

Battery Tender Deltran Europe Lithium Iron LiFePO4

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SDS No: 12503-0001

SECTION 1: Identification

1.1. Identification

Product form : Article
Product name : Battery Tender Deltran Europe Lithium Iron LiFePO4
Other means of identification : BTL09A120C 25.6Wh
BTL14A240C 51.2Wh
BTL18A300C 64Wh
BTL24A360C 76.8Wh
BTL35A480C 96Wh

1.2. Recommended use and restrictions on use

Use of the substance/mixture : batteries and accumulators
Recommended use : batteries and accumulators

1.3. Supplier

Deltran Europe Limited
2 Low Road Congham
Kings's Lynn
Norfolk PE32 1AE, - Unided Kingdom
T (+44) 01485600892

E-mail address of competent person responsible for the SDS: sds@gbk-ingelheim.de

1.4. Emergency telephone number

Emergency number : Telephone Number (USA) 1-800-424-9300
International Number +1 (703) 527-3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (dermal) Category 4	H312	Harmful in contact with skin
Skin corrosion/irritation Category 1A	H314	Causes severe skin burns and eye damage
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Carcinogenicity Category 2	H351	Suspected of causing cancer
Specific target organ toxicity (repeated exposure) Category 1	H372	Causes damage to organs through prolonged or repeated exposure

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H351 - Suspected of causing cancer
H372 - Causes damage to organs through prolonged or repeated exposure
Precautionary statements (GHS-US) : P201 - Obtain special instructions before use.

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P202 - Do not handle until all safety precautions have been read and understood.
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P391 - Collect spillage
P501 - Dispose of contents/container to in accordance with local and national regulations

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : In case of electrolyte leakage: According to concentration, aqueous solution causes irritations or burns of eyes, skin and mucous membranes. In case of cell damage, possible release of dangerous substances and a flammable gas mixture.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Phosphate(1-),hexafluoro-,lithium(1:1)	(CAS-No.) 21324-40-3	1 - 10	Acute Tox. 3 (Oral), H301 Skin Corr. 1A, H314 STOT RE 1, H372
Ethylene carbonate	(CAS-No.) 96-49-1	1 - 10	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 STOT RE 2, H373
nickel powder, [particle diameter < 1 mm]	(CAS-No.) 7440-02-0	1 - 10	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Chronic 3, H412

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : The following first aid measures are required only in case of exposure to interior battery components after damage of the external battery casing. Undamaged, closed cells do not represent a danger to the health.

First-aid measures after inhalation : Ensure of fresh air. If symptoms persist, call a physician. Do not apply mouth-to-mouth resuscitation. Administer oxygen if breathing is difficult. Delayed fatal pulmonary edema possible.

First-aid measures after skin contact : Immediately rinse with plenty of water (for at least 15 minutes). Get medical advice if skin irritation persists.

First-aid measures after eye contact : Wash immediately with plenty water (during 20 minutes), also under eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist.

First-aid measures after ingestion : Do not induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : In case of electrolyte leakage: According to concentration, aqueous solution causes irritations or burns of eyes, skin and mucous membranes.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Fire-extinguishing activities according to surrounding.
Unsuitable extinguishing media : Water.

5.2. Specific hazards arising from the chemical

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

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5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
- Other information : If possible, remove cell(s) from fire fighting area. If heated above 125°C, cell(s) can explode/vent. Cell is not flammable but internal organic material will burn if the cell is incinerated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Use personal protective clothing. Avoid contact with skin, eyes and clothing. In case of vapor formation use adequate respirator. Ensure adequate air ventilation.

6.1.1. For non-emergency personnel

- Emergency procedures : Avoid breathing fume, gas.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Do not discharge into drains or the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : In case of electrolyte leakage: Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Collect all waste in suitable and labeled containers and dispose according to local legislation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Keep away from open flames, hot surfaces and sources of ignition.
- Precautions for safe handling : Avoid short circuiting the cell. Avoid mechanical damage of the cell. Do not open or disassemble. Obtain special instructions before use.
- Hygiene measures : Always wash hands after handling the product. Wash contaminated clothing before reuse. Wash hands before breaks and at the end of workday. Avoid contact with skin and eyes. Contaminated work clothing should not be allowed out of the workplace. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep containers tightly closed in a dry, well-ventilated place. Keep out of frost.
- Incompatible products : Bases. Acids and oxidizing agents.
- Incompatible materials : Protect from atmospheric moisture and water.
- Storage temperature : < 60 °C
- Heat-ignition : Keep away from heat and direct sunlight.
- Information on mixed storage : Keep away from food, drink and animal feeding stuffs. Store separately.
- Storage area : Keep locked up and out of reach of children.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

nickel powder, [particle diameter < 1 mm] (7440-02-0)		
ACGIH	ACGIH TWA (mg/m ³)	1.5 mg/m ³ (inhalable particulate matter)
OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
IDLH	US IDLH (mg/m ³)	10 mg/m ³
NIOSH	NIOSH REL (TWA) (mg/m ³)	0.015 mg/m ³

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Ethylene carbonate (96-49-1)

Not applicable

Phosphate(1-),hexafluoro-,lithium(1:1) (21324-40-3)

Not applicable

Additional information : During normal charging and discharging there is no release of product.

8.2. Appropriate engineering controls

Appropriate engineering controls : In case of electrolyte leakage: Ensure adequate ventilation, especially in confined areas.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

In case of electrolyte leakage: Wear recommended personal protective equipment.

Hand protection:

In case of electrolyte leakage: Chemically resistant protective gloves

Eye protection:

In case of electrolyte leakage: Tightly fitting goggles (EN 166)

Skin and body protection:

In case of electrolyte leakage: Acid-resistant clothing

Respiratory protection:

In case of electrolyte leakage: Put on breathing apparatus

Other information:

In case of electrolyte leakage: Avoid contact with skin, eyes and clothing. Do not breathe gas/fumes. Eliminate ignition sources.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Color	: Blue, Black, Green
Odor	: odorless
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: Not applicable
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available

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Explosive properties : No data available
Oxidizing properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. No polymerization. Electrolyte and electrodes may react with water or moisture.

10.4. Conditions to avoid

Keep away from any flames or sparking source. Do not puncture, crush or incinerate. Air contact. Moisture.

10.5. Incompatible materials

Oxidizing agent. Acids. Bases.

10.6. Hazardous decomposition products

Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Dermal: Harmful in contact with skin.

Battery Tender Deltran Europe Lithium Iron LiFePO4	
ATE US (dermal)	1100 mg/kg body weight
nickel powder, [particle diameter < 1 mm] (7440-02-0)	
LD50 oral rat	> 9000 mg/kg
Ethylene carbonate (96-49-1)	
ATE US (oral)	500 mg/kg body weight
Phosphate(1-),hexafluoro-,lithium(1:1) (21324-40-3)	
ATE US (oral)	100 mg/kg body weight

Skin corrosion/irritation : Causes severe skin burns and eye damage.
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer.

nickel powder, [particle diameter < 1 mm] (7440-02-0)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
In OSHA Hazard Communication Carcinogen list	Yes

Reproductive toxicity : Not classified
Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Symptoms/effects : In case of electrolyte leakage: According to concentration, aqueous solution causes irritations or burns of eyes, skin and mucous membranes.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN3480 Lithium ion batteries including lithium ion polymer batteries, 9
UN-No.(DOT) : UN3480
Proper Shipping Name (DOT) : Lithium ion batteries including lithium ion polymer batteries
Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



DOT Packaging Non Bulk (49 CFR 173.xxx) : 185
DOT Packaging Bulk (49 CFR 173.xxx) : 185
DOT Special Provisions (49 CFR 172.102) : A51 - When transported by cargo-only aircraft, an oxygen generator must conform to the provisions of an approval issued under Special Provision 60 and be contained in a packaging prepared and originally offered for transportation by the approval holder.
A54 - Lithium batteries or lithium batteries contained or packed with equipment that exceed the maximum gross weight allowed by Column (9B) of the 172.101 Table may only be transported on cargo aircraft if approved by the Associate Administrator.
DOT Packaging Exceptions (49 CFR 173.xxx) : 185
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 35 kg
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Emergency Response Guide (ERG) Number : 147
Other information : No supplementary information available.

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Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG) : UN 3480 LITHIUM ION BATTERIES, 9
UN-No. (IMDG) : 3480
Proper Shipping Name (IMDG) : LITHIUM ION BATTERIES
Class (IMDG) : 9 - Miscellaneous dangerous substances and articles
MFAG-No : 147

Air transport

Transport document description (IATA) : UN 3480 Lithium ion batteries, 9
UN-No. (IATA) : 3480
Proper Shipping Name (IATA) : Lithium ion batteries
Class (IATA) : 9 - Miscellaneous Dangerous Goods

SECTION 15: Regulatory information

15.1. US Federal regulations

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Listed on the United States TSCA (Toxic Substances Control Act) inventory

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

nickel powder, [particle diameter < 1 mm]	CAS-No. 7440-02-0	1 - 10%
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nickel powder, [particle diameter < 1 mm] (7440-02-0)

CERCLA RQ	100 lb
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Phosphate(1-),hexafluoro-,lithium(1:1) (21324-40-3)

EPA TSCA Regulatory Flag	P - P - indicates a commenced PMN substance.
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15.2. International regulations

CANADA

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Listed on the Canadian DSL (Domestic Substances List)
Listed on the Canadian NDSL (Non-Domestic Substances List)

nickel powder, [particle diameter < 1 mm] (7440-02-0)

Listed on the Canadian DSL (Domestic Substances List)

Ethylene carbonate (96-49-1)

Listed on the Canadian DSL (Domestic Substances List)

Phosphate(1-),hexafluoro-,lithium(1:1) (21324-40-3)

Listed on the Canadian NDSL (Non-Domestic Substances List)

EU-Regulations

nickel powder, [particle diameter < 1 mm] (7440-02-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

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nickel powder, [particle diameter < 1 mm] (7440-02-0)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on INSQ (Mexican national Inventory of Chemical Substances)
Listed on Turkish inventory of chemical

15.3. US State regulations

This product can expose you to nickel powder, [particle diameter < 1 mm], which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

nickel powder, [particle diameter < 1 mm] (7440-02-0)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

nickel powder, [particle diameter < 1 mm] (7440-02-0)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Alaska - Water Quality Standards - Acute Aquatic Life Criteria for Fresh Water
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Fresh Water
U.S. - Alaska - Water Quality Standards - Acute Aquatic Life Criteria for Marine Water
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Marine Water
U.S. - Arkansas - Surface Water Quality Standards - Chronic Aquatic Life Criteria
U.S. - Arkansas - Surface Water Quality Standards - Acute Aquatic Life Criteria

Ethylene carbonate (96-49-1)

U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases:

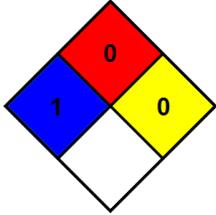
H301	Toxic if swallowed
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
H412	Harmful to aquatic life with long lasting effects

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NFPA health hazard	: 1 - Materials that, under emergency conditions, can cause significant irritation.	
NFPA fire hazard	: 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.	
NFPA reactivity	: 0 - Material that in themselves are normally stable, even under fire conditions.	
Hazard Rating		
Health	: 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures	
Flammability	: 0 Minimal Hazard - Materials that will not burn	
Physical	: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.	

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product