DOMO Engineering Plastics US

Safety Data Sheet

Ecomass Compounds 1900ZC Series

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification

1(a) Product Identifier used on label

Ecomass Compounds:	1900ZC Series
Form:	Plastic Compound (Polyamide) & Metallic Powder Mixture (Pellets)

1(b) Other means of identification

Nylon 6/10, PA610, PA6/10

1(c) Recommended use of the chemical and restrictions on use

1. Uses: Thermoplastic for Injection Molding and Extrusion
2. Restrictions on Uses: None

1(d) Name, address, & telephone number of the chemical manufacturer, importer, or supplier

DOMO Engineering Plastics US
4917 Golden Parkway, Suite 300
Buford, GA 30518
770-237-2311

1(e) Emergency phone number

770-237-2311

SECTION 2: Hazard(s) Identification

2(a) Hazard Classification

(GHS-US):	Not classified as a hazardous substance or mixture.

2(b) Label Elements

Signal Word:	None
Pictogram:	None
Hazard Statements:	None
Supplemental Hazard Statement:	Heating material > 660 °F (> 348 °C) or exposure to fire may release vapors and/or fumes which cause eye, skin, and respiratory tract irritation.

2(c) Hazards not otherwise classified

This material has not been evaluated as a whole. All ingredients are bound in a polymer matrix and potential for hazardous exposure as shipped is minimal. However, some fumes may be released upon heating and the end-user (fabricator) must take the necessary precautions (mechanical ventilation, respirator program, etc.) to protect his employees from exposure which may cause eye, skin, and respiratory tract infection. Prolonged or repeated exposure may cause: headache, drowsiness, nausea, weakness (severity of effects depends on extent of exposure). (See Section 8 - Exposure Controls / Personal Protection) The following ingredients are considered hazardous per OSHA 1910.1200:

1. Metallic Powder
2. Nuisance Dust

2(d) Ingredients with unknown toxicity

None

SECTION 3: Composition / Information on Ingredients

Products as manufactured are classified as non-hazardous and chemical disclosure is not required by regulation(s).

While not required, polymers and metal powders are described below with their CAS Number(s).

If a chemical is not specifically identified, it is considered proprietary.

Each stainless steel powder particle is a homogenous alloy of the components - iron, chromium, and nickel. Each stainless steel powder particle is bound in a polymer matrix mixture and potential for hazardous exposure as shipped is minimal.

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

Name	Product Identifier	%	Classification (GHS-US)
Polyamide - Nylon 6/10	(CAS No) 9008-66-6	< 100	Not classified
Stainless Steel	(CAS No) 12597-68-1	< 100	Not classified
Iron	(CAS No) 7439-89-6	< 100	Not classified
Chromium	(CAS No) 7440-47-3	10 to 30	Not classified
Nickel	(CAS No) 7440-02-0	10 to 30	Carc. 2, Skin Sens. 1

SECTION 4: First Aid Measures

4(a) Description of First Aid Measures

After Inhalation: No known effects. Supply fresh air. Consult physician. In case of inhalation of decomposition products in a fire, symptoms may be delayed.

After Skin Contact: No known effects. Flush contacted skin. If contact with molten product, immediately flush with cool water. DO NOT pull solidified product off skin. Seek medical treatment.

After Eye Contact: No known effects. Flush eyes with water for 15 minutes. If contact with molten product, immediately flush with cool water. Seek medical treatment.

After Ingestion: No known effects. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. DO NOT induce vomiting unless directed to do so by medical personnel. Seek medical treatment .

4(b) Most important symptoms and effects, both acute and delayed

After Inhalation: Dusts are mechanical irritants. If dust is present on the product, this may cause respiratory irritation after an excessive inhalation exposure.

After Skin Contact: Dust may cause mechanical irritation. Risk of thermal burns on contact with molten product.

After Eye Contact: Product fines may cause mechanical irritation. Vapors from molten nylon may cause irritation and tearing.

After Ingestion: Choking hazard. Gastrointestinal disturbance can occur.

4(c) Indication of any immediate medical attention and special treatment needed

Treat symptoms as above. No specific antidote. Consult physician and/or seek medical treatment.

Notes to Physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed.

SECTION 5: Fire Fighting Measures

5(a) Suitable Extinguishing Media

Use an extinguishing agent suitable for the surrounding fire - Foam, Dry powder, Carbon dioxide, Water spray, or Sand.

Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

5(b) Specific hazards arising from the substance or mixture

Fire hazard:	Not flammable but will burn and the following hazardous products of combustion can occur: Carbon Dioxide (CO_2), Carbon Monoxide (CO), Nitrogen Oxides (NO_x).
Explosion hazard:	Static charge buildup can be a potential fire hazard when used in the presence of volatile, flammable vapors, or in high airborne dust concentrations.
Reactivity:	Non-reactive.

5(c) Advice for Fire Fighters

Firefighting instructions:	Exercise caution when fighting any chemical fire. Decontaminate fire fighting equipment after use. Prevent fire-fighting water from entering environment.
Protective equipment for firefighters:	Do not enter fire area without proper protective equipment, including respiratory protection. In the event of a fire, wear a self-contained breathing apparatus (SCBA).
Other information:	Toxic and irritating gases are released following thermal decomposition or combustion. Dust, if generated in excessive amounts during processing, may form flammable and explosive mixture with air. Molten material can form flaming droplets if ignited.

SECTION 6: Accidental Release Measures

6(a) Personal precautions, protective equipment and emergency procedures

General measures:	If spilled, may cause a fall or slipping hazard. Avoid dust generation. Keep away from ignition sources. Ensure proper ventilation.
Environmental:	Prevent dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers. Prevent entry to sewers and public waters.

6(b) Methods and material for containment and cleaning up

Containment:	Prevent further leakage or spillage if you can do so without risk. Ventilate the area. Shovel, scoop, sweep up or use industrial vacuum cleaner and return to original container. Products are non-hazardous waste. Proper disposal should be evaluated based on local, state, and federal regulations/legislation or directives. Users must determine if a report is required to EPA for any amounts of this material disposed of or otherwise released into the environment.
References:	Refer to Sections 7, 8, and 13.

SECTION 7: Handling and Storage

7(a) Precautions for Safe Handling

Prevent generation of dust and avoid breathing dust. If necessary, wear a dust mask. Avoid breathing processing fumes or vapors and use local exhaust above processing areas. Wash hands after use. Avoid eating, drinking, and smoking in work areas. Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin, and clothing. Take precautionary measures against static discharge. Earth/Ground processing equipment. Product may accumulate static charge during transport, handling, and processing. Considering the risks of electrostatic discharges, handling the products in potentially flammable atmospheres should be evaluated. Suitable precautions should be taken at all times, in particular when emptying bags or other packaging. Reducing the velocity of transport will reduce charging. Static charge buildup can be a potential fire hazard when used in the presence of volatile or flammable mixtures. Keep away from ignition sources. If product is processed into smaller particles, explosive hazardous conditions must be evaluated.

7(b) Conditions for safe storage, including any incompatibilities

Stable under recommended storage conditions. Do not store outside. Keep container dry. Keep in a cool, dry, well-ventilated place. Store in closed containers in a secure area to prevent container damage and subsequent spillage. Store away from moisture and heat to maintain the technical properties of the product. Products contain an antioxidant to aid in stabilizing the polymer over its recommended 140 °F (60 °C) use and storage conditions. Exposure to direct sunlight or elevated temperatures over prolonged periods of time consumes the antioxidant at an increased rate and may lead to self-heating. Do not store with alkalis, oxidizers, or acids.

7(c) Specific end use(s)

No additional information available.

SECTION 8: Exposure Controls / Personal Protection

8(a) Exposure Control Limits - Polyamide - Nylon 6/10

	Form	Time Weighted Average
ACGIH	Inhalable Particles	10 mg/m^3
	Respirable Particles	3 mg/m^3

OSHA Table Z-1 Air Contaminants	Form	PEL
	Respirable Fraction	5 mg/m^3
	Total Dust	15 mg/m^3

Exposure Control Limits - Stainless Steel Alloy Components

Exposure Control Limits - Iron Oxide	
ACGIH TLV	5.0 mg/m^3
OSHA PEL	10.0 mg/m^3
NIOSH IDLH	2500 mg/m^3 as iron
IDLH = Immediately dangerous to life and health.	

Exposure Control Limits - Chromium	
CAS#	7440-47-3
EINECS#	231-157-5
ACGIH TLV	0.5 mg/m^3
NIOSH IDLH	250 mg/m^3
OSHA PEL	1.0 mg/m^3

IDLH = Immediately dangerous to life and health.
Chromium is on the SARA Title III, Section 313 Toxic Chemicals List

Exposure Control Limits - Nickel	
ACGIH TLV	1.5 mg/m^3
NIOSH IDLH	10 mg/m^3
OSHA PEL	1.0 mg/m^3
IDLH = Immediately dangerous to life and health.	
Nickel is on the SARA Title III, Section 313 Toxic Chemicals List	

8(b) Appropriate Engineering Controls

Use local exhaust ventilation during handling and processing to reduce exposures and dust and fumes. When transferring products, earth/ground all subsequent equipment to minimize charges that may develop. Ensure that eyewash stations and safety showers are close to the workstation location. Provide adequate protection in areas where contact with molten material is possible.

8(c) Individual Protection Measures

Personal protective equipment: Gloves. Safety Glasses. Protective Clothing.

Materials for protective clothing: Standard issue work clothes, which may include apron, antistatic safety shoes or boots as necessary.

Eye protection: Use good industrial practice to avoid eye contact. Wear safety glasses with side-shields. Processing of this product releases vapors or fumes which may cause eye irritation. Where eye contact may be likely, wear chemical goggles.

Skin: Processing of this product releases vapors or fumes which may cause skin irritation. Minimize skin contamination by following good industrial hygiene practice. Wearing protective gloves is recommended. Use heat protective gloves when handling hot, molten product. Wash hands and contaminated skin thoroughly after contact with processing fumes or vapors or after handling the material.

Respiratory protection: Avoid breathing dust. Avoid breathing processing fumes or vapors. During handling: if dust is generated, a parliculate pre-filter is recommended and for high airborne dust concentrations, a cartridge designed for nuisance dust is recommended. During high temperature processing: use local exhaust ventilation when available. Consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure or where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

SECTION 9: Physical and Chemical Properties

9(a)	**Physical state:**	Solid
	Appearance/Form:	Pellets; porous to dense
	Color:	Various: tan, copper, gray or black - dependent on filler material
9(b)	**Odor:**	Essentially odorless, may be faint odor
9(c)	**Odor threshold:**	Not determined
9(d)	**pH:**	No data available
9(e)	**Melting point/range:**	419 - 425 °F (215 - 218 °C)
	Freezing point:	Not Applicable
9(f)	**Boiling point:**	Not Applicable
9(g)	**Flash point:**	Not determined
9(h)	**Evaporation rate:**	Not Applicable, Solid
9(i)	**Flammability (solid, gas):**	Not determined
9(j)	**Upper / Lower Flammability:**	No data available
	Explosive Limits:	Not determined
9(k)	**Vapor pressure:**	Not Applicable, Solid
9(l)	**Vapor Density:**	Not Applicable, Solid
9(m)	**Relative density:**	Specific Gravity: 1 - 4.5
9(n)	**Solubility (water):**	Not determined
	Solubility (other):	Not determined
9(o)	**Partition Coefficient:**	No data available
9(p)	**Auto-Ignition Temperature:**	Not determined
9(q)	**Decomposition temperature:**	788 – 833 °F (420 - 445 °C)
9(r)	**Viscosity, Kinematic:**	Not Applicable
	Viscosity, Dynamic:	Not Applicable
Other	**Oxidizing properties:**	No data available

SECTION 10: Stability and Reactivity

10(a)	**Reactivity:**	Non-reactive. The product is stable under normal handling and storage conditions.
10(b)	**Chemical Stability:**	Stable under ambient conditions. Hazardous polymerization does not occur.
10(c)	**Possibility of Hazardous Reactions:**	Non-reactive. The product is stable under normal handling and storage conditions.
10(d)	**Conditions to Avoid:**	Avoid prolonged exposure to heat or UV light since this may affect product properties. Product will burn when exposed to continuous sources of ignition such as heat, sparks, open flames, and hot surfaces. See Hazardous Decomposition below.
10(e)	**Incompatible Materials:**	Avoid contact with strong acids and oxidizing agents.
10(f)	**Hazardous Decomposition:**	Hazardous vapors from heated product are not expected to be generated under normal processing temperatures and conditions. No hazardous decomposition under ambient temperatures. Although highly dependent on temperature and environmental conditions, a variety of thermal decomposition products may be present if the product is overheated, is smoldering, or catches fire. Thermal decomposition may produce toxic, flammable, and/or corrosive products: Carbon Dioxide (CO_2), Carbon Monoxide (CO), Nitrogen Oxides (NO_x) fumes, unburned hydrocarbons, ammonia, amines, ketone, hydrogen cyanide, amides, and nitriles.

SECTION 11: Toxicological Information

This product is a mixture that has not been evaluated as a whole for health effects. Exposure effects listed below are based on existing health data for the individual components which comprise the stainless steel alloy contained in the mixture.

Polyamide - Nylon 6/10

11(a) Routes of Exposure

Aspiration hazard:	Not classified
Skin corrosion/irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

11(b) Symptoms See Section 4

11(c) Effects - Short and Long Term

Germ Cell Mutagenicity:	Not classified
Carcinogenicity:	Not classified

11(d) Toxicity

Acute Toxicity:	Not classified
Reproductive Toxicity:	Not classified; (No data available)
Specific target organ toxicity (single exposure):	Not classified; (No data available)
Specific target organ toxicity (repeated exposure):	Not classified; (No data available)

11(e) Listings

IARC	Not listed or not regulated
OSHA	Not listed or not regulated
NTP	Not listed or not regulated

Stainless Steel

11(a) Routes of Exposure

Inhalation:	Particulates can be mechanically irritating.
Ingestion:	May be harmful if swallowed.
Eyes:	Particulates can be mechanically irritating.
Skin:	Experience shows no unusual skin hazard from routine handling.

11(b) Symptoms See Section 4

11(c) Effects - Short and Long Term

Carcinogenicity:

This product contains the following components which, in their pure form, have the following carcinogenicity data:

CAS-No.	Chemical Name	OSHA	IARC	NTP
7440-02-0	Nickel	No	2B	No

IARC Carcinogen Classifications

1 - The component is carcinogenic to humans.

2A - The component is probably carcinogenic to humans.

2B - The component is possibly carcinogenic to humans.

NTP Carcinogen Classifications:

1 - The component is known to be a human carcinogen.

2 - The component is reasonably anticipated to be a human carcinogen.

11(d) Toxicity

This product contains the following components which in their pure form have the following characteristics:

CAS-No.	Chemical Name	Effect	Target Organ
7439-89-6	Iron	Systemic effects	Eyes, Respiratory System
7440-47-3	Chromium	Systemic effects	Eyes, Skin, Respiratory System.
7440-02-0	Nickel	Systemic effects	Skin, Respiratory System.

Additional Health Hazard Information:

Chromium 7440-47-3: Bivalent and trivalent forms of chrome have a low order of acute toxicity, but may cause skin sensitization and irritation to the eyes. No effects have been reported for chromium (III) oxide, Chromium (III) compounds are not considered carcinogenic in animals or humans.

Nickel 7440-02-0: Skin sensitizer "nickel itch", with pulmonary, brain, liver, kidney, and muscle effects.

11(e) Listings

See Stainless Steel - 11(c)

SECTION 12: Ecological Information

12(a) Ecotoxicity — Iron, chromium, and nickel are components of the stainless steel alloy which is combined with the polymer in a matrix, thus not readily biodegradable.

12(b) Persistence and degradability — Iron, chromium, and nickel are components of the stainless steel alloy which is combined with the polymer in a matrix, thus not readily biodegradable.

12(c) Bioaccumulative potential — Iron, chromium, and nickel are components of the stainless steel alloy which is combined with the polymer in a matrix, thus not readily biodegradable.

12(d) Mobility in Soil — No data available

12(e) Other Adverse effects — No data available

SECTION 13: Disposal Considerations

Where possible, recycling is preferred to disposal or incineration. If recycling is not an option, incinerate or dispose of in accordance with federal, state, and local regulations. Pigmented, filled, and/or solvent laden product may require special disposal practices in accordance with federal, state, and local regulations. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal, and other requirements listed in pertinent environmental permits. Note: chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

SECTION 14: Transport Information

In accordance with DOT and IMDG, this product is not regulated for transport.

14(a) UN Number: None

14(b) UN Number Shipping Name: None

14(c) Transport Hazard Class(es): None

14(d) Packing Group: None

14(e) Environmental Hazards: Not a marine pollutant

14(f) Transport in Bulk: None

14(g) Special Precautions: None

SECTION 15: Regulatory Information

US Federal Regulations

SARA - Section 302 Extremely Hazardous Chemicals
Unless specifically identified in this section, the components in this product are either not SARA Section 302 regulated or regulated but present in negligible concentrations.
None

SARA - Section 311/312 Hazard Classes	
None	

SARA - Section 313 Toxic Chemicals			
Unless specifically identified in this section, this material does not contain any chemical components with known CAS numbers that exceed the threshold (de minimis) reporting levels established by SARA Title III, Section 313.			
Name	**Product Identifier**	**Weight %**	**SARA 313 - Threshold Values %**
CHROMIUM	7440-47-3	10 to 30	1.0
NICKEL	7440-02-0	10 to 30	0.1

CERCLA - Comprehensive Environmental Response, Compensation, & Liability Act - Reportable Quantity (RQ)		
Unless specifically identified in this section, the components in this product are either not CERCLA regulated, regulated but present in negligible concentrations, or regulated with no assigned reportable quantity.		
Name	**Hazardous Substances RQs**	**CERCLA EHS RQs**
Nickel	100 lb	None

OSHA	Unless specifically identified in this section, the components in this product are not considered hazardous by OSHA:
	This product is classified as hazardous based on the components contained in the stainless steel

Chemical Inventory Status

European Inventory of Existing Commercial Chemical	EU, EINECS	Listed
United States TSCA (Toxic Substances Control Act) Inventory	TSCA	Listed
Canadian Domestic Substances List	DSL	Listed or Exempt
China. Inventory of Existing Chemical Substances Produced or Imported in China	IECSC (CN)	Listed
Japan. ENCS - Existing & New Chemical Substances Inventory	ENCS (JP)	Listed
Korea. Toxic Chemical Control Law List	TCCL (KR)	Listed
Philippines Inventory of Chemicals and Chemical Substances	PICCS (PH)	Listed
Australian Inventory of Chemical Substances	AICS	Listed
New Zealand Inventory of Chemicals	NZIoC	Listed

US State Regulations

California Prop. 65	WARNING! This product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive defects.

SECTION 16: Other Information

Revision Date: August 24, 2016

Version Number: 03

Ecomass® is a registered trademark.

ABBREVIATIONS / ACRONYMS / REFERENCES:

AND	EU Agreement for the International Transport of Dangerous Goods by Inland Waterways, as amended
ADR	EU Agreement for the Intemational Carriage of Dangerous Goods by Road, as amended
CAS	Chemical Abstracts Services (Division of the American Chemical Society)
GHS	Globally Harmonized System of Classification and Labelling of Chemicals, as amended
HMIS	Hazardous Materials Identification System
lATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Code for Dangerous Goods, as amended
LCSO	Lethal Concentration of *50* Percent of Organisms
MARPOL	International Convention for the Prevention of Pollutants from Ships, 1973, as amended
MHLW	Japanese Ministry of Health, Labor, and Welfare
NFPA 704	National Fire Protection Association
OE	Oil Extended
OEL	Occupational Exposure Limit
RID	EU Standards Regulations Concerning the lnternational Transport of Dangerous Goods by Rail
TLV	Threshold Limit Value
TWA	Time Weighted Average
UN	United Nation
USP	United States Pharmacopeia for the Testing of Biological Endpoints for Medical Devices

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