Panasonic Article Information Sheet

Energy Division – Rechargeable Battery Group
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Product: **Lithium-ion Batteries (Li-ion)**
Applicable models/sizes: **Cylindrical and Prismatic Lithium-ion batteries – NCA Type**
Revision: – January 1, 2021

The batteries referenced herein are exempt articles and are not subject to the OSHA Hazard Communication Standard requirement. This sheet is provided as a service to our customers.

SDS

Safety Data Sheets (SDS) are a sub-requirement of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200. This Hazard Communication Standard does not apply to various subcategories including anything defined by OSHA as an "article". OSHA has defined "article" as a manufactured item other than a fluid or particle; (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g. minute or trace amounts of a hazardous chemical, and does not pose a physical hazard or health risk to employees.

Because all of our batteries are defined as "articles", they are exempt from the requirements of the Hazard Communication Standard, hence a SDS is not required.

The following components are found in a Panasonic Lithium Ion battery:

Lithium Nickel Cobalt Aluminum Type - NCA

Component	Material	Formula / CAS
Positive Electrode	Lithium Nickel Cobalt Aluminum Oxide – NCA	$LiNiCoAlO_2$ 193214-24-3
Negative Electrode	Graphite	C 7782-42-5
Electrolyte	Ethylene Carbonate – Solvent	$C_3H_4O_3$ 96-49-1
	Diethyl Carbonate – Solvent	$C_5H_{10}O_3$ 105-58-8
	Lithium Hexaflurophosphate – Salt	$LiPF_6$ 21324-40-3

DISPOSAL

All Panasonic Lithium ion batteries are classified by the federal government as non-hazardous waste and are safe for disposal in the normal municipal waste stream. These batteries, however, do contain recyclable materials. Panasonic is a Licensee of the Call2Recycle Battery Recycling Program. If you build our cells into a battery pack, please call 1-800-8-BATTERY or go to the Call2Recycle website at www.call2recycle.org for additional information on how your branded product can also participate in the program.

TRANSPORTATION

All Panasonic lithium ion batteries are not subject to the other requirements of the US Department of Transportation (DOT) Subchapter C, Hazardous Materials Regulations if shipped in compliance with 49 CFR 173.185.

Effective January 1, 2021 all Panasonic lithium ion batteries can be shipped by air in accordance with The technical Instructions by International Civil Aviation Organization (ICAO) 2021/2022 Edition, Section II or Section 1B or International Air Transport Association (IATA), 62nd edition, Section II or 1B, Packing Instructions (PI) 965 (Batteries), PI 966 (Batteries, packed with equipment) and PI 967 (Batteries, contained in equipment) as appropriate.

All Panasonic lithium ion batteries are regulated by the International Maritime Organization (IMO), 2018 edition, 39th amendment, under Special Provisions 188 and 230.

All Panasonic lithium ion batteries are regulated by the ADR, 2021 Edition under SP 188 and the TDG under SP 34.

All Panasonic lithium ion cells are tested and comply with the UN Model Regulations, Manual of Test and Criteria, Part III, subsection 38.3.

If you build any of our lithium ion cells into a battery pack, you must also assure that they are tested in accordance with the UN Model Regulations, Manual of Test and Criteria. Part III, subsection 38.3, 7th Revised Edition.

If you plan on transporting any untested prototype battery packs, contact your Panasonic Sales Representative for regulatory information. Check with your air carrier before shipping. Many air carriers have additional requirements.

FIRST AID

If you get electrolyte in your eyes, flush with water for 15 minutes without rubbing and immediately contact a physician. If you get electrolyte on your skin wash the area immediately with soap and water. If irritation continues, contact a physician. If the battery is ingested, call the Rocky Mountain Poison and Drug Center at 800-222-1222 for the US and Canada or 303-389-1100 internationally or your local poison center immediately.

GENERAL RECOMMENDATIONS

CAUTION: Risk of fire, explosion and burns. Do not short-circuit, crush, incinerate or disassemble battery.

FIRE SAFETY

In case of fire, you can use dry chemical, alcohol resistant foam (ARAFFF type) or carbon dioxide fire extinguishers. Cooling the exterior of the batteries with copious amounts of water will help prevent propagation and rupturing. Fire fighters should use self-contained breathing apparatus. Detailed information on lithium ion battery fires can be found in Guide 147 (Lithium Ion Batteries) of the US DOT Emergency Response Guide.