

Product Name: **Premium Bar & Chain Oil**  
Revision Date: 23 Nov 2018  
Issue Date: 8 Aug 2016

SDS Number:2011740XCN  
Version:2.02

## SAFETY DATA SHEET

### SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT

**Product Name:** Premium Bar & Chain Oil  
**Product Description:** White Mineral Oil  
**Product Code:** 2010B0201085, 750364-60  
**Recommended Use:** Cosmetic, Lubricant, Pharmaceutical, Plastics, Rubber applications,  
subject to applicable laws and regulations

#### COMPANY IDENTIFICATION

**Supplier:** ExxonMobil (China) Investment Co., Ltd.  
17/F., Metro Tower  
30 Tian Yao Qiao Road  
Shanghai 200030 China

<b>24 Hour Emergency Telephone</b>	(+86) 0532-83889090
<b>Supplier General Contact</b>	(+86) 021-24076000
<b>E-Mail</b>	lubricants-sds@exxonmobil.com
<b>FAX</b>	400 1200 526

### SECTION 2 HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW:

**Physical State:** Liquid **Colour:** Colourless **Odour:** Odourless

H304: May be fatal if swallowed and enters airways.

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

The hazard classification for this material is in accordance with the General Rules for Classification and Hazard Communication of Chemicals (GB 13690-2009).

#### CLASSIFICATION:

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Aspiration toxicant: Category 1.

**LABEL:**

Symbol:



**Signal Word:** Danger

**Hazard Statements:**

Health: H304: May be fatal if swallowed and enters airways.

**Precautionary Statements:**

Response: P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P331: Do NOT induce vomiting.

Storage: P405: Store locked up.

Disposal: P501: Dispose of contents and container in accordance with local regulations.

**Contains:** WHITE MINERAL OIL (PETROLEUM)

**Other hazard information:**

**PHYSICAL / CHEMICAL HAZARDS**

No significant hazards.

**HEALTH HAZARDS**

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

**ENVIRONMENTAL HAZARDS**

No significant hazards.

**NOTE:** This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

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This material is defined as a complex substance.

**Hazardous Substance(s) or Complex Substance(s) required for disclosure**

Name	CAS#	Concentration*	GHS Hazard Codes
WHITE MINERAL OIL (PETROLEUM)	8042-47-5	100 %	H304

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**SECTION 4 FIRST AID MEASURES****FIRST AID:****INHALATION**

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

**SKIN CONTACT**

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

**EYE CONTACT**

Flush thoroughly with water. If irritation occurs, get medical assistance.

**INGESTION**

Seek immediate medical attention. Do not induce vomiting.

**IMPORTANT SYMPTOMS AND HEALTH EFFECTS**

Local necrosis as evidenced by delayed onset of pain and tissue damage a few hours after injection.

**ADVICE TO PROTECT RESCUER**

Please refer to Section 8 for personal protection information.

**NOTE TO PHYSICIAN**

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

**SECTION 5 FIRE FIGHTING MEASURES**

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## EXTINGUISHING MEDIA

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight streams of water

## SPECIAL HAZARD WHEN ON FIRE

In case of fire, see below for hazardous combustion products. Containers exposed to excessive heat from a fire may rupture.

## FIRE FIGHTING INSTRUCTIONS AND PROTECTIVE MEASURES

### FIRE FIGHTING

**Fire Fighting Instructions:** Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume

## FLAMMABILITY PROPERTIES

**Flash Point [Method]:** >182 C (360 F) [ ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0

**Autoignition Temperature:** N/D

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

### PROTECTIVE MEASURES

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or

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contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

## ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SPILL MANAGEMENT

**Land Spill:** Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

## SECTION 7 HANDLING AND STORAGE

### HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

**Static Accumulator:** This material is a static accumulator.

### STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE LIMIT VALUES

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**Exposure limits/standards (Note: Exposure limits are not additive)**

Substance Name	Form	Limit/Standard			Note	Source	Year
WHITE MINERAL OIL (PETROLEUM)	Inhalable fraction	TWA	5 mg/m <sup>3</sup>			ACGIH	2018

**Exposure limits/standards for materials that can be formed when handling this product:** When mists / aerosols can occur, the following are recommended: 5 mg/m<sup>3</sup> - ACGIH TLV (inhalable fraction).

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

**ENGINEERING CONTROLS**

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

**PERSONAL PROTECTION**

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.  
Organic vapour

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use. Nitrile, Viton

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**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:  
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

## GENERAL INFORMATION

Physical State: Liquid  
Colour: Colourless  
Odour: Odourless  
Odour Threshold: N/D

## IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.85 [ASTM D4052]  
Flash Point [Method]: >182 C (360 F) [ASTM D-92]  
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0  
Flammability (Solid, Gas): N/A  
Autoignition Temperature: N/D  
Boiling Point / Range: N/D  
Vapour Density (Air = 1): > 2 at 101 kPa [Estimated]  
Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20 ° C [Estimated]  
Evaporation Rate (n-butyl acetate = 1): N/D  
pH: N/A  
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]  
Solubility in Water: Negligible  
Viscosity: 14.5 cSt (14.5 mm<sup>2</sup>/sec) at 40 C - 17.5 cSt (17.5 mm<sup>2</sup>/sec) at 40 C | 3.7 cSt (3.7

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mm<sup>2</sup>/sec) at 100 C [ASTM D 445]  
**Freezing Point:** N/D  
**Melting Point:** N/A  
**Decomposition Temperature:** N/D  
**Oxidizing Properties:** See Hazards Identification Section.

**OTHER INFORMATION**

**Pour Point:** -6 C (21 F) [ ASTM D97]  
**DMSO Extract (mineral oil only), IP-346:** < 3 %wt

**SECTION 10 STABILITY AND REACTIVITY**

**STABILITY:** Material is stable under normal conditions.

**POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.

**CONDITIONS TO AVOID:** Excessive heat. High energy sources of ignition.

**MATERIALS TO AVOID:** Strong oxidisers

**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

**SECTION 11 TOXICOLOGICAL INFORMATION**

**INFORMATION ON TOXICOLOGICAL EFFECTS**

<u>Hazard Class</u>	<u>Conclusion / Remarks</u>
<b>Inhalation</b>	
Acute Toxicity: (Rat) 4 hour(s) LC50 > 5000 mg/m <sup>3</sup> (Aerosol)	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
<b>Ingestion</b>	
Acute Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401
<b>Skin</b>	
Acute Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402
Skin Corrosion/Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
<b>Eye</b>	



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Serious Eye Damage/Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
<b>Sensitisation</b>	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406
<b>Aspiration:</b> Data available.	May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
<b>Germ Cell Mutagenicity:</b> Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474 476
<b>Carcinogenicity:</b> Data available.	Not expected to cause cancer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 453
<b>Reproductive Toxicity:</b> Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 415 421
<b>Lactation:</b> No end point data for material.	Not expected to cause harm to breast-fed children.
<b>Specific Target Organ Toxicity (STOT)</b>	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure. Based on test data for structurally similar materials.
Repeated Exposure: Data available.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 408 410 411 412 453

**OTHER INFORMATION**

**For the product itself:**

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

White mineral oil, low viscosity: Did not cause mutations In Vitro. High oral doses in certain strains of rats (F-344) resulted in microscopic inflammatory (microgranuloma) changes in the liver, spleen, and lymph nodes. Some evidence of liver damage was observed. These animals also had some accumulation of saturated mineral hydrocarbons in certain tissues. Similar effects were not observed to the same degree in other rodent strains or in other species.

**IARC Classification:**

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The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = IARC 1

2 = IARC 2A

3 = IARC 2B

## SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

### ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

### PERSISTENCE AND DEGRADABILITY

#### Biodegradation:

Material -- Expected to be inherently biodegradable

### BIOACCUMULATION POTENTIAL

Material -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

### MOBILITY

Material -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

Material -- Low potential to migrate through soil.

### ECOLOGICAL DATA

#### Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	48 hour(s)	Daphnia magna	ELO 100 mg/l: data for similar materials
Aquatic - Acute Toxicity	96 hour(s)	Fish	LLO 100 - 10000 mg/l: data for similar materials
Aquatic - Acute Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	ELO 100 mg/l: data for similar materials
Aquatic - Chronic Toxicity	21 day(s)	Daphnia magna	NOELR 10 - 1000 mg/l: data for similar materials

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Aquatic - Chronic Toxicity	72 hour(s)	Pseudokirchneriella subcapitata	NOELR 100 mg/l: data for similar materials
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**Persistence, Degradability and Bioaccumulation Potential**

Media	Test Type	Duration	Test Results
Water	Ready Biodegradability	28 day(s)	Percent Degraded < 60 : similar material

**SECTION 13 DISPOSAL CONSIDERATIONS**

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

**NATIONAL CATALOGUE OF HAZARDOUS WASTES**

HW08 - Waste Mineral Oils

**DISPOSAL RECOMMENDATIONS**

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

**Empty Container Warning** Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

**SECTION 14 TRANSPORT INFORMATION**

**China List of Dangerous Goods (GB 12268 - 2012)** : Not Regulated for Land Transport

**INTERNATIONAL CLASSIFICATION FOR TRANSPORT**

**SEA (IMDG):** Not Regulated for Sea Transport according to IMDG-Code

**Marine Pollutant:** No

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**AIR (IATA):** Not Regulated for Air Transport

## SECTION 15 REGULATORY INFORMATION

The hazard classification for this material is in accordance with the General Rules for Classification and Hazard Communication of Chemicals (GB 13690-2009).

### REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

**The General Rules for preparation of precautionary label for Chemicals (GB 15258-2009):**  
Regulated

**Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste:** See Disposal Considerations section.

**Listed or exempt from listing/notification on the following chemical inventories (May contain substance(s) subject to notification to the EPA Active TSCA inventory prior to import to USA):**  
AICS, DSL, ENCS, IECSC, ISHL, KECI, PICCS, TCSI, TSCA

## SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

**KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):**

H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

Layout Reformatted with SDS compilation requirements.

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Referring to GB/T 16483 and GB/T 17519

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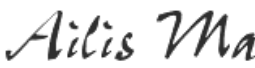

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DGN: 2011740XCN (1013195)  
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## Safety Data Sheets (SDSs)

Client	JIANGSU SUNPOWER CO., LTD.
Add. of Client	Xingyuan Road, Huang Qiao Industrial Park, Taixing City, Jiangsu Province, P.R.China.
Description	Li-ion Cell
Model /Type	18650-2000
Manufacturer	JIANGSU SUNPOWER CO., LTD.
Add. of Manufacturer	Xingyuan Road, Huang Qiao Industrial Park, Taixing City, Jiangsu Province, P.R.China.
Nominal Voltage	3.7V, 2000mAh, 7.4Wh
Date of Receipt	2018-03-29

Laboratory	Shenzhen ZRLK Testing Technology Co., Ltd.
Address	6F, Fuxinfa Industrial Park, Liuxiandong, Xili Street, Nanshan District, Shenzhen, China

Approved Signatory	Maggie.Gao	
Inspected by	Ailis.Ma	
Censored by	Lahm Peng	

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product Identifier

Product name: Li-ion Cell

Model: 18650-2000

### Other means of identification

Synonyms:none

### Recommended use of the chemical and restrictions on use

Recommended Use:Used in portabl electronic equipments;

Uses advised against:

- a) Do not dismantle, open or shred secondary cells or batteries.
- b) Keep batteries out of the reach of children  
Battery usage by children should be supervised. Especially keep small batteries out of reach of small children.
- c) Seek medical advice immediately if a cell or a battery has been swallowed.
- d) Do not expose cells or batteries to heat or fire. Avoid storage in direct sunlight.
- e) Do not short-circuit a cell or a battery. Do not store cells or batteries haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.
- f) Do not remove a cell or battery from its original packaging until required for use.
- g) Do not subject cells or batteries to mechanical shock.
- h) In the event of a cell leaking, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with copious amounts of water and seek medical advice.
- i) Do not use any charger other than that specifically provided for use with the equipment.
- j) Observe the plus (+) and minus (-) marks on the cell, battery and equipment and ensure correct use.
- k) Do not use any cell or battery which is not designed for use with the equipment.
- l) Do not mix cells of different manufacture, capacity, size or type within a device.
- m) Always purchase the battery recommended by the device manufacturer for the equipment.
- n) Keep cells and batteries clean and dry.
- o) Wipe the cell or battery terminals with a clean dry cloth if they become dirty.
- p) Secondary cells and batteries need to be charged before use. Always use the correct charger and refer to the manufacturer's instructions or equipment manual for proper charging instructions.
- q) Do not leave a battery on prolonged charge when not in use.
- r) After extended periods of storage, it may be necessary to charge and discharge the cells or batteries several times to obtain maximum performance.
- s) Retain the original product literature for future reference.
- t) Use the cell or battery only in the application for which it was intended.
- u) When possible, remove the battery from the equipment when not in use.
- v) Dispose of properly.

### Details of the supplier of the safety data sheet:

Supplier Name: JIANGSU SUNPOWER CO., LTD.

Address: Xingyuan Road, Huang Qiao Industrial Park, Taixing City, Jiangsu Province, P.R.China.

Telephone number of the supplier: 0086-523-87223168

Fax: 0086-523-87113099

Postcode: 225411

E-mail address: robin.song@jssanjie.com

**Emergency telephone number**

**Company Emergency Phone Number:** 0086-523-87223168

## 2. HAZARDS IDENTIFICATION

**Classification**

No harm at the normal use. If contact the Electrolyte in the Li-ion Cell, reference as follows:

**Classification of the substance or mixture**

Classification according to GHS

Acute Toxicity, Dermal(Hazard category 3)

Skin irritation (Hazard category 2)

Carcinogenicity (Hazard category 2)

Skin sensitisation (Hazard category 1)

Respiratory sensitisation (Hazard category 1)

Specific target organ toxicity —single exposure; respiratory tract irritation (Hazard category 3)

Specific target organ toxicity —single exposure; narcosis(Hazard category 3)

Eye Irritate (Hazard category 1)

Flammable liquids (Hazard Category 2)

**GHS Label elements, including precautionary statements:**



GHS02



GHS03

**Signal word: Danger**

**Hazard statement(s):**

H225: Highly flammable liquid and vapour.

H250: Catches fire spontaneously if exposed to air;

H261: In contact with water releases flammable gases.

H317: May cause an allergic skin reaction

H351: Suspected of causing cancer <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

**precautionary statements:**

**Prevention:**

P201: Obtain special instructions before use.

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

P281: Use personal protective equipment as required.

P210: Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P222: Do not allow contact with air.

P233: Keep container tightly closed.

P240: Ground/bond container and receiving equipment.



P241: Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P223: Keep away from any possible contact with water, because of violent reaction and possible flash fire.

P231 + P232: Handle under inert gas. Protect from moisture.

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

P335+P334: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.

P370+P378: In case of fire: Use water or extinguishers for extinction.

P302 + P334: IF ON SKIN: Immerse in cool water/wrap in wet bandages.

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

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

P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.

P321: Specific treatment (see Li-ion Polymer Battery on this label).

P363: Wash contaminated clothing before reuse.

P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

**Storage:**

P403 + P235: Store in a well-ventilated place. Keep cool.

P402 + P404: Store in a dry place. Store in a closed container.

P405: Store locked up.

**Disposal**

**P501:** Dispose of contents/container in accordance with local/national regulations

**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other information**

No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical characterization: Mixtures**

**Description:**

Product: Consisting of the following components.

Common Chemical Name	Concentration (%)	CAS Number
Cobalt lithium manganese nickel oxide	40.5	182442-95-1
Aluminum Foil	9	7429-90-5
1,1-Difluoroethylene polymer	1	24937-79-9
Graphite	18	7782-42-5



Copper	10	7440-50-8
Styrene-Butadiene polymer	1.5	9003-55-8
Phosphate(1-),hexafluoro-,lithium	2.8	21324-40-3
Ethylene carbonate	5	96-49-1
Dimelene carbonate	5	616-38-6
Carbonate, methyl ethyl	5	623-53-0
Nickel	2.2	7440-02-0

Note: CAS number is Chemical Abstract Service Registry Number.

N/A=Not apply.

## 4. FIRST-AID MEASURES

### First aid measures

Eye Contact Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact Remove contaminated clothing and shoes. Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Inhalation Move to fresh air. If symptoms persist, call a physician.

Ingestion Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed

Swallowing Do not induce vomiting. Get medical attention.

**Most Important Symptoms/Effects** No information available.

**Indication of any immediate medical attention and special treatment needed**

Notes to Physician Treat symptomatically

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

CO<sub>2</sub>, dry chemical powder, water spray.

Unsuitable Extinguishing Media:No information available.

### Specific Hazards Arising from the Chemical

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide(CO)

Carbon dioxide

Other irritating and toxic gases.

### Hazardous Combustion Products

Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact No

Sensitivity to Static Discharge No

#### **Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. For example: Wear self-contained respiratory protective device. Wear suitable protective clothing and eye/face protection.

#### **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°C), 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.

## 6. ACCIDENTAL RELEASE MEASURES

#### **Personal precautions, protective equipment and emergency procedures**

Personal Precautions Avoid contact with eyes.

Refer to section 8 for personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

Evacuate personnel to safe areas.

#### **Environmental precautions**

Environmental Precautions Refer to protective measures listed in Sections 7 and 8.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

#### **Methods and material for containment and cleaning up**

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning up Use personal protective equipment. Dam up. Cover liquid spill with sand, earth or other Non combustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

#### **Precautions for safe handling**

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Wear personal protective equipment.

Wash thoroughly after handling. Use this material with adequate ventilation.

The product is not explosive.

#### **Conditions for safe storage, including any incompatibilities**

If the Lithium-ion Battery is subject to storage for such a long term as more than 3 months, it is recommended to recharge the Li-ion Polymer Battery periodically.

3 months: -10°C~+40°C, 45 to 85%RH

And recommended at 0°C~+35°C for long period storage.

The capacity recovery rate in the delivery state (50% capacity of fully charged) after storage is assumed to be 80% or more.

The voltage for a long time storage shall be 3.7V~4.2V range.  
 Do not storage Lithium-ion Battery haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.  
 Keep out of reach of children.  
 Do not expose Li-ion Polymer Battery to heat or fire. Avoid storage in direct sunlight.  
 Do not store together with oxidizing and acidic materials.  
 Keep ignition sources away- Do not smoke.  
 Store in cool, dry and well-ventilated place.

**Incompatible Products** None known.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Control parameters

Ingredients with limit values that require monitoring at the workplace:	
182442-95-1 Cobalt lithium manganese nickel oxide	
TLV (USA)	0.02mg/m <sup>3</sup>
MAK (Germany)	0.1mg/m <sup>3</sup>

**Other Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962(11th Cir., 1992).

### Appropriate engineering controls

**Engineering Measures** Showers  
 Eyewash stations  
 Ventilation systems

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Ensure adequate ventilation.

### Individual protection measures, such as personal protective equipment

#### **Eye/Face Protection:**



**Tightly sealed goggles**

#### **Body protection:**

Protective work clothing.

#### **Skin protection:**



**Protective gloves**

#### **Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

#### **Penetration time of glove material:**

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Respiratory Protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Form: Solid
	Color: Silvery
	Odour: Odourless
	Odor Threshold: No information available
Change in condition:	
pH, with indication of the concentration	Not determined.
Melting point/freezing point	Not determined.
Initial boiling point and Boiling range:	Not determined.
Flash Point	Not determined.
Evaporation rate	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Vapor Pressure:	Not determined.
Vapor Density:	Not determined.
relative density:	Not determined.
Solubility in Water:	Not determined.
Solubility in other solvents	Not determined.
n-octanol/water partition coefficient	Not determined.
Auto-ignition temperature	Product is not self-igniting.
Decomposition temperature	Not determined.
Odour threshold	Not determined.
Evaporation rate	Not determined.
Viscosity	Not determined.
Other Information	No further relevant information available.

## 10. STABILITY AND REACTIVITY

**Reactivity:** Stable under recommended storage and handling conditions (see section 7, Handling and storage).

**Chemical stability:** Stable under normal conditions of use, storage and transport.

**Thermal decomposition/conditions to be avoided:** No decomposition if used according to specifications.

**Possibility of Hazardous Reactions:** None under normal processing.

**Hazardous Polymerization:** Hazardous polymerization does not occur.

**Conditions to avoid:** Strong heating, fire, Incompatible materials.

**Incompatible materials:** Strong oxidizing agents. Strong acids. Base metals.

**Hazardous Decomposition Products:** Carbon oxides, Other irritating and toxic gases.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity:** No data available.

LD/LC50 values relevant for classification:

Not available.

**Skin corrosion/irritation:** No irritant effect.

**Serious eye damage/irritation:** Cause serious eye irritation.

**Respiratory or skin sensitization:** No sensitizing effects known.

**Specific target organ system toxicity:** No information available.

**CMR effects(carcinogenity, mutagenicity and toxicity for reproduction):** No information available.

## 12. Ecological Information

**Toxicity:**

Aquatic toxicity:

No further relevant information available.

**Persistence and degradability:** No further relevant information available.

**Bioaccumulative potential:** No further relevant information available.

**Mobility in soil:** No further relevant information available.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

**Other adverse effects:** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

Recommendation: Must not be disposed together with household garbage.

Do not allow product to reach sewage system

**Uncleaned packaging:**

Recommendation: Disposal must be made according to official regulations.

## 14. TRANSPORT INFORMATION

### Land transport

ADR/RID class: Not regulated.

UN-Number: UN3481.

### Maritime transport

IMDG Class: Class 9.

UN Number: UN3481.

Marine pollutant: No

### Air transport

ICAO/IATA Class: Class 9

UN/ID Number: UN3481

Environmental hazards: Not applicable.

Special precautions for user: Not applicable.

Transport/Additional information: Not restricted goods according to the above specifications.

The Lithium-ion Battery had been tested according to the requirements of the UN manual of tests and Criteria, Part III, subsection 38.3;

The lithium ion batteries according to Section II of PACKING INSTRUCTION 965 of the Dangerous Goods regulations 59<sup>th</sup> Edition may be transported.

The packaging shall be adequate to avoid mechanical damage during transport, handling and stacking. The materials and pack design shall be chosen so as to prevent the development of unintentional electrical conduction, corrosion of the terminals and ingress of moisture.

Meets requirements of DOT Special Provision 188 to be transported as non-dangerous goods

Meets the requirements of 49 CFR 173.185 to be transported as non-dangerous goods for road, rail, air, and vessel (Effective October 1, 2016)

The package must be handled with care and that a flammability hazard exists if the package is damaged;

## 15. REGULATORY INFORMATION

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

EU Regulation:

**Authorisations:** No information available.

**Restrictions on use:** No information available.

### **Regulatory information**

CAS No.	EU (EINECS )	US (TSCA)	Japan (ENCS)	Canada (DSL/ NDSL)	Australia (AICS)	Korea (ECL)	China (IECSC)
182442-95-1	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
7429-90-5	Listed	Listed	Listed	DSL	Listed	Listed	Listed



24937-79-9	Listed	Listed	Listed	DSL	Listed	Listed	Listed
7782-42-5	Not listed	Listed	Not listed	DSL	Listed	Listed	Listed
7440-50-8	Not listed	Listed	Not listed	DSL	Listed	Listed	Listed
9003-55-8	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
21324-40-3	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
96-49-1	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
616-38-6	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
623-53-0	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed
7440-02-0	Listed	Not listed	Not listed	NDSL	Not listed	Not listed	Not listed

**Chemical safety assessment** A Chemical Safety Assessment has not been carried out.

## 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.

\*\*\*\*\*End of SDS\*\*\*\*\*