



Certificate No. FM 22786
ISO 9001:2015

Safety Data Sheet

According to Regulation EC No.1907/2006 Annex 2

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

1.1 Product Identifier

Product Name Powercap® Infinity® Lithium Ion Battery
Product Code CEU170-000-000
Product Description Lithium Ion Battery

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

Only to be used as a battery to power JSP Powercap® Infinity® powered air respirator. No other uses for this battery are recommended.

1.3 Details of the supplier

Address: JSP Limited
Worsham Mill
Minster Lovell
Witney
Oxfordshire
OX29 0TA
Telephone: +44 1993 826051
Email Address: technical.support@jsp.co.uk

1.4 Emergency Telephone Number

Emergency Phone # +44 1993 826051

SECTION 2 Hazards identification

2.1 Classification of the substance or mixture

Article containing substances not intended to be released, this product is a sealed unit and not considered hazardous under recommended usage and storage

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2.2 Label Elements

Labelling according to regulation EC No.1272/2008

Hazard Pictogram



Signal Word

Danger

Hazard Statements

H225	Highly Flammable Liquid and Vapour
H226	Flammable Liquid and Vapour
H228	Flammable Solid
H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin Irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H350	May cause cancer
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged exposure
H373	May cause damage to organs through prolonged exposure
H412	Harmful to aquatic life with long lasting effects

Precautionary Statements

Please refer to section 16 for a full list of precautionary statements

2.3 Other Hazards

This product does not fulfil the criteria outlined in Annex XIII of regulation EC No. 1906:2006 for being persistent, bioaccumulative and toxic (PBT) and very persistent and very bioaccumulative (vPvB)

SECTION 3 Composition/information on ingredients

3.1 Substances

3.2 Mixtures

Substance	CAS Number	%	Classification:	Type
			Regulation EC No. 1272/2008	
Lithium Iron Phosphate	15365-14-7	0-55%	Not considered hazardous according to Regulation (EC) No. 1272/2008	
Lithium Cobaltate (LiCoO ₂)	12190-79-3	0-45%	Skin Sens. 1 H317 Carc. 1B H350	[1]
Carbon	7440-44-0	15-30%	Not considered hazardous according to Regulation (EC) No. 1272/2008	

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Lithium Manganate (LiMn ₂ O ₄)	12057-17-9	0-20%	Not considered hazardous according to Regulation (EC) No. 1272/2008	
Dimethyl Carbonate	616-38-6	0-15%	Flam. Liq. 2 H255	[1]
Copper	7440-50-8	7-13%	Not considered hazardous according to Regulation (EC) No. 1272/2008	
Ethyl methyl Carbonate	96-49-1	1-10%	Acute Tox. 4 H302 Eye Irrit. 2 H319 STOT RE 2 H373	[1]
Ethylene carbonate	623-53-0	1-10%	Flam. Liq. 3 H226 Skin Irrit. 2 H315 Eye Irrit. 2 H319 STOT SE 3 H335	[1]
Nickel	7440-02-0	0.1-10%	Skin Irrit. 2 H315 Carc. 2 H351 STOT RE 1 H372 Aquatic Chronic 3 H412	[1]
Aluminium	7429-90-5	3-6%	Flam. Sol. A H228	[1]
Polyvinylidene Fluoride	24937-79-9	0.1-5%	Not considered hazardous according to Regulation (EC) No. 1272/2008	
Carboxmethyl cellulose	9004-32-4	0.1-5%	Not considered hazardous according to Regulation (EC) No. 1272/2008	
1,3-propanesulfone	1120-71-4	0-1%	Acute Tox. 4 H302 Acute Tox. 4 H312 Eye Irrit. 2 H319 Carc. H350	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type:

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4 First Aid Measures

4.1 Description of First Aid Measures

Eye contact

In case of electrolyte contact with eyes do not rub eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical advice.

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Inhalation	In case of inhalation electrolyte vapours make victim blow their nose. Seek medical attention if symptoms persist
Skin contact	Remove contaminated clothes and shoes immediately. Wash extraneous matter or contact region with soap and water
Ingestion	Wash mouth thoroughly with water and seek medical attention
Protection of first-aiders	Please see section 8.2 for appropriate personal protective equipment for use by first aiders

4.2 Most Important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	Electrolyte may cause eye irritation and inflammation
Inhalation	Electrolyte may cause respiratory irritation and inflammation
Skin contact	Electrolyte may cause irritation to skin and inflammation
Ingestion	Electrolyte may be toxic if ingested

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	No specific treatment notes to physician
Specific treatments	

SECTION 5 Firefighting measures

5.1 Extinguishing Media

Suitable Extinguishing Media Carbon Dioxide, Nitrogen, chemical fire extinguishing media

Unsuitable Extinguishing Media Water

5.2 Special hazard arising from the substance or mixture

Oxides of Lithium, Cobalt, Manganese, Nickel, Aluminium, Iron, Copper and Phosphorus maybe released during combustion. Corrosive gases may be liberated during combustion and with contact with water.

5.3 Advice for firefighters

Wear suitable personal protective equipment for fighting fires as necessary

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Wear suitable personal protective equipment as outlined in section 8 when dealing with spilled substances and mixtures from the battery. Remove any ignition sources and avoid contact with water

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For emergency responders Wear suitable personal protective equipment as outlined in section 8 when dealing with spilled substances and mixtures from the battery. Remove any ignition sources and avoid contact with water

6.2 Environmental precautions

Do not dispose of spilled material in the environment, only dispose of material in accordance with local legislation

6.3 Methods and materials for containment and cleaning up

Remove solid waste from hazard area, for any spilled electrolyte wipe with a dry cloth using personal protective equipment recommended in section 8.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7 Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures

Do not crush, pierce, short the positive and negative terminals with conductive material (i.e. metal). Do not directly weld the terminals. Do not disassemble, mutilate or mechanically abuse the battery.

Advice on general occupational hygiene

Ensure appropriate workplace hygiene is exercised while handling the battery do eat, drink or smoke while handling the battery, especially if it is suspected to be leaking

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool location, well ventilated location away from moisture, open flames and sources of heat.

7.3 Specific end use(s)

Recommendations

Industrial sector specific solutions

Only to be used as a battery to power JSP Limited's Powercap® Infinity power air respirator. No other uses for this battery are recommended.

SECTION 8 Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

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8.1 Control Parameters

Occupational Exposure limits

This product does not have an occupational exposure limit

Recommended
monitoring
procedures
DNELs/DMELs
PNECs

8.2 Exposure Controls

Appropriate
engineering
Controls

Under foreseeable use of the product engineering controls are not required. In the presence of open or leaking batteries ensure adequate ventilation is provided

Individual protective
measures

Hygiene measures
Eye/face protection

Where risk assessment shows that eye protection is appropriate use suitable eye and face protection that meets the requirements of EN166

Skin Protection
*Hand
protection*

When handling a battery that is leaking wear suitable gloves that meets the requirements of EN 374

*Body
protection
Other skin
protection*

When handling a battery that is leaking wear suitable clothing that minimise exposed skin to the hazard

Respiratory
protection

If exposure to vapours is likely use a CE marked respirator that meets the requirements of EN140 and tested and approved filters that are classified as ABEK filters under EN14387

Environmental
exposure
controls

Avoid discharging electrolyte solution into the environment, dispose of damaged battery in accordance with local legislation

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid Cell containing fluid electrolyte
Colour	Black
Odour	Non
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	Not Available

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Upper/lower flammability /explosive limits	Not Available
Vapour pressure	Not Available
Vapour density	Not Available
Relative density	Not Available
Solubility(ies)	Not Available
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Viscosity	
Explosive properties	Not Available
Oxidising properties	Not Available

9.2 Other information

Battery Voltage	3.6V
Battery Capacity	5.2Ah
Battery Weight	180g

SECTION 10 Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product,

10.2 Chemical Stability

Under foreseeable use of the product this battery is considered chemically stable

10.3 Possibility of hazardous reactions

Under foreseeable use of the product hazardous reactions should not occur

10.4 Conditions to Avoid

Avoid excessive heat, humidity and mechanical stresses. Avoid contact with water and avoid short circuiting the terminals

10.5 Hazardous decomposition products

Corrosive gases may be liberated during combustion

SECTION 11 Toxicological information

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11.1 Information on toxicological effects

Acute toxicity

No Data Available

Skin corrosion/irritation

No Data Available

Serious eye damage/irritation

No Data Available

Respiratory or skin sensitisation

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

No Data Available

Additional Information

No addition information

SECTION 12 Ecological Information

12.1 Toxicity

No Data Available

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12.2 Persistence and degradability

Does not readily decay under foreseeable environmental conditions

12.3 Bioaccumulative potential

No Data Available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No Data Available

12.6 Other adverse effects

No data available

SECTION 13 Disposal Considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste Treatment Methods

Product The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Packaging The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14 Transport Information

14.1 UN number

ADR/RID	3480 (3481 when battery is contained in equipment or packed with equipment)
ADN	3480 (3481 when battery is contained in equipment or packed with equipment)
IMDG	3480 (3481 when battery is contained in equipment or packed with equipment)
ICAO	3480 (3481 when battery is contained in equipment or packed with equipment)

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14.2 UN proper shipping name		
ADR/RID		Lithium Ion Batteries (Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment)
ADN		Lithium Ion Batteries (Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment)
IMDG		Lithium Ion Batteries (Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment)
ICAO		Lithium Ion Batteries (Lithium ion batteries contained in equipment or Lithium ion batteries packed with equipment)
14.3 Transport hazard classes		
ADR/RID	9	
ADN	9	
IMDG	9	
ICAO	9	
14.4 Packaging group		
ADR/RID	II	
ADN	II	
IMDG	II	
ICAO	II	
14.5 Environmental hazards		
ADR/RID	N/A	
ADN	N/A	
IMDG	N/A	
ICAO	N/A	
14.6 Special precaution for user		
Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage		
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code		
Not Applicable		

SECTION 15 Regulatory information

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

Regulation EC No.1907/2006 on the registration evaluation authorisation and restriction of chemicals REACH:

Annex XIV	None of the substances in this mixture are listed
Annex XVII	None of the substances in this mixture are listed
Candidate List of Substance of Very High concern for eventual inclusion into Annex XIV	None of the substances in this mixture are listed

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International regulations:

Chemical Weapon Convention List Schedules I, II & III Chemicals	Not Listed
Montreal Protocol (Annexes A, B, C, E)	Not Listed
Stockholm Convention on Persistent Organic Pollutants	Not Listed
Rotterdam Convention on Prior Inform Consent (PIC)	Not Listed
UNECE Aarhus Protocol on POPs and Heavy Metals	Not Listed

15.2 Chemical Safety Assessment

This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16 Other information

Full Text of H-Statements referred to in Section 2 and 3

H225	Highly Flammable Liquid and Vapour
H226	Flammable Liquid and Vapour
H228	Flammable Solid
H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin Irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H350	May cause cancer
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged exposure
H373	May cause damage to organs through prolonged exposure
H412	Harmful to aquatic life with long last effects

Full Text of P-Statements referred to in Section 2

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment
P241	Use exposition-proof electrical/ventilating/lighting equipment
P242	Use only non-sparking tool
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.

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P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P281	Use personal protective equipment as required.

Notice to reader

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