物质安全数据表

一、物品与厂商资料/Product and Company Identification

物品名称： **Battery Pack** Product Name		
产品编号：**EK.61F16.0B2** Product Code		
机种名称：**E1F16-001 /9.754-766.0 54Wh Darfon** Model Name		
ITEM	**Value**	**Remark**
Nominal Voltage	**21.6 V**	
Nominal Capacity	**2500 mAh**	
Wh-capacity	**54 Wh**	**SOC≦30%**
建议用途及限制使用: **Model : EK.61F16.0B2** Suggestion and Restriction on application.		
制造商或供货商名称、地址及电话：**Darfon Electronics Corp./ No.167, Shanying Rd., Guishan Dist, Taoyuan City 333, Taiwan (R.O.C.)** Address & Tel. of Manufacturer or Agent		
紧急联络电话/传真电话： **+886-3-2508800/+886-3-2507177** Emergency Phone Number/Fax		

二、危害辨识数据/ Hazard Identification

物品危害分类/Hazard Classification：NA

危害警告讯息/Hazard statement:锂电池在异常使用时可能导致热能产生或电解液漏液。电解液为易燃物，应避免以及离开火源。Lithium batteries may cause thermal energy or electrolyte leakage during abnormal use. Should avoid and leave the fire source.

毒性/ Toxicity:燃烧中的电池产生的水气与烟雾，可能会对眼睛或皮肤造成刺激。Water vapor and smoke from a burning battery, may cause irritation to the eyes or skin.

危害防范措施/Precaution:

1. 请勿使电池曝露在过度的撞击及震动情况下。Do not expose the battery to excessive shock and vibration.
2. 请勿拆卸变形电池。Do not disassemble the deformed battery

其它危害 Others: NA

三、成分辨识资料/Composition, Information on Ingredients

EMS TAB No. F-A, S-I
UN No.: 3480 &3481
IMDG Class : 9
Packaging type : Carton

混合物质/Mixture:

成分名称 Component Chemical Name &Common Names：	浓度(成分百分比) Concentration (Percentage)：	化学文摘社登记号码 CAS No.：
Lithium Cobalt Oxide	20-25%	12190-79-3
Lithium Salts	1-5%	-
Nickel compound	15%	7429-90-5
Carbon(Graphite)	12%	7782-42-5
Organic electrolyte	<8%	-
Aluminum Foil	5%	-
Polycarbonate	10%	-
Tin	0.5-1%	7440-31-5
Iron	1-2 %	7439-89-6
Silver	0.05%	7440-22-4
Copper Foil	7-10%	7440-50-8
Water	1%	7732-18-5
E-Glass Fabric	0.00003%	65997-17-3
Silica	0.08%	7631-86-9
Ethylene Glycol Monobuthy Ether	0.05%	111-76-2
Aluminum oxide	0.01%	1344-28-1
Silicon dioxide	0.9%	14808-82-7
Epox y Resin	1%	29690-82-2
Chromium	0.3%	7440-47-3
Glass	0.5%	
Ruthenium(IV) oxide	0.025%	12036-10-1
Palladium on carbon	0.15%	7440-5-3
Lead(II) oxide	0.0002%	1317-36-8
Cupric Oxide	0.5%	1317-38-0
Antimony Trioxide	0.5%	1309-64-4
Manganese Oxide	0.5%	1344-43-0
Titanium-dioxide	0.01%	13463-67-7
2-Ethylanthraquinone	0.004%	84-51-5
Silicon dioxide(vitreous)	0.36%	60676-86-0
Epoxy resin	0.28%	26875-67-2
selenium oxide	0.07%	12640-89-0
Magnesium oxide	0.81%	1309-48-4
Phenol, polymer with 1,4-bis(methoxymethyl)benzene	0.0058%	26834-02-6
Iron cobalt chomite black spinel	0.01%	68186-97-0
Silicon	0.60%	7440-21-3
Magnesium	0.15%	7739-95-4

Gold	0.01%	7440-57-5
1,4-Butanediol diglycidyl ether	0.00073%	2425-79-8
Aryl Amine	0.017%	-
Phenol Resin	0.05%	-
Carbon Black	0.3%	1333-86-4
Zn	0.26%	7440-66-6
Curing agent & hardner	0.001%	-
Octamethyltrisiloxane	0.001%	107-51-7
Toluene	0.001%	108-88-3

四、急救措施/ First Aid Measures

不同暴露途径之急救方法/ First Aid Measures for Different Kinds of Exposures：

1.吸入/Inhalation：移动至空旷的地方。Remove from exposure.

2.眼睛接触/Eye contact: 用流水连续冲洗至少 15 分钟。 如果刺激持续，就医。Flush continuously with running water for at least 15 minutes. Get medical attention if you continue to stimulate.3.皮肤接触/Skin contact: 脱掉污染的衣服并用水冲洗皮肤。Remove contaminated clothing and flush skin with running water.

3.吸入/ inhalation: 从发生源离开。Remove from exposure.

4.食入/Ingestion：不要催吐,给伤者喝水并就医。Do not induce vomiting. Give victim water to drink and seek medical attention.

五、灭火措施/ Fire Fighting Measures

适用灭火剂/Suitable Extinguishing Media：

使用适当的灭火剂(干粉灭火器或泡沫灭火器) Use suitable extinguishing media.
(dry-chemical extinguisher or foam fire extinguisher)

消防人员之特殊防护设备/Required Special Protective Equipment for Fire-Fighters：

使用 NIOSH/MSHA 认可全脸自给式呼吸装置及全套防护设备。Fire fighting Equipment : Use NIOSH/MSHA approved full-face self-contained breathing apparatus(SCBA) with full protective gear.

六、泄漏处理方法/ Accidental Release Measures

个人应注意事项/ Personal Precautions：配戴安全护目镜及防护手套。Wear safety goggles and protective gloves.

环境注意事项/Environmental Precautions：

将材料至于适当容器并通知消防部/公安/警察以及远离火源。Place material into suitable containers and call local fire/police department and keep fire away.

七、安全处置与储存方法/ Handling and Storage

处置/Handling：

1. 勿使电池曝露在过度的撞击及震动情况下。Do not expose the battery to excessive shock and vibration.
2. 意外短路几秒不会严重影响电池,长时间短路会使电池迅速失去能量,可产生足够热量灼烧皮肤,短路来源包含:混乱的电池散装容器,硬币,金属饰品,。Short-circuiting should be

avoided. However, accidental short-circuiting for a few seconds will not seriously affect the battery. Prolonged short circuits will cause the battery to rapidly lose energy, could generate enough heat to burn skin. Sources of short circuits include jumbled batteries in bulk containers, coins, metal jewelry, metal covered tables.

3. 为了减少短路风险,上述电池运送及使用,需提供保护壳覆盖,不要拆卸变形电池,如果电池已经破裂,不允许与水接触。To minimize risk of short-circuiting, the protective case supplied with the battery should be used to cover the terminals when transporting or storing the battery. Do not disassemble or deform the battery.

储存/ Storage：

1.锂电池应存储于阴凉、干燥、通风良好处,高温超过 100 度,将导致电池性能损耗、漏电及生锈,不要将电池曝露于明火。Lithium batteries should be stored in a cool, dry, well-ventilated place, And temperature above 100 degree can result in loss of battery performance, leakage, or rust. Do not expose the battery to open flames.

2.最佳的运输储存温度为 20~25 度。The best temperature in transport is 20~25。

八、暴露预防措施/ Exposure Controls, Personal Protection

工程控制/ Engineering Measures：避免吸入。在有吸入危险的通风良好的地方使用，建议机械抽气。 保持蒸气含量低于建议的暴露标准。Avoid inhalation.Use in well ventilated areas,where an inhalation risk exists,mechanical extraction ventil ation is recommended. Maintain vapour levels below the recommended exposure standard.

个人防护设备/ Personal Protection Equipment：

·呼吸防护/Respiration：正常期间不需保护,火灾时需装备 SCBA。Not required during normal operations. SCBA required in the event of a fire.

·手部防护/Hand：NA

·眼睛防护/Eye：在安全规范下不需要防护。Not required beyond safety practices of employer.

·皮肤及身体防护/Skin & Body：在安全规范下不需要防护。Not required beyond safety practices of employer.

卫生措施/Hygiene Measures：

九、物理及化学性质/ Physical and Chemical Properties

物质状态/ State of Substance：Insoluble	形状/Appearance： solid
pH 值/pH Value： NA	沸点/沸点范围/Boiling Point： NA
熔点/凝固点 Melting /Solidify Point:NA	挥发速率/Evaporative Speed:NA
分解温度/Decomposing Temperature：NA	闪火点： ℉ ℃ Flashpoint
密度/Density： NA	溶解度/Dissolution： Insoluble
分配系数/Distribution factor:NA	

十、安定性及反应性/Stability and Reactivity

安定性/反应 Reactivity &Stability： 电池外部短路,挤压造成的变形,或高温曝晒(超过 100 度)产生的燃烧及热。Battery external short circuit and deformation caused by extrusion, or burning and heat generated by high temperature exposure (over 100 degrees).

应避免之状况/Conditions to Avoid：应避免的条件:避免接触高温、明火,不要刺穿、挤压及焚烧 Avoid : Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.
危害分解物/Hazardous Decomposition Products：NA

十一、毒性资料/ Toxicological Information

本产品在正常操作及使用下,不会引起毒物反应。This product does not elicit toxicological properties during routine handling and use.

十二、生态资料/ Ecological information

可能之环境影响/环境流布/Possible Environmental Impact/Environmental Run-offs：
锂电池子电池组按照联邦、洲及地方法规进行处理。Lithium ion battery pack can be disposable in accordance with appropriate federal, state and local regulations.

十三、废弃处置方法/Disposal considerations

废弃处置方法/Disposal Methods：

1. 不能扔掉用过的电池,需透过回收公司回收。Do not throw out a used battery cell. Recycle it through the recycling company.
2. 电池废弃时请将正极与负极两端绝缘，以免端子相互接触。When the battery is discarded, please insulate the positive and negative level to avoid contact between the terminals.
3. 请依据可对应之联邦、州以及地方法规进行处理 Please follow the applicable federal, state, and local regulations

十四、运送资料/Transport information

国际运送规定/International Transportation Regulations：

1. 国际航空运输协会 (IATA)危险品规则(第 61 版)。International Air Transport Association (IATA) Dangerous Goods Regulations (61th Edition).
2. 包装说明 965/966/967 锂离子电池 Section ⅠA 。Section ⅠA of Packing Instruction 965/966/967 section for lithium ion battery.
3. IATA UN3480(锂离子电池)及 UN3481(锂离子电池及设备)。IATA UN 3480 (Li-ion Batteries) and UN3481 (Li-ion Batteries with equipment)
4. 美国运输部(DOT)49 联邦法规(美国)US。 Department of Transportation (DOT) 49 code of Federal Regulations [USA]
5. 国际民用航空组织(ICAO)技术指南(2017-2018 版)。International Civil Aviation Organization (ICAO) Technical Instructions (2017-2018 Edition)
6. 国际海运危险货物(IMDG)代码 39-18(2018 版)特别规定 188,230,310&957 for UN3480/3481),海洋运输危险货物第 9 类,列表中特别规定及例外,以及手册中的测试标准(第 3 部分,分节 38.3) 。The International Maritime Dangerous Goods(IMDG) Code 39-18(Edition 2018),Special Provisions 188,230,310&957 for UN3480/3481) Transport Regulations for Sea Transport IMDG Code of Class 9 exemptions . List, Special Provisions and Exceptions"), and the Manual of Tests and Criteria (Part 3, Sub-section 38.3).

特殊运送方法及注意事项/Special Transportation Methods and Precautions：

避免高温及结露。Avoid high temperatures and condensation。

十五、法规资料/Regulatory information

适用法规/Applicable Regulation： 1. 国际海运危险品准则 2018 版。The International Maritime Dangerous Goods(IMDG)-Edition 2018 2. 国际民用航空组织(ICAO)技术指南(2017-2018 版)International Civil Aviation Organization (ICAO) Technical Instructions (2017-2018 Edition) 3. 国际航空运输协会 (IATA)危险品规则(第 61 版) International Air Transport Association (IATA) Dangerous Goods Regulations (61th Edition).

十六、其他数据/Other information

参考文献 Ref. Document	NA	
制窗体位 Department	名称/Dept. Name： DGQ0	
	地址/电话 Address/Tel.：03-250-8800	
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