ELADD 004 Tannin Blocking Additive Safety Data Sheet According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Date of issue: 4/15/2021

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SECT	FION 1: Identification			
1.1.	Identification			
Prod	uct form	: Mixture		
Prod	uct name	: Tannin Blockin	g Additive	
Prod	uct code	: ELADD 004		
1.2.	Relevant identified uses of	the substance or mixture a	nd uses advised against	
Use	of the substance/mixture	: Wood Coating	Additive	
1.3.	Details of the supplier of th	e safety data sheet		
Manu Perfc 4800 Units Missi T 905	ufacturer ormance Finishing Solutions Eastgate Parkway 3 & 4 ssauga, L4W 3W6 - Canada 5-629-7007		Distributor	
1.4.	Emergency telephone num	ber		
Emer	gency number:	: 905-629-7007	(M-F 8-5)	
SECT	CION 2 [.] Hazard identifica	tion		
2.1.	Classification of the substa	ance or mixture		
GHS c	lassification			
Skin Serio	corrosion/irritation, Cat. 2 us eye damage/irritation, Cat. 2A	A		
2.2.	Label elements			
GHS Ia	abelling			
Haza	rd pictograms (GHS)	: GHS07		
Signa	al word (GHS)	: Warning		
Haza	rd statements (GHS)	: Causes seriou	s eye irritation. Causes Skin	Irritation
Preca	autionary statements (GHS)	: Wash hands, f clothing/eye pr IF IN EYES: R	prearms and face thoroughly otection/face protection.	v after handling. Wear protective gloves/protective r several minutes. Remove contact lenses, if present
0.0	Othershamenda	and easy to do	. Continue mising. Il eye imi	ation persists. Get medical advice/attention.
2.3. Toxic t	o aquatic life			
24	Unknown acute toxicity			
Not a	pplicable			
SECI	CION 3: Composition/info	ormation on ingredient	s	
3.1.	Substances			

Not applicable

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3.2. Mixtures		
Name	Product identifier	%
Zinc Oxide	1314-13-2	3-6
Ammonia	7664-41-7	1-<3
Ammonium Zirconium Carbonate	68309-95-5	Proprietary*
Zirconium Propionate	84057-80-7	Proprietary*

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First aid measures					
4.1. Description of first aid measures					
First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.				
First-aid measures after skin contact	: IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.				
First-aid measures after eye contact	: IF IN EYES: Immediately flush with water for at least 10 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.				
First-aid measures after ingestion	: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.				
4.2. Most important symptoms and effects	s, both acute and delayed				
Symptoms/effects after inhalation	: Burning sensation.				
Symptoms/effects after skin contact	: Burning sensation.				
Symptoms/effects after eye contact	: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.				
Symptoms/effects after ingestion	: May cause nausea, vomiting and/or diarrhea.				
4.3. Indication of any immediate medical a	attention and special treatment needed				
Symptoms may be delayed. In case of accident or	if you feel unwell, seek medical advice immediately (show the label where possible).				
SECTION 5: Firefighting measures					
5.1. Extinguishing media					
Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.				
Unsuitable extinguishing media	: None known.				
5.2. Special hazards arising from the subs	stance or mixture				
Fire hazard	: Products of combustion may include, and are not limited to: oxides of carbon, nitrogen, sulfur phosphorous and metal oxides.				
Reactivity	: No dangerous reactions known under normal conditions of use.				
5.3. Advice for firefighters					
Protection during firefighting	: Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).				
SECTION 6: Accidental release measure	Ires				
6.1. Personal precautions, protective equi	pment and emergency procedures				
General measures	: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Avoid contact with skin and eyes. Spilled material may present a slipping hazard.				
6.1.1. For non-emergency personnel					
No additional information available	lo additional information available				
6.1.2. For emergency responders	.1.2. For emergency responders				
No additional information available					
6.2. Environmental precautions					

Prevent entry to sewers and public waters.

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6.3.	Methods and material for containme	ent a	nd cleaning up	
For c	containment	:	Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.	
Meth	ods for cleaning up	:	Sweep or shovel spills into appropriate container for disposal.	
6.4.	Reference to other sections			
For fur	ther information refer to section 8: "Expos	ure o	controls/personal protection"	
SECT	FION 7: Handling and storage			
7.1.	Precautions for safe handling			
Precautions for safe handling		:	Avoid contact with skin and eyes. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.	
Hygie	ene measures	:	Wash contaminated clothing before reuse. Always wash hands after handling the product.	
7.2.	Conditions for safe storage, includi	ng a	ny incompatibilities	
Storage conditions		:	Keep out of the reach of children. Keep container tightly closed. Protect from freezing. Keep our of direct sunlight.	
Maximum storage period		:	: 24 months	
Storage temperature		:	1 - 49 °C (34 - 120 °F)	

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Zinc Oxide 1314-13-2	STEL: 10 mg/m ³ respirable particulate matter TWA: 2 mg/m ³ respirable particulate matter	TWA: 5mg/m ³ fume TWA: 15 mg/m ³ total dust TWA 5mg/m ³ respirable fraction	IDLH : 500 mg/m ³ Ceiling : 15 mg/m ³ dust TWA : 5mg/m ³ dust and fume STEL : 10 mg/m ³ fume
Ammonia 7664-41-7	STEL: 35 ppm TWA: 25 ppm	TWA: 50 ppm TWA: 35 mg/m ³	IDLH: 300 ppm TWA: 25 ppm, 18 mg/m ³ STEL: 35 ppm, 27mg/m ³
Ammonium Zirconium Carbonate 68309-95-5	STEL: 10mg/m ³ Zr TWA: 5mg/m ³ Zr	TWA: 5mg/m ³	IDLH: 25 mg/m³ Zr TWA: 5 mg/m³ except ZrCl₄ STEL: 10 mg/m³ Zr
Zirconium Priopionate 84507-80-7	STEL: 10mg/m ³ Zr TWA: 5mg/m ³ Zr	TWA: 5mg/m ³	IDLH: 300 ppm TWA: 25 ppm, 18 mg/m ³ STEL: 35 ppm, 27mg/m ³

8.2. Exposure controls

Appropriate engineering controls	:	Ensure good ventilation of the work station. Ensure that eyewash stations and safety showers are close to the workstation location.
Hand protection	:	Wear suitable gloves resistant to chemical penetration.
Eye protection	:	Wear eye/face protection.
Skin and body protection	:	Wear suitable protective clothing.
Respiratory protection	:	In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Environmental exposure controls	:	Avoid release to the environment.
Other information	:	Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties						
9.1. Information on basic phy	. Information on basic physical and chemical properties					
Physical state	: Liquid					
Appearance	: Clear					
Colour	: Colourless					

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According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Odour	: Ammoniacal
Odour threshold	: No data available
pH	: 9
Melting point	: No data available
Freezing point	: 0 °C (32 °F)
Boiling point	: 100 °C (212 °F)
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1.3 g/cm ³
Solubility	: Miscible in water
Partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: 371°C (700°F)
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: Lower explosive limit (LEL): Not applicable Upper explosive limit (UEL): Not applicable
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

none

SEC	SECTION 10: Stability and reactivity							
10.1.	J.1. Reactivity							
Stror	ng Alkali, reacts with oxidizing age	ents.						
10.2.	Chemical stability							
Stab	le under normal conditions.							
10.3.	Possibility of hazardous re	eactions						
Read	ts with alkalis releasing ammonia	l.						
10.4.	Conditions to avoid							
No s	pecific data.							
10.5.	Incompatible materials							
Stror	ng acids, strong bases, strong oxi	dizing agents.						
10.6.	Hazardous decomposition	products						
May	include, and are not limited to: ox	ides of carbon, oxides of nitroger	n, ammonia, zinc oxide fumes					
SEC	CTION 11: Toxicological i	nformation						
11.1.	Information on toxicologic	al effects						
Acu	ite toxicity (oral)	: Ingestion m	nay cause irritation, nausea, vomiting an	d diarrhea.				
Acu	ite toxicity (dermal)	: Causes ski	n irritation.					
Acu	Acute toxicity (inhalation) : May cause irritation of the respiratory tract.							
С	Chemical Name Oral LD50 Dermal LD50 Inhalation LC50							
Zi	nc Oxide	>2000 mg/kg bw (rat)	>2000 mg/kg bw (rat)	>5.7 mg/L bw (rat) 4h				
13	1314-13-2							
A	mmonia	350 mg/kg (rat)	-	-				
76	64-41-7							

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Ammonium Zirconium Carbonate 68309-95-5	2900 mg/kg (rat)	-	-
Zirconium Priopionate 84507-80-7	-	-	-

Skin corrosion/irritation	:	Skin irritant
Serious eye damage/irritation	:	Causes serious eye irritation.
		pH: 9
Respiratory or skin sensitisation	:	Not classified.
Germ cell mutagenicity	:	Not classified.
Carcinogenicity	:	Not classified.
Reproductive toxicity	:	Not classified.
STOT-single exposure	:	Not classified.
STOT-repeated exposure	:	Not classified.
Aspiration hazard	:	Not classified.
Symptoms/effects after inhalation	:	No known significant effects or critical hazards.
Symptoms/effects after skin contact	:	Skin irritation.
Symptoms/effects after eye contact	:	Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/effects after ingestion	:	No known significant effects or critical hazards.
Other information	:	Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity Ecology - general

: Toxic to aquatic life with long lasting effects.

Chemical Name	Algae/Aquatic plants	Fish	Crustacea	Toxicity to microorganisms
Zinc Oxide 1314-13-2	LC50:0.63 mg/L (72h, pseudokirchneriella subcapitata)	EC50: 1.1 mg/l (96 h, Oncorrhynchus Mykiss)	EC50: >2.0 mg/L (48h, Daphnia)	-
Ammonia 7664-41-7	STEL: 35 ppm TWA: 25 ppm	LC50: =0.44mg/L (96h, Cyprinus carpio) LC50: 0.26 - 4.6mg/L (96h, Lepomis macrochirus) LC50: =1.17mg/L (96h, Lepomis macrochirus) LC50: 0.73 - 2.35mg/L (96h, Pimephales promelas) LC50: =5.9mg/L (96h, Pimephales promelas) LC50: >1.5mg/L (96h, Poecilia reticulata) LC50: =1.19mg/L (96h, Poecilia reticulata	TWA: 50 ppm TWA: 35 mg/m ³	-
Ammonium Zirconium Carbonate 68309-95-5	-	LC50: =410mg/L (96h, Oryzias latipes)	-	-
Zirconium Priopionate 84507-80-7	-	-	-	-

12.2. Persistence and degradability

	ELADD 004		
	Persistence and degradability	Based on monitoring data, zinc compounds are expected to adsorb to suspended solids and sediment in water	

12.3. Bioaccumulative potential

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According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

LADD 004		
Bioaccumulative potential	Bioconcentration factor values for zinc ions in freshwater fish and marine fish were reported as 1000 and 2000 respectively. After exposing rainbow trout to zinc for a period of 30 days in river water, it was cuncluded that zinc accumulates in the gills, liver, kidney and opercular bone, but not in the muscle. Bioconcentration factor values for zinc ions in freshwater fish and marine fish were reported as 1000 and 2000 respectively. After exposing rainbow trout to zinc for a period of 30 days in river water, it was concluded that zinc accumulates in the gills, liver, kidney and opercular bone, but not in the muscle bone, but not in the muscle bone that zinc accumulates in the gills, liver, kidney and opercular bone, but not in the muscle	

12.4. Mobility in soil

No add	tional information available	
12.5.	Other adverse effects	

1	2.5.	Othe	er ac	lvers	se e

Other information

: No other effects known.

SECTION 13: Disposal considerations Waste treatment methods 13.1. Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Additional information : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT) and Transportation of Dangerous Goods (TDG)

MaterialscarriedunderUN3082orUN3077ineithersingleorinnerpackagingof<5L (liquids)or<5kg(solids)maybetransportedasnondangerousgoods, provided they are packed in good quality packaging and adhere to the corresponding general packaging provisions of the above transport legislation.

UN Number: 3082

IMDG: Proper shipping name: Environmentally hazardous substance, liquid, n.o.s (zinc oxide) Class: 9 - Miscellaneous Dangerous Substances and Articles Labels: 9 Packing Group: III Mark: MARINE POLLUTANT

ICAO/IATA: Proper shipping name: Environmentally hazardous substance, liquid , n.o.s (zinc oxide) Class: 9 Packing Group: III Label: 9 Hazard label(s): Miscellaneous Marking: Environmentally hazardous substance

DOT: Proper shipping name: Environmentally hazardous substances, liquid , n.o.s (zinc oxide) Class: 9 - Miscellaneous Hazardous Materials Label: 9 Packing Group: III Not regulated for surface and air transport in non-bulk (<119 gallons) packaging.

SECTION 15: Regulatory information

15.1. Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

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All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

SARA 313 - Ammonia (includes anhydrous ammonia and aqueous ammonia from waterdissociable ammonium salts and other sources; 10% of total aqueous ammonia isreportable under this listing) is subject to SARA Title III, Section 313 reportingrequirements. Zinc compounds are subject to the reporting requirements of section 313 of the Emergency and Planning Community Right-To-Know Act of 1986 and of 40 CFR 372.

SARA 311/312 Hazard Categories - Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

CWA - Clean Water Act

This material as supplied contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) AMMONIA (7664-41-7) – Hazardous Substances RQs – 100lb

US State Right-to-know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Zinc Oxide	Х	Х	Х
Ammonia	х	х	х
7664-41-7 Ammonium Zirconium Carbonate	-	-	
68309-95-5			-
Zirconium Priopionate 84507-80-7	x	-	x

15.2. International regulations

GHS hazardous component CAS registry numbers appearing in section 3 may differ from substances appearing in section 15 due to country or regional chemical inventory coverage requirements, however, remain in compliance with the inventory

TSCA Listed or exempted DSL/NDSL Listed or exempted ENCS Not Listed IECSC Listed or exempted KECL Not Listed PICCS Not Listed AICS Listed or exempted NZIOC Listed or exempted TCSI Listed or exempted NCI Listed or exempted TECI Not Listed NSQ Not Listed **15.3. US State regulations**

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

NFPA Health hazards 2 Flammability 0 Instability 0 Physical and chemical properties -

HMIS Health hazards 2 Flammability 0 Physical hazards 0 Personal protection X

Revision date	:	4/15/2021
Other information	:	None.
Prepared by	:	Michael Chrisomalis

SDS HazCom 2012 - WHMIS 2015

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