



杭州海关技术中心
国家危险化学品检测重点实验室（浙江）

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正本/ORIGIN

编号: TCH23019959
No: TCH23019959
日期: 2023-10-16
Date: 2023-10-16

ZAIQ-RF(HH)-01-19

Safety Data Sheet

扫描查看在线报告



Applicant name: HANGZHOU CAPE OF GOOD HOPE ROBOTS CO., LTD.

Product Name: Commercial Scrubber Dryer-L50 (including XSJ24120, 25.6V
115Ah 2944Wh lithium battery pack)

Edit date: 2023-10-16

Edit institution: Technology Center of Hangzhou Customs District

Approver: 万旺军

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声 明

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Commercial Scrubber Dryer-L50**(including XSJ24120, 25.6V 115Ah 2944Wh lithium battery pack)**

According to GHS rev 9

1. Identification of substance

Product Name	Commercial Scrubber Dryer-L50 (including XSJ24120, 25.6V 115Ah 2944Wh lithium battery pack)
Other Name	None
Chemical Name	None
Recommended Use	L50 is an automatic drive. LFP battery powered, wide area used. AI-power scrubber dryer bot. This machine is intended for commercial use, for example in hotels, schools, hospitals, shopping mall, offices and rental businesses. It's designed to clean the hard floor (such as tile, wood floor, concrete, terrazzo, granite, etc.) in indoor areas.
Manufacturer	Hangzhou Cenozoic Robotics Company Limited
Address	2210 Huaye Building, No.511 Jianye Road, Binjiang District, Hangzhou, Zhejiang Province
Supplier	HANGZHOU CAPE OF GOOD HOPE ROBOTS CO., LTD.
Address	ROOM 2207, 22 nd FLOOR, HUAYE BUILDING, NO. 511 JIANYE ROAD, CHANGHE STREET, BINJIANG DISTRICT, HANGZHOU Postcode: 310053
Phone Number	+86-0571-86699585
Fax Number	None
WEB or E-mail	None
Emergency Phone Number	+86-187 6818 0158 or Call your nearest poison control centre

2. Hazards identification

GHS classification	—
GHS Pictograms	—
Signal words	—
Hazard statements	—
Precautionary Statement	—
Prevention	—
Precautionary Statement	—
Response	—
Precautionary Statement	—
Storage	—
Precautionary Statement	—
Disposal	—
Other hazards which do not result in classification	Not available.

3. Composition/information on ingredients☐ **Substances**☒ **Mixtures****Component Information**

Component	CAS number	EINECS number	Mass(%)
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Carbon steel, Stainless steel, Brass, Aluminum alloy, ABS, Styrene-butadiene rubber, PE, PU, Nylon, Lithium iron phosphate

4. First-aid measures

NOTE TO PHYSICIAN	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation.
After inhalation	Quickly move to fresh air. Maintain an open airway. Oxygen or artificial respiration if needed. Get immediate medical attention.
After skin contact	In case of contact with substances in the battery, immediately flush skin thoroughly with plenty of water for longer than 15 minutes. Remove and isolate contaminated clothing and shoes. If irritation persists, get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.
After eye contact	If there is a fire or battery leakage in the vehicle body, smoke, gas, or substances inside the battery come into contact with the eyes, immediately flush eyes with plenty of water or normal saline for at least 15 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Get medical attention immediately.
After ingestion	If there is a fire or battery leakage in the vehicle body, smoke, gas, or substances inside the battery are ingested into the human body, immediately rinse the mouth and surrounding area with clean water. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Loosen tight clothing such as a collar, tie, belt or waistband. Do not use mouth-to-mouth method if victim ingested the substance. Seek immediate medical attention.
Most important symptoms / effects, acute and delayed	The battery's electrolyte can irritate skin, eyes, and mucosal tissues.

5. Fire-fighting measures

Suitable extinguishing agents	Water (cooling), use dry chemical powder, sandy soil, foam and carbon dioxide. Heptafluoropropane and perfluorohexanone have better extinguishing effects.
Special hazards caused by the material, its products of combustion	Cell may vent when subjected to excessive heat-exposing battery contents. When the vehicle body experiences a fire in an abnormal

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or flue gases	environment or operation, the combustion will produce smoke, toxic gases, combustible gases, and combustion droplets. When the robot cleaning mechanism is restored to its initial state, there may be a risk of injury due to personnel not operating according to regulations and instructions.
Protective equipment for fire-fighters	<p>Firefighters must wear filter gas masks (full face) or isolating respirators, goggles, and wear full body fireproof protective clothing, and extinguish the fire upwind.</p> <ol style="list-style-type: none"> 1. It is strictly prohibited to use demolition tools to blindly disassemble or puncture, cut, prise, or disassemble any structure of the robot, to prevent the sudden exacerbation of the fire and the burning of thick smoke and combustible gases. 2. During the disposal process, all personnel must strictly implement personal safety measures to prevent injuries such as battery electrolyte splashing, explosion, and scalding caused by molten droplets of plastic parts on the vehicle body. 3. When it is found that the temperature of the battery area rises sharply and a large amount of smoke is released after a fire, personnel should be immediately organized to evacuate to a safe area. 4. Lithium batteries have a continuous discharge characteristic. After the open flame is extinguished, the battery pack should continue to be cooled with water and monitored using a thermometer until the battery temperature drops below 160 °C, and after evaluation, there is no risk of combustion, explosion, etc.
6. Accidental release measures	
Person-related safety precautions	<ol style="list-style-type: none"> 1. Robots achieve intelligent obstacle avoidance through various lasers, sensors, etc. around their bodies, avoiding collisions with personnel. 2. There are safety warning stickers around the robots, such as "No Treading", "Be Careful of Hand Clamping", and "Do Not Touch". 3. There are relevant operation instructions for the robot's functional operation position to prevent personnel from being injured due to misoperation. 4. If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Avoid skin and eye contact or inhalation of vapors.
Measures for environmental protection	Prevent further leakage or spillage if safe to do so. Do not allow material to be released to the environment without proper governmental permits.
Measures for	1. Quickly evacuate personnel from the contaminated area to a

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cleaning/collecting	<p>safe area, isolate, and strictly restrict entry and exit;</p> <p>2. Provide appropriate protective and ventilation equipment;</p> <p>3. Clean and dispose of leaks using a dust-free method, and place as many leaks as possible in labeled and suitable containers;</p> <p>4. Under safe conditions, choose appropriate methods to prevent or reduce leaks, such as collecting and blocking leaks with sand or soil;</p> <p>5. Cut off the source of leakage as much as possible to avoid flowing into sewers or other confined spaces;</p> <p>6. If there is a large amount of leakage, collect and recycle the leaked material in a suitable covered container, and transport it to a specialized waste disposal site in an environmentally safe manner according to local waste disposal regulations.</p>
Additional information	<p>See Section 7 for information on safe handling</p> <p>See section 8 for information on personal protection equipment.</p> <p>See Section 13 for information on disposal.</p>

7. Handling and storage

Handling

Information for safe handling

Operators should be trained and strictly abide by the operating procedures. It is recommended that operators wear general protective clothing and safety gloves. Keep away from fire, heat source and direct sunlight. Smoking is strictly prohibited in the workplace. Provide ventilation systems and equipment in the workplace. Such batteries must be packed in battery holder in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits. Avoid mechanical or electrical abuse. More than a momentary short circuit will generally reduce the battery service life. Avoid reversing battery polarity within the battery assembly. In case of a battery unintentionally be crushed, rubber gloves must be used to handle all battery components. Avoid contact with eyes, skin. Avoid inhalation. Store separately from strong oxidizing agents, corrosives.

Information about protection against explosions and fires

Avoid mechanical and electrical abuse. Do not short circuit or install incorrectly.

Batteries may explode or cause burns if disassembled, crushed, recharged or exposed to high temperatures. Install batteries in accordance with equipment instructions.

STORAGE

Requirements to be met by storerooms and containers

Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be

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Information about storage in one common storage facility	avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods. Materials to Avoid: strong oxidizing agents, corrosives. Temperature: -10 °C~40 °C. The lifespan of lithium batteries is influenced by operating temperature and environmental humidity. High temperature and humidity will accelerate the lifespan of rechargeable lithium batteries. Lithium batteries should be charged at 50% to 80% of their capacity when not in use for a long time, and should be removed from the instrument and stored in a dry and cool environment. The battery should be charged every 3 months to avoid prolonged storage and self discharge. If a lithium battery emits odour, heat, discoloration, deformation, or any abnormalities during use, storage, or charging, please remove immediately and stop using it.
Further information about storage conditions	The storage area shall be equipped with corresponding types and quantities of fire-fighting equipment, leakage emergency treatment equipment and appropriate materials.

8. Exposure controls/personal protection

Limit Values for Exposure Component	CAS number	ACGIH TLV-TWA	ACGIH TLV-STEL	NIOSH REL-TWA	NIOSH REL-STEL
Appropriate engineering controls		Use ventilation system and equipment. In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting cell cores. Provide safety shower and eye wash equipment.			
General protective and hygienic measures		Not necessary under conditions of normal use. When cleaning dirty water tanks, filter bags, filtration systems, and suction pipes, it is necessary to wear cleaning protective equipment such as masks and rubber gloves. Wash hands promptly after cleaning. Personal protection is recommended for venting battery. No smoking, drinking and eating at working site. Wash thoroughly after handling.			
Personal protective equipment		Masks, rubber gloves, and cleaning agents for personal care. Personal protection is recommended for venting battery: respiratory protection, protective gloves, protective clothing and safety glass with side shields.			
Breathing equipment		When workers are facing high concentrations they must use appropriate certified respirators. Respiratory protection is not necessary under conditions of normal use.			
Protection of hands		Not necessary under conditions of normal use.			
Eye/Face protection		If necessary, wear safety glasses and safety masks.			
Body protection		Full set of anti chemical reagent overalls, flame retardant			

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antistatic protective clothing, choose body protection according to the amount and concentration of the dangerous substance at the work place.

9. Physical and chemical properties

Physical state	Commercial Scrubber Dryer, as shown in the figure, containing a lithium-ion battery pack, which has a approximate black cuboid appearance
Colour	No data available
Odour	Odourless
Melting point/freezing point	No data available
Boiling point or initial boiling point and boiling range	No data available
Flammability	No data available
Lower and upper explosion limit/flammability limit	No data available
Flash point	No data available
Auto-ignition temperature	120 °C
Decomposition temperature	No data available
pH	No data available
Kinematic viscosity	No data available
Solubility	No data available
Partition coefficient: n-octanol/water (log value)	No data available
Vapour pressure	No data available
Density and/or relative density	No data available
Relative vapour density (air=1)	No data available
Particle characteristics	No data available

10. Stability and reactivity

Reactivity	No data available.
Chemical stability	This is a stable product under recommended storage conditions.
Possibility of hazardous reactions	No polymerization.
Conditions to avoid (e.g. static discharge, shock or	Fire source, heating source, disassemble, external short circuit, crushes, deformation, high temperature, direct sunlight, high

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vibration)	humidity, immerse in water or overcharge, etc. Avoid severe vibrations, strong electromagnetic radiation environments, and robots should not be used in environments below 0 °C (or prone to freezing).
Incompatible materials	Explosives, inflammables, strong oxidants and corrosives. If leaked, forbidden to contact with strong oxidising agents, mineral acids, strong alkalis, etc.
Hazardous decomposition products	May include Metal oxides, carbon monoxide, carbon dioxide and other toxic smoke and gas.

11. Toxicological information

Routes of Entry: Dermal contact, eye contact, inhalation, ingestion.	
Acute Toxicity	LD50 (Oral, rat) N/A LC50 (Inhalation, rat) N/A LD50 (Dermal, rabbit) N/A
Skin corrosion/Irritation	In the event of exposure to internal contents, vapour fumes may be very irritating to the skin.
Serious eye damage/irritation	In the event of exposure to internal contents, vapour fumes may be very irritating to the eyes.
Respiratory or skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified
Chronic Effects	Not classified
Further Information	In the event of exposure to internal contents, moderate or severe irritation, burning and dryness of the skin may occur, and may damage the nerves of the target organs. No detailed toxicological study.

12. Ecological information

Ecotoxicity	
Aquatic Toxicity	Test & Species 96 Hr LC50 fish: N/A 48 Hr EC50 Daphnia: N/A 72 Hr EC50 Algae: N/A
Persistence and degradability	Not available
Bioaccumulative potential	Not available
Mobility in soil	Not available
Additional Information	May cause water or soil pollution.

13. Disposal considerations

WASTE DISPOSAL INSTRUCTIONS

Contact a qualified professional waste disposal service to dispose of this material.

Dispose of in accordance with local environmental regulations or local authority requirements.

14. Transport information

The Recommendation of Transport of Dangerous Goods(TDG)

UN Number	UN 3481
Proper Shipping Name	LITHIUM ION BATTERIES CONTAINED WITH EQUIPMENT
Class/Division	Class 9 Miscellaneous Dangerous Substances and Articles
Package Group	—
Subsidiary risk	—
labeling pictogram	



Note: This sample contains rechargeable lithium battery pack with a Watt-hour rating in excess of 100wh, containing 64 cells in 8 parallels and 8 strings, and passed the tests required by UN 38.3. Cells and batteries incorporate a safety venting device. Cells and batteries are properly protected to prevent short circuits and reverse currents, and have a quality management programme can be transported as mentioned above. Lithium cells and batteries must be packed in inner packaging that completely enclose the cell or battery and placed in a strong outer packaging. The equipment containing the cells or batteries must be secured against movement within the outer packaging and be packed so as to prevent accidental activation.

Maritime transport IMDG	Being same with TDG EmS No.: F-A, S-I Marine pollutant (Yes/No): No According to 2.9.4.7 of IMDG Code (2022 Edition), except for button cells installed in equipment (including circuit boards), 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.
Air transport ICAO-TI and IATA-DGR	Being same with TDG The product shall meet the General Requirements and section I of Packaging Instruction 967. According to 3.9.2.6.1(g) of IATA DGR (64 th Edition), except for button cells installed in

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	equipment (including circuit boards), manufacturers and subsequent distributors of cells or batteries manufactured after 30 June 2003 must make available the test summary as specified in the UN Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5. According to Special Provisions of IATA DGR (64 th Edition) A164 Any electrical battery or battery powered device, equipment or vehicle having the potential of a dangerous evolution of heat must be prepared for transport so as to prevent: (a) a short circuit (b) unintentional activation.
Road transport ADR	Being same with TDG According to 2.2.9.1.7 (g) of ADR (2023 Edition), except for button cells installed in equipment (including circuit boards), 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.
Road transport RID	Being same with TDG According to 2.2.9.1.7 (g) of RID (2023 Edition), except for button cells installed in equipment (including circuit boards), 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.

15. Regulatory information

European/International Regulations

OSHA:	Hazardous by definition of Hazard Communication Standard (29CFR 1910.1200).
EINECS Status:	No data available.
EPA TSCA Status:	No data available.
Canadian DSL/NDSL (Domestic Substances List/ Non-domestic Substances List):	No data available.
HMIS(Hazardous Material Identification System Ratings):	Health: 1 Flammability: 0 Physical hazard: 0 Personal protection: F (4. Severe Hazard; 3. Serious Hazard; 2. Moderate Hazard; 1. Slight Hazard; 0. Minimal Hazard)
WHMIS (Canadian Workplace Hazardous Material Identification System Ratings):	Unknown.

ICAO-TI

1. Where multiple pieces of equipment are packed in the same outer packaging, each piece of the equipment must be packed to prevent contact with other equipment.

2. Equipment must be packed in strong rigid outer packagings that conform to Part 4;1.1.1, 1.1.3.1 and 1.1.10 (except 1.1.10.1). Large equipment can be offered for transport unpackaged or on pallets when the cells or batteries are afforded equivalent protection by the equipment in which they are contained.

List of dangerous goods (GB 12268-2012)

UN Number: UN3481, Shipping Name: LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, Packing Group: II

《Regulations concerning road transportation of dangerous goods》(JT/T 617-2018)

UN Number: UN 3481, Shipping Name: LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT, Class: 9.

16. other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

This Material Safety Data Sheet was based on the "Globally Harmonized System of Classification and Labelling of Chemicals", "Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations", "INTERNATIONAL MARITIME DANGEROUS GOODS CODE", "International Air Transport Association Dangerous Goods Regulations", the National Standards and other related dangerous chemicals management laws, regulations and standards, which are periodically updated and changed. To make dangerous goods / hazardous chemicals comply with the relevant requirements of the latest management, regularly update is recommended.

This Material Safety Data Sheet has been compiled in both English and Chinese. For any discrepancies, the Chinese version shall prevail.

Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail

IMDG: International Maritime Code for Dangerous Goods

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

EINECS: European Inventory of Existing Commercial Chemical

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According to GHS rev 9

Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

EC50: Effective concentration, 50 percent

Edit Date

16.10.2023

Update and Revise

Original edition

Edit Standard*Globally Harmonized System of Classification and Labelling of Chemicals* Part 1.5**Revised Institution**

Technology Center of Hangzhou Customs District



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化学品安全数据表

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申请单位: 杭州好望角机器人有限公司

产品名称: 商用洗地机器人-L50 (内含 XSJ24120, 25.6V 115Ah 2944Wh 锂离子电池组)

编制日期: 2023-10-16

编制机构: 杭州海关技术中心

批准人:

万旺平

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1. 标识			
产品名称	商用洗地机器人-L50 (内含 XSJ24120, 25.6V 115Ah 2944Wh 锂离子电池组)		
英文名称	Commercial Scrubber Dryer-L50 (including XSJ24120 , 25.6V 115Ah 2944Wh lithium battery pack)		
其他名称	无		
化学名称	无		
使用建议	L50 是一种自动驱动, LFP 电池供电, 广泛使用的智能商用清洁机器人。本机适用于商业用途, 如酒店、学校、医院, 商场、办公室、租赁企业等。适用于室内区域的硬地板(如瓷砖、木地板、混凝土、水磨石、花岗岩等)清洁。		
生产商	杭州新生纪智能科技有限公司		
地址	杭州市滨江区建业路 511 号华业大厦 22 楼 2210 室		
供应商	杭州好望角机器人有限公司		
地址	中国(浙江)自由贸易试验区杭州市滨江区长河街道建业路 511 号华业大厦 22 层 2207 室		
固定电话	+86-0571-86699585		
传真	无		
网址或电子邮件地址	无		
应急电话	+86-187 6818 0158 或向离你最近的解毒中心求助		
2. 危险标识			
GHS 危险性分类	—		
GHS 危险标签	—		
信号词	—		
危险说明	—		
防范说明	—		
预防			
防范说明	—		
反应			
防范说明	—		
贮存			
防范说明	—		
处置			
不导致分类的其他危险	未知。		
3. 成分构成/成分信息			
<input type="checkbox"/> 物质			
<input checked="" type="checkbox"/> 混合物			
成分信息			
成分	CAS 号	EINECS 号	含量(%)
碳钢、不锈钢、黄铜、铝合金、ABS、橡胶、PE、聚氨酯、聚酰胺、磷酸铁锂	——	——	——
4.急救措施			

对医师的建议	在呼吸急促的情况下，需给受害人输氧。保持受害人温暖。让受害人处于观察监护下。
吸入后	迅速转移到有新鲜空气的地方。保持呼吸道通畅。如需要，须输氧或进行人工呼吸。马上就医。
皮肤接触后	若接触到电池内的物质，立即用大量清水冲洗皮肤 15 分钟以上。脱掉被污染的衣服和鞋子。如皮肤刺激仍继续：须求医。如原是小面积的皮肤接触，防止接触面积的扩大。污染的衣服在使用前，须单独清洗。
眼睛接触后	如果车体发生火灾、电池泄露，浓烟、气体或电池内物质接触到眼睛，立即用大量清水或者生理盐水冲洗眼睛 15 分钟以上。用手指分开眼睑以保证充分冲洗眼睛。马上就医。
摄入后	如果车体发生火灾、电池泄露，浓烟、气体或电池内物质摄入人体，立即用清水冲洗口腔及周边。无医师建议的情况下不要引吐。如果受害人需呕吐，使其前倾以减少倒吸的危险。解松过紧的衣物，如领子、领带、皮带或腰带。不要使用嘴对嘴的方法实施救助。马上就医。
主要的症状和影响，包括急性和迟发效应	电池的电解质会刺激皮肤、眼睛和黏膜组织。
5. 消防措施	
合适的灭火剂	大量水（降温），可用干粉、砂土、泡沫和二氧化碳灭火。七氟丙烷和全氟己酮对锂电池灭火效果较好。
由物质本身或其燃烧产物、烟气产生的特殊危险	当电芯暴露于过热的环境中时，安全阀可能会打开。 当车体在非正常环境、非正常操作下发生火灾时，车体或电池燃烧会产生烟雾、有毒气体、可燃气体和燃烧熔滴。 当机器人清扫机构恢复初始状态过程中，人员未按照规定、说明书操作时可能会发生夹伤的危险。
消防人员的特殊防护设备	消防人员必须佩带过滤式防毒面具（全面罩）或隔离式呼吸器、护目镜、穿全身防火防毒服，在上风向灭火。 1.严禁使用破拆工具盲目拆解或者穿刺、切割、撬开、拆卸机器人的任何结构，防止造成火势猛然加剧以及燃烧产生的浓烟、可燃气体灼伤。 2.处置过程中，所有人员必须严格落实个人安全防护措施，严防电池电解液喷溅、爆炸以及车体塑料件熔融液滴烫伤等伤害。 3.当发现起火后电池部位温度急剧上升、释放大量烟气时，应立即组织人员撤离至安全区域。 4.锂离子电池具备持续放电特性，明火熄灭后，应继续出水对电池组进行持续冷却，并使用测温仪进行监测，直至电池温度降至 160 摄氏度以下，且经评估无燃烧、爆炸等风险。
6. 泄漏应急处理	
与人相关的安全防范措施	1.机器人通过周身各种激光、传感器等实现智能避障，避免与人员发生碰撞； 2.机器人周身粘贴有禁止踩踏、当心夹手、请勿触摸等安全警示贴； 3.机器人功能操作位置有相关操作说明，防止人员误操作造成人员

环境保护措施	损伤。 4.如果电池内部材料泄露，操作人员应立刻撤离操作区直到烟气消散。将通风设备打开吹散危险性气体。避免皮肤和眼睛接触或吸入有害气体。
清洁/收集措施	如能做到应防止进一步的泄露和溢出。无相关政府许可，不允许把该物质释放到环境中。 1.迅速撤离泄露污染区人员至安全区，并进行隔离，严格限制出入； 2.提供适当的防护及通风设备； 3.用一个不产生粉尘的方法打扫处理泄漏物，尽可能多地将泄漏物置于有标签的合适的容器中； 4.在安全状况下，选用合适方式阻止或减少泄露，如用沙或泥土收集围堵泄露物； 5.尽可能切断泄露源，避免流入下水道或其他密闭空间； 6.如大量泄露，收集回收泄露物于合适的有盖容器内，并根据当地的废物处理规定，以环保安全的方式运往专门废物处理场所处置。
附加说明	关于安全操作的信息见第 7 部分 关于个人防护设备的信息见第 8 部分 关于处置的信息见第 13 部分
7. 操作和存储	
操作	
安全操作的信息	操作人员应经过培训，严格遵守操作规程。建议操作人员穿一般作业防护服，戴安全手套。远离火种、热源，避免阳光直射。工作场所严禁吸烟。工作场所应有通风系统和设备。避免随意拆卸电池和弄错正负极。须牢固在电池盒中，以有效防止短路和防止可导致短路的移动。万一电池内的物质泄漏，避免眼睛、皮肤直接接触，避免吸入。应与强氧化剂、腐蚀品分开存放。
防止爆炸和火灾的信息	避免机械和电气的滥用。不要短路或安装错误。 电池如果拆卸、压碎、充电或暴露在高温下，可能会发生爆炸和燃烧。按照设备说明书安装电池。
存储	
对储藏室和容器的要求	禁止物理或电滥用，禁止高温储存，最好将电池储存在阴凉、干燥、通风等温度变化较小的环境中。禁止将电池接触加热设备或将电池直接暴露与阳光中。应与强氧化剂、腐蚀品分开存放。
关于储藏在普通存储设施中的信息	温度-10℃ ~ 40℃。锂电池的寿命受工作温度和环境湿度的影响。高温高湿会加速充电电池的锂电池寿命。锂电池长期不使用应充 50%~80%的电量，并应从仪器中取出，存放在干燥阴凉的环境中。电池应每 3 个月充电一次，以避免存放时间过长和电池自放电。如果锂电池在使用、储存或充电过程中发出异味、发热、变色、变形或任何异常，请立即将电池从设备或充电器中取出并停止使用。
关于储藏条件进一步的信息	储存区配备相应品种和数量的消防器材、泄漏应急处理设备和合适的收容材料。
8. 暴露控制/人身保护	
暴露限值	

成分	CAS 号	ACGIH 阈限值-时 间加权平均 浓度	ACGIH 阈限值-短 时间接触 限值	NIOSH 阈 限值-时间加 权平均浓度	NIOSH 阈 限值-短时 间接触限值
减少接触的工程控制方法	有通风系统和设备。当电池排气阀打开时，应尽量使通风设备开至最大，避免将打开排气阀的电芯局限在某一狭窄空间内。提供安全淋浴和洗眼设备。				
一般保护和卫生措施	正常使用条件下不需要。清理污水箱、过滤网兜、过滤系统、吸污管道时，需佩戴好口罩、橡胶手套等清洁护具，设备清洁完毕后及时洗手。电池开阀试验时应做好个人防护，工作场所严禁吸烟、饮水和饮食，工作后，沐浴更衣。				
个人防护用品	口罩、橡胶手套、洗护用清洁剂。 电池开阀试验时应做好个人防护，呼吸防护，防护手套，防护服和有护边的安全玻璃罩。				
呼吸设备	当工人在高浓度的环境下工作时，必须使用合适的已认证的呼吸器。正常操作条件下，呼吸保护是不必要的。				
双手保护	正常使用条件下不需要。				
眼睛/面部保护	如需要，戴安全防护眼镜，安全防护面罩。				
身体保护	全套防化学试剂工作服，阻燃防静电防护服，防护设备的类型必须根据特定工作场所中的危险物的浓度和含量来选择。				
9.物理和化学特性					
物理状态	商用洗地机器人，外观如图所示，内含锂离子电池组，锂离子电池组外观为黑色近长方体				
颜色	无数据资料				
气味	无气味				
熔点/凝固点	无数据资料				
沸点或初始沸点和沸程	无数据资料				
易燃性	无数据资料				
上、下爆炸极限/易燃极限	无数据资料				
闪点	无数据资料				
自燃温度	120 °C				
分解温度	无数据资料				
pH 值	无数据资料				
运动粘度	无数据资料				
溶解性	无数据资料				
分配系数:正辛醇/水（对数值）	无数据资料				
蒸汽压	无数据资料				
密度和/或相对密度	无数据资料				
相对蒸气密度（空气=1）	无数据资料				
颗粒特征	无数据资料				
10. 稳定性和反应活性					

反应性	无数据资料。
化学稳定性	在要求的贮存条件下，这是个稳定的产品。
有害反应的可能性	不聚合。
需避开的条件（如：静电放电，震动等）	火源、热源、拆卸、外部短路、压碎、变形、高温、阳光直射、高湿度、浸水或过充等。避免剧烈震动、强电磁辐射环境、机器人不可在低于温度 0℃（或易发生结冰）的环境下使用。
不相容的物质	爆炸品、易燃物、强氧化剂和腐蚀剂。如果发生泄漏，避免与强氧化剂，无机酸，强碱等接触。
有害分解产物	可能包括金属氧化物，一氧化碳，二氧化碳等有毒烟雾和气体。
11. 毒理学信息	
进入人体内的途径：皮肤接触、眼睛接触、吸入和摄入。	
急性毒性	LD50（口服，大鼠）：未知 LC50（吸入，大鼠）：未知 LD50（皮肤，兔子）：未知
皮肤腐蚀/刺激	电池内部物质暴露的情况下，蒸汽烟雾可能对皮肤有刺激性。
严重眼损伤/刺激	电池内部物质暴露的情况下，蒸汽烟雾可能对眼睛有刺激性。
呼吸或皮肤敏化作用	未分类
生殖细胞致突变性	未分类
致癌性	未分类
生殖毒性	未分类
特定目标器官毒性-单次接触	未分类
特定目标器官毒性-重复接触	未分类
吸入危险	未分类
慢性影响	未分类
其他信息	万一发生与电芯内部材料接触的事故，轻微或严重的刺激，都可能使皮肤出现干燥和灼烧的感觉，并可能损坏靶器官的神经。无详细的毒理学研究。
12. 生态学信息	
生态毒性	
水生毒性	测试 & 物种 96 Hr LC50 鱼：未知 48 Hr EC50 溞类：未知 72 Hr EC50 藻类：未知
持久性和降解性	未知
潜在的生物累积性	未知
土壤中的迁移性	未知
其他信息	可能造成水或土壤污染。
13. 废弃处置	
废物处置说明	联系一家有资质的专业废物处置机构来处置。 按照当地的环境法规或地方当局的要求来进行处置。
14. 运输信息	
联合国《关于危险货物运输的建议书 规章范本》(TDG)	

UN 编号	UN 3481
正式运输名称	装在设备中的锂离子电池组
危险类/项别	第 9 类 杂项危险物质和物品
包装类别	—
次要危险性	—
危险性标签	



注: 该样品内含可充电锂离子电池组, 瓦特-小时的额定值大于一小时 100wh, 内含 8 串 8 并共 64 个电芯, 并通过 UN 38.3 要求的各项试验。该锂电池需装有安全排气、防止外部短路和防止反向电流造成危险所需的有效装置, 并有高质量的管理方案才可按上述条目运输。锂电池必须完全封装在内包装内, 位于坚固的外包装中。必须确保安装有锂电池的设备固定在外包装中以免发生移动, 并防止运输中被意外启动。

国际海运危规 IMDG

与 TDG 的分类相同

EmS 编号: F-A, S-I

海洋污染物 (是/否): 否

根据 IMDG Code(2022 版)的 2.9.4.7, 除了安装在设备 (包括电路板) 中的纽扣电池, 2003 年 06 月 30 日之后生产的锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第 III 部分第 38.3 小节第 38.3.5 段规定的 UN38.3 试验概要。

国际空运危规 IATA-DGR
和 ICAO-TI

与 TDG 的分类相同

空运中本品应满足 IATA DGR 包装说明 967 的基本要求和第 I 部分的规定。根据 IATA DGR (64 版)的 3.9.2.6.1(g), 除了安装在设备 (包括电路板) 中的纽扣电池, 2003 年 06 月 30 日之后生产的锂电池或电池组的制造商和出厂后的销售商必须提供联合国《试验和标准手册》第 III 部分第 38.3 小节第 38.3.5 段规定的 UN38.3 试验概要。

IATA DGR (64 版)特殊要求 A164, 任何电池或以电池驱动的设备、装置或车辆, 如果会产生危险放热, 其运输必须采取以下保护措施:

(a) 防短路; (b) 防意外启动。

公路运输 ADR

与 TDG 的分类相同

根据 ADR(2023 版)的 2.2.9.1.7 (g), 除了安装在设备 (包括电路板) 中的纽扣电池, 2003 年 06 月 30 日之后生产的锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第 III 部分第 38.3 小节第 38.3.5 段规定的 UN38.3 试验概要。

铁路运输 RID

与 TDG 的分类相同

根据 RID(2023 版)的 2.2.9.1.7 (g), 除了安装在设备 (包括电路板) 中的纽扣电池, 2003 年 06 月 30 日之后生产的锂电池或电池组的制造商和出厂后的销售商应提供联合国《试验和标准手册》第 III 部分第 38.3 小节第 38.3.5 段规定的 UN38.3 试验概要。

15. 法规信息

欧洲/国际法规

OSHA (美国职业安全与健康管理法): 危险性根据危害通讯标准来编写 (29CFR 1910.1200).

EINECS (欧洲现有商业化学物质名录): 无数据资料。

EPA TSCA(有毒物质控制法): 无数据资料。

加拿大 DSL/NDSL(国内物质清单)/ (非国内物质清单): 无数据资料。

HMIS(危险品识别系统): 健康危害: 1
易燃性: 0
物理危害: 0
个人防护: F
(4. 极其严重危害; 3. 严重危害; 2. 中度危害; 1. 轻度危害; 0. 极小危害)

WHMIS(加拿大工作场所所有物质识别系统): 未知。

ICAO-TI

1. 若同一个外包装中有多个设备, 必须将每个设备包装好防止与其他设备接触。
2. 设备必须装入符合第 4;1.1.1, 1.1.3.1 和 1.1.10 (但 1.1.10.1 除外) 要求的坚固硬质的外包装中。大型设备可以无包装或者放在货盘上运输, 但设备必须能给其中的锂电池提供相同的保护。

危险货物品名表 (GB 12268-2012) 联合国编号: UN 3481, 名称和说明: 装在设备中的锂离子电池组, 包装类别: II。

《危险货物道路运输规则》(JT/T 617-2018) 联合国编号: UN 3481, 名称和描述: 设备中含有的锂离子电池, 类别: 第 9 类。

16. 其他信息

雇主只能把本化学品安全数据表的信息当作他们所获其他信息的补充信息, 并能独立判断此信息的适用性, 以确保正确使用并保护雇员的健康和安全。此化学品安全数据表提供的信息并不具担保作用, 任何未按本化学品安全数据表使用产品、或与其他产品和操作过程同时使用本产品时产生的后果由用户自行承担。

本化学品安全数据表是根据《全球化学品统一分类和标签制度》, 《联合国关于危险货物运输的建议书》, 《国际海运危规》, 国际航空运输协会《危险货物规则》和国家标准等相关危险化学品管理法律法规和标准进行编制, 而上述法律法规和标准均会定期进行更新和变化。为使危险货物/危险化学品符合相关最新的管理要求, 建议定期审核更新化学品安全数据表。

本化学品安全数据表分别以中、英文编制, 在对中、英文本的理解上发生歧义时, 以中文文本为准。

缩略语

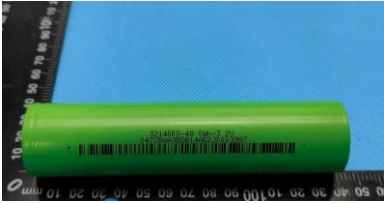
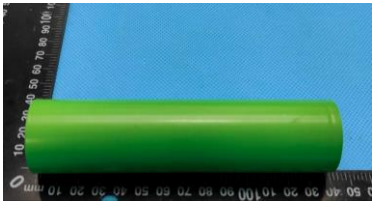
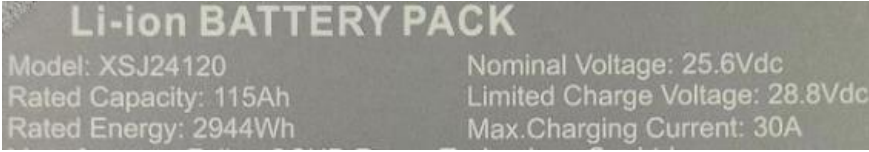






ADR: 《关于危险货物道路国际运输的欧洲协议》

RID: 《关于危险货物铁路国际运输的规则》

IMDG: 国际海运危规

	IATA-DGR: 国际航空运输协会《危险货物规则》(IATA)
	ICAO-TI: 国际民用航空组织《国际民航公约》(ICAO)
	EINECS: 欧洲现有商业化学物质名录
	CAS: 化学文摘号
	LC50: 半数致死浓度
	LD50: 半数致死剂量
	EC50: 半数效应浓度
编制日期	2023.10.16
更新和修改	第 1 版
编制标准	全球化学品统一分类和标签制度 第 1.5 部分
编制机构	杭州海关技术中心

附：样品照片 Sample Photos

内部电芯/Inner Cell (32140FS-48.0 Wh-3.2V)	
	
铭牌/ Nameplate (锂离子电池组 XSJ24120,25.6V 115Ah 2944Wh)	
	
电池/Battery (锂离子电池组 XSJ24120,25.6V 115Ah 2944Wh)	
	
设备/Equipment (商用洗地机器人-L50)	
	
委托方提供的包装照片 / Package Photos provided by the Applicant	
	

报告结束

