

# Material Safety Data Sheet

**MSDS Date:** 4/17/09  
**Product Name:** CHENOBI Lunar Simulant  
**Manufacturer:** Electric Vehicle Controllers Ltd.

## 1. Product and Company Description

Electric Vehicle Controllers Ltd.  
2200 Valleyview Road  
Val Caron, Ontario P3N 1L1  
Canada

**For Product Emergency/Information:**  
705 897 5992

## 2. Hazards Identification

### Emergency Overview

**Appearance/Odor:** Manufactured soil material with slight odor.

### Potential Health Effects:

**Acute Eye:**

Contact with eyes may cause eye irritation. Symptoms may include redness, watering and itching.

**Acute Skin:**

This product may cause skin irritation in sensitive individuals. Skin exposure may be characterized by itching, scaling, reddening, or blistering.

**Acute Inhalation:**

Exposure via inhalation is not likely. Fine dusts may irritate upper respiratory tract.

**Acute ingestion:**

This product may cause gastrointestinal harm if it is swallowed.

**Chronic Exposure:**

Not Determined

**Aggravation of Pre-existing Conditions:**

Not Determined

## 3. Hazardous Chemical Composition

Component	CAS#	% Composition
Aluminum	7429-90-5	15-18
Calcium	7440-70-2	10-12
Iron	1309-37-1	1-2
Sodium	7440-23-5	1-2
Trace Metals	N/A	Balance

## 4. First Aid Measures

### First Aid Measures for Accidental:

**Eye Exposure:**

Immediately flush eyes with copious amounts of water for a minimum of 15 minutes. Seek immediate medical attention if adverse effect occurs.

**Skin Exposure:**

Immediately begin flushing skin with water continuously for a minimum of 15 minutes. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Seek immediate medical attention if adverse effect occurs.

**Inhalation:**

Remove person to fresh air. If necessary, use artificial respiration to support vital functions.

**Ingestion:**

If the material is swallowed, get immediate medical attention or advice. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting.

## 5. Fire Fighting Measures

### Fire Hazard Data:

**Autoignition:** ND

**Flash Point:** ND

<b>Flammability Limits (vol/vol%):</b>	<b>Lower:</b>	<b>Upper:</b>
	ND	ND

**Extinguishing Media:**

Use extinguishing media appropriate for surrounding fire.

**Special Fire Fighting Procedures:**

Firefighters should wear full fire-fighting turn-out gear (full Bunker gear) including NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

**Unusual Fire and Explosion Hazards:**

None

## 6. Accidental Release Measures

**Cleanup and Disposal of Spill:**

Vacuum or sweep up material and place in a suitable container for reclamation or disposal. Do not discharge into drains or sewers. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations.

## 7. Handling and Storage

**Handling/Storage:**

Avoid contact with skin and eyes. Wash hands before eating, drinking, smoking, or using toilet facilities. Wash thoroughly after work using soap and water. As with all chemicals, good industrial hygiene practices

should be followed when handling this material. DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL. Store in a cool, dry, well-ventilated area. Avoid freezing or excessive heat.

## 8. Exposure Controls / Personal Protection

### Exposure Guidelines:

Component	ACGIH	NIOSH	OSHA-PELs
Aluminum	10 mg/m <sup>3</sup> dust	ND	5 mg/m <sup>3</sup> respirable 105 mg/m <sup>3</sup> total dust
Calcium	ND	ND	ND
Iron	5 mg/m <sup>3</sup> inhalable	ND	10 mg/m <sup>3</sup> oxide fume
Sodium	ND	ND	ND

### Engineering Controls:

Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the MSDS.

### Respiratory Protection:

Use respiratory protection with filters as specified in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations, or the Canadian CSA Standard Z94.4-93 and applicable standards of Canadian Provinces.

### Eye / Face Protection:

Not required under anticipated use conditions, if dusts are generated chemical splash goggles or safety glasses are recommended.

### Skin Protection:

Wear chemical resistant, impervious gloves for routine industrial use. Use body protection appropriate for task.

## 9. Physical and Chemical Properties

**Physical Appearance:** Manufactured soil material

**Odor:** Slight

**pH:** NA

**Specific Gravity/Density:** ND

**Water Solubility:** Insoluble

**Melting Point:** ND

**Freezing Point:** ND

**Boiling Point:** ND

**Vapor Pressure:** ND

**Percent Volatiles by Volume:** ND

**Evaporation Rate:** ND

**Viscosity:** ND

**Flash Point:** ND

**Explosion Limits:** Lower: ND

Upper: ND

**Autoignition Temp:** ND

## 10. Stability and Reactivity

**Chemical Stability:**

Stable

**Conditions to Avoid:**

None

**Materials / Chemicals to Be Avoided:**

None

**Hazardous Decomposition Products:**

Upon decomposition, this product may yield oxides of carbon.

**Hazardous Polymerization:**

Will not occur.

## 11. Toxicological Information

**Acute Effects**

Not Determined

**Chronic Effects**

Carcinogenicity: No Data

Mutagenicity: No Data

Reproductive Effects: No Data

Developmental Effects: No Data

## 12. Ecological Information

**Environmental Fate:**

Not Determined

**Environmental Toxicity:**

Not Determined

## 13. Disposal Considerations

**Waste Disposal Method:**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transportation Information

**US Department of Transportation Shipping Name:**

US Department of Transportation	Proper Shipping Name	Not Regulated
	Hazard Class	Not Regulated
	ID Number	Not Regulated

	<b>Packing Group</b>	Not Regulated
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## 15. Regulatory Information

### **Federal Regulations:**

#### **SARA Title III Hazard Classes:**

Fire Hazard: No  
 Reactive Hazard: No  
 Release of Pressure: No  
 Acute Health Hazard: No  
 Chronic Health Hazard: No

#### **TSCA**

All components of this product are on the TSCA inventory or are exempt from TSCA Inventory requirements

### **U.S. State Regulations:**

California Prop 65 List: None

### **Canada Regulations:**

All components of this product are listed on Canada's DSL and Ingredient Disclosure Lists

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

### **National Fire Protection Association NFPA(R) and Hazardous Materials Identification System (HMIS) Hazard Ratings –:**

Health Hazard: 1  
 Flammability: 0  
 Reactivity: 0

#### **Key Legend Information:**

N/A – Not Applicable

ND – Not Determined

ACGIH – American Conference of Governmental Industrial Hygienists

OSHA – Occupational Safety and Health Administration

TLV – Threshold Limit Value

IDLH – Immediately Dangerous to Life and Health

PEL – Permissible Exposure Limit

TWA – Time Weighted Average

STEL – Short Term Exposure Limit

NTP – National Toxicology Program

IARC – International Agency for Research on Cancer

**All information, recommendations and suggestions appearing herein concerning this product was based upon in part by the most current data available from our manufacturers of raw materials and/or technical sources; however, Electric Vehicle Controllers Ltd. makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of their own use, handling and disposal of the product. Since actual use by others is beyond our control, no warranty, express or implied, is made by Electric Vehicle Controllers Ltd. as to the effects of**

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