



MATERIAL SAFETY DATA SHEET

Date MSDS Prepared	MSDS Prepared By/ Contact Number	Revision Date
09/10/2015	Anna Movsesyants 520-499-3782	9/23/2016

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name ELITISE / INDURAPOWER Intelligent Battery Series		WHMIS Classification Class 9, UN3480
Product Use Automotive Battery		
Manufacturer's Name ELITISE LLC / INDURAPOWER		
Street Address 1668 S Research Loop Suite #332		
City Tucson	Postal Code 85710 - 6816	
Business Phone 520-499-3799	Emergency Telephone ChemTel US #1-800-255-3924; For outside US and Canada +01-813-248-0585.	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS (PER CELL)

Hazardous Ingredients (<i>specific</i>)	%	CAS Number	EC Number
Phosphate	20.5%	/	/
PVDF	0.5%	24937-79-9	/
Graphite	10.5%	7782/42/-5	/
CMC	0.18%	900-11-7	/
Aluminum Foil	6.2%	7429-90-5	231-072-3
Copper Foil	10.8%	7440-50-8	231-159-6
PP Separator	2.2%	/	/
Steel Case	23.9%	/	/
Electrolyte	18.9%	/	/
PVC Heat Shrinking Film	0.03%	/	/
PP Sealing Ring	0.05%	/	/

SECTION 3 — HAZARDS IDENTIFICATION

Route of Entry	Effects of Exposure	Acute Health Effects
<input type="checkbox"/> Eye Contact	Contact between the battery and the eye will not cause any harm. Eye contact with an open cell can cause severe irritation or burns to the eye.	Severe irritation, corneal damage, and possible blindness can occur from direct contact with an open cell
<input type="checkbox"/> Skin Contact	Contact between the cell and skin will not cause any harm. Skin contact with an open cell can cause severe irritation or burns to the skin.	Severe irritation burns, ulceration can occur from direct contact with an open cell.
<input type="checkbox"/> Inhalation	Inhalation of material from a sealed battery is not an expected route of exposure. Inhalation of materials from compromised battery can cause respiratory irritation.	Severe respiratory irritation (from vapors and mists) can occur from direct contact with an open cell.
<input type="checkbox"/> Ingestion	Swallowing of material from a sealed battery is not an expected route of exposure. Swallowing of materials from compromised battery can cause serious chemical burns of the mouth, esophagus and gastrointestinal tract.	Severe irritation of the mouth, throat, esophagus and gastrointestinal tract can occur from direct contact with an open cell.

This product is safe under normal use. The battery should not be opened or burned. Exposure to the ingredients contained within and/or their combustion products could be harmful. These chemicals are contained in a sealed enclosure. Risk of exposure occurs only if the battery is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, exposure to the battery electrolyte solution within can occur by inhalation, ingestion, eye contact and skin contact.

In the event of exposure to the battery contents the following potential health effects could occur.

- **Acute effects** - Vapor or mist is irritation to the eyes, mucous membranes and Respiratory tract. Can cause eye and skin irritation. Exposure can cause nausea, dizziness and headache. The electrolyte solution contained within the battery would be corrosive and can cause burns.
- **Chronic effects** - Overexposure may cause reproductive disorder(s) based on tests with laboratory animals. Target organs affected could be kidneys, central nervous system, eyes, and male reproductive system.

SECTION 4 — FIRST AID MEASURES

Route of Entry	First Aid Measures
<input type="checkbox"/> Eye Contact	Immediately flush with water for a minimum of 15 minutes. See medical doctor or ophthalmologist immediately.
<input type="checkbox"/> Skin Contact	Contact between the skin and battery will not cause harm. Contact with the contents of an opened battery, mainly the electrolyte solution can cause severe irritation or burns to the skin. Immediately flush thoroughly with soap, or mild detergent and copious amounts of water until no evidence of substance remains (typically 15-20 minutes). Remove and wash contaminated clothing promptly. If irritation or pain persists, seek medical attention.
<input type="checkbox"/> Inhalation	Inhalation of material from a sealed battery is not an expected route of exposure. Vapors or mists from a compromised battery may cause respiratory irritation. If contents of an opened battery are inhaled, remove source of contamination and move victim to fresh air. If breathing difficulty occurs and persist, see a medical doctor. If breathing has stopped, give artificial respiration and obtain medical attention.
<input type="checkbox"/> Ingestion	Swallowing of a sealed battery is not an expected route of exposure. Swallowing of materials from compromised battery can cause serious chemical burns of the mouth, esophagus and gastrointestinal tract. If swallowed, quickly wipe material from mouth and rinse with water. Do not induce vomiting. See a medical doctor immediately

SECTION 5 — FIRE FIGHTING MEASURES

1. Flammable Properties

In the event that this battery has been ruptured, the electrolyte solution (internal organic material) contained within the battery **WILL BE** flammable. Like any sealed container, battery cells may rupture when exposed to excessive heat and could result in the release of flammable or corrosive materials. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

2. Extinguishing Media

Use Type D Fire Extinguishers for combustible metal and combustible metal alloys. Permissible extinguishers (for Lithium only) include graphite, copper powered and Lith-X (Ansul). Use extinguishing media suitable for the materials that are burning. **DO NOT USE "WATER"**.

3. Special Fire Fighting Procedures

If possible, remove cell(s) from firefighting area. Excessive heat may cause cell(s) to vent or explode.

4. Protective Equipment and Precautions for Firefighters

Wear NIOSH/MSHA approved self-contained breathing apparatus (SCBA) and protective clothing when fighting chemical fires. For additional firefighting information, see National Fire Protection Association Standard NFPA 485.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

1. Personal Precautions

Restrict access to contaminated area until completion of clean-up. DO NOT touch the spilled material. Wear suitable protective clothing, nitrile gloves, eye/face protection and respirator with filters for dust particles.

2. Environmental Precautions

DO NOT let product enter drainage system, surface and/or ground-water and soil. Do not flush down sewers or waterways. Consult federal, state or local authorities for disposal procedures.

3. Methods for Containment

Stop the spill if safe to do so. Contain the spilled liquid with dry sand, earth or approved spill absorber. Clean up spills immediately.

4. Methods for Clean Up

- Wear full protective clothing to prevent direct contact with the skin as well as nitrile gloves and eye protection and respiratory protection when dealing with spilled battery material.
- Soak up the spilled material with inert absorbent material such as dry sand or earth or a commercial absorbing agent to avoid dispersing dust into the air or use a wipe-down procedure or a HEPA-vacuum.
- Collect all absorbent material and dispose of per section 7
- Once the area is clear of absorbent material be sure to wash the surface with plenty of water and detergent. Do not let the contaminated water enter the sewer or drain system.

SECTION 7 — DISPOSAL CONSIDERATIONS

Battery recycling is encouraged. Elitise/ InduraPower suggest returning battery module back to the factory for re-blocking or recycling. Do not dump into any sewers, on the ground or into any body of water. Dispose of in accordance with local, state and federal laws and regulations.



NOTE: All hazardous waste material from ELITISE/INDURAPOWER Batteries should be disposed of in a licensed facility.

SECTION 8 — HANDLING AND STORAGE

ELITISE/INDURAPOWER encourage not to open the assembly to expose individual cells. Storage should always be done as Battery Modules in the “OFF” position (See User Manual)

1. Handling

Do not open, disassemble, crush or burn battery modules. Do not expose battery to extreme heat or fire. Wear suitable protective clothing, nitrile gloves, eye/face protection and respirator for compromised battery modules.

2. Storage

When battery is not in use store in cool, dry and well ventilated area. Avoid storing near excessive heat. Elevated temperature can reduce service life. Keep out of reach of children.

- Room Ventilation: Cool, Dry and Well-ventilated area
- Special Precautions: Do not store near source of ignition, heat and flame
- Recommended Temperature: Room temperature, not to exceed 75C. Temperature above 60C may reduce service life.
- Humidity, Light and other Environmental Factors: Room parameters.
- Other storage Precautions: Keep battery modules properly labeled. Store in the “OFF” position, see User Manual.
- Damaged Batteries: Dispose damaged batteries per Section 7.

SECTION 9 — EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering controls: Use ventilation equipment if available.

Personal Protective Equipment: Restrict access to contaminated area. Wear suitable protective clothing (gloves, eye /face protection, respirator masks) for access to contaminated area.

Respiratory system: Not necessary under condition of normal use.

Eyes: Not necessary under condition of normal use. Wear safety glasses or side shields if handling an open or leaking battery.

Protective gloves: Not necessary under condition of normal use. Wear nitrile gloves if handling an open or leaking battery.

Other Protective Equipment: Handle with care. Do not eat, drink or smoke in work areas. Maintain good housekeeping practices in the work area to promote safety.

SECTION 10 — PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Black case / container, sealed
Odor	Odorless
Melting Point /C	> 180.5°C
PH Value	8-9
Stability in water	Reacts violently with water

SECTION 11 — TOXICOLOGICAL INFORMATION

Not applicable under normal conditions of use. Chemicals within the battery have organic carbonates (electrolyte) vapors and are categorized as corrosive, flammable and irritants.

Irritancy of Product Risk of irritation occurs only if the battery is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, irritation to the skin, eyes and respiratory tract may occur.	
Skin sensitization No information is available at this time	Respiratory sensitization No information is available at this time
Neurological Effects No information is available at this time	Teratogenicity No information is available at this time
Reproductive toxicity No information is available at this time	Mutagenicity No information is available at this time
Toxicological Synergistic Material No information is available at this time	

SECTION 12 — ECOLOGICAL INFORMATION

Not applicable to this material / product

SECTION 13 — REGULATORY INFORMATION

USA: This MSDS meets or exceeds the OSHA requirements. Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. International: This MSDS conforms to the European Union (EU), the International Standards Organization (ISO), and the International Labour Organization (ILO) and as documented in American National Standards Institute (ANSI) Standard Z400.1-1993.

SECTION 14 — OTHER INFORMATION

The information in the Material Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and the regulations promulgated thereunder (29 CFR 1910.1200 et. seq.).

The above information is believed to be correct but doesn't purport to be all inclusive and should be used only as a guide. The user is responsible for determining the precautions and dangers of this product for his or her particular application. We do not assume liability for consequences of the use of this information since it may be applied under conditions beyond our control or knowledge.