ATD 3600, ATD-3601

NIPOL® NBR ELASTOMER

Material Safety Data Sheet

may be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910. 1200. Standard must be consulted for specific requirements.

NIPOL® NBR ELASTOMER(GROUP-3)

QUICK IDENTIFIER
Common Name: (used on label and list)

This MSDS applies to the following products: N31/N32/N33/N31AL/DN200/DN201/DN202 DN202H/DN205/DN207/DN211/DN211H/DN212/DN214 DN215/DN218/DN218H/DN221/N31F/N31H/DN207H DN223* *Note: DN223 containing 50 phr of HiGid NBR under same CAS number.

SECTION 1 -

Manufacturer's Name: Nippon Zeon Co., Ltd.

Emergency Telephone No.: Tokyo(03)3216-2387

Address: 2-6-1 Marunouchi, Chiyoda-ku

Other Information Calls:

City, State, and ZIP: Tokyo, Japan

Date Prepared:

Signature of Person Responsible for Preparation (Optional)

SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY

Hazardous Component(s) (chemical & common name(s))	OSHA PEL	ACGIH TLV	Other Exposure Limits	% (optional)	CAS NO.

Chemical Name/Synonyms: Acrylonitrile-butadiene copolymer

CAS Registry No.: 9003-18-3 TSCA Inventory Status: On EPA Inventory

			Exposure Limits	
Ingredients Information	CAS No.	EINECS No	OSHA	ACGIH
Acrylonitrile	107-13-1	2034663	2ppm(TWA)	2ppm (TWA)
			10ppm(c)	A2, skin
Butadiene	106-99-0	2034508	p2ppm(TWA)	10ppm(TWA)
			p15ppm(c)	A2

Note: p=OSHA proposed limit c=Ceiling limit TWA=Time Weighted Average

A2= Suspected Human Carcinogen (ACGIH)

SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

Boiling Point: NA

Specific Gravity (H2O=1): 0.98

Vapor Pressure (mm Hg): NA

Vapor Density (Air = 1): NA

Solubility in Water: Insoluble

Reactivity in Water: NA

Appearance and Odor: Tan to brown slab or bale. A mild odor is characteristic

Melting Point: NA

SECTION 4 - FIRE & EXPLOSION DATA

Flash Point: NA F. C. Method Used: NA

Flammable Limits in Air % by Volume: LEL Lower: NA UEL Upper: NA

Auto-ignition Temperature: NA

Extinguishing Media: Water, protein type foam and all-purpose chemical(ABC)

Special Fire Fighting Procedures: Wear positive pressure self-conditioned breathing apparatus(SCBA) to guard against hazardous decomposition products. Keep unaffected materials cool with water spray.

Unusual Fire and Explosion Hazards: Will burn with emission of dense smoke, combustion products will include toxic gases (e.g. nitrogen oxide, carbon monoxide).

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SECTION 5 – PHYSICAL HAZARDS (REACTIVITY DATA)

Stability Unstable ☐ Stable ☒ — **Conditions to Avoid:** Over heating

Incompatibility (Materials to Avoid): NA

Hazardous Decomposition Products: Smoke, carbon monoxide and dioxide, oxides of nitrogen, toxic nitrogen containing products

Hazardous Polymerization May Occur ☐ Will Not Occur ☒ — **Conditions to Avoid:** NA

SECTION 6 – HEALTH HAZARDS

1. Acute: NA

2. Chronic: None known

Signs and Symptoms of Exposure: Over exposure to decomposition or combustion products will cause irritation of the respiratory tract, eyes and skin. Symtoms such as coughing, tearing, and irritation should be regarded as potentially hazardous and measures taken to avoid exposure.

Medical Conditions Generally Aggravated by Exposure: None known for products as delivered.

Chemical Listed as Carcinogen or Potential Carcinogen — **National Tankology Program:** Yes ☒ No ☐ — **IARC Monographs:** Yes ☐ No ☒ — **OSHA:** Yes ☐ No ☐

Emergency and First Aid Procedures: If irritation occurs or persists from any route of exposure, remove the affected individual from the area. Call a physician. Provide protection before allowing reentry.

ROUTES OF ENTRY

1. Inhalation: Remove the affected individual to fresh air. Consult a physician.
2. Eye: Treat as any foreign particulate matter. Rinse the eye with running water.
3. Skin: Wash skin with soap and water. No effects requiring first aid are expected.
4. Ingestion: Wash out mouth with water. Do not induce vomiting.

SECTION 7 - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be Taken in Handling and Storage: Available data indicate that Nipol NBR Elastomer being listed do not generate acrylonitrile and butadiene monomers in airborne concentration in excess of 1 ppm under expected conditions of processing, use and handling. Store away from direct sunlight in a cool dry area.

Other Precautions

Steps to be Taken in Case Material is Released or Spilled: Sweep, shovel or vacuum crumbs or chunks into containers for reuse or disposal. Dispsit of material is closed, dust tight containers.

Waste Disposal Methods (Consult federal, state, and local regulations): Landfill or incineration in accordance with federal, state and local regulations or requirements of the authorities.

SECTION 8 – SPECIAL PROTECTION INFORMATION/CONTROL MEASURES

Respiratory Protection (Specify Type): Not typically required

Ventilation: Required — **Local Exhaust:** Required — **Mechanical (General):** Required — **Special:** Required if available — **Other:**

Protective Gloves: Recommended to prevent skin contact — **Eye Protection:** Safety glasses. Use goggles

Other Protective Clothing or Equipment: Dust respirator if conditions are dusty

Work/Hygienic Practices:

IMPORTANT
Do not leave any blank spaces. If required information is unavailable, unknown, or does not apply, so indicate.

CU-F1R Printed by Labelmaster, Division of American Labelmark Company, Inc. Chicago, IL 60646-6719 1-800-621-5808 • (312) 478-0900

ATD3600

MATERIAL : NBR 70

Date : 00/12/11

Press Cure
Sheet : 5 min 170℃
Button : 10 min 170℃

Post Cure
Sheet : 1 hrs 120℃
Button : 1 hrs 140℃

Spec:M2BG714A14B14EA14EF11EF21EO14EO34

Original Properties :	Spec.	
Hardness Shore A	70±5	69
Tensile strength psi	2031	2494
Elongation, %	250	260
Tear resistance Kg-cm		45
Modulus at 100%		740
Modulus at 200%		1994
Modulus at 300%		
Specific Gravity		1.240

A14Heat Resistance: 100℃ ×70hr	
Hardness Change	+5
Tensile Strength Change	+6
Elongation Change	-23
Volume Change	- 2

A Heat Resistance: ℃ × hr	
Hardness Change	
Tensile Strength Change	
Elongation Change	
Volume Change	

B14 Compression Set: 100℃ ×22hr	25	13%
B Compression Set: ℃ × hr		
B Compression Set: ℃ × hr		
C ppkm × ℃ × hr		
C ppkm × ℃ × hr		

EA14Water Resistance: 100℃ ×70hr		
Hardness Change	±10	- 1
Tensile Strength Change		+ 3
Elongation Change		-11
Volume Change	±15	+ 4

EO14ASTM #1 Oil: 100℃ ×70hr		
Hardness Change	-5~+10	+ 9
Tensile Strength Change	-25	+ 4
Elongation Change	-45	-22
Volume Change	-10~+5	- 9

EO34ASTM #3 Oil: 100℃ ×70hr		
Hardness Change	-10~+5	-2
Tensile Strength Change	-45	+3
Elongation Change	-45	-18
Volume Change	0~+25	+4

EO ASTM Oil: ℃ × hr	
Hardness Change	
Tensile Strength Change	
Elongation Change	
Volume Change	

EF11Fuel A Resistance: 23℃ ×70 hr		
Hardness Change	±10	- 2
Tensile Strength Change	-25	- 6
Elongation Change	-25	- 7
Volume Change	-5~+10	+ 0

EF21Fuel B Resistance: 23℃ ×70 hr		
Hardness Change	0~-30	- 13
Tensile Strength Change	-60	- 34
Elongation Change	-60	- 30
Volume Change	0~+40	+18

F Low Temperature: ℃ × min		
F Low Temperature: ℃ × min		

TOTAL P.01

1 PG.

ATD3601
1/0 [illegible]
NBR 70

MATERIAL : NBR 70 Date : 00/12/11

Press Cure	Post Cure
Sheet : 5 min 170℃	Sheet : 1 hrs 120℃
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A14Heat Resistance:100℃×70hr		
Hardness Change		+5
Tensile Strength Change		+6
Elongation Change		-23
Volume Change		-2
Heat Resistance: ℃× hr		
Hardness Change		
Tensile Strength Change		
Elongation Change		
Volume Change		
B14 Compression Set:100℃×22hr	25	13%
Compression Set: ℃× hr		
Compression Set: ℃× hr		
pphm × ℃× hr		
pphm × ℃× hr		

BA14Water Resistance:100℃×70hr		
Hardness Change	±10	-1
Tensile Strength Change		+3
Elongation Change		-11
Volume Change	±15	+4
EO14ASTM #1 Oil:100℃×70hr		
Hardness Change	-5~+10	+9
Tensile Strength Change	-25	+4
Elongation Change	-45	-22
Volume Change	-10~+5	-9
EO34ASTM #3 Oil:100℃×70hr		
Hardness Change	-10~+5	-2
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Volume Change	0~+25	+4
EO ASTM Oil: ℃× hr		
Hardness Change		
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Volume Change		
EF11Fuel A Resistance: 23℃×70 hr		
Hardness Change	±10	-2
Tensile Strength Change	-25	-6
Elongation Change	-25	-7
Volume Change	-5~+10	+0
EF21Fuel B Resistance: 23℃×70 hr		
Hardness Change	0~-30	-13
Tensile Strength Change	-60	-34
Elongation Change	-60	-30
Volume Change	0~+40	+18
F Low Temperature: ℃× min		
F Low Temperature: ℃× min		

核准：

TOTAL P.01

2 PG.

7.78 X 1.62

DO NOT SCALE DRAWINGS

REPORT ERRORS TO ENGINEERING

SPECIFICATIONS

AS568 UNIFORM DASH NO. (- 903)

NOMINAL "O.D."= .429 DIA.

NOMINAL "I.D."= .301 DIA.

NOMINAL "W"= .064 DIA.

ACTUAL "I.D."= .294/.308 DIA.

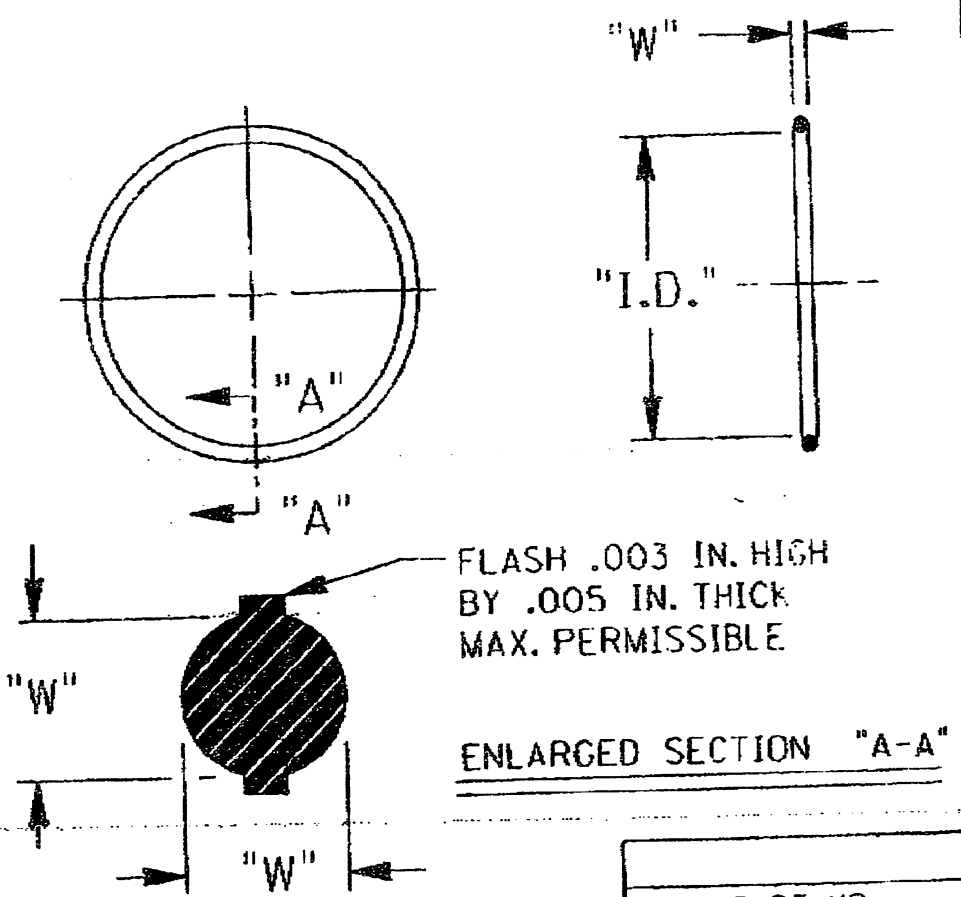
ACTUAL "W"= .061/.067 DIA.

TUBE O.D. (REF.)= .187 DIA.

⑤ RECOMMENDED SOURCE

ENGINEERED SEAL PRODUCTS 3-903

NOTE: 1.) MAT'L; VITON GF IS USED BECAUSE IT COMES IN CONTACT WITH FUEL INJECTION CLEANERS.



311096
USED ON

PART NO.

EXCEPT AS NOTED | MAX. MACHINED SURFACE ROUGHNESS

BREAK EXTERNAL CORNERS = X 45 / R. | INTERNAL RADII = R.

MAT'L. SPEC. ③ VITON GF (V965-70) (F2)

HARDNESS SHORE "A" SCALE (F1) 70 ± 5 | ④ FINISH COATING

DATE	BY	LEVEL	WAS
8-25-98	BP	F2	80 +/-5
8-25-98	BP	F1	V965-80
1-27-95	AMT	5	ADDED
1-27-95	AMT	4	85/95
1-27-95	AMT	3	VITON
1-27-95	AMT	2	UPDATE TO C&D PD32-244-19085
			1/64 5/63 1/64
5-30-80	AMT	1	REDRAWN 8/60
DATE	BY	LEVEL	WAS MF

OTC A division of SPX Corporation
655 Hisenhower Drive
Owatonna, MN 55060-1177

DRAWN BY T. THOMPSON | DATE 5-30-80

CHECKED BY AMT/SL | SCALE NONE

APPROVED BY LAVALLIE | PROJ. ENG. LAVALLIE

PACKING, O-RING (ROUND SECTION)

CODE NO. 7A10B531 | SUB CODE 0000

DWG. NO. 19088 ①