

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

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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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