THERMITE 
MATERIAL SAFETY DATA SHEET (MSDS)

Section 1 - Chemical Product and Company Identification:
MSDS Name: Thermite (Thermit), Welding Powder
Company Identification:
United Nuclear Scientific
125 N. 8th Street
Klamath Falls, OR 97601
TEL. NO.:(541) 205-6855

Section 2 - Composition, Information on Ingredients

CAS#: 1309-37-1
Chemical Name: Iron oxide %: N/A
EINECS#: 215-168-2
Hazard Symbols:
Risk Phrases:

CAS#: 7429-90-5
Chemical Name: Aluminum %: N/A
EINECS#: 231-072-3
Hazard Symbols: F
Risk Phrases: 15 17

Text for R-phrases: see Section 16
Hazard Symbols: F
Risk Phrases: 10 15

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Flammable. Contact with water liberates extremely flammable gases. Water-reactive.

Potential Health Effects
Eye:
Dust may cause mechanical irritation. Aluminum particles may cause corneal necrosis.
Skin:
Dust may cause mechanical irritation.
Ingestion:
May cause severe and permanent damage to the digestive tract. May cause liver damage. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause hemorrhaging of the digestive tract. The toxicological properties of this substance have not been fully investigated.
Inhalation:
Dust is irritating to the respiratory tract. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell
count.

Chronic:
Chronic inhalation may cause effects similar to those of acute inhalation. Chronic inhalation of finely divided powder has been reported to cause pulmonary fibrosis and emphysema. Repeated skin contact has been associated with bleeding into the tissue, delayed hypersensitivity and granulomas.

Section 4 - First Aid Measures

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:
Get medical aid if irritation develops or persists. Flush skin with plenty of soap and water.

Ingestion:
If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

Inhalation:
Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Section 5 - Fire Fighting Measures

General Information:
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Dusts at sufficient concentrations can form explosive mixtures with air. Dust can be an explosion hazard when exposed to heat or flame.

Extinguishing Media:
Do NOT use water directly on fire. Use dry chemical to fight fire.

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions.

Section 7 - Handling and Storage

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with skin and eyes. Keep container tightly closed. Avoid ingestion and inhalation.

Storage:
Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits
CAS# 1309-37-1:
United States OSHA: 10 mg/m3 TWA
United States OSHA: 15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

Personal Protective Equipment
Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133
Skin:
Wear appropriate protective gloves to prevent skin exposure.
Clothing:
Wear appropriate protective clothing to prevent skin exposure.
Respirators:
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties
Physical State: Solid
Color: silver and black to brown
Odor: Odorless.
pH: Not applicable
Vapor Pressure: Not applicable.
Viscosity: Not applicable.
Boiling Point: Not applicable.
Freezing/Melting Point: Not available
Autoignition Temperature: Not applicable
Flash Point: Not applicable.
Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available
Decomposition Temperature: Not available
Solubility in water: Insoluble in water.
Specific Gravity/Density: >1.0
Molecular Formula: Mixture
Molecular Weight:

Section 10 - Stability and Reactivity
Chemical Stability:
Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid:
Incompatible materials, dust generation.
Incompatibilities with Other Materials
Not available
Hazardous Decomposition Products
Aluminum oxide.

Hazardous Polymerization

Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 1309-37-1: NO7400000 NO7420000 NO7480000
CAS# 7429-90-5: BD0330000 BD1020000

LD50/LC50:

Not available
Not available
Not available

Carcinogenicity:

Iron oxide -

IARC: Group 3 (not classifiable)

Aluminum -

Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other:

See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Other:

No information available.

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location.

Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

IATA

Shipping Name: FLAMMABLE SOLID, INORGANIC, N.O.S.(Aluminium powder

Hazard Class: 4.1

UN Number: 3178

Packing Group: III

IMO

Shipping Name: FLAMMABLE SOLID, INORGANIC, N.O.S.(Aluminium powder

Hazard Class: 4.1

UN Number: 3178

Packing Group: III

RID/ADR

Shipping Name: FLAMMABLE SOLID, INORGANIC, N.O.S.(Aluminium powder

Hazard Class: 4.1

UN Number: 3178

Packing Group: III

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: F

Risk Phrases:

R 10 Flammable.
R 15 Contact with water liberates extremely flammable gases.

Safety Phrases:
- S 7/8 Keep container tightly closed and dry.
- S 43H In case of fire, use dry chemical, soda ash, lime or sand. (Do not use water or foam).

WGK (Water Danger/Protection)
- CAS# 1309-37-1: 0
- CAS# 7429-90-5: 0

Canada
- CAS# 1309-37-1 is listed on Canada's DSL List
- CAS# 7429-90-5 is listed on Canada's DSL List

US Federal
- TSCA
  - CAS# 0-00-0 is not listed on the TSCA Inventory. It is for research and development use only.
  - CAS# 1309-37-1 is listed on the TSCA Inventory.
  - CAS# 7429-90-5 is listed on the TSCA Inventory.

Section 16 - Other Information
Text for R-phrases from Section 2

R 15 Contact with water liberates extremely flammable gases.
R 17 Spontaneously flammable in air.

MSDS Creation Date: 12/12/1997
Revision #4 Date: 3/17/2016

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