

# THERMIT®

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## 1. Product Identification

**Synonyms:** Thermit; Thermit black

**CAS No.:** mIXTURE

**Molecular Weight:** Not applicable

**Chemical Formula:** Not applicable

**Product Codes:** CHEM-570 and others

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Aluminum	7429-90-5	33%	Yes
Iron (III) Oxide	1309-37-1	67%	No

## 3. Hazards Identification

### Potential Acute Health Effects:

Hazardous in case of eye contact (irritant). Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Severe over-exposure can result in death.

### Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged

exposure to the substance can produce target organs damage. Repeated exposure to an highly toxic material may produce

general deterioration of health by an accumulation in one or many human organs.

### SAF-T-DATA<sup>(tm)</sup> Ratings

Health Rating: 3 - Severe (Poison)

Flammability Rating: 3 - Severe

Reactivity Rating: 1 - Slight

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT; RESPIRATOR; PROPER GLOVES

Storage Color Code: Red (Flammable)

## 4. First Aid Measures

**Eye Contact:** Check for and remove any contact lenses. Do not use an eye ointment. Seek medical attention.

**Skin Contact:**

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

**Serious Skin Contact:** Not available.

**Inhalation:** Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

**Serious Inhalation:**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

**Ingestion:**

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

**Serious Ingestion:** Not available.

## 5. Fire Fighting Measures

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** Not available.

**Flash Points:** Not available.

**Flammable Limits:** Not available.

**Products of Combustion:** Some metallic oxides.

**Fire Hazards in Presence of Various Substances:**

Highly flammable in presence of moisture. Flammable in presence of open flames and sparks.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:**

Flammable solid. Moisture reactive material. **SMALL FIRE:** Obtain advice on use of water. Use **DRY** chemical powder. **LARGE**

**FIRE:** Use water spray or fog. Do not use water jet.

**Special Remarks on Fire Hazards:** Fine powder forms flammable and explosive mixtures in air. (Aluminum)

**Special Remarks on Explosion Hazards:** Not available.

## 6. Accidental Release Measures

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill:**

Flammable solid that, in contact with water, emits flammable gases. Stop leak if without risk. Do not get water inside container.

Do not touch spilled material. Cover with dry earth, sand or other non-combustible material.

Prevent entry into sewers,

basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal. Be careful that the

product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## 7. Handling and Storage

**Precautions:**

Keep locked up Keep under inert atmosphere. Keep container dry. Do not ingest. Do not breathe dust. Avoid contact with eyes

Never add water to this product Wear suitable protective clothing If ingested, seek medical advice immediately and show the

container or the label. Keep away from incompatibles such as oxidizing agents, acids.

**Storage:**

Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from

sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing

material. Keep container dry. Keep in a cool place.

## 8. Exposure Controls/Personal Protection

**Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended

exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants

below the exposure limit.

**Personal Protection:**

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid

inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this

product.

**Exposure Limits:**

Aluminum TWA: 10 (ppm) Ferric oxide TWA: 5 (mg/m<sup>3</sup>) from ACGIH [1995] Consult local authorities for acceptable exposure

limits.

## 9. Physical and Chemical Properties

**Physical state and appearance:** Solid.

**Odor:** Not available.

**Taste:** Not available.

**Molecular Weight:** Not applicable.

**Color:** Not available.

**pH (1% soln/water):** Not applicable.

**Boiling Point:** Not available.

**Melting Point:** 1565°C (2849°F) based on data for: Ferric oxide. Weighted average: 1266.47°C (2311.6°F)

**Critical Temperature:** Not available.

**Specific Gravity:** Weighted average: 4 (Water = 1)

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** The product is insoluble in water and oil.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** Is not dispersed in cold water, hot water.

**Solubility:** Insoluble in cold water, hot water, methanol, diethyl ether, n-octanol.

## 10. Stability and Reactivity

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Not available.

**Incompatibility with various substances:**

Reactive with oxidizing agents, acids. Slightly reactive to reactive with moisture. The product reacts violently with water to emit flammable but non toxic gases.

**Corrosivity:** Not considered to be corrosive for metals and glass.

**Special Remarks on Reactivity:** Air sensitive. (Aluminum)

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** No.

## 11. Toxicological Information

**Toxicological Data on Ingredients:** Aluminum: DUST (LC50): Acute: 3 ppm 4 hour(s) [Human/30 min]. Ferric oxide LD50: Not available. LC50: Not available.

**Routes of Entry:** Eye contact.

**Toxicity to Animals:**

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute toxicity of the dust (LC50): 3.3 mg/m<sup>3</sup> 4 hour(s) [Human/30 min]. (Aluminum).

**Chronic Effects on Humans:** The substance is toxic to lungs, mucous membranes.

**Other Toxic Effects on Humans:** Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:** Material is irritating to mucous membranes

and upper respiratory tract. (Aluminum)

## 12. Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are as toxic as the original product.

**Special Remarks on the Products of Biodegradation:** Not available.

## 13. Disposal Considerations

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. Transport Information

**DOT Classification:**

CLASS 4.3: Material that emits flammable gases on contact with water. CLASS 6.1: Poisonous material.

**Identification:** : Water reactive toxic solids n.o.s. (Aluminum) : UN3134 PG: II

**Special Provisions for Transport:** Not available.

## 15. Regulatory Information

**Federal and State Regulations:**

Pennsylvania RTK: Aluminum; Ferric oxide Massachusetts RTK: Aluminum; Ferric oxide TSCA 8(b) inventory: Aluminum; Ferric oxide

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications:**

**WHMIS (Canada):**

CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

**DSCL (EEC):**

This product is not classified according to the EU regulations.

**HMIS (U.S.A.):**

**Health Hazard:** 3

**Fire Hazard:** 3

**Reactivity:** 1

**Personal Protection:** E

**National Fire Protection Association (U.S.A.):**

**Health:** 3

**Flammability:** 3

**Reactivity: 1**

**Protective Equipment:**

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator

when ventilation is inadequate. Splash goggles. **Australian Hazchem Code: 2[Z]**

**Poison Schedule:** None allocated.

**WHMIS:**

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

**Product Use:**

Laboratory Reagent and Consumer Hobby

**Revision Information:**

No Changes.

**Disclaimer:**

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