Safety Data Sheet

Issue Date: 09-12-2014

MSDS Number: Z02891

SECTION 1: Identification

1.1. Product identifier

Trade Name/Designation: **Nipol 1411**

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

Use: Polymer / Adhesive Compounding

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier Name and Address:
Zeon Chemicals L.P.
4111 Bells Lane
Louisville, Kentucky 40211

Customer Service: 1-800-735-3388
(502)-775-2000

1.4. Emergency telephone number

24 hours per day/7 days per week (English only):
CHEMTREC: (800) 424 - 9300
Outside the U.S. Call Collect: 001 (703) 527-3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS Classification: Does not meet classification criteria.

GHS Signal Word: None

2.2. Label elements

GHS Label Pictogram: Not Applicable

2.3. Other hazards

Warning. May form combustible dust concentrations in air. See Section 5 for more information. This product contains talc which upon repeated or prolonged inhalation is reported to cause scarring of the lungs with shortness of breath, chronic cough, and heart effects.

SECTION 3: Composition/information on ingredients

Chemical Name	Amount (wt %)	CAS #	GHS Classification
Acrylonitrile / Butadiene Polymer	>90	9003-18-3	
Talc	<10	14807-96-6	
Proprietary antioxidant	1 - 5	--	Hazardous to the aquatic environment - Acute Category 3 Hazardous to the aquatic environment - Chronic Category 3
4-Vinyl Cyclohexene	<0.1	100-40-3	Carcinogenicity Category 2
Acrylonitrile	<40 ppm	107-13-1	Acute Toxicity - Oral Category 3 Acute Toxicity - Dermal Category 3 Acute Toxicity - Inhalation Dust / Mist Category 3 Skin Corrosion/Irritation Category 2 Skin Sensitisation Category 1 Carcinogenicity Category 2 Hazardous to the aquatic environment - Acute Category 2

Refer to Section 8 for Occupational Exposure Limits (OELs)

SECTION 4: First-aid measures

4.1. Description of first aid measures

Following Inhalation: Remove to fresh air. Seek medical attention if cough or other symptoms develop or persist.

Following Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.

Following Eye Contact: Treat as any foreign particulate matter. Do not rub eyes. Flush eyes with running water for several minutes while holding eyelids open. Consult a physician if irritation persists.

Following Ingestion: Normally not needed. If large quantities are ingested or if you feel unwell, call your local Poison Control Center (1-800-222-1222 in the U.S.) or physician.

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

Dust may cause a mechanical irritation which can scratch the eye. At processing temperatures, the combined ingredients (elastomer and other processing ingredients) may emit fumes and vapors that may cause irritation to the eyes. Processing operations may create vapors or fumes which may cause respiratory tract irritation. Upon prolonged or repeated exposure to dusts, mechanical irritation may result. Breathing dust may cause lung damage.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Use extinguishing media suitable for Class A fires (ordinary combustibles). Carbon dioxide is generally not recommended for use on Class A fires as a lack of cooling capacity may result in reignition., Do not use methods which may create a dust cloud (e.g. high pressure water stream).

5.2. Special hazards arising from the substance or mixture

Combustible dust clouds may be created where operations produce dust. Minimize dust generation and accumulation, especially on horizontal surfaces and duct work. Handling and processing operations should be conducted in accordance with NFPA-654 or similar best practices. Polymer powders are combustible and can generate static charges capable of igniting other flammable or combustible materials. Dissipate static electricity by grounding and bonding during unloading, pouring and conveying. Use only grounded, electrically conductive transfer lines when pneumatically conveying powder. A properly engineered explosion suppression system should be used when large amounts of combustible dusts are handled. Toxic gases may be formed upon combustion and represent a hazard to firefighters. See Section 10 for information on combustion products. .

The explosion severity test data presented below was developed according to ASTM E1226-88 using a 190 liter sphere:

Maximum explosion pressure: 9.6 bar gauge

Maximum rate of pressure rise: 188 bar/sec

KST: 108 bar-m/sec

Dust class: St-1

Minimum explosive concentration (cloud): 0.045 oz/ft3 (Hartman Apparatus)

Minimum spark ignition energy (cloud): 0.40 joules @ 0.9 oz/ft3 (Hartman Apparatus)

Minimum spark ignition energy (layer): No ignition observed @ energy levels up to 8.00 joules

Dielectric constant: 2.79

Volume resistivity: 4.07X1012 ohm-cm

Electrical relaxation time: 1.00 sec

Minimum ignition temperature (cloud): 477C

Minimum ignition temperature (layer): 190C

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus operated in pressure-demand mode (NIOSH approved or equivalent) and full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear long sleeves and gloves to prevent skin contact.

6.2. Environmental precautions

As with all industrial chemicals, use of good chemical hygiene and environmental stewardship practices is recommended.

6.3. Methods and material for containment and cleaning up

With shovel or scoop, place material into a clean container for reuse or disposal. Do not dry sweep. Do not use compressed air for clean up. Avoid creating dusts. Eliminate ignition sources. If a vacuum is used, use a vacuum designed for combustible dusts or ensure that the material is wetted or otherwise treated so an explosive dust atmosphere is not created within the vacuum.

6.4. Reference to other sections

Refer to Section 8, Exposure Control/Personal Protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Polymer powders are combustible and can generate static charges capable of igniting other flammable or combustible materials. Minimize dust generation and accumulation. Dissipate static electricity by grounding and bonding during unloading, pouring and conveying. Refer to Section 5 - Firefighting measures for more information.

Product will emit fumes and vapors when heated to processing temperatures. Use only with adequate ventilation. Do not breathe (dust, vapor or fumes). Wash thoroughly after handling. Do not eat, drink or smoke in processing areas.

Clean up following normal processing must be performed with adequate ventilation. Elastomer may be held at process temperatures for a short time without significant thermal degradation. However exposure elevated temperatures or excessive time will result in decomposition. Equipment should not be shut down for extended time periods with compound in it or decomposition may occur.

Processing fume condensates, which may include toxic contaminants, may be combustible and should be periodically removed from exhaust hoods, ductwork, and other surfaces. Protective clothing and gloves should be worn during cleanup operations to prevent skin contact (Refer to Section 8, Exposure Controls/Personal Protection).

Combustible dust clouds may be created where operations produce dust. Minimize dust generation and accumulation, especially on horizontal surfaces and duct work. Handling and processing operations should be conducted in accordance with NFPA-654 or similar best practices.

Abnormal conditions such as equipment malfunction or using improper equipment or procedures, or hangup or stagnation of material during processing may cause decomposition. Employees involved in removing decomposing material should be provided suitable air-supplied respirators, such as an approved positive pressure self-contained breathing apparatus.

Compounding ingredients added to elastomer products may require special handling. It is the user's responsibility to follow the recommended precautions of the individual additive suppliers.

Post-processing operations involving heat sufficient to result in polymer breakdown emitting smoke and fumes should be conducted in such a manner to avoid inhalation of fumes. Local exhaust ventilation and respiratory protection may be required.

7.2. Conditions for safe storage, including any incompatibilities

Store below 75°F in low humidity areas to maintain product quality.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

	OSHA			ACGIH	
Chemical Name:	**PEL**	**AL**	**STEL**	**TLV**	**STEL**
Acrylonitrile / Butadiene Polymer	NE	NE	NE	NE	NE
Talc	20 mppcf	NE	NE	2 mg/m3 TWA RD (particulate matter containing no asbestos and < 1% crystalline silica)	NE
Proprietary antioxidant	NE	NE	NE	NE	NE
4-Vinyl Cyclohexene	NE	NE	NE	0.1 ppm TWA	NE
Acrylonitrile	2 ppm TWA	NE	10 ppm (Ceiling)	2 ppm; 4.3 mg/m3 TWA	NE

PEL = Permissible Exposure Limit; AL = Action Limit; NE = Not Established; RD = Respirable Dust; STEL = Short Term Exposure Limit; TD = Total Dust; TLV = Threshold Limit Value

8.2. Exposure controls

Appropriate Engineering Controls: All rubber compounding operations commonly produce strong offensive odors. Local exhaust ventilation is recommended to maintain operator comfort. If user operations generate dust, fume, or mist, ventilation may be required to keep exposure to airborne contaminants below the exposure limit(s).

Individual Protection Measures

Eye/Face Protection: Follow facility guidelines in the absence of dusts. Snug fitting chemical goggles should be worn in dusty work environments.

Skin Protection: Use of proper chemical hygiene practices is recommended. Wear long sleeves and gloves to prevent skin contact. Wash thoroughly after handling.

Respiratory Protection: Respiratory protection is not typically required during normal use and handling operations where general dilution or local exhaust ventilation is adequate to control exposures. NIOSH approved respiratory protection may be needed if vapor or dust is generated during processing or if the product is ground into a fine powder. Wear a positive pressure air-supplied respirator in situations where there may be potential for elevated airborne exposure such as during equipment malfunction, or product hangup or stagnation during processing that may result in decomposition.

Section Comments: All inert or nuisance dusts, whether mineral, organic, or inorganic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is 5 mg/m3 for respirable fraction and 15 mg/m3 for total dust. ACGIH exposure guidelines of less than 3 mg/m3 (respirable) and 10 mg/m3 (inhalable) have been established for particles (insoluble/poorly soluble) not otherwise specified (PNOS).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	Off-white to tan powder	**Water Solubility:**	Insoluble
Odor:	characteristic	**Melting Point/Freezing Point (°F)**:	Not Determined
Odor Threshold:	Not Determined		
Vapor Pressure:	Negligible		
Vapor Density (Air=1):	Not Applicable	**Relative Density (water = 1):**	1
pH:	Not Determined	**Flash Point:**	Not Applicable
Volatiles (minus H2O) w/w%:	<0.25	**Initial Boiling Point:**	Not Applicable
Evaporation Rate (water = 1):	Not Applicable	**Autoignition Temperature (°F)**:	Not Determined
Viscosity (B-type viscometer @ 60 rpm)**:**	Not Applicable	**Lower Explosive (Flammable) Limit:**	Not Applicable
		Upper Explosive (Flammable) Limit:	Not Applicable
Octanol/Water Partition Coefficient:	Not Determined	**Decomposition Temperature:**	Not Determined
Flammability:	Explosible. See Section 5.		

SECTION 10: Stability and reactivity

10.1. Reactivity	Hazardous polymerization will not occur.
10.2. Chemical stability	This material is stable when properly handled and stored.
10.3. Possibility of hazardous reactions	None Known
10.4. Conditions to avoid	Overheating; Static discharge; Keep away from sources of ignition; Minimize dust generation and accumulation.
10.5. Incompatible materials	Oxidizing materials, Strong acids, Strong alkalis
10.6. Hazardous decomposition products	Carbon monoxide, Carbon dioxide, Hydrocarbons, Hydrogen cyanide, Smoke, Nitrogen oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Routes of Entry: Eye contact Skin contact Process Vapor/Dust Inhalation.

Symptoms of Overexposure: Dust may cause a mechanical irritation which can scratch the eye. At processing temperatures, the combined ingredients (elastomer and other processing ingredients) may emit fumes and vapors that may cause irritation to the eyes. Processing operations may create vapors or fumes which may cause respiratory tract irritation. Upon prolonged or repeated exposure to dusts, mechanical irritation may result. Breathing dust may cause lung damage.

Description of Immediate Effects

Acute Toxicity:	ORAL LD_{50} (rat)	DERMAL LD_{50} (rabbit)	INHALATION LC_{50} (rat)
Acrylonitrile / Butadiene Polymer	>2000 mg/kg (est.)		
Talc	>5000 mg/kg		
Proprietary antioxidant	15000 mg/kg (rabbit)	>3000 mg/kg	
4-Vinyl Cyclohexene	3080 µL/kg	20 mL/kg	
Acrylonitrile	78 mg/kg	250 mg/kg	425 mg/kg/4H

Description of Delayed Effects

Carcinogenicity	IARC	NTP
Acrylonitrile / Butadiene Polymer	Not Listed	Not Listed
Talc	Group 3	Not Listed
Proprietary antioxidant	Not Listed	Not Listed
4-Vinyl Cyclohexene	Group 2B	Reasonably Anticipated
Acrylonitrile	Group 2B	Reasonably Anticipated

Section Comments: This product has not been tested in animal experiments. The data has been taken from available literature on the components.

SECTION 12: Ecological information

Toxicity: No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste resulting from this product as supplied is not known to be classified as a hazardous waste per the current listings and characteristics contained in 40 CFR Part 261, and its Appendices. It is the generator's responsibility to determine, per the regulation, the applicability of the Resource Conservation and Recovery Act (RCRA), as well as all state, local, or other governmental agency waste disposal regulations, to the particular waste materials prior to treatment or disposal.

SECTION 14: Transport information

U.S. Department of Transportation UN Number: This product is not defined or designated as a hazardous material by the U.S. Department of Transportation under Title 49 of the Code of Federal Regulations.

Canadian Transport of Dangerous Goods (TDG):	This product is not classified as a dangerous good for transport.
Mexican Regulation for the Land Transport of Hazardous Materials and Wastes	This product is not classified as a dangerous good for transport.
International Air Transport Authority (IATA/ICAO) UN Number:	This product is not regulated by air.
International Maritime Organization (IMO) UN Number:	This product is not regulated by ocean transport.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemical Inventory Status:

Australia (AICS):	Present	**Canada (DSL):**	Present
China (IECSC):	Present	**EU (EINECS/ELINCS):**	Present
Japan (ENCS):	Present	**Korea (KECL):**	Present
Philippines (PICCS):	Present	**Taiwan (NECSI):**	Present
United States (TSCA):	Present	**Mexico (INSQ)**	Present

United States Regulatory Status

EPCRA Section 311/312 (SARA III) Hazard Categories:	Fire
This product contains the following chemical(s) exceeding the *de minimis* amount subject to reporting under SARA 313:	None

State Right to Know This product contains chemical(s) exceeding the *de minimis* amount subject to disclosure under the following State Right-to-Know regulations:

Chemical Name	CAS #	Key (See Below)
Acrylonitrile / Butadiene Polymer	9003-18-3	PA NH
Talc	14807-96-6	PA HS NJ HS MA HS
Proprietary antioxidant	--	
4-Vinyl Cyclohexene	100-40-3	
Acrylonitrile	107-13-1	MA E

KEY:	Description	KEY:	Description
PA HS	Pennsylvania Hazardous Substance	NJ SP	New Jersey Special Health Hazard
PA SP	Pennsylvania Special Hazardous Substance	NJ TS	New Jersey Trade Secret Number
PA NH	Pennsylvania Non Hazardous Substance >3%	MA E	Massachusetts Extraordinary Hazardous Substance
NJ HS	New Jersey Hazardous Substance	MA HS	Massachusetts Hazardous Substance

California Proposition 65 WARNING: Contains the following chemical(s) known to the State of California to cause cancer or reproductive harm:

4-Vinylcyclohexene, Acrylonitrile, 1,3-Butadiene

Canada This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS Hazard Class: Not a controlled product under WHMIS

Ingredient Disclosure List: This product contains the following component(s) included on the Canadian Hazardous Products Ingredient Disclosure List exceeding the *de minimis* concentration subject to disclosure:

Silica, talc, non-asbestos form

SECTION 16: Other information

NFPA Ratings* **HMIS Ratings**** Key: 0=least; 1=slight; 2=moderate; 3=high; 4=extreme

Health Hazard:	2	Health Hazard:	0
Fire:	3	Fire:	3
Reactivity:	0	Physical Hazard:	0
Special Hazard:	None	PPE:	PPE should be determined based on workplace conditions.

*National Fire Protection Association (NFPA) ratings identify hazards during a fire emergency.

**Hazardous Materials Identification System (HMIS) ratings apply to products as packaged

Prepared by:	This MSDS was prepared by Zeon Chemicals L.P.
Revision Summary:	This document supersedes MSDS dated: 08-27-2014
User's Responsibility	This bulletin cannot cover all possible situations which the user may experience during processing. Each aspect of your operation must be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin must be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operation.
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END OF SDS