

# Safety Data Sheet



Report No. 20181213004

Version number 0

Issue Date 13-Dec-2018

Product name: WR143E Robotic Mower

Revision date NA

## 1 SECTION1: Product and Company Identification

Product identifier

- Product name: WR143E Robotic Mower

Relevant identified uses of the substance or mixture and uses advise against

Identified uses: Used for electric tools

Details of the supplier of the safety data sheet

Supplier: Positec Technology (China) Co., Ltd.

Address:No.18 Dongwang Road, Suzhou Industrial Park

Postcode:215123

E-mail:Positec.sz@positec.biz

Tel:+86-512-65152888

Fax:+86-512-67631999

Emergency telephone number +86-512-65152888

## 2 SECTION 2: Hazards identification

GHS Classification

Not classified

Label elements

Symbols/Pictograms	None
Signal word	None
Hazard Statements	None
Precautionary Statements	
Prevention	None
Response	None
Storage	None
Disposal	None

Hazards not otherwise classified

No information available

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Unknown acute toxicity

No information available

## 3 SECTION 3:Composition/information on ingredients

Battery pack dangerous components.

Chemical Name	CAS Number	Material Composition
PA6	107-10-8	21.95%
glass fibre	65997-17-3	6.59%
EVA	24937-78-8	0.33%
Iron	7439-89-6	12.62%
Carbon	7440-44-0	11.08%
Copper	7440-50-8	11.41%
Lithium nickelate	12031-65-1	5.29%
Aluminium	7429-90-5	4.68%
Lithium manganese oxide	12057-17-9	3.17%
dimethyl carbonate	616-38-6	3.09%
Manganese	7439-96-5	2.76%
cobalt lithium dioxide	12190-79-3	2.12%
Polyethylene	9002-88-4	1.97%
Nickel	7440-02-0	3.63%
Oxygen	7782-44-7	1.61%
1,3-Dioxolan-2-one	96-49-1	1.26%
lithium hexafluorophosphate(1-)	21324-40-3	1.20%
Ethyl methyl carbonate	623-53-0	0.97%
Polypropylene	9003-07-04	0.76%
1-Propene homopolymer	9003-07-0	0.62%
Polyethylene terephthalate	25038-59-9	0.54%
Carbon black	1333-86-4	0.39%

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Polyvinylidene fluoride	24937-79-9	0.39%
lithium carbonate	554-13-2	0.33%
2-Propenoic acid polymer with butyl 2-propenoate, ethenyl acetate and 2-ethylhexyl 2-propenoate	35239-19-1	0.30%
4-Fluoro-1,3-dioxolan-2-one	114435-02-8	0.20%
Carboxyl Methyl Cellulose	9004-32-4	0.12%
Butanedinitrile	110-61-2	0.10%
Octadecylcarbamic acid ethenyl ester homopolymer	36671-85-9	0.07%
Styrene, butadiene copolymer	9003-55-8	0.07%
titanium dioxide	13463-67-7	0.07%
Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> )	14807-96-6	0.06%
2-Methyl-2-propenoic acid methyl ester polymer with 1,3-butadiene, ethenylbenzene and 2-propenenitrile	9010-94-0	0.05%
2-Methyl-2-propenoic acid polymer with 1,3-butadiene and ethenylbenzene	9010-93-9	0.05%
Fatty acids, coco polymers with benzoic acid, pentaerythritol and phthalic anhydride	68604-67-1	0.05%
poly(1,4-butylene terephthalate)	24968-12-5	0.05%
lithium tetrafluoroborate, anhydrous	14283-07-9	0.02%
2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene	9003-56-9	0.02%
1,3-Bis(2,4,6-trioxoperhydropyrimidin-5-ylidene)isoindoline	36888-99-0	0.02%
Magnesium	7439-95-4	0.02%

## 4 SECTION 4: First aid measures

For the material leaked from battery interior

Eye contact: if contact, rinse with clean water for at least 15mins, turns upper and lower eyelid until the chemical residue gone, then go to see doctor immediately.

Skin contact: if contact, rinse with suds. Meanwhile take off the polluted clothes and shoes. If chemical burns or continual stimulates, please go to see a

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doctor immediately.

**Eat:** go to see a doctor immediately

**Inhalation:** remove him to the area that with the clean air immediately , provide him artificial respiration if can not breathe, don't use mouth-to-mouth breath method.

If has difficulty to breathe , given oxygen to overcome breathing problem. Go to see a doctor immediately.

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## 5 SECTION 5: Fire fighting measures

- Extinguishing media
- Suitable extinguishing agents: CO<sub>2</sub>, dry chemical powder, water spray.
- Unsuitable extinguishing agents: No information available.
- Special hazards arising from the substance or mixture: Not flammable.
- Advice for firefighters: Fire-fighters should wear appropriate breathing apparatus and protective equipment

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## 6 SECTION 6: Accidental release measures

### Personal precautions

Use personal protective clothing. Avoid contact with skin, eyes and clothing. Avoid breathing fume and gas.

### Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

Methods for cleaning up/taking up

Take up mechanically and send for disposal.

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## 7 SECTION 7: Handling and storage

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## Handling

### Advice on safe handling

Avoid short circuiting the battery. Avoid mechanical damage of the battery. Do not open or disassemble.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

### Storage

#### Requirements for storage rooms and vessels

Storage at room temperature (approx. 20°C) at approx. 20-60% of the nominal capacity

Keep in closed original container..

## 8 SECTION 8: Exposure controls/personal protection

**Engineering Control:** Select the appropriate ventilation and temperature control equipment, which should be equipped with eye cleaning and shower equipment.

Use local equipment to ensure its concentration under the limitation.

**Eye protection:** Not necessary under normal use. Wear safety goggles or glasses with side shields if handling a leaking or ruptured battery.

**Hand protection:** Not necessary under normal use. Wear rubber gloves if handling a leaking or ruptured battery.

**Skin protection:** Not necessary under normal use. Wear protection suit in case of handling a leaking or ruptured battery

**Respiratory protection:** Not necessary under normal use. Keep the air circulation in case of handling a leaking or ruptured battery. Do not use it in a narrow place in this case.

## 9 SECTION 9: Physical and chemical properties

<ul style="list-style-type: none"><li>-Information on basic physical and chemical properties</li><li>- General Information:</li><li>- Appearance:</li></ul>
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<b>Form:</b>	Solid
<b>Colour:</b>	Coloured
<b>• Odour:</b>	Odourless
<b>• pH-value:</b>	Not applicable.
<b>• Melting point/Melting range:</b>	Not applicable.
<b>• Boiling point/Boiling range:</b>	Not applicable.
<b>• Flash point:</b>	Not applicable.
<b>• Flammability (solid, gaseous):</b>	Product is not flammable.
<b>• Auto-Ignition temperature:</b>	Not applicable.
<b>• Decomposition temperature:</b>	Not applicable.
<b>• Self-igniting:</b>	Product is not selfigniting.
<b>• Danger of explosion:</b>	Product does not present an explosion hazard.
<b>• Flammable limits:</b>	
<b>Lower:</b>	Not applicable.
<b>Upper:</b>	Not applicable.
<b>• Oxidizing properties:</b>	Not applicable.
<b>• Vapour pressure:</b>	Not applicable.
<b>• Density:</b>	Not determined.
<b>• Evaporation rate:</b>	Not applicable.
<b>• Solubility in/Miscibility with:</b>	
<b>Water:</b>	Not miscible or difficult to mix.
<b>• Partition coefficient (n-octanol/water):</b>	Not applicable.
<b>• Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.

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**Kinematic:** Not applicable.

**Additional information** No further relevant information available

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## 10 SECTION 10: Stability and reactivity

**Stability:** It should be stable under the condition of normal storage and operation.

**Conditions to avoid:** Overheat; Exposure to humid conditions; Mechanical vibration

**Taboo materials:** strong oxidant

**Hazardous decomposition products:** Under the condition of burning may produce harmful decomposition products

**Hazardous polymerization reaction:** NA

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## 11 SECTION 11: Toxicological information

- **Acute toxicity:** No data available.
- **Skin corrosion/irritation:** No irritant effect.
- **Serious eye damage/irritation:** No irritating effect.
- **Respiratory or skin sensitization:** No sensitizing effects known.
- **Specific target organ system toxicity:** No information available.
- **Toxicokinetics, metabolism and distribution:** No information available.
- **Aspiration hazard:** No information available.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** No information available.

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## 12 SECTION 12: Ecological information

There are no ecological injuries under normal usage. Do not flush into water or sanitary sewer system



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## 13 SECTION 13: Disposal considerations

Advice on disposal

For recycling consult manufacturer.

Disposal in accordance with local regulations

## 14 SECTION 14: Transport information

The lithium-ion battery packs are pack with an equipment are made in compliance to the requirements stated in the latest edition of the IATA Dangerous Goods Regulations Packing Instruction 966 section II (60th Edition, 2018),Section such that they can be transported as a NOT RESTRICTED (non-hazardous/non-dangerous) goods.

With regard to transport, the following regulations are cited and considered:

- The International Civil Aviation Organization (ICAO) Technical Instructions, Packing Instruction 966, Section II (60th Edition, 2018)
- The International Air Transport Association (IATA) Dangerous Goods Regulations, Packing Instruction 966, Section II (60th Edition, 2018)
- The International Maritime Dangerous Goods (IMDG) Code(38th-16)
- US Harzardous Materials Regulations 49 CFR(Code of Federal Regulations) Sections 173-185 Lithium batterie and cells,
- The UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria 38.3 Lithium batteries, , Rev.5, Amend.1

<b><u>DOT</u></b>	Not regulated
<b>Proper Shipping Name</b>	Lithium ion battery
<b>Hazard Class</b>	9
<b>Emergency Response Guide</b>	147
<b>UN number</b>	3481

<b><u>TDG</u></b>	Not regulated
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<b><u>MEX</u></b>	Not regulated
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<b><u>ICAO (air)</u></b>	Not regulated
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<b><u>IATA</u></b>	Not regulated The goods meet the requirement in General Requirements and section II of Packing
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**Proper Shipping Name** Instruction 966  
**Hazard Class** Lithium ion battery  
**UN number** 9  
3481

**IMDG** Not regulated  
The article is not restricted to IMO IMDG Code according to Special Provision 188  
**Proper Shipping Name** Lithium ion battery  
**Hazard Class** 9  
**EmS-No.** F-A, S-I  
**UN number** 3481

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

Our products are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to all the applicable international and national governmental regulations, not limited to the above mentioned. We further certify that the enclosed products have been tested and fulfilled the requirements and conditions in accordance with UN Recommendations (T1 – T8) on the Transport of Dangerous Goods Model Regulations and the Manual of Testes and Criteria that can be treated as “Non-Dangerous Goods”.

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Test results of the UN Recommendation on the Transport of Dangerous Goods Manual of Test and Criteria (38.3 Lithium battery)	Test Results	Remark
No .	Test item	
T1	Altitude Simulation	Pass
T2	Thermal Test	Pass
T3	Vibration	Pass
T4	Shock	Pass
T5	External Short Circuit	Pass
T6	Impact	Pass
T7	Overcharge	Pass
T8	Forced Discharge	Pass

## 15 SECTION 15: Regulatory information

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

USA or EU Regulation:

Authorizations : No information available.

Restrictions on use: No information available.

## 16 SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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**Disclaimer**

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Author	Reviewer	Approval
Boliang zhong 13-Dec-2018	Jennifer Chen 13-Dec-2018	Allen Ding 13-Dec-2018

——End of Safety Data Sheet——