Technical Data Sheet

Ryobi Lithium-Ion Battery Pack
Battery Voltage: 18V
Battery Capacity: 4Ah / 72Wh

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Lithium-Ion Battery — Rechargeable

Model Number: PBP004
Issue Date: October 2020

Techtronic Industries Power Equipment
P.O. Box 1288
Anderson, SC 29622

Company Phone Number: 1-800-525-2579

Emergency Contact Number:
Chemtrec (United States only): 1-800-424-9300
(International): +1-703-741-5970

SECTION 2: HAZARDS IDENTIFICATION

Refer to battery cell SDS for more information.

No exposure to hazards during routine handling of product.

⚠ WARNING:

- To reduce the risk of injury, user must read operator's manual.
- Risk of fire and burns.
- Do not open, crush, heat above 50˚C, incinerate, or short terminals.
- Follow manufacturer's instructions.
- Use only with charger listed in operator's manual.
- Remove battery from tool when storing, changing attachments, or making adjustments.
- To reduce the risk of explosion and possible injury, do not place battery near fire or heat.
- Do not crush, drop, or damage battery pack.
- Do not use a battery pack that has been dropped or received a sharp blow. A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- Under extreme usage or temperature conditions, battery leakage may occur. If fluid comes in contact with your skin, wash immediately with soap and water. If fluid gets into your eyes, flush them with clean water for at least 10 minutes, then seek immediate medical attention. Following this rule will reduce the risk of serious personal injury.
- Battery cells and battery pack assembly will burn if incinerated.

SECTION 3: COMPOSITION/INFORMATION OF INGREDIENTS

Refer to battery cell SDS for more information.

SECTION 4: FIRST AID MEASURES

Refer to battery cell SDS for more information.

No exposure to hazards during routine handling of product.

⚠ WARNING:

- To reduce the risk of injury, user must read operator's manual.
- Risk of fire and burns.
- Do not open, crush, heat above 50˚C, incinerate, or short terminals.
- Follow manufacturer's instructions.
- Use only with charger listed in operator's manual.
- Remove battery from tool when storing, changing attachments, or making adjustments.
- To reduce the risk of explosion and possible injury, do not place battery near fire or heat.
- Do not crush, drop, or damage battery pack.
- Do not use a battery pack that has been dropped or received a sharp blow. A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- Under extreme usage or temperature conditions, battery leakage may occur. If fluid comes in contact with your skin, wash immediately with soap and water. If fluid gets into your eyes, flush them with clean water for at least 10 minutes, then seek immediate medical attention. Following this rule will reduce the risk of serious personal injury.
- Battery cells and battery pack assembly will burn if incinerated.
- No exposure during routine handling of product. Risk of exposure occurs only if the battery is mechanically or electrically abused.
- No effect under routine handling and use to eyes, skin, or if inhaled. Ingestion is not likely, given the physical size and state of the cell. If swallowed, seek medical attention immediately.
- If exposure to internal materials within cell due to damaged outer casing, the following actions are recommended:

EYE CONTACT:

Flush with water for 10 minutes without rubbing and immediately seek medical attention.

SKIN CONTACT:

Wash area immediately with soap and water. If irritation continues, seek medical attention.

INHALATION:

Leave area immediately, move to fresh air, and seek medical attention.

INGESTION:

If swallowed, contact POISON CONTROL CENTER immediately.

SECTION 5: FIRE FIGHTING MEASURES

Refer to battery cell SDS for more information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

- Use standard industrial clothing in normal use.
- If handling large containers of cells, wear steel-toed footwear.

ENVIRONMENTAL PRECAUTIONS:

No special precautions necessary.

METHODS FOR CONTAINMENT:

- Transport container outdoors.
- Always consult and obey all international, federal, and local environmental laws.

METHODS FOR CLEANUP:

No data available

OTHER INFORMATION:

No data available

SECTION 7: HANDLING AND STORAGE

HANDLING:

- Use only approved charging equipment.
- Do not disassemble battery or battery pack.
- Do not puncture, crush, or dispose of in fire.

STORAGE:

To obtain the longest possible battery life, we suggest the following:

- Remove the battery pack from the charger once it is fully charged and ready for use.

For battery pack storage longer than 30 days:

- Store the battery pack where the temperature is below 80°f and away from moisture.
- Store battery packs in a 30%-50% charged condition.
- Every six months of storage, charge the pack as normal.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Refer to battery cell SDS for more information.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Battery pack consists of battery cells assembled in resin enclosure and is a solid odorless product that will burn if incinerated.

SECTION 10: STABILITY AND REACTIVITY

Refer to battery cell SDS for more information.

No exposure to hazards during routine handling of product.

⚠ WARNING:

- To reduce the risk of injury, user must read operator's manual.
- Risk of fire and burns.
- Do not open, crush, heat above 50˚C, incinerate, or short terminals.
- Follow manufacturer's instructions.
- Use only with charger listed in operator's manual.
- Remove battery from tool when storing, changing attachments, or making adjustments.
- To reduce the risk of explosion and possible injury, do not place battery near fire or heat.
- Do not crush, drop, or damage battery pack.
- Do not use a battery pack that has been dropped or received a sharp blow. A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- Under extreme usage or temperature conditions, battery leakage may occur. If fluid comes in contact with your skin, wash immediately with soap and water. If fluid gets into your eyes, flush them with clean water for at least 10 minutes, then seek immediate medical attention. Following this rule will reduce the risk of serious personal injury.
- Battery cells and battery pack assembly will burn if incinerated.

SECTION 11: TOXICOLOGY INFORMATION

Refer to battery cell SDS for more information.

No exposure to hazards during routine handling of product.

⚠ WARNING:

- To reduce the risk of injury, user must read operator's manual.
- Risk of fire and burns.
- Do not open, crush, heat above 50˚C, incinerate, or short terminals.
- Follow manufacturer's instructions.
- Use only with charger listed in operator's manual.
- Remove battery from tool when storing, changing attachments, or making adjustments.
- To reduce the risk of explosion and possible injury, do not place battery near fire or heat.
- Do not crush, drop, or damage battery pack.
- Do not use a battery pack that has been dropped or received a sharp blow. A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- Under extreme usage or temperature conditions, battery leakage may occur. If fluid comes in contact with your skin, wash immediately with soap and water. If fluid gets into your eyes, flush them with clean water for at least 10 minutes, then seek immediate medical attention. Following this rule will reduce the risk of serious personal injury.
- Battery cells and battery pack assembly will burn if incinerated.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

None in routine handling of product.

TOXICITY:

No data available

PERSISTENCE AND DEGRADABILITY (BIOPERSISTENCY & BIODEGRADABILITY):

None in routine handling of product.

POTENTIAL OF BIOACCUMULATION:

None in routine handling of product.

MOBILITY IN SOIL:

None in routine handling of product.

OTHER ADVERSE EFFECTS:

No data available

DISPOSAL:

Follow guidelines in Section 13.

SECTION 13: DISPOSAL CONSIDERATIONS

This product contains Lithium-ion batteries. Local, state or federal laws may prohibit disposal of batteries in ordinary trash. Consult your local waste authority for information regarding available recycling and/or disposal options.

DISPOSAL:

- Dispose in accordance with appropriate regulations.
- Always consult and obey all international, federal, provincial/state, and local hazardous waste disposal laws. Some jurisdictions require recycling of this spent product. Battery recycling is encouraged.
- Lithium-ion batteries are safe for disposal in the normal municipal waste stream since they are not defined by the federal government as hazardous waste. However, Lithium-ion batteries are recyclable.
- To preserve natural resources, please recycle or dispose of batteries properly.

⚠ WARNING:

- Upon removal, cover the battery pack's terminals with heavy-duty adhesive tape.
- Do not attempt to destroy or disassemble battery pack or remove any of its components.
- Batteries must be recycled or disposed of properly.
- Also, never touch both terminals with metal objects and/or body parts as short circuit may result.
- Keep away from children. Failure to comply with these warnings could result in fire and/or serious injury.
- This product does not contain mercury, cadmium or Lithium (metal).
- DO NOT INCINERATE battery cells.

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT Hazardous Material Regulations (Re: Ground Transport)

Lithium-ion batteries under 101 watt hours or Lithium-ion batteries packed with equipment under 101 watt hours when packaged correctly are not subject to any regulations when traveling by ground in the continental U.S.

Canada Transport Dangerous Goods (Re: Ground Transport)

Lithium-ion batteries under 101 watt hours or Lithium-ion batteries packed with equipment under 101 watt hours when packaged correctly are not subject to any regulation when traveling by ground in Canada.

International Dangerous Goods Regulations (Re: Air, Sea, Ground Transport)

Lithium-ion batteries under 101 watt hours or Lithium-ion batteries under 101 watt hours packed with equipment are not subject to any regulation when packaged correctly when shipped by sea.

No more than (16) Lithium-ion batteries under 101 watt hours can be shipped in a box by air, and no more than 2 shipments can be sent to a consignee in a day. The package must contain a Red Bordered Lithium-ion label (ICAO) containing an emergency contact telephone number and a Cargo Air Craft only label.

For accessory batteries under 101 watt hours when shipped by air, Dangerous Goods declaration must be presented to the air forwarder and the shipment identified as 1B on the declaration. The following labels must be attached: DG9 diamond label, Cargo Aircraft Only label, UN3480 Lithium-ion batteries label (all 3 of those labels must be on the same side of the carton), and the Red Bordered Lithium-ion label (ICAO), and UN3480 / 3481 label with the kg of lithium label . (all 4 of those labels must be on the same side of the carton).

SECTION 15: REGULATORY INFORMATION

Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub section 38.3.

CALIFORNIA PROPOSITION 65

⚠ **WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov**

SECTION 16: OTHER INFORMATION

The information contained within this document is provided for your information only. In case of any discrepancy, the information provided in the battery cell Safety Data Sheet takes precedence over the information provided in the battery pack Technical Data Sheet.

Prepared by: Techtronic Industries Power Equipment

The batteries referenced herein are considered exempt articles and are not subject to the OSHA Hazard Communication Standard; therefore an SDS is not required. This sheet is being provided as a service to our customers.

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. TECHTRONIC INDUSTRIES POWER EQUIPMENT makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereto.

MSDS Report

Sample Description & Model	Lithium-ion Cell

Material Safety Data Sheet

Reference to ST/SG/AC.10/30/Rev.6 (GHS)

Section 1 - Chemical Product and Company Identification

Chemical product identification

Sample Description: Lithium-ion Cell

Recommended Uses: N/A

Restrictions on use: N/A

Section 2 - Hazards Identification

Emergency overview: This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance. This is a battery.
In case of rupture: the below hazards exist.

CAS# 1333-86-4

Classification according to GHS

Carcinogenicity (2)

Specific target organ toxicity, repeated exposure (1) (lung)

Label elements

Hazard pictogram(s):



Signal word: Danger

Hazard statement(s):

H351 Suspected of causing cancer

H372 Causes damage to organs through prolonged or repeated exposure (lung)

Precautionary statement(s):

Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P280 Wear protective gloves, protective clothing, eye protection and face protection.

P260 Do not breathe dust.

P264 Wash skin and clothing thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

Response:

P308 + P313 IF exposed or concerned: Get medical advice.

P314 Get medical advice if you feel unwell.

Storage

P405 Store locked up.

Disposal:

P501 Contents handling to approved waste treatment plants.

CAS# 616-38-6

Classification according to GHS

Flammable liquids (2)

Specific target organ toxicity, single exposure; Narcotic effects (3)

Reproductive toxicity (2)

Label elements

Hazard pictogram(s):



Signal word: Danger

Hazard statement(s):

H225 Highly flammable liquid and vapour

H336 May cause drowsiness or dizziness

H361 Suspected of damaging fertility or the unborn child

Precautionary statement(s):

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof equipment.

P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P280 Wear protective gloves, protective clothing, eye protection and face protection.
P261 Avoid breathing gas, mist, vapours and spray.
P271 Use only outdoors or in a well-ventilated area.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P370 + P378 In case of fire: Use the appropriate media put out the fire.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER or doctor, if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice.

Storage

P403 + P235 Store in a well-ventilated place. Keep cool.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Contents handling to approved waste treatment plants.

CAS# 7440-50-8

Classification according to GHS

Specific target organ toxicity, single exposure; Respiratory tract irritation (3)
Specific target organ toxicity, repeated exposure (1) (liver)
Hazardous to the aquatic environment, long-term hazard (3)

Label elements

Hazard pictogram(s):



Signal word: Danger

Hazard statement(s):

H335 May cause respiratory irritation
H372 Causes damage to organs through prolonged or repeated exposure (liver)
H412 Harmful to aquatic life with long lasting effects

Precautionary statement(s):

Prevention:

P271 Use only outdoors or in a well-ventilated area.

P260 Do not breathe dust.

P264 Wash skin and clothing thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

Response:

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER or doctor, if you feel unwell.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal:

P501 Contents or container handling to approved waste treatment plants.

CAS# 7429-90-5

Classification according to GHS

Specific target organ toxicity, repeated exposure (1) (Lung)

Hazardous to the aquatic environment, long-term hazard (4)

Label elements

Hazard pictogram(s):



Signal word: Danger

Hazard statement(s):

H372 Causes damage to organs through prolonged or repeated exposure (Lung)

H413 May cause long lasting harmful effects to aquatic life

Precautionary statement(s):

Prevention:

P260 Do not breathe dust.

P264 Wash skin and clothing thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

Response:

P314 Get medical advice if you feel unwell.

Storage

None.

Disposal:

P501 Contents handling to approved waste treatment plants.

Other hazards
Physical and chemical hazards: See Section 10
Human health hazards: See Section 11
Environmental hazards: See Section 12

Section 3 – Composition/Information on Ingredients

Chemical characterization: Mixture

Chemical Composition	CAS No.	EC#	Weight (%)
Lithium Manganese Nickel And Cobalt	12190-79-3	---	<35
Carbon black	1333-86-4	215-609-9	<5
Sodium carboxy methyl cellulose	9004-32-4	618-378-6	<2
Polyvinylidene fluoride resin	24937-79-9	607-458-6	<2
Graphite	7782-42-5	231-955-3	<20
Phosphate(1-), hexafluoro-, lithium	21324-40-3	244-334-7	<5
1,3-Dioxolan-2-one	96-49-1	202-510-0	<5
Carbonic acid, dimethyl ester	616-38-6	210-478-4	<5
Copper	7440-50-8	231-159-6	<15
Aluminium	7429-90-5	231-072-3	<10

Section 4 - First Aid Measures

Description of first aid measures
General information No special measures required.
After eye contact
Flush eyes with plenty of water for several minutes while holding eyelids open. Get medical attention if irritation persists.
After skin contact
Remove contaminated clothing and shoes. Immediately wash with water and soap and rinse thoroughly. Wash clothing and shoes before reuse. If irritation occurs, get medical attention.

After inhalation

Remove victim to fresh area. Administer artificial respiration if breathing is difficult. Seek medical attention.

After swallowing

Do not induce vomiting. Get medical attention.

Personal protective equipment for first-aid responders: No data available.

Most important symptoms/effects, acute and delayed: No data available.

Indication of immediate medical attention and special treatment needed: No data available.

Section 5 - Fire Fighting Measures

Suitable extinguishing media:

Use extinguishing agent suitable for local conditions and the surrounding environment . Such as dry powder , CO_2.

Unsuitable extinguishing media:

No data available.

Specific Hazards arising from the chemical:

Special hazards arising from the substance or mixture

Battery may burst and release hazardous decomposition products when exposed to a fire situation. Lithium ion batteries contain flammable electrolyte that may vent, ignite and produce sparks when subjected to high temperature(>150℃(302℉)), when damaged or abused (e.g. mechanical damage or electrical overcharging); may burn rapidly with flare-burning effect; may ignite other batteries in clothes proximity.

Specific protective actions for fire-fighters:

Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

Section 6 - Accidental Release Measures

Personal precautions:

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

Protective equipment:

No data available.

Emergency procedures:

Remove ignition sources, evacuate area. Sweep up using a method that does not generate dust. Collect as much of the spilled material as possible, placed the spilled material into a suitable disposal container. Keep spilled material out of sewers, ditches and bodies of water.

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

Methods and materials for containment and cleaning up:

All waste must refer to the United Nations, the national and local regulations for disposal.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

Section 7 - Handling and Storage

Precautions for safe handling:

Consumption of food and beverage should be avoided in work areas.

Wash hands with soap and water before eating, drinking.

Ground containers when transferring liquid to prevent static accumulation and discharge.

Information about fire and explosion protection

Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity.

Conditions for safe storage, including any incompatibilities:

Requirements to be met by storerooms and receptacles

Store in a cool, dry, well-ventilated place.

Information about storage in one common storage facility

Keep away from heat, avoiding the long time of sunlight.

Further information about storage conditions

Keep container tightly sealed.

Specific and use

No data available.

Section 8 - Exposure Controls/Personal Protection

Control parameters

CAS No.	ACGIH	NIOSH	OSHA
1333-86-4	TLV-TWA 3.5mg/m3	REL-TWA 3.5mg/m3	PEL-TWA 3.5mg/m3
9004-32-4	N/A	N/A	N/A
24937-79-9	N/A	N/A	N/A

7782-42-5	TLV-TWA 2mg/m3	REL-TWA 2.5mg/m3	PEL-TWA 15mppcf PEL-TWA 20mppcf
21324-40-3	N/A	N/A	N/A
96-49-1	N/A	N/A	N/A
616-38-6	N/A	N/A	N/A
7440-50-8	TLV-TWA 0.2mg/m3 TLV-TWA 1mg/m3	REL-TWA 1mg/m3 REL-TWA 0.1mg/m3	PEL-TWA 0.1mg/m3 PEL-TWA 1mg/m3
7429-90-5	TLV-TWA 10mg/m3 TLV-TWA 5mg/m3	REL-TWA 2mg/m3 REL-TWA 5mg/m3 REL-TWA 10mg/m3	PEL-TWA 5mg/m3 PEL-TWA 15mg/m3

Appropriate engineering controls:

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Personal Protective Equipment

Respiratory protection: Wear suitable protective mask in order to reduce the respiratory system. A large number of leakage, wear chemical protective clothing, including self-contained breathing apparatus.

Hand Protection: Wear appropriate protective gloves to reduce skin contact.

Eyes Protection: Wear safety goggles or eye protection combined with respiratory protection.

Skin and Body Protection: Working environment required, wear suitable protective clothing to minimize contact with skin. The type of protective equipment must be according to the concentration and the content of certain hazardous substances in the workplace.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Colour:	Green.
Physical State:	Cylindrical.
Odour:	Not available.
Odour threshold:	Not available.
pH:	Not available.

Melting point/freezing point:	Not available.
Initial boiling point and boiling range:	Not available.
Flash Point:	Not available.
Evaporation rate:	Not available.
Flammability (solid, gas):	Not available.
Explosion Limits (vol% in air):	Not available.
Vapour pressure, kPa at 20℃:	Not available.
Vapor density:	Not available.
Density/Relative density (water = 1):	Not available.
Solubility(ies):	Not available.
Partition coefficient: n-octanol/water:	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not available.
Other information:	
Voltage	3.6V
Electric capacity	2000mAh
Electric Energy	7.2Wh

Section 10 - Stability and Reactivity

Reactivity: No data available.
Chemical stability: Stable.
Possibility of hazardous reactions: No data available.
Conditions to Avoid: Flames, sparks, and other sources of ignition, incompatible materials.
Incompatibilities materials: Oxidizing agents, acid, base.
Hazardous decomposition products: Carbon monoxide, carbon dioxide, lithium oxide fumes.

Section 11 - Toxicological Information

Acute Toxicity:

CAS No.	LC50/LD50
1333-86-4	LD50 Rat (oral): 15400mg/kg
9004-32-4	No data available.
24937-79-9	No data available.

7782-42-5	No data available.
21324-40-3	No data available.
96-49-1	LD50 Rat (oral): 10g/kg
616-38-6	LD50 Rat (oral): 6400-12800mg/kg; LC50 Rat (Inhalation: Vapours) ≥140 mg/L
7440-50-8	No data available.
7429-90-5	No data available.

Skin corrosion/irritation: No data available.
Serious eye damage/irritation: No data available.
Respiratory or Skin sensitization: No data available.
Germ Cell mutagenicity: No data available.
Carcinogenicity: 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.
Information on the likely routes of exposure: No data available.
Eye: No data available.
Skin: No data available.
Ingestion: No data available.
Inhalation: No data available.

Section 12 - Ecological Information

Ecological 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.

Section 13 - Disposal Considerations

Disposal methods:
Recommendation:
Consult state, local or national regulations to ensure proper disposal.

Uncleaned packaging

Recommendation: Disposal must be made according to official regulations.

Section 14 - Transport Information

UN Number	
IATA	UN3480
IMDG	UN3480
UN Proper shipping name	
IAT	Lithium ion batteries
IMDG	LITHIUM ION BATTERIES
Transport hazard class(es)	
IATA	9
IMDG	9
Packing group	
IATA	N/A
IMDG	N/A
Packaging Sign	
IATA	
IMDG	N/A
Environmental hazards	
Marine pollutant:	No
Special precautions for user	Not applicable.

Transport information: The Lithium-ion Cell has passed the test UN38.3, according to the report ID: MDIKXCJN51537721.

Exceeds the standard of Table 965-II , so it belongs to dangerous goods. Cargo aircraft only. According to the Packing Instruction 965 section I B of IATA DGR 57th Edition for transportation.

According to the special provision 188 of IMDG (37-14). The products are not subject to dangerous goods.

Separate batteries to prevent short-circuiting. and they should be packed in strong package during transport. Lithium cell or battery should incorporate a safety venting device or be designed to prevent a violent rupture under normal transport conditions. Keep away from

high temperature and open flames. Lithium ion cells and batteries must be offered for transport at a state of charge (SoC) not exceeding 30% of their rated design capacity from 1 April 2016.

Transport Fashion: By air, by sea.

Section 15 - Regulatory Information

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

CAS No.	TSCA	IECSC	DSL/NDSL	EINECS/ ELINCS/ NLP
1333-86-4	Listed	Listed	Listed DSL	Listed
9004-32-4	Listed	Listed	Listed DSL	Listed
24937-79-9	Listed	Listed	Listed DSL	Listed
7782-42-5	Listed	Listed	Listed DSL	Listed
21324-40-3	Listed	Listed	Listed DSL	Listed
96-49-1	Listed	Listed	Listed DSL	Listed
616-38-6	Listed	Listed	Listed DSL	Listed
7440-50-8	Listed	Listed	Listed DSL	Listed
7429-90-5	Listed	Listed	Listed DSL	Listed

Section 16 - Other Information

Issue Time: 2016-03-28

Issue Department: Technical department

Modification record:

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Other Information:

CAS: (Chemical Abstracts Service);

EC: (European Commission);

ACGIH: (American Conference of Governmental Industrial Hygienists);

NIOSH: (US National Institute for Occupational Safety and Health);
OSHA: (US Occupational Safety and Health);
TLV: (Threshold Limit Value)
TWA: (Time Weighted Average);
STEL: (Short Term Exposure Limit);
PEL: (Permissible Exposure Level);
REL: (Recommended Exposure Limit);
PC-STEL: (Permissible concentration-time weighted average);
PC-TWA: (Permissible concentration-short time exposure limit);
LC50: (Lethal concentration, 50 percent kill);
LD50: (Lethal dose, 50 percent kill);
IARC: (International Agency for Research on Cancer);
EC50: (Median effective concentration);
BCF: (Bioconcentration Factor);
BOD: (Biochemical oxygen demand);
NOEC: (No observed effect concentration);
NTP: (US National Toxicology Program);
RTECS: (Registry of Toxic Effects of Chemical Substances);
IATA: (International Air Transport Association);
IMDG: (International Maritime Dangerous Goods);
TDG: (Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations);
TOC: (Total Organic Carbon);
TSCA: (Toxic Substances Control Act of USA);
DSL: (the Domestic Substances List of Canada);
NDSL: (the Non-domestic Substances List of Canada)

End of report

Technical Data Sheet

Ryobi Lithium-Ion Battery Pack
Battery Voltage: 40V
Battery Capacity: 2Ah / 72Wh

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Lithium-Ion Battery — Rechargeable

Model Number: OP40201
Issue Date: October 2018

Techtronic Industries Power Equipment
P.O. Box 1288
Anderson, SC 29622

Company Phone Number: 1-800-860-4050

Emergency Contact Number:
Chemtrec (United States only): 1-800-424-9300
(International): +1-703-741-5970

SECTION 2: HAZARDS IDENTIFICATION

Refer to battery cell SDS for more information.

No exposure to hazards during routine handling of product.

⚠ WARNING:

- To reduce the risk of injury, user must read operator's manual.
- Risk of fire and burns.
- Do not open, crush, heat above 50°C, incinerate, or short terminals.
- Follow manufacturer's instructions.
- Use only with charger listed in operator's manual.
- Remove battery from tool when storing, changing attachments, or making adjustments.
- To reduce the risk of explosion and possible injury, do not place battery near fire or heat.
- Do not crush, drop, or damage battery pack.
- Do not use a battery pack that has been dropped or received a sharp blow. A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- Under extreme usage or temperature conditions, battery leakage may occur. If fluid comes in contact with your skin, wash immediately with soap and water. If fluid gets into your eyes, flush them with clean water for at least 10 minutes, then seek immediate medical attention. Following this rule will reduce the risk of serious personal injury.
- Battery cells and battery pack assembly will burn if incinerated.

SECTION 3: COMPOSITION/INFORMATION OF INGREDIENTS

Refer to battery cell SDS for more information.

SECTION 4: FIRST AID MEASURES

Refer to battery cell SDS for more information.

No exposure to hazards during routine handling of product.

⚠ WARNING:

- To reduce the risk of injury, user must read operator's manual.
- Risk of fire and burns.
- Do not open, crush, heat above 50°C, incinerate, or short terminals.
- Follow manufacturer's instructions.
- Use only with charger listed in operator's manual.
- Remove battery from tool when storing, changing attachments, or making adjustments.
- To reduce the risk of explosion and possible injury, do not place battery near fire or heat.
- Do not crush, drop, or damage battery pack.
- Do not use a battery pack that has been dropped or received a sharp blow. A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- Under extreme usage or temperature conditions, battery leakage may occur. If fluid comes in contact with your skin, wash immediately with soap and water. If fluid gets into your eyes, flush them with clean water for at least 10 minutes, then seek immediate medical attention. Following this rule will reduce the risk of serious personal injury.
- Battery cells and battery pack assembly will burn if incinerated.
- No exposure during routine handling of product. Risk of exposure occurs only if the battery is mechanically or electrically abused.
- No effect under routine handling and use to eyes, skin, or if inhaled. Ingestion is not likely, given the physical size and state of the cell. If swallowed, seek medical attention immediately.
- If exposure to internal materials within cell due to damaged outer casing, the following actions are recommended:

EYE CONTACT:

Flush with water for 10 minutes without rubbing and immediately seek medical attention.

SKIN CONTACT:

Wash area immediately with soap and water. If irritation continues, seek medical attention.

INHALATION:

Leave area immediately, move to fresh air, and seek medical attention.

INGESTION:

If swallowed, contact POISON CONTROL CENTER immediately.

SECTION 5: FIRE FIGHTING MEASURES

Refer to battery cell SDS for more information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

- Use standard industrial clothing in normal use.
- If handling large containers of cells, wear steel-toed footwear.

ENVIRONMENTAL PRECAUTIONS:

No special precautions necessary.

METHODS FOR CONTAINMENT:

- Transport container outdoors.
- Always consult and obey all international, federal, and local environmental laws.

METHODS FOR CLEANUP:

No data available

OTHER INFORMATION:

No data available

SECTION 7: HANDLING AND STORAGE

HANDLING:

- Use only approved charging equipment.
- Do not disassemble battery or battery pack.
- Do not puncture, crush, or dispose of in fire.

STORAGE:

To obtain the longest possible battery life, we suggest the following:

- Remove the battery pack from the charger once it is fully charged and ready for use.

For battery pack storage longer than 30 days:

- Store the battery pack where the temperature is below 80°f and away from moisture.
- Store battery packs in a 30%-50% charged condition.
- Every six months of storage, charge the pack as normal.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Refer to battery cell SDS for more information.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Battery pack consists of battery cells assembled in resin enclosure and is a solid odorless product that will burn if incinerated.

SECTION 10: STABILITY AND REACTIVITY

Refer to battery cell SDS for more information.

No exposure to hazards during routine handling of product.

⚠ WARNING:

- To reduce the risk of injury, user must read operator's manual.
- Risk of fire and burns.
- Do not open, crush, heat above 50°C, incinerate, or short terminals.
- Follow manufacturer's instructions.
- Use only with charger listed in operator's manual.
- Remove battery from tool when storing, changing attachments, or making adjustments.
- To reduce the risk of explosion and possible injury, do not place battery near fire or heat.
- Do not crush, drop, or damage battery pack.
- Do not use a battery pack that has been dropped or received a sharp blow. A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- Under extreme usage or temperature conditions, battery leakage may occur. If fluid comes in contact with your skin, wash immediately with soap and water. If fluid gets into your eyes, flush them with clean water for at least 10 minutes, then seek immediate medical attention. Following this rule will reduce the risk of serious personal injury.
- Battery cells and battery pack assembly will burn if incinerated.

SECTION 11: TOXICOLOGY INFORMATION

Refer to battery cell SDS for more information.

No exposure to hazards during routine handling of product.

⚠ WARNING:

- To reduce the risk of injury, user must read operator's manual.
- Risk of fire and burns.
- Do not open, crush, heat above 50°C, incinerate, or short terminals.
- Follow manufacturer's instructions.
- Use only with charger listed in operator's manual.
- Remove battery from tool when storing, changing attachments, or making adjustments.
- To reduce the risk of explosion and possible injury, do not place battery near fire or heat.
- Do not crush, drop, or damage battery pack.
- Do not use a battery pack that has been dropped or received a sharp blow. A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- Under extreme usage or temperature conditions, battery leakage may occur. If fluid comes in contact with your skin, wash immediately with soap and water. If fluid gets into your eyes, flush them with clean water for at least 10 minutes, then seek immediate medical attention. Following this rule will reduce the risk of serious personal injury.
- Battery cells and battery pack assembly will burn if incinerated.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

None in routine handling of product.

TOXICITY:

No data available

PERSISTENCE AND DEGRADABILITY (BIOPERSISTENCY & BIODEGRADABILITY):

None in routine handling of product.

POTENTIAL OF BIOACCUMULATION:

None in routine handling of product.

MOBILITY IN SOIL:

None in routine handling of product.

OTHER ADVERSE EFFECTS:

No data available

DISPOSAL:

Follow guidelines in Section 13.

SECTION 13: DISPOSAL CONSIDERATIONS

This product contains Lithium-ion batteries. Local, state or federal laws may prohibit disposal of batteries in ordinary trash. Consult your local waste authority for information regarding available recycling and/or disposal options.

DISPOSAL:

- Dispose in accordance with appropriate regulations.
- Always consult and obey all international, federal, provincial/state, and local hazardous waste disposal laws. Some jurisdictions require recycling of this spent product. Battery recycling is encouraged.
- Lithium-ion batteries are safe for disposal in the normal municipal waste stream since they are not defined by the federal government as hazardous waste. However, Lithium-ion batteries are recyclable.
- To preserve natural resources, please recycle or dispose of batteries properly.

⚠ WARNING:

- Upon removal, cover the battery pack's terminals with heavy-duty adhesive tape.
- Do not attempt to destroy or disassemble battery pack or remove any of its components.
- Batteries must be recycled or disposed of properly.
- Also, never touch both terminals with metal objects and/or body parts as short circuit may result.
- Keep away from children. Failure to comply with these warnings could result in fire and/or serious injury.
- This product does not contain mercury, cadmium or Lithium (metal).
- DO NOT INCINERATE battery cells.

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT Hazardous Material Regulations (Re: Ground Transport)

Lithium-ion batteries under 101 watt hours or Lithium-ion batteries packed with equipment under 101 watt hours when packaged correctly are not subject to any regulations when traveling by ground in the continental U.S.

Canada Transport Dangerous Goods (Re: Ground Transport)

Lithium-ion batteries under 101 watt hours or Lithium-ion batteries packed with equipment under 101 watt hours when packaged correctly are not subject to any regulation when traveling by ground in Canada.

International Dangerous Goods Regulations (Re: Air, Sea, Ground Transport)

Lithium-ion batteries under 101 watt hours or Lithium-ion batteries under 101 watt hours packed with equipment are not subject to any regulation when packaged correctly when shipped by sea.

No more than (16) Lithium-ion batteries under 101 watt hours can be shipped in a box by air, and no more than 2 shipments can be sent to a consignee in a day. The package must contain a Red Bordered Lithium-ion label (ICAO) containing an emergency contact telephone number and a Cargo Air Craft only label.

For accessory batteries under 101 watt hours when shipped by air, Dangerous Goods declaration must be presented to the air forwarder and the shipment identified as 1B on the declaration. The following labels must be attached: DG9 diamond label, Cargo Aircraft Only label, UN3480 Lithium-ion batteries label (all 3 of those labels must be on the same side of the carton), and the Red Bordered Lithium-ion label (ICAO), and UN3480 / 3481 label with the kg of lithium label . (all 4 of those labels must be on the same side of the carton).

SECTION 15: REGULATORY INFORMATION

Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub section 38.3.

CALIFORNIA PROPOSITION 65

⚠ **WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov**

SECTION 16: OTHER INFORMATION

The information contained within this document is provided for your information only. In case of any discrepancy, the information provided in the battery cell Safety Data Sheet takes precedence over the information provided in the battery pack Technical Data Sheet.

Prepared by: Techtronic Industries Power Equipment

The batteries referenced herein are considered exempt articles and are not subject to the OSHA Hazard Communication Standard; therefore an SDS is not required. This sheet is being provided as a service to our customers.

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. TECHTRONIC INDUSTRIES POWER EQUIPMENT makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereto.