

# SAFETY DATA SHEET

Degradable Crucible



## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Degradable Crucible  
**SYNONYMS:** One Shot Crucible, Disposable Crucible

**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

**PRODUCT USE:** A phenolic resin bonded refractory vessel to contain and hold the liquid Thermit<sup>®</sup> steel and slag after the Thermit<sup>®</sup> reaction for a limited period of time.

## SECTION 2: HAZARDS IDENTIFICATION

### HAZARD CLASSIFICATION:

The product as shipped is considered an article as defined in 29 CFR 1910.1200.

### SIGNAL WORD:

No signal word is required because the product as shipped is not hazardous.

### HAZARD STATEMENT

No hazard statement is required because the product as shipped is not hazardous.

### PICTOGRAMS:

No pictograms are required on container labels because the product as shipped is not hazardous.

### PRECAUTIONARY STATEMENT:

No precautionary statement is required because the product as shipped is not hazardous.

### OTHER HAZARD INFORMATION:

The product as shipped is a resin bonded silica refractory with no respirable silica dust present. This product may release detectable amounts of formaldehyde vapor or other products of combustion as a result of thermal decomposition of the resin bonding during the thermite reaction.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This section lists ingredients contained in the product as shipped. The package contains a resin bonded refractory vessel with no odor or dust. The actual weight percentages of ingredients are considered trade secrets, therefore ranges are presented.

INGREDIENT	CAS NO.	% WT
Crystalline Silica	14808-60-7	94-97%
Phenolic resin	Not applicable	3-6%

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## SECTION 4: FIRST AID MEASURES

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### FIRST AID TREATMENT

#### EYE CONTACT:

If the article is broken or crushed the dust or particulates produced may cause irritation including pain, tearing, redness, and visual disturbance. Scratching of the cornea can occur if eye is rubbed.

In case dust or particulates get in eyes, immediately flush eye with plenty of water for at least 30 minutes; occasionally lifting the eyelids. Remove contact lenses if they are present; continue flushing with water. Do not allow victim to rub eyes nor keep eyes closed. Get medical attention if irritation persists.

#### SKIN CONTACT:

Dust or particulates if the article is crushed or broken may cause irritation due to abrasion. Some components in this product are capable of causing an allergic reaction, possibly resulting in itching and skin eruptions. Diseases of the skin, such as dermatitis, may be aggravated by exposure.

Wash with soap and plenty of water after handling broken or crushed crucibles. Get medical attention if irritation develops or persists.

#### INGESTION:

The toxicological properties of this substance have not been fully investigated. Ingestion is unlikely, but if it does occur seek medical attention.

#### INHALATION:

Dust from a crushed or broken crucible may cause irritation of the nose, throat, and lungs. Other symptoms include coughing, shortness of breath, wheezing, headache, drowsiness, dizziness, nausea, vomiting, muscle ache, pain, twitching, and convulsions. Best practice is to limit exposure to crystalline silica as long term inhalation is hazardous.

In case of overexposure to dust, move to fresh air. Loosen tight clothing such as collar, tie, belt, or waistband. If not breathing, provide rescue breathing or CPR. If breathing is difficult, seek medical evaluation.

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## SECTION 5: FIRE-FIGHTING MEASURES

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#### EXTINGUISHING MEDIA:

Noncombustible solid. Product is not flammable, combustible, or explosive. Use extinguishing media appropriate for surrounding fire.

#### SPECIAL FIRE FIGHTING PROCEDURES:

The product itself does not burn. As with any fire, fire fighters should wear full firefighting turn-out gear and respiratory protection (self-contained breathing apparatus).

#### UNUSUAL FIRE AND EXPLOSION HAZARDS:

Product contains a resin that if allowed to accumulate as dust on floors or machinery, could create a combustible dust explosion hazard. When using Thermit<sup>®</sup> Welding Powder in a Degradable Crucible, precautions should be taken to protect surrounding areas from catching fire from the thermite reaction. Depending on proximity and wind conditions, sparks could present a risk of fire for surrounding combustible materials. Keep a chemical fire extinguisher and water supply nearby.

#### HAZARDOUS DECOMPOSITION PRODUCTS:

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This product has the potential to release formaldehyde vapor from thermal decomposition during the thermite reaction.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### ACCIDENTAL RELEASE MEASURES:

If the crucible is broken or crushed, sweep the material into a disposal container. Avoid the generation of dust. Avoid inhalation of dust. Use dustless and/or non-dust generating methods for clean-up, such as a HEPA vacuum. Prevent entry into bodies of water.

Use proper personal protective equipment as indicated in Section 8. While cleaning, use a NIOSH/MSHA approved respirator for dust.

## 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 and skin. Minimize dust generation and accumulation. Avoid inhalation and ingestion of dust.

### STORAGE:

Store in a cool, dry area away from incompatible substances. Keep away from moisture, humidity, and frost. Do not store in direct sunlight.

### OTHER PRECAUTIONS:

Keep crucible dry at all times before and during use. DO NOT USE material for rail welding that has gotten wet. While water does not affect the degradable crucible itself, the presence of water in a Thermit<sup>®</sup> reaction can result in violent reactions. Dispose of crucibles that have gotten wet.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENT	ACGIH TLV	OSHA PEL	NIOSH
Crystalline Silica	0.025 mg / m <sup>3</sup>	0.05 mg / m <sup>3</sup> (total)	0.05 mg / m <sup>3</sup>

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.

### ENGINEERING CONTROLS:

#### VENTILATION :

When conducting rail welding operations in an enclosed area, use local exhaust ventilation, or other engineering controls to keep airborne levels below the OSHA PEL's listed above. Hazardous emissions are may be generated due to the thermal decomposition of the binder during pouring operations when crucibles are exposed to molten metal. Hazardous decomposition products may include carbon monoxide, carbon dioxide, benzene, aldehydes including formaldehyde, phenol, hydrogen cyanide, ammonia, or other organic compounds. Oxygen may be depleted by the thermite reaction during pouring operations if the operation takes place in a confined space. Hazardous particulate matter including crystalline silica, polycyclic organic compounds, soot, and smoke may be generated at concentrations approaching the Permissible Exposure Level during pouring, cooling, and especially shakeout operations. All of the emissions may pose significant hazards and proper controls are necessary to protect the user from these emissions when operations take place in an enclosed space.

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**RESPIRATORY PROTECTION:**

Use a NIOSH/MSHA approved respirator during the thermite reaction and subsequent cooling and shakeout operations if exposure limits are exceeded, or if irritation or other symptoms are experienced. If oxygen depletion is possible due to operations in an enclosed space, an atmosphere supplying respirator must be used.

**EYE PROTECTION:**

Safety glasses or other appropriate eye protection should be used when using this product. When igniting Thermit® Welding Powder in a Degradable Crucible, 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 igniting Thermit® Welding Powder in a Degradable Crucible, protect skin from high temperatures and sparks. Welding gloves, jackets, pants, bibs, or aprons are recommended for use during the welding process.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:**

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

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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**APPEARANCE:** Off-white to pink sand core**ODOR:** Odorless**PHYSICAL STATE:** Solid**pH AS SUPPLIED:** Not Available**BOILING POINT:** Not Available**MELTING POINT:** Not Available**FREEZING POINT:** Not Available**VAPOR PRESSURE (mmHg):** Not Available**VAPOR DENSITY (AIR = 1):** Not Available**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** 2.65 g/mL @ 20°C**EVAPORATION RATE:** Not Available**SOLUBILITY IN WATER:** Very slightly soluble**WEIGHT PERCENT SOLIDS:** 100% Solids**PERCENT VOLATILE:** Not Available**MOLECULAR WEIGHT:** Not Available**VISCOSITY:** Not Available**FLASH POINT:** Not Applicable**AUTOIGNITION TEMPERATURE:** Not Applicable

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**SECTION 10: STABILITY AND REACTIVITY**

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**STABILITY:**  **STABLE** **UNSTABLE****CONDITIONS TO AVOID (STABILITY):**

Does not spontaneously ignite. However, product contains a resin that if allowed to accumulate as dust on floors or machinery, could create a combustible dust explosion hazard.

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**INCOMPATIBILITY (MATERIAL TO AVOID):**

Powerful oxidizers (ie: fluorine, chlorine trifluoride, manganese trioxide, oxygen difluoride, hydrogen peroxide, acetylene, ammonia)

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:**

Silica will dissolve in hydrofluoric acid and produce a corrosive gas, silicon tetrafluoride. Hazardous decomposition products may include detectable amounts of carbon monoxide, carbon dioxide, benzene, aldehydes including formaldehyde, phenol, hydrogen cyanide, ammonia, benzo-pyrenes, particulates, or other organic compounds.

**HAZARDOUS POLYMERIZATION:**

Will not occur.

**CONDITIONS TO AVOID (POLYMERIZATION):**

Not applicable.

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## SECTION 11: TOXICOLOGICAL INFORMATION

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**ROUTES OF ENTRY:**

Crystalline silica poses considerable hazards with respect to long term inhalation. Formaldehyde and phenol, additional components of this product, also pose considerable hazards with respect to inhalation when using this product.

**CHRONIC EFFECTS ON HUMANS:**

Inhalation of respirable crystalline silica may result in silicosis. The respirable silica dust enters the lungs and causes the formation of scar tissue, thus reducing the lungs capability to take in oxygen. Crystalline silica (Respirable Size) is listed on the National Toxicology Program Report on Carcinogens and on the International Agency Research on Cancer (IARC) Monographs as a human lung carcinogen. The IARC has determined from a review of human and animal studies that there is sufficient evidence for the carcinogenicity of crystalline silica.

Inhalation of formaldehyde may result in increased risk of nasopharyngeal cancer. Formaldehyde is listed on the National Toxicology Program Report on Carcinogens and on the International Agency Research on Cancer (IARC) Monographs as a Group 1 carcinogen agent. The IARC has determined from a review of human and animal studies that there is sufficient evidence for the carcinogenicity of formaldehyde.

**OTHER TOXIC EFFECTS ON HUMANS:**

The substance may cause irritation of skin, mucous membranes and upper respiratory tract.

**TOXICITY TO ANIMALS:**

Silica sand has caused lung cancer in animals. Formaldehyde has caused lung cancer in animals. Studies of phenol in animals have not revealed sufficient evidence of carcinogenicity.

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## SECTION 12: ECOLOGICAL INFORMATION

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**ECOTOXICITY (AQUATIC AND TERRESTRIAL):** 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. It is the responsibility of the user to dispose of the material in the proper manner.

### RCRA HAZARD CLASS:

The product as shipped is not a Listed Hazardous Waste nor does it meet the criteria for a Characteristic Waste, but check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulation. It is the responsibility of the user to dispose of the material in the proper manner.

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## SECTION 14: TRANSPORT INFORMATION

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### U.S. DEPARTMENT OF TRANSPORTATION

**PROPER SHIPPING NAME:** DEGRADABLE CRUCIBLE  
**HAZARD CLASS:** NOT APPLICABLE  
**ID NUMBER:** 186630  
**PACKING GROUP:** NOT APPLICABLE  
**LABEL STATEMENT:** ITEM#186630 CLASS 55

### WATER TRANSPORTATION

**PROPER SHIPPING NAME:** DEGRADABLE CRUCIBLE  
**HAZARD CLASS:** NOT APPLICABLE  
**ID NUMBER:** 186630  
**PACKING GROUP:** NOT APPLICABLE  
**LABEL STATEMENTS:** ITEM#186630 CLASS 55

### AIR TRANSPORTATION

**PROPER SHIPPING NAME:** DEGRADABLE CRUCIBLE  
**HAZARD CLASS:** NOT APPLICABLE  
**ID NUMBER:** 186630  
**PACKING GROUP:** NOT APPLICABLE  
**LABEL STATEMENTS:** ITEM#186630 CLASS 55

**CANADA TDG:** Not regulated

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## SECTION 15: REGULATORY INFORMATION

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### U.S. FEDERAL REGULATIONS

The product as shipped has not ingredients that are currently listed under EPCRA or CERCLA regulations

### STATE REGULATIONS:

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

CAS # 14808-60-7, Silica - Quartz, is on the list.

**California Proposition 65 List of Chemicals:**

Crystalline silica is on the list.

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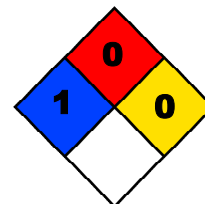
## SECTION 16: OTHER INFORMATION

### NFPA HAZARD CLASSIFICATION

**HEALTH:** 1                      **FLAMMABILITY:** 0                      **REACTIVITY:** 0

**OTHER:** None

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



### HMIS HAZARD CLASSIFICATION

**HEALTH:** 1                      **FLAMMABILITY:** 0                      **REACTIVITY:** 0

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

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

HMIS	
HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
PPE	E

**PREPARATION INFORMATION:** Last revised August 17, 2017.

### DISCLAIMER:

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