用章

Shanghai Institute of Chemical Industry Testing Co., Ltd.

Hangzhou Skyrich Power Co.,Ltd.

SAFETY DATA SHEET

Polymer Lithium Battery HJ01L-16-GFP 12V 1.6Ah 19.2Wh

SECTION1 PRODUCT AND COMPANY IDENTIFICATION

Product name: Polymer Lithium Battery HJ01L-16-GFP 12V 1.6Ah 19.2Wh

Company: Hangzhou Skyrich Power Co.,Ltd.
Address: No. 118 , Linban Road, Gongshu District, HangzhouCity, Zhejiang Province, P.R. China

Email: sales@skyrichpower.com

Fax: 86-571-88144436

Emergency Phone: 86-571-88132007/86-571-88144028

Recommend use of the chemical and restrictions on use: /

SDS Number: 2622010088

Effective Date: 2022-01-01

SECTION2 HAZARDS IDENTIFICATION

The product is outside of the scope of GHS system.

Main Hazards:

Fire or Explosion Hazards:
Lithium ion battery contains flammable liquid electrolyte that may vent, ignite and produce sparks when subjected to high temperatures (>150℃), when damaged or abused (e.g., mechanical damage or electrical overcharging). May burn rapidly with flare-burning effect. May ignite other batteries in close proximity.

Health Hazards:
Contact with battery's electrolyte may be irritating to skin, eyes and mucous membranes. Fire will produce irritating, corrosive and/or toxic gases. Fumes may cause dizziness or suffocation.

SECTION3 INFORMATION ON INGREDIENTS

Product name: Polymer Lithium Battery HJ01L-16-GFP 12V 1.6Ah 19.2Wh

Ingredient	Concentration	CAS No.	EC No.
Lithium iron phosphate carbon coated ($LiFePO_4$)	37.2%	15365-14-7	604-917-2

Carbon(Graphite)	21.2%	7782-42-5	231-955-3
Copper(Cu)	9.3%	7440-50-8	231-159-6
Lithium hexafluorophosphate($LiPF_6$)	7.6%	21324-40-3	244-334-7
Ethylene carbonate(EC)	7.6%	96-49-1	202-510-0
Dimethyl carbonate(DC)	7.6%	616-38-6	210-478-4
Aluminum(Al)	5.2%	7429-90-5	231-072-3
Styrene-butadiene rubber(SBR)	1.1%	9003-55-8	618-370-2
Polypropylene(PP)	1%	9003-07-0	618-352-4
Polyvinylidene fluoride(PVDF)	1%	24937-79-9	607-458-6
Polyethylene(PE)	0.8%	9002-88-4	618-339-3
Carboxymethyl cellulose(CMC)	0.4%	9004-32-4	618-378-6

SECTION4 FIRST-AID MEASURES

Skin Exposure:

If the internal battery's materials of an opened battery cell come into contact with the skin, remove the contaminated clothing and footwear, immediately flush with plenty of water for at least 20 minutes. If irritation persists, call a physician.

Eye Exposure:

In case of the internal battery's materials in contact with eyes, lift your eyelids immediately and rinse them with running water for more than 20 minutes. If irritation persists, call a physician.

Inhalation Exposure:

If inhaled the internal battery's materials, immediately remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician.

Oral Exposure:

If swallowed the internal battery's materials, do not induce vomiting. Call a physician immediately.

Most Important Symptoms/Effects, Acute and Delayed:

No data available.

Indication of Immediate Medical Attention and Special Treatment Needed, if Necessary:

No data available.

SECTION5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Suitable:Water spray or regular foam.

Specific Hazards Arising from the Chemical:

May decompose upon combustion to generate irritating, corrosive or toxic fumes. Fumes may cause dizziness or suffocation.

Special Protective Action for Fire-fighters:

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Fire-extinguishing work is done from the windward. Uninvolved persons should evacuate to a safe place.

SECTION6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Entry to noninvolved personnel should be controlled around the leakage area by roping off. Remove all sources of ignition.

Environmental Precautions:

Avoid leakage getting into the earth, ditches or waters. Avoid directly releasing the washing waste-water into the environment.

Methods and Materials for Containment and Cleaning up:

If the electrolyte leaks, use soil, sand or other non-combustible materials to absorb. The leaked batteries and dirty adsorbents should be placed in metal containers.

SECTION7 HANDLING AND STORAGE

Precautions for Safe Handling:

Operators should be trained and strictly abide by operating procedures. Wear appropriate protective clothing and safety gloves. Keep away from ignition sources, heat and flame. No smoking at working site. Handling is performed in a well ventilated place. Avoid disassembling the battery at will and reversing battery polarity within the battery assembly. The battery must be firmly packed in inner packaging so as to effectively prevent short circuits and short circuits caused by movement. If the electrolyte leaks, avoid directly contacting with eyes and skin. Avoid inhalation. Incompatibilities: Strong oxidizing agents, combustible materials and corrosives.

Conditions for Safe Storage, Including Any Incompatibilities:

Store in a cool, dry, and well-ventilated area. Keep away from ignition sources, heat and flame. Incompatibilities: Strong oxidizing agents, Combustible materials and Corrosives. Such batteries must be packed in inner packaging in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

SECTION8 EXPOSURE CONTROL/PPE

Control Parameters:

GBZ 2.1-2019 Occupational Exposure Limits for Hazardous Agents in the Workplace - Part 1: Chemical Hazardous Agents:

Graphite dust: PC-TWA 4 mg/m^3 (Total dust) PC-TWA 2 mg/m^3 (Respirable dust)

Copper (calculated as Cu) : Copper dust PC-TWA 1 mg/m^3 Copper smoke PC-TWA 0.2 mg/m^3

Aluminum metal, aluminum alloy dust: PC-TWA 3 mg/m^3 (Total dust)

Polypropylene dust: PC-TWA 5 mg/m^3 (Total dust)

Polyethylene dust: PC-TWA 5 mg/m^3 (Total dust)

ACGIH:

Graphite: TLV-TWA 2 mg/m^3

Copper: TLV-TWA 1 mg (Cu) $/m^3$ Dust, smoke TLV-TWA 0.2 mg (Cu) $/m^3$ Smoke

Aluminum: TLV-TWA 1 mg/m^3

Appropriate Engineering Controls:

Mechanical exhaust required. Safety shower and eye bath.

Individual Protection Measures:

Eye/Face Protection:

Wear chemical safety glasses if needed.

Skin Protection:

Hand Protection: Wear safety gloves.
Body Protection: Wear appropriate protective clothing.

Respiratory Protection:
Wear government approved respirator if needed.

Thermal Hazards:
No data available.

Other Protect:
No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION9 PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Green and black plastics cement shell
Odor:	Odorless
pH Value:	8-9
Solubility:	Partial soluble in water
Boiling Point, Initial Boiling Point and Boiling Range:	No data available
Melting Point/Freezing Point:	>300℃
Flash Point (Closed Cup):	No data available
Density/Relative Density:	No data available
Kinematic Viscosity:	No data available
Lower/Upper Explosion Limit/Flammability Limit:	No data available
Vapour Pressure:	No data available
Relative Vapor Density:	No data available
Partition Coefficient N-Octanol/Water(Log Value):	No data available
Autoingnition Temperature:	No data available
Decomposition Temperature:	No data available
Particle Characteristics:	No data available
Flammability (Solid, Gas):	No data available

SECTION10 STABILITY AND REACTIVITY

Reactivity:
No data available.

Chemical Stability:
Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions:
No data available.

Conditions to Avoid:
Avoid misoperation, exposure to heat and open flame. Avoid mechanical or electrical abuse and overcharge. Prevent short circuits. Prevent movement which could lead to short circuits.

Incompatible Materials:
Strong oxidizing agents, Combustible materials and Corrosives.

Hazardous Decomposition Products:
Carbon oxides, metal oxides, etc.

SECTION11 TOXICOLOGICAL INFORMATION

Acute Toxicity:
No data available.

Skin Corrosion/Irritation:
The electrolyte in the battery causes skin irritation.

Serious Eye Damage/Irritation:
The electrolyte in the battery causes eye irritation.

Respiratory Sensitization:
No data available.

Skin Sensitization:
No data available.

Carcinogenicity:
No data available.

Germ Cell Mutagenicity:
No data available.

Reproductive Toxicity:
No data available.

Specific Target Organ Toxicity -Single Exposure:
No data available.

Specific Target Organ Toxicity -Repeated Exposure:
No data available.

Aspiration Hazard:
No data available.

SECTION12 ECOLOGICAL INFORMATION

Toxicity:
No data available.

Persistence and Degradability:
No data available.

Bioaccumulative Potential:
No data available.

Mobility in Soil:
No data available.

Other Adverse Effects:
No data available.

SECTION13 DISPOSAL CONSIDERATION

Disposal Methods:

The disposal of discarded battery shall comply with the requirements of relevant laws, regulations, policies and standards such as the "Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste" and "Technical Policy for the Prevention and Control of Waste Battery Pollution". Contact a licensed professional waste disposal service to dispose of wastes. Used battery being transported for disposal or reclamation should be carefully checked prior to shipment to ensure the integrity of each battery and its suitability for transport.

SECTION14 TRANSPORT INFORMATION

Only Lithium Battery during Transport:	The product has passed the test items of UN Model Regulations, Manual of Test and Criteria Section 38.3 and UN Model Regulations, SP188, 1.2m drop test. The total net weight of the Lithium batteries is less than 10 kg.
RID/ADR (2021 Edition) :	The product is not subject to the other provisions of RID/ADR according to special provision 188. According to 2.2.9.1.7 (g) of RID/ADR (2021 Edition), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.
IATA DGR (63rd Edition) :	Proper Shipping Name: Lithium ion batteries UN Number: UN3480 Hazard Class: 9 The product shall meet the General Requirements and section IB of Packaging Instruction 965. According to 3.9.2.6.1(g) of IATA DGR (63rd Edition), Manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.
IMO IMDG CODE (2020 Edition) :	The product is not subject to the other provisions of IMO IMDG CODE according to special provision 188. According to 2.9.4.7 of IMO IMDG CODE (2020 Edition), Manufacturers and subsequent distributors of cells or batteries manufactured shall make available the test summary as specified in the Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

SECTION15 REGULATORY INFORMATION

Domestic Regulations:

Only Lithium Battery during Transport:

Regulations Concerning Road Transportation of Dangerous Goods (JT/T 617-2018) :

UN Number: UN3480 Name and Description: Lithiumion batteries
The product has passed the test items of UN Model Regulations, Manual of Test and Criteria Section 38.3.
The product is not subject to JT/T 617-2018 according to special provision 188.

List of Dangerous Goods (GB 12268-2012) :

UN Number: UN3480 Shipping Name: Lithium ion batteries Packing Group: II
The product has passed the test items of UN Model Regulations, Manual of Test and Criteria Section 38.3.
The product is not subject to GB 12268-2012 according to special provision 188.

List of Dangerous Goods by Rail (2009 Edition) :
Number: 91013 Name of Product: Lithium batteries

International Regulations:

Directive 2006/66/EC and 2013/56/EU:
The label, disposal and recycling of the battery shall meet the requirements of EU Directive 2006/66/EC and 2013/56/EU.

ICAO TI:
1. Unless be exempted according to ICAO TI, the lithium ion cell/batteries (UN 3480, PI 965) and lithium metal cell/batteries (UN 3090, PI 968) are forbidden for carriage on passenger aircraft.
2. Unless be approved according to ICAO TI, Lithium ion cells/batteries (UN 3480, PI 965) must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated design capacity.
3. A shipper is not permitted to offer for transport more than one (1) package prepared according to Section II of PI 965 and PI 968 in any single consignment. Not more than one (1) package prepared in accordance with Section II of PI 965 and PI 968 may be placed into an overpack.
4. Packages prepared according to Section II of PI 965 and PI 968 must be offered to the operator separately from other cargo and must not be loaded into a unit load device (ULD) before being offered to the operator.

SECTION16 OTHER INFORMATION

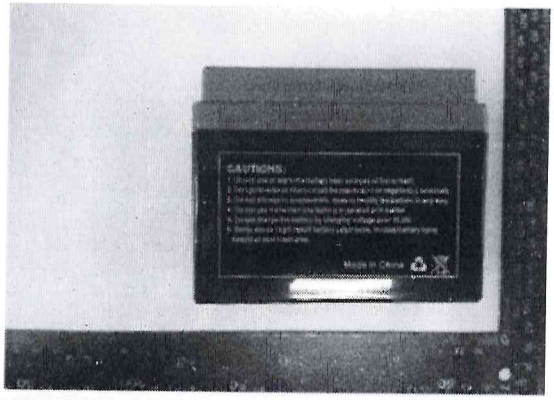
Preparation Date:
2022-01-01

Preparation Department:
Shanghai Research Institute of Chemical Industry Testing Co., Ltd.
Tel(Fax):+86-21-52815377/31765555

Revision:
0

Abbreviations and Acronyms:
CAS: Chemical Abstracts Service EC: European Commission ACGIH: American Conference of Governmental Industrial Hygienists PC-TWA: Permissible concentration-time weighted average TLV-TWA: Time weighted average threshold limit ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road RID: Regulations concerning the International Carriage of Dangerous Goods by Rail IMO IMDG CODE: International Maritime Organization International Maritime Code for Dangerous Goods IATA DGR: International Air Transport Association Dangerous Goods Regulations EU: European Union ICAO TI: International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air PI: Packaging Instruction

Other Information:
This SDS is compiled based on the information such as ingredients provided by the applicant and our current knowledge. This SDS shall be used only as a guide. The users of this SDS must make independent judgments on the correctness and completeness and then decide its suitability according to the actual situation. The users should take the relevant legal responsibilities for the consequences of use.



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