



Material Safety Data Sheet

Material Name: Elements

*** Section 1 - Chemical Product and Company Identification ***

Manufacturer Information

Nudo
1500 Taylor Avenue
Springfield, IL 62703

Phone: 217-528-5636
Fax: 217-528-8722

*** Section 2 - Hazards Identification ***

Emergency Overview

No specific hazards anticipated from normal product handling. Dust and other particulates generated during cutting, shaping, or forming may cause eye, skin, and respiratory tract irritation.

Potential Health Effects: Eyes

Dusts and particulates may cause eye irritation.

Potential Health Effects: Skin

Dusts and particulates may cause skin irritation.

Potential Health Effects: Ingestion

Not a likely route of exposure under normal product use conditions.

Potential Health Effects: Inhalation

Dusts and particulates may cause respiratory tract irritation.

HMIS Ratings: Health: 1 Fire: 0 HMIS Reactivity 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

*** Section 3 - Composition / Information on Ingredients ***

CAS #	Component
7429-90-5	Aluminum
9002-88-4	Polyethylene
7439-95-4	Magnesium
Not Available	Coatings
7439-96-5	Manganese
7440-21-3	Silicon
7439-89-6	Iron
7440-47-3	Chromium

*** Section 4 - First Aid Measures ***

First Aid: Eyes

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Eye injuries from glass particles should be treated by a physician immediately.

First Aid: Skin

For skin contact flush with large amounts of water. If irritation persists, get medical attention.

First Aid: Ingestion

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting.

First Aid: Inhalation

Move person to non-contaminated air. If the affected person is not breathing, apply artificial respiration.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards

See Section 9 for Flammability Properties.

None anticipated.

Hazardous Combustion Products

Not Determined

Extinguishing Media

Use appropriate extinguishing media suitable for surrounding fire.

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Fire Fighting Equipment/Instructions

Firefighters should wear full protective gear.

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Containment Procedures

None necessary.

Clean-Up Procedures

No special cleanup procedures needed.

Evacuation Procedures

None

Special Procedures

None

*** Section 7 - Handling and Storage ***

Handling Procedures

Avoid dust generation.

Storage Procedures

No special storage procedures needed.

*** Section 8 - Exposure Controls / Personal Protection ***

A: Component Exposure Limits

Aluminum (7429-90-5)

ACGIH: 1 mg/m3 TWA (respirable fraction)

OSHA: 15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

NIOSH: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)

Manganese (7439-96-5)

ACGIH: 0.2 mg/m3 TWA

OSHA: 1 mg/m3 TWA (fume)

3 mg/m3 STEL (fume)

5 mg/m3 Ceiling

NIOSH: 1 mg/m3 TWA (fume)

3 mg/m3 STEL

Silicon (7440-21-3)

OSHA: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

NIOSH: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)

Chromium (7440-47-3)

ACGIH: 0.5 mg/m3 TWA

OSHA: 1 mg/m3 TWA

NIOSH: 0.5 mg/m3 TWA

Engineering Controls

Ventilation is not normally required.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear dust goggles.

Personal Protective Equipment: Skin

None necessary.

Personal Protective Equipment: Respiratory

Not normally needed.

Personal Protective Equipment: General

None

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*** Section 9 - Physical & Chemical Properties ***

Appearance:	Multi-colored	Odor:	None
Physical State:	Solid	pH:	NA
Vapor Pressure:	ND	Vapor Density:	ND
Boiling Point:	ND	Melting Point:	ND
Solubility (H2O):	ND	Specific Gravity:	ND
Evaporation Rate:	NA	VOC:	ND
Octanol/H2O Coeff.:	ND	Flash Point:	ND
Flash Point Method:	ND	Upper Flammability Limit (UFL):	ND
Lower Flammability Limit (LFL):	ND	Burning Rate:	ND
Auto Ignition:	ND		

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

This is a stable material.

Chemical Stability: Conditions to Avoid

Avoid dust generation.

Incompatibility

Not Determined

Hazardous Decomposition

Not Determined

Possibility of Hazardous Reactions

Will not occur.

*** Section 11 - Toxicological Information ***

Acute Dose Effects

A: General Product Information

No information available for the product.

B: Component Analysis - LD50/LC50

Polyethylene (9002-88-4)

Inhalation LC50 Mouse 12 g/m3 30 min

Magnesium (7439-95-4)

Oral LD50 Rat 230 mg/kg

Manganese (7439-96-5)

Oral LD50 Rat 9 g/kg

Iron (7439-89-6)

Oral LD50 Rat 984 mg/kg

Silicon (7440-21-3)

Oral LD50 Rat 3160 mg/kg

Carcinogenicity

A: General Product Information

No information available for the product.

B: Component Carcinogenicity

Aluminum (7429-90-5)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

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Polyethylene (9002-88-4)

IARC: Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))

Chromium (7440-47-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 49 [1990] (listed under Chromium and Chromium compounds); Supplement 7 [1987] (Group 3 (not classifiable))

***** Section 12 - Ecological Information *****

Ecotoxicity

A: General Product Information

No information available for the product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Iron (7439-89-6)

Test & Species

96 Hr LC50 *Morone saxatilis*

13.6 mg/L [static]

96 Hr LC50 *Cyprinus carpio*

0.56 mg/L [semi-static]

Conditions

***** Section 13 - Disposal Considerations *****

US EPA Waste Number & Descriptions

Component Waste Numbers

Chromium (7440-47-3)

RCRA: 5.0 mg/L regulatory level

Disposal Instructions

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

***** Section 14 - Transportation Information *****

US DOT Information

Shipping Name: Not Regulated

TDG Information

Shipping Name: Not Regulated

***** Section 15 - Regulatory Information *****

US Federal Regulations

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Aluminum (7429-90-5)

SARA 313: 1.0 % de minimis concentration (dust or fume only)

Manganese (7439-96-5)

SARA 313: 1.0 % de minimis concentration

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Chromium (7440-47-3)

CERCLA: 5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Aluminum	7429-90-5	Yes	Yes	Yes	Yes	Yes	Yes
Magnesium	7439-95-4	Yes	Yes	No	Yes	Yes	Yes
Manganese	7439-96-5	Yes	Yes	Yes	Yes	Yes	Yes
Iron	7439-89-6	Yes	No	No	No	No	No
Silicon	7440-21-3	No	Yes	Yes	Yes	Yes	Yes
Chromium	7440-47-3	Yes	Yes	Yes	Yes	Yes	Yes

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Aluminum	7429-90-5	1 %
Manganese	7439-96-5	1 %
Chromium	7440-47-3	0.1 %

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Aluminum	7429-90-5	Yes	DSL	EINECS
Polyethylene	9002-88-4	Yes	DSL	No
Magnesium	7439-95-4	Yes	DSL	EINECS
Manganese	7439-96-5	Yes	DSL	EINECS
Iron	7439-89-6	Yes	DSL	EINECS
Silicon	7440-21-3	Yes	DSL	EINECS
Chromium	7440-47-3	Yes	DSL	EINECS

*** Section 16 - Other Information ***

Other Information

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

End of Sheet