

# SAFETY DATA SHEET

Igniter



## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Igniter  
**SYNONYMS:** Initiator, Portion Igniter, Portion Initiator, Sparkler

**MANUFACTURER:** **ORGO-THERMIT, Inc.**  
**DIVISION:** **A Member of the Goldschmidt-Thermit-Group**  
**ADDRESS:** 3500 Colonial Drive North; Manchester, NJ 08759

**EMERGENCY PHONE:** (800) 424-9300 (CHEMTREC USA Assistance)  
(613) 424-6666 (CANUTEC Canada Assistance)

**OTHER CALLS:** (732) 657-5781  
**FAX:** (732) 657-5899

**CHEMICAL NAME:** Not applicable.  
**CHEMICAL FAMILY:** Not applicable.  
**CHEMICAL FORMULA:** Not applicable.

**PRODUCT USE:** In-situ Alumino-Thermic reaction initiator used for rail track welding.  
**PREPARED BY:** Orgo-Thermit, Inc.

### SECTION 1 NOTES:

A mixture of Aluminum, Barium Nitrate, Iron Oxide and a dextrin binder deposited on a steel core copper plated wire. This product is used with the Thermit<sup>®</sup> Welding Powder to initiate the Thermit<sup>®</sup> reaction.

## SECTION 2: HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW:

WARNING! May be harmful if inhaled. May irritate the eyes, skin, and respiratory tract. Molten material may cause thermal burns. Molten steel is hazardous.

### MATERIAL DESCRIPTION:

Mixture of gray – silver material mounted on a metal wire, with no odor.



### CAUTION!

This solid mixture becomes a fire hazard if exposed to temperatures above 570°F /300°C.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	% WT
Barium Nitrate	10022-31-8	proprietary
Aluminum	7429-90-5	proprietary
Iron Oxide	1309-37-1	proprietary
Dextrin	9004-53-9	proprietary
Copper	7440-50-8	proprietary
Mild Steel	7439-89-6	proprietary

### SECTION 3 NOTES:

Weight percentages are considered trade secrets, and thus, are not disclosed.

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## SECTION 4: FIRST AID MEASURES

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### POTENTIAL HEALTH EFFECTS

#### EYE CONTACT:

Dust or particulates may cause irritation including pain, tearing, and redness. Scratching of the cornea can occur if eye is rubbed. Fumes may be irritating. Contact with the heated material will cause thermal burns.

#### SKIN CONTACT:

Dust or particulates may cause irritation; symptoms include redness, itching and pain. Best practice is to keep exposure to a minimum and wear gloves. Contact with heated material will cause thermal burns.

#### INGESTION:

One ingredient in this product, Barium Nitrate, is considered toxic and extremely hazardous in the case of ingestion. May cause tightness of the muscles of the face and neck, vomiting, diarrhea, abdominal pain, muscular tremors, kidney damage, weakness, labored breathing, cardiac irregularity, convulsions, and death from cardiac and respiratory failure.

#### INHALATION:

Dust may cause irritation of the nose, throat, and lungs. Symptoms include coughing and shortness of breath. Systemic poisoning may occur with symptoms similar to those of ingestion.

### FIRST AID TREATMENT

#### EYE CONTACT:

In case of overexposure to dust or fumes, immediately flush eye with plenty of water for at least 15 minutes; occasionally lifting the eyelids. Check for and remove contact lenses; continue flushing the eyes. Get medical attention if irritation persists. Thermal burns should be treated as medical emergencies.

#### SKIN CONTACT:

In case of overexposure to dust or particulates, wash with soap and plenty of water. Get medical attention if irritation develops or persists. If thermal burn occurs, seek immediate medical attention.

#### INGESTION:

Get medical attention immediately. Induce vomiting only if directed by a medical professional. After vomiting, a mixture of 1 tablespoon of sodium or magnesium sulfate (Epsom salts) dissolved in 8 oz of water may be indicated to precipitate the barium as the nontoxic and insoluble barium sulfate.

#### INHALATION:

In case of overexposure to dust or fumes, move to fresh air. Loosen tight clothing such as collar, tie, belt, or waistband. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Any breathing difficulty should be evaluated by a medical professional. Get immediate medical attention if any symptoms listed above (Potential Health Effects) develop.

### NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

Monitor patients with significant ingestion for respiratory, cardiovascular, and blood pressure status. Watch for cardiac arrhythmias, respiratory failure due to flaccid paralysis of respiratory muscles, pulmonary edema, vocal cord paralysis, severe hypertension, and late effect kidney failure. Acute barium poisoning results in hypokalemia. The administration of fluids containing dilute concentrations of potassium salts may be indicated.

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## SECTION 5: FIRE-FIGHTING MEASURES

**FLAMMABLE LIMITS:** > 570°F / 300°C

**FLASH POINT:** 3632°F / 2000°C

### NFPA HAZARD CLASSIFICATION

**HEALTH:** 2                      **FLAMMABILITY:** 1                      **REACTIVITY:** 1

**OTHER:** Use No Water.

**Note:** NFPA classifications are 0 - 4, with 4 as the most severe.



### HMIS HAZARD CLASSIFICATION

**HEALTH:** 2                      **FLAMMABILITY:** 1                      **REACTIVITY:** 1

**PROTECTION:** Safety glasses, gloves, dust respirator recommended.

**Note:** HMIS classifications are 0 - 4, with 4 as the most severe.

HMIS	
<b>HEALTH</b>	<b>2</b>
<b>FLAMMABILITY</b>	<b>1</b>
<b>REACTIVITY</b>	<b>1</b>
<b>PPE</b>	<b>E</b>

### EXTINGUISHING MEDIA:

Do NOT use water, carbon dioxide, or foam. Metal dust fires need to be smothered with sand or inert dry powder. Use a dry chemical or dry silica sand to extinguish fire. Contact professional fire fighters. If impossible to extinguish, withdrawal from area, protect surroundings, and allow fire to burn itself out.

### SPECIAL FIRE FIGHTING PROCEDURES:

Fire fighters should wear full fire fighting turn-out gear and respiratory protection (self contained breathing apparatus). This solid mixture becomes a fire hazard if exposed to temperatures above 570°F /300°C.

### UNUSUAL FIRE AND EXPLOSION HAZARDS:

After ignition, the chemical reaction cannot be halted. May burn rapidly with flare burning effect. Burns at high temperatures. Classification C explosive Ex-8903001; UN 0454, Class 1.4S; considered an explosive with no significant blast hazard.

### HAZARDOUS DECOMPOSITION PRODUCTS:

When heated to decomposition, acid fumes are emitted. Do NOT use water or foam, as generation of explosive hydrogen may result. Do not release runoff from fire control methods to sewers or waterways.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### ACCIDENTAL RELEASE MEASURES:

Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Sweep up spill and place in sealed bag or container for disposal. Avoid generation of dust cloud. Avoid inhalation.

### SECTION 6 NOTES:

Use proper personal protective equipment as indicated in Section 8.

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## SECTION 7: HANDLING AND STORAGE

### HANDLING:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Minimize dust generation and accumulation. Avoid inhalation and ingestion. Ingestion could be fatal!

### STORAGE:

Store in a cool, dry, well ventilated and locked storeroom away from incompatible materials. Avoid proximity of fire or flame. Keep away from moisture. Preferred storage conditions are 46-86°F / 8-30°C with 75% relative humidity.

### OTHER PRECAUTIONS:

DO NOT USE material that got wet for rail welding. Wet igniters could react violently.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENT	ACGIH TLV TWA	OSHA PEL	NIOSH
Barium Nitrate	Not Available	0.5 mg / m <sup>3</sup>	0.5 mg / m <sup>3</sup>
Aluminum	1 mg / m <sup>3</sup>	15 mg / m <sup>3</sup> (total) 5 mg / m <sup>3</sup> (resp)	10 mg / m <sup>3</sup> (total) 5 mg / m <sup>3</sup> (resp)
Iron Oxide	5 mg / m <sup>3</sup>	15 mg / m <sup>3</sup> (total) 5 mg / m <sup>3</sup> (resp)	<10 mg / m <sup>3</sup>
Copper	0.2 mg / m <sup>3</sup>	1 mg / m <sup>3</sup>	1 mg / m <sup>3</sup>

### ENGINEERING CONTROLS:

When using igniters with Thermit® Welding Powder, preventive fire protection measures should be employed to protect surrounding areas from catching fire. Depending on proximity and wind conditions, sparks could catch nearby items on fire. It is recommended to keep a chemical fire extinguisher and water supply nearby.

### VENTILATION :

Use local exhaust ventilation, or other engineering controls, to keep airborne levels below the recommended exposure limits.

### RESPIRATORY PROTECTION:

Use a NIOSH/MSHA approved respirator with a dust cartridge if exposure limits are exceeded, or if irritation or other symptoms are experienced.

### EYE PROTECTION:

Safety glasses should be used when handling the igniters. When igniting Thermit® Welding Powder, shade 5 welding eye protection is recommended until the welding process is completed.

### SKIN PROTECTION:

Wear appropriate protective clothing, shoes, and gloves to prevent skin exposure. When using Igniters and Thermit® Welding Powder, protect skin from high temperatures. Welding gloves, jackets, pants, bibs, or aprons are used during the welding process.

### OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

Faceshields and hard hats are used to protect users from sparks during the welding and grinding processes.

### SECTION 8 NOTES:

Information concerning hazardous exposure limits has been compiled from sources considered to be reliable and is accurate and reputable to the best of our knowledge and belief but is not guaranteed to be so.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**APPEARANCE:** Mixture of gray – silver material mounted on a metal wire.  
**ODOR:** Odorless  
**PHYSICAL STATE:** Solid

**pH AS SUPPLIED:** Not Applicable  
**BOILING POINT:** Not Applicable  
**MELTING POINT:** Not Applicable  
**FREEZING POINT:** Not Applicable

**VAPOR PRESSURE (mmHg):** Not Applicable  
**VAPOR DENSITY (AIR = 1):** Not Applicable  
**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** > 1 g/mL @ 20°C  
**EVAPORATION RATE:** Not Applicable  
**SOLUBILITY IN WATER:** Insoluble

**WEIGHT PERCENT SOLIDS:** 100% Solids  
**PERCENT VOLATILE:** Not Available  
**MOLECULAR WEIGHT:** Not Available  
**VISCOSITY:** Not Applicable

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## SECTION 10: STABILITY AND REACTIVITY

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**STABILITY:**  **STABLE**  **UNSTABLE**

**CONDITIONS TO AVOID (STABILITY):** This solid mixture becomes a fire hazard if exposed to temperatures above 570°F /300°C

**INCOMPATIBILITY (MATERIAL TO AVOID):** Avoid water / moisture.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Can produce hydrogen when exposed to caustic solutions or acid.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**CONDITIONS TO AVOID (POLYMERIZATION):** Not applicable.

**SECTION 10 NOTES:**

Avoid heat and moisture. Shelf life is indefinite if stored properly.

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## SECTION 11: TOXICOLOGICAL INFORMATION

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### ACUTE SYMPTOMS / SIGNS OF EXPOSURE:

**EYES:** Redness,tearing, itching, burning, conjunctivitis.  
**SKIN:** Redness, itching.  
**INGESTION:** May cause tightness of the muscles of the face and neck, vomiting, diarrhea, abdominal pain, muscular tremors, kidney damage, weakness, labored breathing, cardiac irregularity, convulsions, and death from cardiac and respiratory failure.  
**INHALATION:** Irritation of mucous membranes, coughing, wheezing, shortenss of breath. Systemic poisoning may occur with symptoms similar to those of ingestion.

**CHRONIC EFFECTS:** None expected.

**SENSITIZATION:** None expected.

**TOXICITY TO ANIMALS:** Can be fatal if ingested.

### SECTION 11 NOTES:

Material has not been found to be a carcinogen nor produce genetic, reproductive, or developmental effects.

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## SECTION 12: ECOLOGICAL INFORMATION

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**ECOTOXICITY (AQUATIC AND TERRESTIAL):** Ecological impact has not been determined.

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## SECTION 13: DISPOSAL CONSIDERATIONS

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### WASTE DISPOSAL METHOD:

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulation.

Place in pile of dry clean sand and ignite in well ventilated area.

### RCRA HAZARD CLASS:

None listed.

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## SECTION 14: TRANSPORT INFORMATION

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### U.S. DEPARTMENT OF TRANSPORTATION

**PROPER SHIPPING NAME:** IGNITER  
**HAZARD CLASS:** 1.4 S – CLASS 85  
**ID NUMBER:** 64300  
**PACKING GROUP:** II  
**LABEL STATEMENT:** UN 0454, IGNITER, 1.4 S, PGII  
ITEM#64300 CLASS 85 HAZMAT

### WATER TRANSPORTATION

**PROPER SHIPPING NAME:** IGNITER  
**HAZARD CLASS:** 1.4 S – CLASS 85  
**ID NUMBER:** 64300  
**PACKING GROUP:** II  
**LABEL STATEMENTS:** UN 0454, IGNITER, 1.4 S, PGII  
ITEM#64300 CLASS 85 HAZMAT

### AIR TRANSPORTATION

**PROPER SHIPPING NAME:** NOT APPLICABLE  
**HAZARD CLASS:** NOT APPLICABLE  
**ID NUMBER:** NOT APPLICABLE  
**PACKING GROUP:** NOT APPLICABLE  
**LABEL STATEMENTS:** NOT APPLICABLE

**CANADA TDG:** UN 0325, Class 1.4 G; Canada Class 7, Div. 2, Sub Div.4

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## SECTION 15: REGULATORY INFORMATION

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### U.S. FEDERAL REGULATIONS

**EPCRA Section 302 – Extremely Hazardous Substances:**

None listed.

**EPCRA Section 304 – Extremely Hazardous Substances, Reportable Quantity:**

None listed.

**CERCLA - Hazardous Substances:**

CAS # 7440-50-8, Copper is in the list (5,000 pounds).

**EPCRA Section 313 – Toxic Chemicals:**

CAS # 7429-90-5, Aluminum, is on the list as a fume or dust.

CAS # 7440-50-8, Copper is in the list.

**CAA 112(r) - Regulated Chemicals for Accidental Release Prevention:**

None listed.

### STATE REGULATIONS:

**New Jersey Right to Know Hazardous Substance List:**

CAS # 7429-90-5, Aluminum, is on the list.

CAS # 1309-37-1, Iron Oxide, is on the list.

CAS # 10022-31-8, Barium Nitrate, is on the list.

CAS # 7440-50-8, Copper, is on the list.

**California Proposition 65 List of Chemicals:**

None listed.

### INTERNATIONAL REGULATIONS:

The product has been classified in accordance with the hazard criteria of the Controlled Products Regulations. The Safety Data Sheet contains all the information required by the Controlled Products Regulations.

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## SECTION 16: OTHER INFORMATION

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**PREPARATION INFORMATION:** Last revised June 13, 2016.

**DISCLAIMER:**

*Orgo-Thermit Inc. believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because Orgo-Thermit has no continuing control over such changes; those handling, storing, or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored, used, or disposed of, and that the same is done in accordance with federal, state, and local law. Orgo-Thermit Inc. makes no warranty, expressed or implied, including (without limitation) warranties with respect to the completeness or continuing accuracy of the information contained herein, or with respect to fitness for any particular use.*