PRODUCT SAFETY DATA SHEET

Product Name: Lithium-Ion Battery Packs (Over 100 Watt Hours)

*** Section 1 - Product and Company Identification ***

Manufacturer Information

Stanley Black & Decker Phone: 1-860-225-5111
1000 Stanley Drive
New Britain, CT 06053

Catalog Numbers: DEWALT 36 Volt: DCB360 (144Whr)
DEWALT 40V Max: DCB404 (160Whr), DCB406 (240Whr)

Notes: 1. A suffix following Catalog Number (i.e., "-XJ") may be used to designate end market.
2. Batteries may be shipped in kits with the products they are intended to power.

The batteries referenced in this document are considered "Articles," not "Materials," as defined by the Occupational Safety and Health Administration's Hazard Communication Standard, and as such are exempted from the requirements to publish MSDS sheets per the Code of Federal Regulations 29 CFR 1910.1200 (b)(6)(v). This document is provided as a service to our customers.

* * * Section 2 - Hazards Identification * * *

Emergency Overview

Not considered dangerous as manufactured. If battery is damaged, exposure to product components may cause eye, skin and respiratory tract irritation. Combustion products from a fire involving batteries may be harmful.

Potential Health Effects: Eyes

None anticipated under normal product use and handling conditions. If battery is damaged, exposure may cause severe irritation or burns.

Potential Health Effects: Skin

None anticipated under normal product use and handling conditions. If battery is damaged, exposure may cause severe irritation or burns.

Potential Health Effects: Ingestion

Not considered a likely route of exposure under normal product use and handling conditions. Ingestion of material from a damaged battery may cause serious burns to mouth, esophagus, and gastrointestinal tract.

Potential Health Effects: Inhalation

None anticipated under normal product use and handling conditions. If battery is damaged, exposure to vapors or mist may cause respiratory irritation.

HMIS Ratings: Health: 0 **Fire:** 0 **HMIS Reactivity:** 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

* * * Section 3 - Composition / Information on Ingredients * * *

This battery is an article as defined by 29 CFR 1910.1200 and is not a controlled product under WHMIS. Exposure to hazardous ingredients is not anticipated under normal product use.

Chemical Name	CAS No.	%
Lithium transition metal oxide ($Li[M]_m[O]_n$)[1]	12190-79-3 12057-17-9 182442-95-1 193214-24-3	< 30
Carbon	7440-44-0	< 30
Polyvinylidene fluoride	24937-79-9	< 10
Lithium hexafluorophosphate	21324-40-3	< 10
Organic carbonates[2]		< 20
Aluminum foil	7429-90-5	< 10
Copper foil	7440-50-8	< 20
Inert materials		< 30

Notes:

1. The letter 'M' stands for transition metal, with potential candidates Co, Mn, Ni, or Al. One compound includes one or more of these transition metals and one product may contain one or more of the compounds. The letters 'm' and 'n' represent the number of atoms per unit.
2. Composition of organic carbonates in the electrolyte solvent varies.

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

Flush eyes with lukewarm water for at least 30 minutes while holding the eyelids open. Seek immediate medical care.

First Aid: Skin

Remove contaminated clothing, shoes and leather goods. Flush with water for at least 30 minutes. Seek medical attention if symptoms persist.

First Aid: Ingestion

Never give anything by mouth if victim is unconscious. Rinse mouth thoroughly water. Do not induce vomiting. Seek immediate medical attention.

First Aid: Inhalation

Remove person to fresh air away from source of contamination.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Battery cells may rupture when exposed to excessive heat. Electrolyte solution is flammable.

Hazardous Combustion Products

May release toxic fumes if burned or exposed to fire.

Extinguishing Media

Use appropriate extinguishing agent for surrounding fire. For damaged or ruptured cells, use Class D extinguisher or other appropriate agent. Class C fire extinguishers should be used to extinguish electrical fires. Do not use water to extinguish electrical or ruptured cell related fires.

Fire Fighting Equipment/Instructions

Firefighters should wear full protective gear.

NFPA Ratings: Health: 0 **Fire:** 0 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

* * * Section 6 - Accidental Release Measures * * *

Containment Procedures

Stop the flow of material, if this is without risk.

Clean-Up Procedures

Absorb spill with inert material. Shovel material into appropriate container for disposal. Clean spill area with detergent and water; collect wash water for proper disposal.

Evacuation Procedures

Isolate area. Keep unnecessary personnel away.

Special Procedures

Avoid skin contact with the spilled material.

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Avoid damaging or rupturing battery.

Storage Procedures

Store in a dry location at room temperature. Avoid extreme heat or fire. Keep out of reach of children.

* * * Section 8 - Exposure Controls / Personal Protection * * *

A: Component Exposure Limits

ACGIH, OSHA, and NIOSH have not developed exposure limits for any of this product's components.

Engineering Controls

Not necessary under normal product use conditions.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Not necessary under normal product use conditions. Wear safety glasses if handling a damaged battery.

Personal Protective Equipment: Skin

Not necessary under normal product use conditions. Wear neoprene or natural rubber gloves when handling a damaged battery.

Personal Protective Equipment: Respiratory

Not necessary under normal product use conditions.

Personal Protective Equipment: General

Eyewash fountains and emergency showers are required.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Various shaped battery	**Odor:**	None
Physical State:	Solid	**pH:**	NA
Vapor Pressure:	NA	**Vapor Density:**	NA
Boiling Point:	NA	**Melting Point:**	NA
Solubility (H2O):	Insoluble	**Specific Gravity:**	NA
Evaporation Rate:	NA	**VOC:**	NA
Octanol/H2O Coeff.:	NA	**Flash Point:**	NA
Flash Point Method:	NA	**Upper Flammability Limit (UFL):**	NA
Lower Flammability Limit (LFL):	NA	**Burning Rate:**	NA
Auto Ignition:	NA		

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

This is a stable material.

Chemical Stability: Conditions to Avoid

Avoid exposure to elevated temperatures and fire.

Incompatibility

Not Available.

Hazardous Decomposition

May release toxic fumes if burned or exposed to fire.

Possibility of Hazardous Reactions

Not Available.

* * * Section 11 - Toxicological Information * * *

Acute Dose Effects

A: General Product Information

If product is ruptured, material may cause irritation to the skin, eyes and respiratory tract.

B: Component Analysis - LD50/LC50

No LD50/LC50's are available for this product's components.

Carcinogenicity

A: General Product Information

No information available for the product.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

No information available for the product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

* * * Section 13 - Disposal Considerations * * *

US EPA Waste Number & Descriptions

Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Recycle battery. Do not dispose of in water bodies or sewer system. All wastes must be handled in accordance with local, state and federal regulations.
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

* * * Section 14 - Transportation Information * * *

Lithium-ion batteries comply with all applicable shipping regulations as prescribed by industry and legal standards which include UN Recommendations on the Transport of Dangerous Goods; IATA Dangerous Goods Regulations and US DOT requirements. Cells and Batteries have been tested to section 38.3 of the UN Recommendations on the Transport of Dangerous Goods Manual of Tests and Criteria. All of the batteries listed in this Safety Data Sheet are greater than 100 Whrs; therefore, most modes of transportation require the batteries to be shipped as fully regulated Class 9 Hazardous Material. In the United States, 49 CFR 173.185(c)(1)(iv) of the Hazardous Materials Regulations provides an exception from fully regulated Class 9 shipping when shipping batteries up to 300 Whrs by motor vehicle or rail car.

Batteries Alone

UN3480, Lithium Ion Batteries

Air Shipments (IATA) – Packing Instruction 965 (Section IA)

Sea Shipments (IMO-IMDG) – Packing Instruction P903

Europe Road Transportation (ADR) – Packing Instruction P903

US Road Transportation (DOT) – 49 CFR 173.185(c)(1)(iv)

Batteries with or in Equipment

UN3481, Lithium Ion Batteries packed with equipment OR Lithium Ion Batteries contained in equipment.

Air Shipments (IATA) – Packing Instruction 966 or 967, Section I

Sea Shipments (IMO-IMDG) – Packing Instruction P903

Europe Road Transportation (ADR) – Packing Instruction P903

US Road Transportation (DOT) – 49 CFR 173.185(c)(1)(iv)

* * * Section 15 - Regulatory Information * * *

US Federal Regulations

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

B: Component Analysis

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations

A: General Product Information

No additional information available.

B: Component Analysis - State

None of this product's components are listed on the state lists from CA, MA, MN, NJ, PA, or RI.

Canadian WHMIS Information

A: General Product Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations.

B: Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Additional Regulatory Information

None

* * * Section 16 - Other Information * * *

Other Information

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry, WHMIS = Workplace Hazardous Materials Information System (Canada)