

33406-XXXX

Revision Date: 12/07/2023

Safety Data Sheet
TWIST & SCULPT ALMALOY ARMATURE
WIRE

1. Identification

1.1. Product identifier**Product Identity**

TWIST & SCULPT ALMALOY ARMATURE WIRE

Alternate Names

TWIST & SCULPT ALMALOY ARMATURE WIRE

1.2. Relevant identified uses of the substance or mixture and uses advised against**Intended use**

INDUSTRIAL USE

1.3. Details of the supplier of the safety data sheet**Company Name**

Missing Element LLC
8216 Lankershim Boulevard
Unit #14
North Hollywood, CA 91605
USA

Emergency**24 hour Emergency Telephone No.**

Chemtrec Emergency Phone: 703-527-3887
Chemtrec Emergency Phone (Toll Free): 1-800-424-9300
818-451-9989
info@profxshop.com

Customer Service:

2. Hazard(s) identification

Emergency Overview

WARNING! MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR (DURING PROCESSING)

2.1. Classification of the substance or mixture

Flam. Sol. 1;H228

Flammable solid.

WaterReact. 2;H261

In contact with water releases flammable gas.

Aquatic Chronic 3;H412

Harmful to aquatic life with long lasting effects.

Combustible Dust

May form combustible dust concentrations in air.

2.2. Label elements

Warning

H228 Flammable solid.

H261 In contact with water releases flammable gases.

H412 Harmful to aquatic life with long lasting effects.

May form combustible dust concentrations in air.

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[Prevention]

P210 Keep away from heat, sparks, open flames, and other ignition sources - No smoking.
P223 Keep away from any possible contact with water, because of violent reaction and possible flash fire.
P231+232 Handle under inert gas. Protect from moisture.
P240 Ground, bond container and receiving equipment.
P241 Use explosion-proof electrical, ventilating, light, equipment.
P273 Avoid release to the environment.
P280 Wear protective gloves, eye protection, and face protection.

[Response]

P335+334 Brush off loose particles from skin. Immerse in cool water, wrap in wet bandages.
P370 In case of fire:
P378 Use alcohol resistant foam, CO₂, powder, water spray for extinction. Do not use water jet.

[Storage]

P402+404 Store in a dry place. Store in a closed container.

[Disposal]

P501 Dispose of contents or container in accordance with local and national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Aluminum powder (Al) (stabilized) CAS Number: 0007429-90-5	75 - 100	WaterReact. 2;H261 Flam. Sol. 1;H228	----

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

*PBT/vPvB - PBT-substance or vPvB-substance.

The full texts of the phrases are shown in Section 16.

Contains aquatic toxins below 1%: Lead (0007439-92-1) Nickel (0007440-02-0)

Section 4. First aid measures

4.1. Description of first aid measures

General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Eyes	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

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4.2. Most important symptoms and effects, both acute and delayed

Overview No specific symptom data available.
Treat symptomatically.

Section 5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: Use Class D extinguishing agents on fines, dust or molten metal. Use coarse water spray on chips and turnings.

Unsuitable extinguishing media: DO NOT USE halogenated extinguishing agents on small chips/fines. DO NOT USE water in fighting fires around molten metal.

These fire extinguishing agents will react with the burning material.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: May be a potential hazard under the following conditions:

- Dust clouds may be explosive. Even a minor dust cloud can explode violently. Dust accumulation on the floor, ledges and beams can present a risk of ignition, flame propagation and secondary explosions.

- Chips, fines and dust in contact with water can generate flammable/explosive hydrogen gas. These gases could present an explosion hazard in confined or poorly ventilated spaces.

- Dust and fines in contact with certain metal oxides (e.g., rust, copper oxide). A thermite reaction, with considerable heat generation, can be initiated by a weak ignition source.

- Molten metal in contact with water/moisture or certain metal oxides (e.g., rust, copper oxide). Moisture entrapped by molten metal can be explosive. Contact of molten aluminum with certain metal oxides can initiate a thermite reaction. Finely divided metals (e.g., powders or wire) may have enough surface oxide to produce thermite reactions/explosions.

Explosion: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Keep away from heat, sparks, open flames, and other ignition sources - No smoking.

Keep away from any possible contact with water, because of violent reaction and possible flash fire.

Handle under inert gas. Protect from moisture.

Ground, bond container and receiving equipment.

Use explosion-proof electrical, ventilating, light, equipment.

5.3. Advice for fire-fighters

As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full face piece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking.

Firefighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

Use gentle surface application of Class D extinguishing agent or dry inert granular material (e.g., sand) to cover and ring the burning material. Apply extinguishing media carefully to avoid creating airborne dust. If impossible to extinguish, protect surroundings and allow fire to burn itself out.

This product does not present fire or explosion hazards as shipped. Small chips, fine turnings, and dust from processing may be readily ignitable. Suspensions of aluminum dust in air may pose a explosion hazard. Aluminum fines are combustible and are difficult to extinguish.

Avoid generating dust. Avoid contact with sharp edges or heated metal. Hot and cold aluminum are not visually different. Hot Aluminum does not necessarily glow red. Use personal protection recommended in Section 8 of the SDS.

Molten metal: Keep unnecessary personnel away. Collect scrap for recycling. If molten: Use dry sand to contain the

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flow of material. All tooling (e.g., shovels or hand tools) and containers which come in contact with molten metal must be preheated or specially coated, rust free and approved for such use. Allow the spill to cool before remelting as scrap. No special environmental precautions required.

ERG Guide No. 138

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Nonsparking tools should be used.

6.2. Environmental precautions

Explosion: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Sweep or vacuum to clean up spills. Do not use any procedure which causes dispersion of dust into the air if any possibility of ignition exists. Dispose of in accordance with local, state and federal regulations.

Section 7. Handling and storage

7.1. Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

Avoid dust generation when handling product to minimize dust explosion potential.

Keep material dry. Avoid generating dust. Avoid contact with sharp edges or heated metal. Hot and cold aluminum are not visually different. Hot aluminum does not necessarily glow red.

Check section 2.2 (GHS Label Elements) for further details. - [Prevention]

7.2. Conditions for safe storage, including any incompatibilities

If processing of this product generates dust or if extremely fine particulate is generated, obtain and follow the safety procedures and equipment guides contained in Aluminum Association Bulletin F-1 and National Fire Protection Association (NFPA) codes and standards listed in Section 16.

Use non-sparking handling equipment, tools and natural bristle brush. Cover and reseal partially empty containers. Provide grounding and bonding where necessary to prevent accumulation of static charges during metal dust handling and transfer operations (See Section 15).

Local ventilation and vacuum systems must be designed to handle explosive dusts. Dry vacuums and electrostatic precipitators must not be used, unless specifically approved for use with flammable/explosive dusts (Aluminum). Dust collection systems must be dedicated to aluminum dust only and should be clearly labeled as such. Do not co-mingle fines of aluminum with fines of iron, iron oxide (rust) or other metal oxides.

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Do not allow small chunks, fines or dust to contact water, particularly in enclosed areas.

Avoid all ignition sources. Good housekeeping practices must be maintained

Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Incompatible materials: Chips, fines, dust and molten metal are considerably more reactive with the following:

- Strong oxidizers: Violent reaction with considerable heat generation. Can react explosively with nitrates (e.g., ammonium nitrate and fertilizers containing nitrate) when heated or molten.
- Acids and alkalis: Reacts to generate flammable/explosive hydrogen gas. Generation rate is greatly increased with smaller particles (e.g., fines and dusts).
- Halogenated compounds: Many halogenated hydrocarbons, including halogenated fire extinguishing agents, can react violently with finely divided or molten aluminum.
- Iron oxide (rust) and other metal oxides (e.g., copper and lead oxides): A violent thermite reaction generating considerable heat can occur. Reaction with aluminum fines and dusts requires only very weak ignition sources for initiation. Molten aluminum can react violently with iron oxide without external ignition source.
- Iron powder and water: Explosive reaction forming hydrogen gas when heated above 1470°F (800°C)

Check section 2.2 (GHS Label Elements) for further details. - [Storage]

7.3. Specific end use(s)

No data available.

Section 8. Exposure controls / personal protection

8.1. Control parameters

CAS No.	Ingredient	Exposure	
		Source	Value
0007429-90-5	Aluminum powder (Al) (stabilized)	OSHA	TWA 15 mg/m ³ (total) TWA 5 mg/m ³ (resp)
		ACGIH	TWA: 1.0 mg/m ³
		NIOSH	TWA 10 mg/m ³ (total) TWA 5 mg/m ³ (resp)

The exposure limits for nuisance dust are: OSHA PEL: 15 mg/m³ (50 mppcf*) TWA, ACGIH 10 mg/m³.

8.2. Exposure controls

Respiratory	If workers are exposed to concentrations above the exposure limit, they must use the appropriate, certified respirators.
Eyes	Wear safety glasses with side shields.
Skin	Protective gloves recommended.
Engineering Controls	Dust and fumes from processing - use with adequate explosion-proof ventilation.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

Check section 2.2 (GHS Label Elements) for further details.

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Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Color: Silver to gray wire Physical State: Solid
Odor	Odorless
Odor threshold	Not determined
pH	Not Measured
Melting point / freezing point	1189.4-1214.6°F
Initial boiling point and boiling range	Not Measured
Flash Point	Not Measured
Evaporation rate (Ether = 1)	Not Measured
Flammability (solid, gas)	Solid
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not Measured Upper Explosive Limit: Not Measured
Vapor pressure (Pa)	Not Measured
Vapor Density	Not Measured
Relative Density	Density: 2.7-2.71 g/cubic
Solubility in Water	Insoluble in Water.
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured
VOC Content	Not Measured
Particle Characteristics	---

9.2. Other information

No other relevant information.

Section 10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal conditions of use, storage, and transportation as shipped. Chips, fines, dust and molten metal are considerably more reactive with the following:

- Water: Slowly generates flammable and explosive hydrogen gas and heat. Generation rate is greatly increased with smaller particles (e.g., fines and dusts). Water/aluminum mixtures may be hazardous when confined.
- Heat: Oxidizes at a rate dependent upon temperature and particle size.
- Strong oxidizers: Violent reaction with considerable heat generation. Can react explosively with nitrates (e.g.,

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ammonium nitrate and fertilizers containing nitrate) when heated or molten.

- Acids and alkalis: Reacts to generate flammable/explosive hydrogen gas. Generation rate is greatly increased with smaller particles (e.g., fines and dusts).
- Halogenated compounds: Many halogenated hydrocarbons, including halogenated fire extinguishing agents, can react violently with finely divided or molten aluminum.
- Iron oxide (rust) and other metal oxides (e.g., copper and lead oxides): A violent thermite reaction generating considerable heat can occur. Reaction with aluminum fines and dusts requires only very weak ignition sources for initiation.
- Iron powder and water: Explosive reaction forming hydrogen gas when heated above 1470°F (800°C).

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Chips, fines, dust and molten metal are considerably more reactive with the following:

- Water: Slowly generates flammable and explosive hydrogen gas and heat. Generation rate is greatly increased with smaller particles (e.g., fines and dusts). Water/aluminum mixtures may be hazardous when confined.
- Heat: Oxidizes at a rate dependent upon temperature and particle size. Explosions can occur with coils of foil that have been submerged or partially submerged in water for an extended period of time. Water can penetrate between the layers of foil, react with the aluminum surface and generate heat and hydrogen gas. When the coils are removed from the cooling effects of the water, rapid temperature increases can occur causing steam explosions which result in the rupture of the coils and discharge of debris. Coils of foil may be a potential hazard under the following conditions:
 - Coil has been annealed (annealing removes residual oil that could prevent penetration of water)
 - Foil is very thin gauge (5-9 mcm thickness which increases surface area)
 - Coil has been immersed for an extended period of time (several hours or more)
- Wetted coil has recently been removed from the cooling effects of the water. In such situations, the coils should be isolated (30 meters from any personnel) for at least 72 hours as soon as possible after removal from the water. Coils making crackling sounds or emitting steam should not be approached or transported in commerce. Wetted coils should not be charged into a furnace for remelting until completely dry.

10.5. Incompatible materials

Chips, fines, dust and molten metal are considerably more reactive with the following:

- Strong oxidizers: Violent reaction with considerable heat generation. Can react explosively with nitrates (e.g., ammonium nitrate and fertilizers containing nitrate) when heated or molten.
- Acids and alkalis: Reacts to generate flammable/explosive hydrogen gas. Generation rate is greatly increased with smaller particles (e.g., fines and dusts).
- Halogenated compounds: Many halogenated hydrocarbons, including halogenated fire extinguishing agents, can react violently with finely divided or molten aluminum.
- Iron oxide (rust) and other metal oxides (e.g., copper and lead oxides): A violent thermite reaction generating considerable heat can occur. Reaction with aluminum fines and dusts requires only very weak ignition sources for initiation. Molten aluminum can react violently with iron oxide without external ignition source.
- Iron powder and water: Explosive reaction forming hydrogen gas when heated above 1470°F (800°C)

10.6. Hazardous decomposition products

May be a potential hazard under the following conditions:

- Dust clouds may be explosive. Even a minor dust cloud can explode violently. Dust accumulation on the floor, ledges and beams can present a risk of ignition, flame propagation and secondary explosions.
- Chips, fines and dust in contact with water can generate flammable/explosive hydrogen gas. These gases could present an explosion hazard in confined or poorly ventilated spaces.
- Dust and fines in contact with certain metal oxides (e.g., rust, copper oxide). A thermite reaction, with considerable heat generation, can be initiated by a weak ignition source.
- Molten metal in contact with water/moisture or certain metal oxides (e.g., rust, copper oxide). Moisture entrapped by molten metal can be explosive. Contact of molten aluminum with certain metal oxides can initiate a thermite reaction. Finely divided metals (e.g., powders or wire) may have enough surface oxide to produce thermite reactions/explosions.

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Section 11. Toxicological information

Acute toxicity

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Aluminum powder (Al) (stabilized) - (7429-90-5)	> 15,900.00, Rat - Category: NA	No data available.	No data available.	> 0.89, Rat - Category: NA	No data available.

Carcinogen Data

CAS No.	Ingredient	Source	Value
0007429-90-5	Aluminum powder (Al) (stabilized)	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
		ACGIH	A4

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

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Section 12. Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/L	48 hr EC50 crustacea, mg/L	ErC50 algae, mg/L
Aluminum powder (Al) (stabilized) - (7429-90-5)	1.16, Pimephales promelas	0.72, Ceriodaphnia dubia	1.05, Pseudokirchnerella subcapitata

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

Section 13. Disposal considerations

13.1. Waste treatment methods

Waste should not be released to sewers. Observe all federal, state, and local regulations when disposing of this substance.

Section 14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	Not Regulated	Not Regulated	Not Regulated
14.2. UN proper shipping name	Not Regulated	Not Regulated	Not Regulated
14.3. Transport hazard class(es)	DOT Hazard Class: Not Applicable Sub Class: Not Applicable	IMDG: Not Applicable Class: Not Applicable	Air Class: Not Applicable Sub Class: Not Applicable
14.4. Packing group	Not Applicable	Not Applicable	Not Applicable

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14.5. Environmental hazards

Marine Pollutant: No;

14.6. Special precautions for user

Not Applicable

Section 15. Regulatory information

Regulatory Overview

The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA)

All components of this material are either listed or exempt from listing on the TSCA Inventory.

EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

Aluminum powder (Al) (stabilized)

Proposition 65 - Carcinogens (>0.0%):

Lead

Nickel

Proposition 65 - Developmental Toxins (>0.0%):

Lead

Proposition 65 - Female Repro Toxins (>0.0%):

Lead

Proposition 65 - Male Repro Toxins (>0.0%):

Lead

Proposition 65 Label Warning:

WARNING: This product can expose you to chemicals including [Lead, Nickel], which are known to the State of California to cause cancer, and [Lead], which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Section 16. Other information

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The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

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The full text of the phrases appearing in section 3 is:

H228 Flammable solid.

H261 In contact with water releases flammable gases.

Disclaimer: The information presented herein is supplied as a guide to those who handle or use this product. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.

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