

# Safety Data Sheet

Thermit

**CAROLINA**<sup>®</sup>  
www.carolina.com

## Section 1 Product Description

**Product Name:** Thermit  
**Recommended Use:** Science education applications  
**Synonyms:** Thermit Welding Powder  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

## Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**WARNING**



Flammable solid. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

### GHS Classification:

Flammable Solid Category 2, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3

<b>Acute Toxicity Oral Contains</b>	100 % of the mixture consists of ingredient(s) of unknown toxicity
<b>Acute Toxicity Dermal Contains</b>	100 % of the mixture consists of ingredient(s) of unknown toxicity
<b>Acute Toxicity Inhalation Dust/Mist Contains</b>	100 % of the mixture consists of ingredient(s) of unknown toxicity

## Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Iron Oxide (CAS # 1309-37-1)	N/A	75
Aluminum Metal Powder (CAS # 7429-90-5)		25
Thermit Black		100%

## Section 4 First Aid Measures

### Emergency and First Aid Procedures

**Inhalation:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
**Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
**Skin Contact:** IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.  
**Ingestion:** If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

## Section 5 Firefighting Procedures

**Extinguishing Media:** Use dry chemical or cover with dry sand or lime.  
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

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**Fire and/or Explosion Hazards:** Risk of explosion by shock, friction, fire or other sources of ignition. Keep away from sources of ignition - No smoking. Once on fire, materials provide their own oxidizer.

**Hazardous Combustion Products:** Very difficult to extinguish flame. Only burn in a controlled environment.  
Metal Oxides,

## Section 6 Spill or Leak Procedures

**Steps to Take in Case Material Is Released or Spilled:** Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Avoid the generation of dusts during clean-up. Avoid contact with material, avoid breathing dusts or fumes, use only in a well ventilated area. Ventilate the contaminated area. Isolate area. Keep unnecessary personnel away.

**Environmental Precautions:** Avoid runoff into storm sewers and ditches that lead to waterways. Do not flush spill to drain. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Avoid creating dusts. Cover material with absorbent and moisten. Eliminate sources of ignition and collect for disposal.

## Section 7 Handling and Storage

**Handling:** Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/.../ equipment. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Avoid excess heat. Keep away from sources of ignition - No smoking. Keep away from oxidizing materials and strong acids. Keep away from combustible material. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

**Storage:** Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep container tightly closed in a cool, well-ventilated place.

**Storage Code:** Red - Flammables. Store in approved flammable containers. Store away from oxidizing materials.

## Section 8 Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>		<u>OSHA PEL</u>	
	<u>(TWA)</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>(STEL)</u>
Iron (III) Oxide, Red	5 mg/m <sup>3</sup> TWA (respirable fraction)	N/A	10 mg/m <sup>3</sup> TWA (fume); 15 mg/m <sup>3</sup> TWA (total dust, listed under Rouge); 5 mg/m <sup>3</sup> TWA (respirable fraction, listed unde Rouge)	N/A
Aluminum, Powder	1 mg/m <sup>3</sup> TWA (respirable fraction)	N/A	15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)	N/A

**Control Parameters**

**Engineering Measures:** Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

**Personal Protective Equipment (PPE):** Lab coat, apron, eye wash, safety shower.

**Respiratory Protection:** No respiratory protection required under normal conditions of use.

**Respirator Type(s):** NIOSH approved air purifying respirator with dust/mist filter.

**Eye Protection:** Wear chemical splash goggles when handling this product. Have an eye wash station available.

**Skin Protection:** Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

**Gloves:** Natural latex,, Natural rubber, Nitrile

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## Section 9

## Physical Data

**Formula:** Fe<sub>2</sub>O<sub>3</sub> + Al (approx. 3:1)  
**Molecular Weight:** N/A  
**Appearance:** Red-brown Powder  
**Odor:** No data available  
**Odor Threshold:** No data available  
**pH:** No data available  
**Melting Point:** 1565 C No data available 660 C  
**Boiling Point:** 2467 C No data available 2467 C  
**Flash Point:** No data available  
**Flammable Limits in Air:** N/A

**Vapor Pressure:** N/A  
**Evaporation Rate (BuAc=1):** N/A  
**Vapor Density (Air=1):** N/A  
**Specific Gravity:** >1  
**Solubility in Water:** Practically Insoluble  
**Log Pow (calculated):** No data available  
**Autoignition Temperature:** No data available  
**Decomposition Temperature:** No data available  
**Viscosity:** No data available  
**Percent Volatile by Volume:** N/A

## Section 10

## Reactivity Data

**Reactivity:** No data available  
**Chemical Stability:** Stable under normal conditions.  
**Conditions to Avoid:** None known.  
**Incompatible Materials:** Peroxides, Strong acids, Acids, Caustics (bases), Halogens, Strong oxidizing agents  
**Hazardous Decomposition Products:** Metal Oxides,  
**Hazardous Polymerization:** Will not occur

## Section 11

## Toxicity Data

**Routes of Entry:** Inhalation, Skin and Eye contact.  
**Symptoms (Acute):** Eye disorders, Respiratory disorders  
**Delayed Effects:** No data available

### Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum, Powder		Oral LD50 Rat > 2000 mg/kg		Inhalation LC50 (4h) Rat > 888 MG/L

### Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
No data available		Not listed	Not listed	Not listed

### Chronic Effects:

**Mutagenicity:** No evidence of a mutagenic effect.  
**Teratogenicity:** No evidence of a teratogenic effect (birth defect).  
**Sensitization:** No evidence of a sensitization effect.  
**Reproductive:** No evidence of negative reproductive effects.

### Target Organ Effects:

**Acute:** See Section 2  
**Chronic:** Not listed as a carcinogen by IARC, NTP or OSHA.

## Section 12

## Ecological Data

**Overview:** This material is not expected to be harmful to the ecology. Keep out of waterways.  
**Mobility:** No data  
**Persistence:** No data  
**Bioaccumulation:** No data  
**Degradability:** Biodegrades slowly. Rate of biodegradation depends upon the concentration of the pollutant, the residence time in the medium (soil or water), the nature of the soil, and whether resident microbial populations have or can acclimate to the pollutant.

**Other Adverse Effects:** No data

Chemical Name	CAS Number	Eco Toxicity
N/A		

## Section 13

## Disposal Information

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**Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.  
**Waste Disposal Code(s):** Not Determined

## Section 14 Transport Information

**Ground - DOT Proper Shipping Name:** N/A  
**Air - IATA Proper Shipping Name:** Not regulated for air transport by IATA.

## Section 15 Regulatory Information

**TSCA Status:** All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Aluminum, Powder		Aluminum	No	No	No	No

## Section 16 Additional Information

**Revised: 09/03/2014**      **Replaces: 08/27/2014**      **Printed: 04-21-2015**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

### Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health