

Railroad Tank Car

Technical Handbook
Part of SecureTrack NAR Terminator™ Program

Gasket Selection

Supply Management

Technical Services

Training

Best Practices



This handbook is a summary of SecureTrack™, the fluid-sealing program that has been developed by Gasket Resources Inc.®(GRI) in coordination with Triangle Fluid Controls Ltd. (TFC) with the objective of the elimination of bolted joint related NAR's.

Step One: Gasket Selection

A complete analysis of available gasket materials was conducted and an updated gasket materials specification was completed with the goal to consolidate gasket selection to one or two materials per fleet.

Step Two: Supply Management

Due to the logistics of supply, Triangle Fluid Controls Ltd. formed an alliance that established authorized DURLON® distributors/cutters strategically located to ensure product availability, authenticity and technical support. This alliance agreement can service all repair facilities both on site and through contract repair facilities.

Step Three: Technical Services

TFC's technical services department has established a database of information related to the bolted joints found within most tank car fleets.

Step Four: Training

TFC is committed to training on proper bolted flange assembly installation procedures. The training covers basic bolted joint design knowledge and the proper installation procedures to ensure a tight and lasting seal.

Step Five: Best Practices

The "Bolted Joint Assembly Procedure" is a part of this document. This is a detailed reference for all flange assembly procedures.



SecureTrack

Eliminate. Consolidate. Alleviate.

*NAR Terminator
by Gasket Resources Incorporated®*

TM

www.SecureTrackProgram.com
www.DurlonSealingSolutions.com
www.TriangleFluid.com

Table of Contents

Durlon® Sheet Gasket Materials for Railroad Tank Cars	1
Durlon® Genuine Viton® Manway Gasket	2
Causes of Gasket Failure	3
Reducing Gasket Failure	3
Bolt Tightening Worksheet	4
Nonpressure Car Hinged and Bolted Manway Worksheet	5
Tank Car Torque Values for Durlon® Gasket Materials	6
Bolt Lubrication/Flange Torque Values for Durlon® Gasket Materials	6
Chemical Resistance Chart	7-12

Style	Composition	Description
8500	Aramid-Inorganic/NBR	Our workhorse material, DURLON® 8500, is excellent in steam, fuels, oils, natural gas, vegetable oils, glycols, inert gases, molten sulfur, alcohols, tall oil, plus many more chemicals. A high quality general service gasket material for use in a wide range of tank car applications for the chemical, pulp and paper, food, beverage, refinery, gas and general industries. FIRE TESTED: DURLON® 8500 passed a modified API 607 fire test.
7900, 7925, 7950 (79XX)	Aramid-Inorganic/NBR	A general service compressed sheet with NBR rubber binder for mild service OEM & railroad applications in steam, hydrocarbons and refrigerants. An economical alternative when service ranges and applications are not severe.

Anti-Stick Properties: Much effort has gone into improving the anti-stick release agents of all compressed DURLON® products. All DURLON® compressed gasket materials have passed the MIL-G-24696B Navy Adhesion Test (366°F/48 hrs).

9000/9000N	Pure PTFE resins with inorganic fillers	DURLON® 9000/9000N is used extensively in aggressive chemicals in the railroad tank car industry. It has been tested and approved for liquid chlorine, caustics, liquid oxygen, and high purity applications in the pharmaceutical industry. The fillers in DURLON® 9000/9000N are engineered shapes, homogeneously blended with pure PTFE resins and do not wick.
9200W	Pure PTFE resins with barium sulfate filler	Suitable for use in aggressive chemicals including caustics, hydrogen peroxide, sodium hypochlorite, nitric acid, liquors. Applications in the chemical, pharmaceutical and plastics industries include butadiene, hydrofluoric acid, vinyl chloride, methyl methacrylates, and styrene. DURLON® 9200W is also used extensively in railroad tank car applications.

Independent testing has shown the fillers in the DURLON® method to be more homogeneously blended than calendered or layered filled PTFE gasket materials, giving DURLON® filled PTFE's more consistent physical and mechanical properties without voids, separation and chemical compatibility problems found in the layered construction method.

Typical Physical Properties

DURLON® Style	8500	79XX	9000/9000N	9200W
Colour:	Green	7900 - Off-White, 7925 - Green, 7950 - Blue	9000 - Blue 9000N- White	Granite White
Style:	Compressed Sheet	Compressed Sheet	Filled PTFE	Filled PTFE
Composition:	Aramid-Inorganic/NBR	Aramid-Inorganic/NBR	Inorganic/PTFE	Barium Sulfate/PTFE
Fluid Services:	Saturated Steam, Oils, Dilute Acids & Alkalis, Solvents, Fuels, Refrigerants	Steam, Water, Oils, Fuels, Dilute Acids & Alkalis, Refrigerants	Steam, Oils, TiO ₂ , ClO ₂ , Liquid Chlorine ¹ , Acids, Caustics, H ₂ O ₂ , Liquid Oxygen ² , Oleum	Steam, Nitric Acid, TiO ₂ , ClO ₂ , H ₂ O ₂ , Liquors, Sulfur Dioxide, Brown Stock, Phosphoric Acid
Temperature, Range:	-73 to 371°C (-100 to 700°F)	-73 to 371°C (-100 to 700°F)	-212 to 271°C (-350 to 520°F)	-212 to 271°C (-350 to 520°F)
Continuous, max:	287°C (548°F)	400°F (204°C)	260°C (500°F)	260°C (500°F)
Pressure Max:	103 bar (1500 psig)	70 bar (1000 psig)	103 bar (1500 psig)	103 bar (1500 psig)
Density, g/cc (lbs/cu. ft):	1.7 (106)	1.7 (106)	2.2 (138)	2.5 (156)
ASTM F36, Compressibility:	8-16%	7-17%	8-16%	8-16%
ASTM F36, Recovery:	50%	40%	40%	35%
ASTM F38, Creep Relaxation:	20%	20%	30%	30%
ASTM F152, Tensile Strength across grain, psi (MPa):	2,000 (13.8)	1,600 (11.0)	2,000 (13.8)	1,920 (13.2)
Fluid Resistance, pH Range (room temperature):	3 to 11	3 to 11	0 to 14	0 to 14
Leakage: DIN 3535	0.03 cc/min	0.05 cc/min	0.01 cc/min	0.01 cc/min
ASTM F104 Line Call-Out:	F712120-A9B3E12K5M6	F712120-A9B3E22K5M5	F452111-A9B5E11K6M6	F452111-A9B5E11K6M5
Notes:	Passed modified API 607 Fire Test		1. Pamphlet 95, The Chlorine Institute 2. O2 Certified - BAM 3. Conforms to 21 CFR 177.1550 for food and drug contact	Conforms to 21 CFR 177.1550 for food and drug contact

Note: ASTM and DIN properties based on 1/16" sheet thickness, except ASTM F38 which is based on 1/32" sheet thickness. This is a general guide only and should not be the sole means of accepting or rejecting this material. The data listed here falls within the normal range of product properties, but should not be used to establish specification limits nor used alone as the basis of design.

Warning: These materials should never be recommended when both temperature and pressure are at the maximum listed. Properties and applications shown are typical. No application should be undertaken by anyone without independent study and evaluation for suitability. Never use more than one gasket in one flange joint, and never reuse a gasket. Improper use or gasket selection could cause property damage and/or serious personal injury. Data reported in this brochure is a compilation of field testing, field service reports and/or in-house testing. While the utmost care has gone into publishing the information contained herein, we assume no responsibility for errors. Specifications and information contained in this brochure are subject to change without notice. This edition cancels and obsoletes all previous editions.

How well do you *really* know your gaskets?

The Challenge

Do you know what grade of FKM you are using?

FKM is a generic designation for fluoroelastomer; but not a material grade. Not all FKM materials are equivalent.

If your FKM fluoroelastomer costs less . . .

Is your FKM blended with other elastomers to reduce cost? Do you know the percentage of FKM in your product? Was your FKM material properly post-cured?

Compromised composition and/or inadequate post-cure . . . is it *really* worth the risk?

The post-cure procedure for fluoroelastomers is time and temperature dependent and affects chemical resistance,

physical, and mechanical properties of the material. The post-cure is extremely important to the performance of your fluoroelastomers. Inadequate post-curing may reduce cost but can lead to premature failure!

The Durlon® Solution

Make sure you are getting the right fluoroelastomer your application requires with Genuine Viton®. The Durlon® brand is your assurance that your gasket is made from 100% Genuine Viton® licensed under the Genuine Viton® program. Newer Viton® grades from DuPont Performance Elastomers, LLC, including those with APA (Advanced Polymer Architecture) technology are available from Triangle Fluid Controls Ltd. and our distributor partners.



Durlon® 100% Genuine Viton® Manway Gaskets

Viton® Grade	Principal End Users	Polymer Composition	Weight % Fluorine
A	General purpose sealing: Automotive, Aerospace Fuels and Lubricants	Dipolymers of VF2/HFP, bisphenol cure	66%
B	Chemical Process Plants, Railroad Tank Cars and Tank Trucks, Power Utility Seals and Gaskets	Terpolymers of VF2/HFP/TFE, bisphenol cure	~68%
GF-S	GF-S has slightly higher fluorine content over A, B, F or GF, which gives improved fluid resistance. GF-S has shown improved compression set and fluid resistance to the older technology GF polymer. Other properties, including low-temperature performance are equivalent.	Terpolymer of VF2/HFP/TFE PLUS Advanced Polymer Architecture technology AND new proprietary cure site monomers (CSM), peroxide cure.	70%

Viton® Properties

Compound No./Style (Colour)	A	B	GF-S
Durometer, Shore A hardness	75	75	75
Low Temperature Flexibility TR-10, °C (°F)	-17 (1)	-13 (9)	-6 (21)
Maximum Temperature °C (°F)	201 (400)	201 (400)	201 (400)

Viton (Elastomer), Torques (ft-lbs)	6-Bolt	8-Bolt
7/8" A449	100	75
1" A307	115	90

(Based on 1500 psi compression and eyebolts lubricated with a never seize type lubricant. See tightening procedure on page 4 of the Railroad Technical Handbook.)

Viton® is a registered trademark of DuPont Performance Elastomers, LLC.

TFC-RRTH-PG2 REV 02/201

Most Bolted Flange Issues Are Usually Installation Related

- Uneven loading of flanges
- Gasket load too low
- Bolt strength too low
- Torque loss
- Bolt Relaxation/Stretch (approximately 10% in first 24 hours)
- Gasket creep
- Vibration in the system
- Thermal cycling
- Elastic interaction during bolt tightening
- Improper gasket installation procedures

TFC Recommendations

Bolt/nut lubrication- lubrication reduces low gasket compression caused by bolt friction.

Through hardened steel washers (ASTM F-436 or similar) also reduce bolt friction.

Belleville spring washers – Create a live load to help reduce the effect of bolt and gasket relaxation.

RETORQUING within 4 to 24 hrs also helps reduce the effect of bolt and gasket relaxation.

Torque loss is inherent in any bolted joint. The combined effects of bolt relaxation, (can be up to 10% during the first 24 hours after installation), gasket creep, vibration in the system, thermal expansion and elastic interaction during bolt tightening contribute to torque loss. When torque loss reaches an extreme, the internal pressure exceeds the compressive force holding the gasket in place and a leak or blow-out occurs.

A key to reducing these effects is proper gasket installation. By bringing the flanges together slowly and parallel when installing a new gasket and taking a minimum of four bolt tightening passes, following the correct bolt tightening sequence or pattern, there is a *payoff in reduced NAR's and maintenance costs while increasing safety.*

Even when the installation is ideal, where the bolt stress is uniformly applied to each bolt, and the gasket is properly compressed, problems can still arise. Inherently with time, loosening can occur due to the factors already mentioned. If other factors such as cycling, thermal upsets, or vibration are present, periodic rechecking of the fastener torque might be necessary.

For problem areas, high temperature applications, or where there is temperature cycling, or where a flange torque cannot be checked, conical spring washers have been found to be very helpful as an aid to torque retention. They act as a spring and help lessen the effects of torque loss.

Reducing Gasket Failures:

PROPER GASKET INSTALLATION PRACTICES

Use the correct components, i.e. bolts/nuts and washers

Lubricate bolts & nut facings

Bring the flanges together slowly and parallel

1. Multiple passes with increasing torque
2. Each pass following proper tightening sequence

Use the thinnest gasket possible

Periodic checking of fastener torque

Use the right method of bolt up for the job

Order of efficiency from least to greatest:

1. Wrench and cheater bar or sledge hammer
2. Air impact gun
3. Torque wrench
4. Hydraulic torque wrench
5. Hydraulic stud tensioners

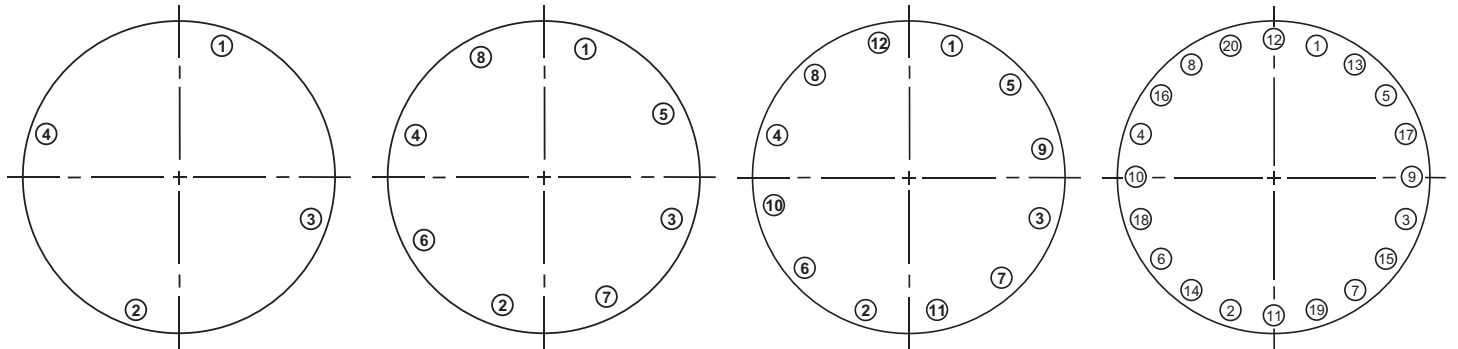
DURLON® GASKETING BOLT TIGHTENING WORK SHEET

Location/Identification: _____ Nominal Bolt Size: _____

Gasket Contact Surface Finish on Flange: _____ Lubricant Used: _____

(Initial each step in space provided below.)

- ____ 1. Visually examine and clean flanges, bolts, nuts and washers. Replace components if necessary.
- ____ 2. Install new gasket. **DO NOT USE MULTIPLE GASKETS.**
- ____ 3. **Lubricate bolts, nuts, AND flange surface AROUND BOLT HOLES.**
- ____ 4. Number bolts in cross-pattern sequence according to the appropriate sketch below.
- ____ 5. Install nuts. **HAND TIGHTEN nuts all around until snug. NEXT, using a torque wrench PRE-TIGHTEN BOLTS to 10-20 ft-lbs torque using the cross-pattern tightening sequence below.**
- ____ 6. **Check gap for uniformity.**
- ____ 7. Use the appropriate cross-pattern tightening sequence in the sketch below to hand tighten, pre-tighten and for Rounds 1, 2, and 3. Each tightening sequence in the sketch below constitutes a "Round".



Target Torque: _____ ft-lbs (from torque table)

LUBRICATE, HAND TIGHTEN, PRE-TIGHTEN, then TIGHTEN, bolts in stages using cross pattern sequence.

Pre-Tighten - Hand Tighten, then 1/4 Turn with hand wrench using a cross pattern tightening sequence.

Round 1 - Tighten to _____ ft-lbs (30% of target torque)

Round 2 - Tighten to _____ ft-lbs (60% of target torque)

Round 3 - Tighten to _____ ft-lbs (100% of target torque)

Check gap around the circumference between each of these rounds, measured at every other bolt. If the gap is not reasonably uniform around the circumference, make the appropriate adjustments by selective bolt tightening before proceeding.

- ____ **Rotational Round** – Starting with Bolt No. 1, tighten in a ROTATIONAL, clockwise tightening sequence at 100% of Final Torque (same as Round 3 above), for at least one complete round. If necessary, continue until no further nut rotation occurs at 100% of the Final Torque value for any nut.

- ____ **Final Round (optional) - RETORQUE** after 4 to 24 hours. A large percentage of the short-term bolt preload loss occurs within twenty-four hours after initial tightening with most occurring after four to five hours. This Round recovers this loss.

TIGHTENING METHOD USED:

____ Hand Wrench ____ Manual Torque Wrench ____ Hydraulic Torque Wrench
____ Impact Wrench ____ Other

Joint Assembler: _____ Date: _____

* For questions contact TFC Technical Services at (866) 537-1133, or tech@trianglefluid.com.

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DURLON® GASKETING NONPRESSURE CAR HINGED & BOLTED MANWAY EYEBOLT TIGHTENING PROCEDURE

CUSTOMER: _____

TANK CAR NO. _____

LOCATION: _____

PART NO. _____

AAR MANWAY STYLE: _____

GASKET DIMENSIONS: _____

(Refer to TFC MW Gasket Style/Size Chart)

GASKET MATERIAL: DURLON® 9000, DURLON® 9600, DURLON® 8500

(Durlon® materials are "Hard" manway gasket styles as noted in Appendix D of M-1002)

EYEBOLT GRADE: A307, A449, A193-B7, A193-B8/B8M Class 2

(Circle one)

EYEBOLT DIAMETER: _____

LUBRICATION USED: _____

ASSEMBLY TORQUE: _____

(From chart below)

ASSEMBLY SEQUENCE

Assembly requires a minimum of 5 steps:

Pretightening. Hand tighten lubricated eyebolts then 1/4 turn with a hand wrench.

Three star pattern tightening sequences in either a 6-bolt or 8-bolt pattern, increasing the torque in each sequence per the chart on the right.

A rotational pass at full torque to equalize the stress on each eyebolt.

Optional. Retorque after 4-24 hrs.

6 Eyebolts

Handtight then 1/4 turn

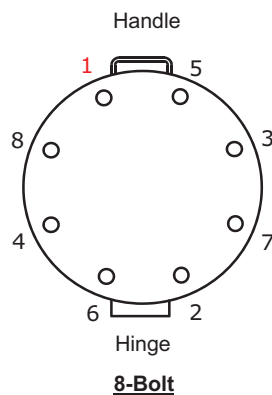
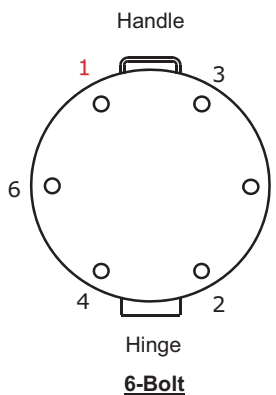
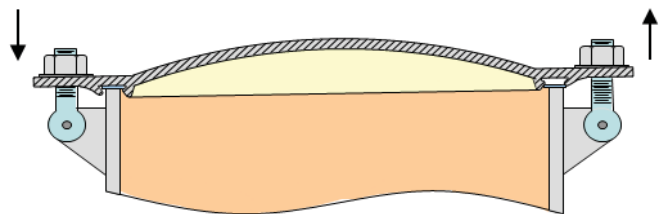
75 ft-lbs	1st Sequence
145 ft-lbs	2nd Sequence
245 ft-lbs	3rd Sequence
245 ft-lbs	Rotational

8 Eyebolts

Handtight then 1/4 turn

65 ft-lbs	1st Sequence
125 ft-lbs	2nd Sequence
210 ft-lbs	3rd Sequence
210 ft-lbs	Rotational

Retorque after 4 to 24 hrs. A large percentage of the short-term bolt preload loss occurs within 24 hours after initial tightening with most occurring after 4 to 5 hours. This Round recovers this loss.

WARNING: Bolts must be tightened in the cross-pattern tightening sequence, employing the incremental rounds of tightening as prescribed in this procedure. If this is not done, the flanges may become out of parallel relative to each other, an indicator of non-uniform gasket loading and potential joint leakage.**MANWAY BOLT TIGHTENING SEQUENCE****FAILURE TO PRE-TIGHTEN THE NUTS COULD
RESULT IN FLANGES THAT ARE NOT PARALLEL, AND
COULD RESULT IN POSSIBLE LEAKAGE**

Joint Assembler: _____

Date: _____

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DURLON® Gaskets; Typical Tank car Torque Values¹

General Purpose Cars¹

Component	Material	Style	Gasket Material/Dimensions			Fasteners/ Grade	Torque (ft-lbs)	
			Thk.	OD	ID		Dry	Lubricated
Manway Cover	Durlon® 9000 (Hard Dimensions)	AAR-1	1/8"	21-5/8"	19-1/2"	1"/A307	250	210
		AAR-1	1/8"	21-5/8"	19-1/2"	7/8"/Gr 1045	215	185
		UTC-1	1/8"	21-1/2"	19-7/16"	1"/A307	250	210
		TRN-1	1/8"	21-11/16"	19-5/8"	7/8"/A449	290 ²	245 ²
	Viton® GF-S (Elastomeric Dimensions)	AAR-1	1/4"	21-11/16"	19-1/2"	1"/A307	85	70
		UTC-1	1/8"	21-1/2"	19-7/16"	1"/A307	85	70
Cover Flange	Durlon® 9000	-	1/8"	17-1/8"	15"	1"/A193-B7	480	410
		-	1/8"	17"	16"	3/4"/J429 Gr 5	200	170
		-	1/8"	16-1/8"	14"	1"/A193-B7	480	410
Air / Liquid Valves	Durlon® 9000	-	1/8"	4-1/8"	2-3/4"	5/8"/A193-B7	120	100
	Durlon® 9200W	-	1/8"	4-1/8"	2-3/4"	5/8"/A193-B8M	55	45
	Durlon® 9000	-	1/8"	5-3/8"	4-1/8"	5/8"/A193-B7	133	113
	Durlon® 9200W	-	1/8"	5-3/8"	4-1/8"	5/8"/A193-B8M	55	45
Gauge Device	Durlon® 9000	-	1/8"	3-3/8"	2-1/2"	3/4"/A193-B7	90	80
		T/G	1/8"	2-1/4"	1-1/2"	5/8"/A193-B7	90 ²	75 ²
Safety Valve	Durlon® 9000	-	1/8"	5-3/8"	4-1/8"	3/4"/A193-B7	155	130
		-	1/8"	5-1/4"	3-5/8"	3/4"/J429 Gr 5	165	140
Bottom Outlet	Viton® GF-S	-	1/8"	7-1/8"	4-1/2"	5/8"/A307	60	50
	Durlon® 9000	-	1/8"	8-1/2"	7-1/2"	3/4"/A193-B7	160	135
		T/G	1/8"	8-7/16"	7-9/16"	3/4"/A574	230	200

¹ Number of bolts, bolt grade and lubrication can vary. A "never seize" type lubricant used for above examples. ² Torque revised April/2014

Pressure Cars

Component	Material	Gasket Material/Dimensions			Fasteners		Torque (ft-lbs) @ 50% yield	
		Thk.	OD	ID	Size	Grade	Never-seize type lube	Halocarbon, or Copper lube
18" Manway	Durlon® 9000	1/8"	20-1/4"	19-1/4"	1-1/8"	A320-L7	610	475
20" Manway		1/8"	22-1/4"	21-1/4"	1-1/8"	A320-L7	610	475
22" Manway		1/8"	24-1/4"	23-1/4"	1-1/8"	A320-L7	610	475
Angle Valve / Gauging Device (Note: (C) if using a Crow's Foot)	Durlon® 9000	1/8"	2-1/4"	1-1/2"	5/8"	A320-L7	75/82 (C)	60/66 (C)
		1/8"	2-1/4"	1-1/2"	3/4"	A320-L7	168/185 (C)	130/144 (C)
		1/8"	4"	3-1/4"	3/4"	A320-L7	168/185 (C)	130/144 (C)
PRD/Safety (Note: (C) if using a Crow's Foot)	Durlon® 9000	1/8"	2-1/4"	1-1/2"	3/4"	A320-L7	168/185 (C)	130/144 (C)
		1/8"	4-3/4"	4"	3/4"	A320-L7	168/185 (C)	130/144 (C)
		1/8"	6-3/4"	6"	7/8"	A320-L7	273/300 (C)	212/233 (C)

* Special configuration. (C) designates a torque using a crow's foot wrench.

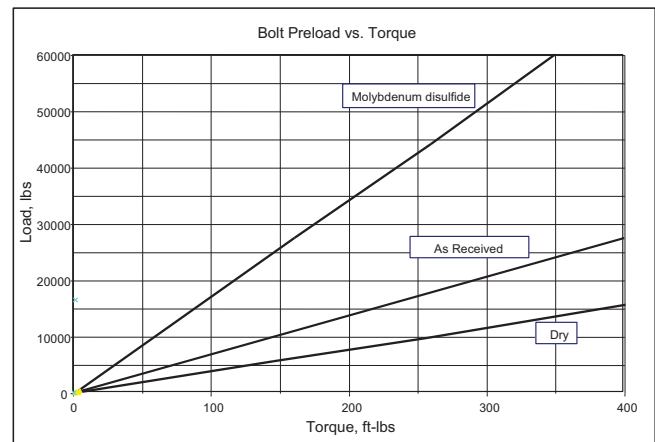
For torque worksheet by car set, contact TFC Technical Services at (866) 537-1133, or tech@trianglefluid.com.

The Effect of Bolt Lubrication

Bolt lubrication greatly affects the torque values used when installing gaskets. To achieve the same gasket compression, a much higher torque value is required for a dry bolt versus using an effective lubricant such as molybdenum disulfide.

In a dry bolt up, or where an inefficient lubricant is used, the effort used in tightening is overcome by the frictional forces between the bolts and nuts and to a greater extent between the nuts and nut facings.

This can result in a lower gasket load and inadequate stress on the bolts, which can result in torque loss and eventual leakage in service.



Viton® is a registered trademark of DuPont Performance Elastomers LLC.

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The following information is a general guide only for the selection of a suitable gasket material as there are unlimited combinations of fluid, pressure and temperature conditions

A - Acceptable
C - Caution - Depends on Conditions
NS - Not Suitable

FLUID	8500 79XX	9000	9200W	FLUID	8500 79XX	9000	9200W	FLUID	8500 79XX	9000	9200W
Acetaldehyde	C	A	A	Ammonia Gas, <150 F	A	A	A	Biphenyl (Diphenyl)	NS	A	A
Acetamide	A	A	A	Ammonia Contaminated with Benzene (UTLX 83593, ACFX 99228, 83789)	-	A	A	Bisphenol (4,4'-Isopropylidenediphenol)	NS	A	A
Acetic Acid, 37%	A	A	A	Ammonia, Liquid, Anhydrous	A	A	A	Boric Acid Solution	A	A	A
Acetic Acid, Glacial	C	A	A	Ammonia-Aqua (Ammonium Hydroxide)	A	A	A	Boron Trichloride (Boron Chloride)	-	A	A
Acetic Anhydride	C	A	A	Ammonium Bisulfide	A	A	A	Boron Trifluoride (Boron Fluoride)	-	A	A
Acetone	C	A	A	Ammonium Carbonate Solution	A	A	A	Brake Fluid (Hydraulic Fluid Petroleum-Based)	A	A	A
Acetonitrile	NS	A	A	Ammonium Hydroxide	A	A	A	Brine	A	A	A
Acetophenone	-	A	A	Ammonium Nitrate	A	A	A	Bromine	NS	A	A
Acetyl Chloride	-	A	A	Ammonium Nitrate Solution	A	A	A	Bromochloromethane (Halon 1011)	NS	A	A
Acetyl Tributyl Citrate	-	A	A	Ammonium Perchlorate	-	A	A	Bromochloropropane (Trimethylene Chlorobromide)	NS	A	A
Acrol Flex Polyol Mixture	-	A	A	Ammonium Phosphate Solution	A	A	A	Bunker C Oil	A	A	A
Acrolein (acrylaldehyde)	C	A	A	Ammonium Sulfamate Solution	-	A	A	Bunker Oil	A	A	A
Acrylamide	-	A	A	Ammonium Sulfate Solution	A	A	A	Butadiene (1,3 Butadiene)	NS	A	A
Acrylic Acid	NS	A	A	Ammonium Sulfide	A	A	A	Butane	A	A	A
Acrylic Emulsion	-	A	A	Ammonium Sulfide Solution	A	A	A	Butanediol	C	A	A
Acrylic Resin Solution	-	A	A	Ammonium Sulfite Solution	A	A	A	Butanol	A	A	A
Acryloid Oil Additive	-	A	A	Ammonium Thiocyanate	C	A	A	Butanol Acid	NS	A	A
Acryloid Oil Additive (in flammable solvent)	-	A	A	Ammonium Thiosulfate	A	A	A	Butene (Butylene)	A	A	A
Acryloid Oil Additive (in nonflammable solvent)	-	A	A	Ammonium Thiosulfate Solution	A	A	A	Butyl Acetate (n-; sec-; tert- Butyl Acetate)	NS	A	A
Acrylonitrile	NS	A	A	Amyl Acetate (Banana Oil; Pear Oil)	NS	A	A	Butyl Acrylate (n-Butyl Acrylate)	NS	A	A
Adipic Acid Solution	C	A	A	Amyl Chloride (1-Chloropentane)	NS	A	A	Butyl Alcohol (1-Butanol)	A	A	A
Alcohol Bottoms	-	A	A	Amyl Mercaptan	NS	A	A	Butyl Amine	NS	A	A
Alcohol NOS (Not Otherwise Specified)	-	A	A	Amyl Nitrate	NS	A	A	Butyl Benzyl Phthalate (BBP)	NS	A	A
Alcohol-Beverage	C	A	A	Amyl Nitrite	NS	A	A	Butyl Carbitol (Diethylene Glycol Monobutyl Ether)	NS	A	A
Alkyd Resin	A	A	A	Amyl Phenol	NS	A	A	Butyl Cellosolve (Ethylene Glycol Monobutyl Ether)	NS	A	A
Alkyl Benzene	NS	A	A	Amyl Trichlorosilane	NS	A	A	Butyl Chloride (Chlorobutane)	NS	A	A
Alkyl Benzene Sulfonate (or Sulfonic Acid)	NS	A	A	Amylene	NS	A	A	2,4-D, Butyl Ester	NS	A	A
Alkyl Phenol Ethoxylate	-	A	A	Amylene (1-Pentene)	NS	A	A	Butyl Ether (n-Dibutyl Ether)	NS	A	A
Alkylamine	-	A	A	Aniline (Aminobenzene)	NS	A	A	Butyl Glycol	C	A	A
Alkylbenzene, C10-C16	C	A	A	Animal Feed Solution	A	A	A	Butyl Lactate (n-Butyl Lactate)	NS	A	A
Alkylsulfonic Acid	NS	A	A	Animal Oils (Tallow)	A	A	A	Butyl Lithium (n-Butyllithium)	NS	A	A
Allyl Alcohol	A	A	A	Anthraquinone	NS	A	A	Butyl Mercaptan (Butanethiol)	NS	A	A
Allyl Bromide (3-Bromopropene)	-	A	A	Anitmony Pentachloride (Anitmony Perchloride)	NS	A	A	Butyl Methacrylate	NS	A	A
Allyl Chloride	-	A	A	Argon	A	A	A	Butyl Oleate	NS	A	A
Allyl Trichlorosilane	-	A	A	Arochlor (Polychlorinated Biphenyl; PCB)	NS	A	A	Butyl Phenol (o-sec-Butylphenol)	C	A	A
Alpha Methyl Styrene	NS	A	A	Aromatic Concentrate	-	A	A	Butyl Propionate (n-Butyl Propionate)	NS	A	A
Alum	A	A	A	Arsenic Acid (Orthoarsenic Acid)	A	A	A	Carbon Black Oil	A	A	A
Alumina Trihydrate Slurry (Aluminum Hydroxide)	A	A	A	Asphalt	A	A	A	Carbon Black	A	A	A
Aluminum Ammonium Sulfate (Ammonium Alum)	A	A	A	Atrazine (2-Chloro-4-Ethylamino-6-Isopropylamino-s-Triazine)	NS	A	A	Carbon Dioxide	A	A	A
Aluminum Chloride	A	A	A	Aviation Gasoline 100 LL	A	A	A	Carbon Disulfide (Carbon Bisulfide)	A	A	A
Aluminum Chloride Solution	A	A	A	Barium Chlorate Solution	A	A	A	Carbon Tetrachloride (Tetrachloromethane)	A	A	A
Aluminum Fluoride Solution	NS	-	A	Base Oil	A	A	A	Carbowax Polyethylene Glycol 400	C	A	A
Aluminum Sulfate (Alum)	A	A	A	Benzaldehyde (Benzoic Aldehyde)	NS	A	A	Carboxybenzene (Benzoic Acid Solution)	NS	A	A
Aluminum Sulfate, Food Grade	A	A	A	Benzene	NS	A	A	Castor Oil	A	A	A
Aluminum Triethyl (Triethylaluminum)	-	A	A	Benzenephosphorous Dichloride	NS	A	A	Caustic Soda	C	A	A
Aluminum Trimethyl (Trimethylaluminum)	-	A	A	Benezenesulfonic Acid (Phenylsulfonic Acid)	NS	A	A	50% Caustic	C	A	A
Amines (Mixed)	NS	A	A	Benzoic Acid	NS	A	A	Cayenne Pepper Mash	A	A	A
para-Aminodiphenylamine	NS	A	A	Benzenophenone (Cyasorb)	NS	A	A	Cellosolve Acetate	NS	A	A
Aminoethylethanol Amine (Hydroxyethylethylenediamine)	-	A	A	Benzoyl Chloride	NS	A	A	Cetyl Alcohol (1-Hexadecanol)	NS	A	A
Aminoethylpiperazine	-	A	A	Benzyl Alcohol (Alpha-Hydroxytoluene)	NS	A	A	Chloral (Trichloroacetaldehyde)	-	A	A
Aminophenol Solution (Hydroxyaniline)	-	A	A	Benzyl Chloride (Alpha-Chlorotoluene)	NS	A	A	Chloral Hydrate	-	A	A
Aminothiazole (2-Thiazylamine)	-	A	A	Benzyl Fatty Quaternary Ammonium Chloride	NS	A	A	Chlordane	NS	A	A

FLUID	8500 79XX	9000	9200W
Chlorinated Paraffin	-	A	A
Chlorinated Phosphate Ester	NS	A	A
Chlorine	NS	A	A
Chloroacetic Acid	-	A	A
Chloroacetyl Chloride	-	A	A
Chloroaniline (o-,p-,Aminochlorobenzene)	-	A	A
Chlorobenzaldehyde	NS	A	A
Chlorobenzene (Monochlorobenzene)	NS	A	A
Chlorobenzenethiol (p-Chlorothiophenol)	NS	A	A
Chlorobenzotrifluoride	NS	A	A
Chlorodifluoroethane	NS	A	A
Chlorodifluoromethane	NS	A	A
Chloroform (Trichloromethane)	NS	A	A
Chloroformate - see Poly Oxybutylene Chloroformate	NS	A	A
Chloro-IPC (Isopropyl-n-(3-Chlorophenyl) Carbamate)	NS	A	A
Chloronaphthalene	NS	A	A
Chloronitrobenzene (Nitrochlorobenzene)	NS	A	A
Chlorophenyl Isocyanate (p-Chlorophenyl Isocyanate)	NS	A	A
Chloropicrin (Trichloronitromethane)	NS	A	A
Chlorosulfonic Acid (Sulfuric Chlorohydrin)	NS	A	A
Chlorotoluene	NS	A	A
Chocolate	A	A	A
Choline Chloride	-	A	A
Chrome Plating Solutions	NS	-	A
Chromic Acid	-	A	A
Citric Acid	A	A	A
Citronella (Citronella Oil)	A	A	A
Clay Slurry	A	A	A
Coal Tar	A	A	A
Coal Tar Light Oil, Ashland	A	A	A
Coal Tar Oil	A	A	A
Coal Tar Pitch	A	A	A
Coconut Fatty Alcohol	A	A	A
Coconut Oil	A	A	A
Cod Liver Oil	A	A	A
Copper (II) Sulphate Solution	A	A	A
Copper Chloride Solution	A	A	A
Corn Gluten Meal	A	A	A
Corn Oil	A	A	A
Corn Syrup	A	A	A
Cotton Seed Oil	A	A	A
Creosote	A	A	A
meta-Cresol	NS	A	A
para-Cresol	NS	A	A
Cresol (Cresylic Acid)	NS	A	A
tert-Butyl-m-Cresol	NS	A	A
meta-Cresylic Acid	NS	A	A
Cresyl Diphenyl Phosphate	NS	A	A
Cresylic Acid	NS	A	A
Crotonaldehyde (2-Butenal)	NS	A	A
Crude Methyl Propanediol	NS	A	A
Crude Oil	A	A	A
Crude Sulfate Turpentine	NS	A	A
Crude Vegetable Oil (See Vegetable Oil)	A	A	A
Cumene (Isopropylbenzene)	NS	A	A
para-Cumylphenol	NS	A	A
Cyclohexane (Hexamethylene)	A	A	A
Cyclohexanol (Hexahydrophenol)	A	A	A
Cyclohexanone (Pimelic Ketone; Ketohexamethylene)	NS	A	A
Cyclohexene (1,2,3,4-Tetrahydrobenzene)	C	A	A

FLUID	8500 79XX	9000	9200W
Cyclohexylamine (Hexahydroaniline)	NS	A	A
cyclopentadiene	NS	A	A
cyclopentane (Pentamethylene)	C	A	A
Cyclopropane Carbonitrile	NS	A	A
Decanol (Decyl Alcohol)	A	A	A
Detergents	A	A	A
Dextrose	A	A	A
Diacetone Alcohol	NS	A	A
Diacid Chloride (IsoPhthaloyl Chloride)	NS	A	A
Diallylamine (di-2-Propenylamine)	NS	A	A
Diaminodiphenylmethane (4,4-Methylenedianiline)	NS	A	A
Diammoniumphosphate Solution	A	A	A
Diamylamine (Di-n-Pentylamine)	NS	A	A
Diamylphenol (1-Hydroxy-2,4-Diamylbenzene)	NS	A	A
Diamylphthalate	NS	A	A
Diazinon	NS	A	A
Dibenzyl Sebacate	NS	A	A
Dibromochloropropane (DBCP)	NS	A	A
Dibutyl Fumarate	NS	A	A
Dibutyl Maleate (DBM)	NS	A	A
Dibutyl Phthalate	NS	A	A
Dibutyl Sebacate	NS	A	A
Dibutylamine	NS	A	A
Dibutylcresol	NS	A	A
Dibutyltin Dilaurate	NS	A	A
Dicapryl Phthalate (DCP)	NS	A	A
Dichloroacetaldehyde	NS	A	A
Dichloroaniline	NS	A	A
Ortho-Dichlorobenzene	NS	A	A
Para-dichlorobenzene	NS	A	A
Dichlorobenzene (Para- or Ortho-Dichlorobenzene)	NS	A	A
Dichlorobenzene Mix	NS	A	A
Dichlorobutane (Tetramethylene Dichloride; DCB)	NS	A	A
Dichlorodifluoromethane (R-12)	NS	A	A
Dichloroethylene (Dichloroacetylene)	NS	A	A
Dichloromethyl Ether	NS	A	A
Dichloromonofluoromethane (R-21)	NS	A	A
Dichlorophenol	NS	A	A
2,4-D (2,4-Dichlorophenoxyacetic Acid)	NS	A	A
Dichloropropane	NS	A	A
Dichloropropionic Acid (Dalapon Herbicide)	NS	A	A
Dichlorotetrafluoroethane (R-114)	NS	A	A
Dicyclohexylamine	NS	A	A
Dicyclopentadiene	NS	A	A
Dicyclopentadiene 75% (DCPD)	NS	A	A
Diesel Fuel (Fuel Oil #2)	A	A	A
Diethanolamine	NS	A	A
Diethyl	NS	A	A
Diethyl Carbonate	NS	A	A
Diethyl Formamide	NS	A	A
Diethyl Phosphite	NS	A	A
Diethyl Phosphorochloridothionate (ETHYL PCT)	NS	A	A
Diethyl Phthalate (DEP)	NS	A	A
Diethyl Sulfate	NS	A	A
Diethyl Sulfide	NS	A	A
Diethylaluminum Chloride (DEAC)	C	A	A
Diethylamine	NS	A	A
Diethylbenzene	NS	A	A
Diethylene Glycol	A	A	A
Diethylene Glycol Diethyl Ether	A	A	A

FLUID	8500 79XX	9000	9200W
Diethylene Glycol Monoethyl Ether	A	A	A
Diethylene Glycol Monoethyl Ether Acetate	A	A	A
Diethylene Glycol Monomethyl Ether	A	A	A
Diethylene Glycol Monopropyl Ether	A	A	A
Diethylenetriamine	NS	A	A
Diethylenetriamine Pentanoic Acid	NS	A	A
Diethylethanolamine (Diethylaminoethanol)	NS	A	A
Diethylketone (Metacetone, Propione)	NS	A	A
Difluoroethane (Ethylidene Fluoride)	NS	A	A
Diisobutyl Carbinol (2,6-Dimethyl-4-Heptanol)	NS	A	A
Diisobutyl Ketone	NS	A	A
Diisobutyl Phenol	NS	A	A
Diisobutyl Phthalate	NS	A	A
Diisobutylene	A	A	A
Diisodecyl Adipate	NS	A	A
Diisodecyl Phthalate	NS	A	A
Diisooctyl Azelate (DIOZ)	NS	A	A
Diisooctyl Phthalate	NS	A	A
Diisopropanolamine	NS	A	A
Diisopropyl Ether	A	A	A
Diisopropylamine	NS	A	A
Dilauryl-3,3'-Thiodipropionate	C	A	A
Dimer Acid	-	A	A
n,n-Dimethyl Acetamide (DMAC)	NS	A	A
n,n-Dimethyl Aniline	NS	A	A
Dimethyl Ether (Methyl Ether)	NS	A	A
Dimethyl Ethyl Ammonium	-	A	A
Dimethyl Formamide	NS	A	A
o,o-Dimethyl Phosphorochloridothioate	-	A	A
Dimethyl Phthalate	NS	A	A
Dimethyl Sebacate	NS	A	A
Dimethyl Sulfate (Methyl Sulfate)	A	A	A
Dimethyl Sulfide (Methyl Sulfide)	NS	A	A
Dimethyl Sulfoxide (DMSO)	NS	A	A
Dimethyl Terephthalate	NS	A	A
Dimethylamine, Anhydrous (DMA)	NS	A	A
Dimethylamine, Aqueous	NS	A	A
Dimethylaminopropylamine	NS	A	A
Dimethylbenzene	NS	A	A
Dimethyldichlorosilane (Dichlorodimethylsilane)	NS	A	A
Dimethylethanolamine (2-Dimethylaminoethanol)	NS	A	A
n,n-Dimethylethanolamine (DMEA)	NS	A	A
Dimethylformamide (n, n-Dimethylformamide, DMF)	NS	A	A
Dimethylhexane	NS	A	A
Dimethylhydrazine (UDMH)	NS	A	A
Dimethylhydroxylamine	NS	A	A
Dimethylol Propionic Acid	NS	A	A
Dinitrobenzene (o-,m-,p-Dinitrobenzene)	NS	A	A
Dinitrochlorobenzene	NS	A	A
Dinitrochlorobenzotrifluoride	NS	A	A
Dinitrophenol (2, 4-Dinitrophenol)	NS	A	A
Dinitrotoluene (2, 4-; 3, 4-; 3, 5-Dinitrotoluene)	NS	A	A
Diocetyl Adipate (Di[2-Ethylhexyl] Adipate)	NS	A	A
Diocetyl Azelate (Di[2-Ethylhexyl] Azelate)	NS	A	A
Diocetyl Maleate	NS	A	A
Diocetyl Phthalate	NS	A	A
Diocetyl Sebacate	NS	A	A
Dioxane (Diethylene Ether)	NS	A	A
Dipentene (Cinene)	A	A	A
Diphenyl	NS	A	A

TFC/DURLON® Railroad Tank Car Chemical Resistance Chart Page 10

FLUID	8500 79XX	9000	9200W	FLUID	8500 79XX	9000	9200W	FLUID	8500 79XX	9000	9200W
Diphenyl Ether	NS	A	A	Ethyl Toluide	NS	A	A	Glycolonitrile Solution	C	A	A
Diphenyl Oxide	NS	A	A	Ethylaluminum Sesquichloride (EASC)	NS	A	A	Glyoxal Solution	-	A	A
Diphenylamine (n-Phenylaniline) (DPA)	NS	A	A	Ethylamine, Anhydrous (Monoethylamine)	NS	A	A	Halon 1011 (Bromochloromethane)	NS	A	A
Diphenyldichlorosilane	NS	A	A	Ethylamine, Aqueous (Aqueous Monoethylamine)	NS	A	A	Helium	A	A	A
n-Dipropylamine	NS	A	A	Ethylaniline (n-Ethylaniline)	NS	A	A	Heptane	A	A	A
Dipropylene Glyco Monomethyl Ether	A	A	A	Ethylbenzene (Phenylethane)	NS	A	A	Heptanoic Acid	NS	A	A
Dipropylene Glycol (2,2'-Dihydroxydodpropylether)	A	A	A	Ethylene	A	A	A	3-Heptanol	C	A	A
Dipropylene Glycol Dibenzoate	A	A	A	Ethylene Benzene	NS	A	A	Hexachlorocyclopentadiene	NS	A	A
Disodium EDTA Solutions	A	A	A	Ethylene Chlorobromide	NS	A	A	Hexadecyldimethylamine	NS	A	A
Disodium Iminodiacetate	C	A	A	Ethylene Chlorohydrin	NS	A	A	Hexadecyltrichlorosilane	NS	A	A
Disodium Phosphate (Sodium Phosphate, Dibasic)	A	A	A	Ethylene Dibromide (EDB, 1,2-Dibromoethane)	NS	A	A	Hexamethylene Diamine	NS	A	A
Disulfide Oil	-	A	A	Ethylene Dichloride	NS	A	A	Hexane	A	A	A
Ditertiary Amyl (Diamyl) Phenol	NS	A	A	Ethylene Glycol (1,2-Ethanediol)	A	A	A	Hexanol	C	A	A
Ditertiary Butyl Phenol	NS	A	A	Ethylene Glycol Monobutyl Ether Acetate	NS	A	A	Hexene (n-Hexene)	NS	A	A
Ditridecyl Phthalate (Plasticizer)	NS	A	A	Ethylene Oxide (Oxirane)	NS	A	A	Hexyl Alcohol	C	A	A
Ditridecylphthalate (DTDP) (Jayflex)	NS	A	A	Ethylene Vinyl Acetate Copolymer, <150°F	NS	A	A	Hexylene Glycol	A	A	A
Divinylbenzene (Vinylstyrene)	NS	A	A	Ethylendiamine (1,2-Diaminoethane)	NS	A	A	Hexyltrichlorosilane	NS	A	A
Dodecanol (Lauryl Alcohol)	A	A	A	2-Ethylhexanol	A	A	A	hexynol	-	A	A
Dodecyl Benzene Sulfonate	NS	A	A	2-Ethylhexoic Acid (Butylethylacetic Acid)	NS	A	A	Hydrazine	C	A	A
Dodecyl Mercaptan (DDM)	-	A	A	2-Ethylhexyl Acrylate	NS	A	A	Hydrazine (Aqueous Solution)	C	A	A
Dodecylaniline	NS	A	A	Ethylidene Norbornene (ENB)	NS	A	A	Hydroabietyl Alcohol	NS	A	A
Dodecylbenzene	NS	A	A	Fatty Acid	A	A	A	Hydrobromic Acid	NS	A	A
Dodecylbenzenesulfonic Acid (DDBSA)	NS	A	A	Fatty Acid Esters of Coconut Oil	NS	A	A	Hydrocarbon Gas	A	A	A
Dodecyl-Pentadecyl Methacrylate UDM	NS	A	A	Fatty Alcohol	A	A	A	Hydrochloric Acid	NS	A	A
Dodecylphenol	NS	A	A	Fatty Alcohol, C10-12	A	A	A	Hydrocyanic Acid (Hydrogen Cyanide)	A	A	A
Dodecyltrichlorosilane	NS	A	A	Fatty Alcohol, C12-14	NS	A	A	Hydrofluoric Acid, Aqueous	NS	NS	NS
Dowtherm-A	NS	A	A	Fatty Alcohol, C14-C18	NS	A	A	Hydrofluoric Acid (60-80%)	NS	NS	NS
Dowtherm-E	NS	A	A	Fatty Amine	NS	A	A	Hydrofluoric Acid Anhydrous	NS	NS	NS
Drilling Mud	A	A	A	Ferric Chloride	A	A	A	Hydrofluoric Acid, Anhydrous (Hydrogen Fluoride)	NS	NS	NS
Emulsifiers	A	A	A	Ferric Chloride Solution	A	A	A	Hydrofluosilicic Acid Solution	NS	NS	A
Epichlorohydrin (Chloropropylene Oxide)	NS	A	A	Ferrous Chloride Solution	A	A	A	Hydrofluosilicic Acid	NS	NS	A
Ethane	A	A	A	Ferrous Sulfate Solution	A	A	A	Hydrogen Chloride	NS	A	A
Ethanol	A	A	A	Fertilizer Ammoniation Solution with free Ammonia	A	A	A	Hydrogen Chloride (HCl, Anhydrous)	NS	A	A
Ethanolamine (Monoethanolamine, 2-Aminoethanol)	NS	A	A	Fish Oil	A	A	A	Hydrogen Fluoride Anhydrous	NS	NS	NS
Ethoxylated Alcohol	NS	A	A	Fish Solubles	A	A	A	Hydrogen Peroxide Solution	NS	A	A
Ethoxylated Fatty Alcohols	NS	A	A	Fluorophosphoric Acid	NS	NS	C	Hydrogen Peroxide	NS	A	A
Ethyl 3-ethoxypropionate	NS	A	A	Fluorosulfonic Acid	-	A	A	Hydrogen Sulfide	C	A	A
Ethyl Acetate	NS	A	A	Foots (soapstock)	A	A	A	Hydroxyacetic Acid Solution	C	A	A
Ethyl Acetoacetate	NS	A	A	Formaldehyde	A	A	A	Hydroxyethyl Piperazine	NS	A	A
Ethyl Acrylate	NS	A	A	Formaldehyde Solution	A	A	A	Hydroxylamine	NS	A	A
Ethyl Alcohol (Ethanol, Grain Alcohol)	A	A	A	Formamide	NS	A	A	Ink	A	A	A
Ethyl Amyl Ketone (EAK, 5-Methyl-3-Heptanone)	NS	A	A	Formic Acid	NS	A	A	Isoamyl Acetate	NS	A	A
Ethyl Bromide (Bromoethane)	NS	A	A	Freon	C	A	A	Isoamyl Alcohol	A	A	A
Ethyl Butanol (2-Ethylbutyl Alcohol)	A	A	A	Freon 11 (Trichlorofluoromethane)	A	A	A	Isoamylene	NS	A	A
Ethyl Butyl Ketone (3-Heptanone)	NS	A	A	Freon 114 (Dichlorotetrafluoroethane)	A	A	A	Isobutane (Butane)	A	A	A
Ethyl Chloride	NS	A	A	Freon 12 (Dichlorodifluoromethane)	A	A	A	Isobutanol	C	A	A
Ethyl Dichlorosilane (Dichloroethylarsine)	NS	A	A	Freon 141-B (Dichlorofluoroethane)	A	A	A	Isobutene (Isobutylene)	A	A	A
Ethyl Dimethyl Propylamine	NS	A	A	Freon 22 (Chlorodifluoromethane)	NS	A	A	Isobutyl Acetate	NS	A	A
Ethyl Ether	NS	A	A	Fuel Oil	A	A	A	Isobutyl Acrylate	NS	A	A
Ethyl Formate	NS	A	A	Fuel Oil (No. 3, 4, 5, 6, & heavy)	A	A	A	Isobutyl Alcohol	C	A	A
Ethyl Hexaldehyde (2-Ethylhexanal)	NS	A	A	Fumaric Acid Solution	A	A	A	Isobutylamine	NS	A	A
Ethyl Hexanol	A	A	A	Furfural	NS	A	A	Isobutyl Isobutyrate	NS	A	A
Ethyl Hexoic Acid	NS	A	A	Furfuryl Alcohol	NS	A	A	Isobutyl Methacrylate	NS	A	A
Ethyl Hitec 436 (Same as Petroleum Oil Additives)	A	A	A	Gasoline	A	A	A	Isobutylene (Isobutene, 2-Methylpropene)	A	A	A
Ethyl Isopropyl Ketone	NS	A	A	Gasoline Fuel Additives	A	A	A	Isobutyraldehyde	NS	A	A
Ethyl Mercaptan (Ethanethiol)	NS	A	A	General Service	A	A	A	Isobutyric Acid	NS	A	A
Ethyl Methacrylate	NS	C	C	Gluconic Acid Solution	NS	A	A	Isobutyronitrile	NS	A	A
Ethyl Methyl Ether	NS	A	A	Glucose	A	A	A	Isocyanate	A	A	A
Ethyl Morpholine (n-Ethylmorpholine)	NS	A	A	Glue	A	A	A	Isodecanol	C	A	A
Ethyl Nitrite	NS	A	A	Glutaraldehyde	NS	A	A	Isodecanol Mixed Isomers	C	A	A
Ethyl Oxalate	NS	A	A	Glycerides, Mono & Di	NS	A	A	Isononanoic Acid	-	A	A
Ethyl Phosphonothiodichloride	NS	A	A	Glycerin	A	A	A	Isononyl Alcohol	-	A	A
Ethyl Silicate (Tetraethyl Orthosilicate)	A	A	A	Glycol	A	A	A	Isooctyl Ester 2,4-D,	NS	A	A
Ethyl Trichlorosilane	NS	A	A	Glycol Ethers	C	A	A	Isooctyl Isodecyl Phthalate	NS	A	A

FLUID	8500 79XX	9000	9200W	FLUID	8500 79XX	9000	9200W	FLUID	8500 79XX	9000	9200W
Isopentane	A	A	A	Methyl Cresol	NS	A	A	Neohexane	A	A	A
Isophorone	NS	A	A	Methyl Cyclohexylamine	NS	A	A	Neooctanoic Acid	-	A	A
Isoprene	C	A	A	Methyl Dichlorosilane	NS	A	A	Neopentanoic Acid (Pivalic Acid, Trimethylacetic Acid)	-	A	A
Isopropanol	A	A	A	Methyl Diisocyanate	NS	A	A	Neopentyl Glycol	-	A	A
Isopropanolamine	NS	A	A	Methyl Diphenyl Diisocyanate (MDI)	NS	A	A	Nitric Acid	NS	A	A
Isopropyl Acetate	NS	A	A	Methyl Ester	NS	A	A	Nitrotriactic Acid	NS	A	A
Isopropyl Amine (Isopropanol Amine)	NS	A	A	Methyl Ethyl Ketone	NS	A	A	Nitroanilines	NS	A	A
Isopropyl Aniline	NS	A	A	Methyl Ethyl Pyridine	NS	A	A	o-Nitroaniline	NS	A	A
Isopropyl Benzene	NS	A	A	n-Methyl Glucamine Aqueous Solution	NS	A	A	Nitrobenzene	NS	A	A
Isopropyl Cellosolve	NS	A	A	n-Methyl Glucamine	NS	A	A	Nitrochlorobenzene (chloronitrobenzene)	NS	A	A
Isopropyl Ether	C	A	A	Methyl Isoamyl Ketone	NS	A	A	ortho-Nitrochlorobenzene	NS	A	A
Isopropyl Mercaptan	NS	A	A	Methyl Isobutyl Ketone (MIBK)	NS	A	A	para-Nitrochlorobenzene	NS	A	A
Isoquinoline	NS	A	A	Methyl Isocyanate	NS	A	A	Nitrocresol	NS	A	A
Jet Fuel	A	A	A	Methyl Isopropenyl Ketone	NS	A	A	Nitroethane	NS	A	A
Kerosene	A	A	A	Methyl Mercaptan (Methanethiol)	NS	A	NS	Nitrogen	A	A	A
Kvna Sulfonic Acid/Heptane Solution	-	A	A	Methyl Methacrylate	NS	A	A	Nitrogen Fertilizer Solution (< 40 psia)	C	A	A
Lacquer Thinner (Solvent)	-	A	A	Methyl Methacrylate Monomer	NS	A	A	Nitrogen Dioxide	NS	A	A
Lacquers, Nitrocellulose	NS	A	A	Methyl Naphthyl Ketone	NS	A	A	Nitrogen Fertilizer Solution	-	A	A
Lactic Acid	A	A	A	Methyl Oleate	NS	A	A	Nitrogen Solution, 19%	A	A	A
Lanolin	A	A	A	Methyl Parathion Insecticide	-	A	A	para-Nitrophenetole	NS	A	A
Latex	A	A	A	Methyl Pentamethylene Diamine	NS	A	A	para-Nitrophenol Solution	NS	A	A
Lauric Acid	NS	A	A	3-Methyl Piperidine	NS	A	A	2-Nitropropane	NS	A	A
Lauryl Methacrylate	NS	A	A	Methyl Propyl Carbinol	NS	A	A	ortho-Nitrotoluene	NS	A	A
Lead Arsenate	A	A	A	Methyl Styrene (Vinyl Toluene)	NS	A	A	ortho-Nitroxylol	NS	A	A
Lead Arsenite	A	A	A	Methyl Tert. Butyl Ether (MTBE)	A	A	A	Nonene	A	A	A
Light Fuel Oil	A	A	A	Methyl Trichlorosilane	NS	A	A	t-Nonyl Mercaptan	NS	A	A
Lignin Liquor	C	A	A	Methyl Vinylpyridine	NS	A	A	para-Nonyl Phenol	NS	A	A
Lignin Sulfonate	C	A	A	Methylaluminum Sesquibromide	-	A	A	Nonylene	-	A	A
Limestone Slurry	A	A	A	Methylamine, Anhydrous (Monomethylamine)	NS	A	A	Nonylphenol	NS	A	A
Linseed Oil	A	A	A	Methylamine, Aqueous	NS	A	A	Octadecene	C	A	A
Liquefied Petroleum Gas (LPG)	A	A	A	Methylaniline	NS	A	A	Octadecyltrichlorosilane	NS	A	A
Liquid Corn Oil	A	A	A	Methylcyclohexanol	NS	A	A	Octane	A	A	A
Liquid Sugar	A	A	A	Methyldiethanolamine	NS	A	A	Octanoic Acid	NS	A	A
L-Lysine Monohydrochloride Liquid	NS	A	A	Methylene Bromide	NS	A	A	Octene	A	A	A
LPG (Not Propylene or Butadiene)	A	A	A	Methylene Chloride	NS	A	A	Octyl Alcohol	A	A	A
Lube Oil	A	A	A	Methylene Diisocyanate	NS	A	A	tert-Octylamine	NS	A	A
Lube Oil Additives	A	A	A	Methylene Diphenyldiisocyanate (MDI)	NS	A	A	Octyl Decyl Phthalage	NS	A	A
Lubricating Oil	A	A	A	n-Methylformamide	NS	A	A	Octyl Phenol	NS	A	A
Lubricating Oil Additives	A	A	A	Methylglutaronitrile	NS	A	A	Octyl Trichlorosilane	NS	A	A
Lysine (monohydrochloride)	NS	A	A	3-Methylmercaptopropanal	NS	A	A	Olefins	A	A	A
Magnesium Calcium Brine	A	A	A	Methylnaphthalene	NS	A	A	Oleic Acid	A	A	A
Magnesium Chloride	A	A	A	Methylpyrrolidone (n-Methyl-2-Pyrrolidone)	NS	A	A	Oleum	NS	A	NS
Magnesium Hydroxide (Milk of Magnesia)	A	A	A	2-Methylthiopropionaldehyde Oxime	NS	A	A	Orange Juice	A	A	A
Magnesium Hydroxide Solution	A	A	A	Mineral Oil	A	A	A	Oxygen	-	A	A
Magnesium Perchlorate Solution	C	A	A	Mineral Spirit	A	A	A	Oxygen Gas	-	A	A
Magnesium Sulfonate	C	A	A	Mixed C4 Hydrocarbons	A	A	A	Palmitic Acid	A	A	A
Maleic Acid	A	A	A	Molasses	A	A	A	Paraffin Oil	A	A	A
Maleic Anhydride	NS	A	A	Molten Sulfur	A	A	A	Paraffin Wax	A	A	A
Manganese Sulfate Solution	A	A	A	Monochlorodifluoroethane	NS	A	A	Paraldehyde	NS	A	A
Melamine Formaldehyde	NS	A	A	Monochlorodifluoromethane (R-22)	NS	A	A	Paranitrophenetole	NS	A	A
p-Menthane Hydroperoxide	-	A	A	Monochlorotrifluoroethane	NS	A	A	Parathion	A	A	A
Mesityl Oxide	NS	A	A	Monoethanolamine	NS	A	A	Pelargonic Acid	-	A	A
Methacrylic Acid	NS	A	A	Monomethyl Ether (Methyl Carbitol)	A	A	A	Penta Erythritol Slurry	NS	A	A
Methane	A	A	A	Monomethylamine	NS	A	A	Pentachloroethane	NS	A	A
Methanol	A	A	A	Monosodium Acid Methanearsonate (MSMA)	C	A	A	Pentachlorophenol (solution)	NS	A	A
Methoxydihydropyran	NS	A	A	Monosodium Methylarsonate Solution	C	A	A	Pentaerythritol Solution	NS	A	A
Methyl Acetate	NS	A	A	Morea Pre-Mix	-	A	A	Pentane	A	A	A
Methyl Aceto Acetate	NS	A	A	Morpholine	NS	A	A	Pentene	A	A	A
Methyl Acetone	NS	A	A	Motor Fuel Antiknock Comp.	-	A	A	2-Pentenitrile	NS	A	A
Methyl Acrylate	NS	A	A	Myristic Acid	-	A	A	Perchloroethylene	NS	A	A
Methyl Alcohol (Methanol)	A	A	A	N-Methyltaurine	NS	A	A	Perchlorothane	NS	A	A
Methyl Aluminum Sesquichloride	-	A	A	Naphtha	A	A	A	Petrolatum	A	A	A
Methyl Amyl Acetate	NS	A	A	naphtha, Coal-Tar	A	A	A	Petroleum Oils	A	A	A
Methyl Amyl Alcohol (Methyl Isobutyl Carbinol)	NS	A	A	Naphtha, Petroleum	A	A	A	Petroleum Gas Oil	A	A	A
Methyl Amyl Ketone	NS	A	A	Naphthalene	NS	A	A	Petroleum Oil Additive	A	A	A
Methyl Bromide (Bromomethane)	NS	A	A	Naphthalene Disulfonic Acid	NS	A	A	p-Phenetidine	NS	A	A
Methyl Butene	NS	A	A	Naphthenic Acid	NS	A	A	Phenol	NS	A	A
Methyl butyl Ketone	NS	A	A	Naphthol	NS	A	A	Phenol-Formaldehyde (Phenolic resin)	NS	A	A
Methyl Butynol	NS	A	A	Natural Latex	A	A	A	Phenolic Resin	NS	A	A
Methyl 'Cellosolve' (Ethylene glycol monomethyl ether)	NS	A	A	Natural Gas Liquids	A	A	A	Phenosulfonic Acid	NS	A	A
Methyl Chloride (Chloromethane)	NS	A	A	Neatsfoot Oil	A	A	A	Phenyl Mercaptan	NS	A	A
Methyl chloroformate	NS	A	A	Neodecanoic Acid	-	A	A	Phenyl Methyl Ketone	NS	A	A

TFC/DURLON® Railroad Tank Car Chemical Resistance Chart Page 12

FLUID	8500 79XX	9000	9200W	FLUID	8500 79XX	9000	9200W	FLUID	8500 79XX	9000	9200W
Phenylacetaldehyde	NS	A	A	Propylene (Propene)	NS	A	A	Spearmint Oil	A	A	A
para-Phenylene Diamines	NS	A	A	Propylene Dichloride	NS	A	A	Spent Caustic	A	A	A
Phenylethyl Alcohol	NS	A	A	1,2-Propylene Glycol	A	A	A	Spent Sulfuric Acid	NS	A	C
ortho-Phenylphenol	NS	A	A	Propylene Glycol Monomethyl Ether	A	A	A	Sperm Oil	A	A	A
Phenyltrichlorosilane	NS	A	A	Propylene Glycol Monomethyl Ether	NS	A	A	Steam (350 Degrees Max.)	A	A	A
Phosgene (carbonyl chloride)	NS	A	A	Propylene Oxide	NS	A	A	Stearic Acid	A	A	A
n-Propyl Mercaptan	NS	A	A	Propyltrichlorosilane	NS	A	A	Stearyl Alcohol	NS	A	A
Phosphatic Fertilizer Solution	-	A	A	Pyridine	NS	A	A	Styrene	NS	A	A
Phospholeum (Super Phos Acid)	NS	A	A	Pyroxylin Solution	-	A	A	Styrene - Butadiene	NS	A	A
Phosphoric Acid	NS	A	A	Quinoline	NS	A	A	Sucrose Acetate Isobutyrate	NS	A	A
Phosphorus	NS	A	A	Rapeseed Oil	A	A	A	Sugar	A	A	A
Phosphorus, White or Yellow	NS	A	A	Refrigerant Gases	A	A	A	Sugar Solution	A	A	A
Phosphorus Chlorides	NS	A	A	Resins	A	A	A	Sulfate Turpentine	A	A	A
Phosphorus Oxychloride	NS	A	A	Resorcinol Formaldehyde Resin, Liquid	NS	A	A	Sulfated Alcohol Ethoxylate	NS	A	A
Phosphorus Pentachloride	NS	A	A	Rosin	A	A	A	Sulfur	A	A	A
Phosphorus Trichloride	NS	A	A	Rosin Oil	A	A	A	Sulfur Chloride	NS	A	A
Phthalate Esters, Mixed	NS	A	A	Rosin Solution	A	A	A	Sulfur Dichloride	NS	A	A
Phthalic Anhydride	NS	A	A	Rosin Esther	NS	A	A	Sulfur Dioxide	NS	A	A
Picoline	A	A	A	Rubber Solvent	NS	A	A	Sulfur, Molten	A	A	A
Pine Oil	A	A	A	Rubber Extender Oil	-	A	A	Sulfur Trioxide	NS	A	A
Pinene	A	A	A	Safflower Oil	A	A	A	Sulfuric Acid	NS	A	NS
Piperazine	NS	A	A	Salicylaldehyde	NS	A	A	Sulfuryl Chloride	NS	A	A
Piperylene	NS	A	A	5-Ethyl-n-Cyclohexyl-n-Ethylthiocarbamate	NS	A	A	Sunflower Oil	A	A	A
Piperylene Concentrate	NS	A	A	Sevin (1-Naphthyl Methyl Carbamate)	NS	A	A	Superphosphoric Acid	NS	NS	C
Pitch	A	A	A	Silicon Tetrachloride	NS	A	A	Tall Oil	A	A	A
Pivalic Acid (Neopentanoic Acid)	C	A	A	Silicone Oil	NS	A	A	Tall Oil Brine	A	A	A
Plastic, Liquid	A	A	A	Sizing	A	A	A	Tall Oil Crude	A	A	A
Polyalphaolefin	A	A	A	Soap Solutions (skimmings)	A	A	A	Tall Oil Fatty Acid	A	A	A
Polyaluminum Hydroxychloride	-	A	A	Soapstock (Same as Detergents)	A	A	A	Tall Oil Pitch	A	A	A
Polyamine H	NS	A	A	Sodium	NS	C	C	Tallow	A	A	A
Polybutene	-	A	A	Sodium Aluminate	A	A	A	Tallow/Coconut Type Fatty Acid Blends	A	A	A
Polycaprolactam Waste Water	-	A	A	Sodium Benzothiazole	NS	A	A	Ortho-TDA	-	A	-
Polychlorinated Biphenyl	NS	A	A	Sodium Bichromate	A	A	A	Terpene	NS	A	A
Polyester Resin	-	A	A	Sodium Bisulfate Solution	A	A	A	Terpene Polychlorinates	NS	A	A
Polyester Resin Solution in Styrene	NS	A	A	Sodium Bisulfide (Hydrosulfide)	A	A	A	tert-Butyl-m-Cresol	NS	A	A
Polyether Triol	NS	A	A	Sodium Bisulfite Solution	A	A	A	Tert-Dodecyl Mercaptan	NS	A	A
Polyethyl Benzene	NS	A	A	Sodium Bromide	-	A	A	Tetra Chloro Pyridine	NS	A	A
Polyethylene Glycol	A	A	A	Sodium Carbonate (solution)	A	A	A	Tetrachlorobenzene	NS	A	A
Polyglycerol	A	A	A	Sodium Chlorate (solution)	A	A	A	1,1,2,2-Tetrachloroethane	NS	A	A
Polyglycol	A	A	A	Sodium Chloride	A	A	A	1-Tetradecanol	A	A	A
Polyisobutylene Amine	NS	A	A	Sodium Cresylate (solution)	NS	A	A	Tetradecene	NS	A	A
Polyisocyanates	NS	A	A	Sodium Cyanide (solution)	A	A	A	Tetraethyl Lead (TEL)	C	A	A
Polyols	-	A	A	Sodium Dibutylthiocarbamate	NS	A	A	Tetraethylene Glycol	A	A	A
Polyoxybutylene Chloroformate	NS	A	A	Sodium Dichromate (solution)	A	A	A	Tetraethylenepentamine	NS	A	A
Polyoxyethylene Ether	NS	A	A	Sodium Diethylenetriamine Pentaacetate	NS	A	A	1,1,1,2-Tetrafluoroethane	NS	A	A
Polypropylene, Amorphous	-	A	A	Sodium Dimethyl Dithiocarbamate	NS	A	A	Tetrahydro Benzaldehyde	NS	A	A
Polypropylene Glycol	A	A	A	Sodium Ferrocyanide Solution	A	A	A	Tetrahydrobenzaldehyde	NS	A	A
Polystyrene	-	A	A	Sodium Formate	NS	A	A	Tetrahydrofuran (THF)	NS	A	A
Polyvinyl Acetate Solution	-	A	A	Sodium Formate Solution	NS	A	A	Tetrahydrofurfuryl Alcohol	NS	A	A
Polyvinyl Chloride Emulsion	-	A	A	Sodium Hydrosulfide	A	A	A	Tetrahydronaphthalene	NS	A	A
Polyvinyl Methyl Ether	-	A	A	Sodium Hydroxide (solution)	C	A	A	Tetrapotassium Pyrophosphate (60%)	NS	A	A
Positek 8617 Paper Making Aid	NS	A	A	Sodium Hypochlorite Solution	C	A	A	Tetrasodium EDTA (Sequestrene 38)	A	A	A
Potash	A	A	A	Sodium Isocyanates	A	A	A	Therminol	NS	A	A
Potash Alum Solution	A	A	A	Sodium Lauryl Sulfate	A	A	A	Thionyl Chloride	NS	A	A
Potassium Carbonate Solution	A	A	A	Sodium Lignosulfonate	C	A	A	Thiophosphoryl Chloride	NS	A	A
Potassium Cyanide Solution	A	A	A	Sodium Mercaptobenzothiazole (MBT)	NS	A	A	Tin Tetrachloride (Stannic Chloride)	NS	A	A
Potassium Ferrocyanide Solution	A	A	A	Sodium Methylate	NS	A	A	Titanium	A	A	A
Potassium Fluoride Solution	A	A	A	Sodium n-Methylthio Carbamate Solution (Metam Sodium)	NS	A	A	Titanium Dioxide (Slurry)	A	A	A
Potassium Hydroxide	C	A	A	Sodium Nitrate Liquor	A	A	A	Titanium Tetrachloride	NS	A	A
Potassium Phenylacetate Solution	NS	A	A	Sodium Nitrate (solution)	A	A	A	Toluene	NS	A	A
Potassium Phosphate Solution	A	A	A	Sodium Phenate	NS	A	A	Toluene Diamine	NS	A	A
Potassium Resinate	-	A	A	Sodium Poly Acrylate	NS	A	A	Toluene Diisocyanate (TDI)	NS	A	A
Potassium Silicate Solution	A	A	A	Sodium Silicate	A	A	A	Toluene/Xylene Mixture	NS	A	A
Propane	A	A	A	Sodium Silicate Solution	A	A	A	ortho-Toluidine	NS	A	A
Propane Butane Mix	A	A	A	Sodium Sulfhydrylate Solution	A	A	A	Tomato Paste	A	A	A
Propanoic Acid (Propionic Acid)	A	A	A	Sodium Sulfide	A	A	A	Toxaphene	A	A	A
Propargyl Alcohol	-	A	A	Sodium Sulfide Solution	A	A	A	Transformer Oil (petro or mineral base)	A	A	A
beta-Propiolactone	NS	A	A	Sodium Sulfite Solution	A	A	A	Transmission Fluid	A	A	A
Propionaldehyde	NS	A	A	Sodium Sulfonate	NS	A	A	Triacetin	A	A	A
Propionic Acid	A	A	A	Sodium Sulfonates	NS	A	A	Triallate Technical	-	A	A
Propyl Acetate	NS	A	A	Sodium Toluene Sulfonate	NS	A	A	Triazinyl Stilbene	NS	A	A
Propyl Alcohol	A	A	A	Sodium-n-Lauroyl Sarcosinate	A	A	A	Tributoxyethyl Phosphate	NS	A	A
Propyl Mercaptan	NS	A	A	Solvents	C	A	A	Tributylamine	NS	A	A
Propylamine	NS	A	A	Sorbitol	A	A	A	Tributyl Phosphate	NS	A	A
Propylene	A	A	A	Soy Bean Oil	A	A	A	1,2,3-Trichlorobenzene	NS	A	A

FLUID	8500 79XX	9000	9200W	FLUID	8500 79XX	9000	9200W	FLUID	8500 79XX	9000	9200W
1,2,4 -Trichlorobenzene	NS	A	A	Trimethylamine, Aqueous	NS	A	A	Vinyl Methyl Ether	NS	A	A
1,3,5 -Trichlorobenzene	NS	A	A	TRIMETHYLCHLOROSILANE	NS	A	A	Vinyl Propionate	NS	A	A
1,1,1-TRICHLOROETHANE	NS	A	A	Trimethylol Propane	NS	A	A	Vinyl Resin	-	A	A
Trichloroethylene	NS	A	A	Triphenyl Phosphite	NS	A	A	Vinyl Toluene (Methyl Styrene)	NS	A	A
Trichloromonofluoromethane	NS	A	A	Tripropylene Glycol	A	A	A	Vinyl Trichlorosilane	NS	A	A
Trichlorophenol	NS	A	A	Tris-2-chloroethyl Phosphite	NS	A	A	Vinylcyclohexene	NS	A	A
Trichlorosilane	NS	A	A	Trisodium Nitrilotriacetate Solution	NS	A	A	Vinylidene Chloride	NS	A	A
Trichlorotrifluoroethane	NS	A	A	Tung Oil	A	A	A	Vinylpyridine	NS	A	A
Tricresyl Phosphate	NS	A	A	Turpentine	A	A	A	Waste Derived Fuel	A	A	A
Tridecyl Alcohol	A	A	A	Urea	A	A	A	Waste Oil	A	A	A
Tridecylbenzene	NS	A	A	Urea Ammonia	A	A	A	Waste Water	A	A	A
Triethanolamine	NS	A	A	Urea Formaldehyde	A	A	A	Wax	A	A	A
Triethanolamine Lauryl Sulfate	NS	A	A	Urea Formaldehyde Resin Liquid	A	A	A	Whiskey	A	A	A
Triethyl Citrate	NS	A	A	Urea Solution	A	A	A	White Mineral Oil	A	A	A
Triethyl Phosphate	NS	A	A	Urea/Ammonium Nitrate	A	A	A	Wood Sugar Molasses	A	A	A
Triethylamine	NS	A	A	n-Valeraldehyde	NS	A	A	XUS 15643.00I Experimental Formulated Polyol	-	A	A
Triethylene Glycol	A	A	A	Valeric Acid	NS	A	A	XUS 16111.00 Experimental Copolymer Polyol	-	A	A
Triethylene Glycol Dipelargonate	A	A	A	Vanillin Black Liquor	A	A	A	Xylene	NS	A	A
Triethylenetetramine	NS	A	A	VCM	NS	A	A	ortho-Xylene	NS	A	A
Triisobutylene	NS	A	A	Vegetable Oil	A	A	A	meta-Xylene	NS	A	A
Triisopropanolamine	NS	A	A	Vinyl Acetate	NS	A	A	para-Xylene	NS	A	A
Trimethylchlorosilane	NS	A	A	Vinyl Acrylic Copolymer	NS	A	A	Xylidine	NS	A	A
Trimethyl Pentanediol	NS	A	A	Vinyl Bromide	NS	A	A	Zinc Chlorate Solution	-	A	A
Trimethyl Pentanediol Mono-Isobutyrate	NS	A	A	Vinyl Butyl Ether	NS	A	A	Zinc Chloride Solution	A	A	A
Trimethyl Phosphate	NS	A	A	Vinyl Chloride (VCM)	NS	A	A	Zinc Dimethyldithiocarbamate	NS	A	A
Trimethyl Phosphite	NS	A	A	Vinyl Ether	NS	A	A	Zinc Sulfate	A	A	A
Trimethylacetic Acid (Neopentanoic Acid, Pivalic Acid)	A	A	A	Vinyl Ethyl Ether	NS	A	A				
Trimethylamine, Anhydrous (TMA)	NS	A	A	Vinyl Fluoride	NS	A	A				

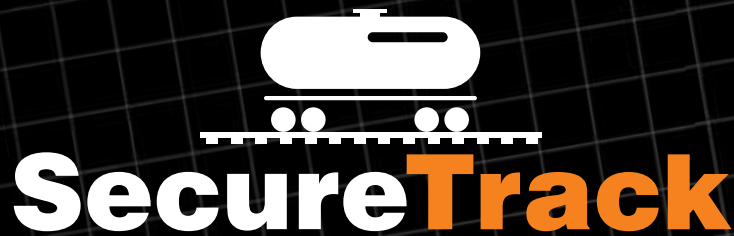
* Durlon® 9000 is listed in Pamphlet 95 of the Chlorine Institute, as an acceptable gasket material for dry chlorine (liquid & gas) service. Gaskets for chlorine or oxygen service should be cleaned before installation.

This information is a general guide for the selection of a suitable gasket material. The substances listed above are evaluated for their effect on the gasket materials at ambient temperature (-40°C to 38°C, or -40°F to 100°F) unless stated otherwise. For unusual conditions of fluid concentrates, internal pressures or temperature, consult your representative. This evaluation is based on laboratory or field tests, or experience; however, no guarantee can be given as to the actual performance experienced by the end user.

This Chemical Resistance Chart supersedes and obsoletes all previously issued charts.

Please go to our website for additional chemical listings.

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Eliminate. Consolidate. Alleviate.

*NAR Terminator™
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The SecureTrack™ Difference

- Materials: Highly reliable and compatible rail gaskets with Durlon® 9000 and Genuine Viton® gasket materials.
- Training: Hands-on training for technicians.
- Supply Management: Strategically located distribution.
- Technical Services: Offers engineering support.
- Precision Maintenance Procedure: Best practices/procedures to ensure safety.
- Complete tank car gasket kits provided for easy identification and traceability.

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- Standardization: Maintain proper inventory by having the right gasket every time with no chance of using the wrong gasket type.
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- Performance: Durlon® 9000 is a proven rail gasket. The Genuine Viton® gaskets are produced and marked with complete documentation.
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- Safety: Best practices assembly procedures ensure safety is the priority.
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Triangle Fluid Controls Ltd. regards people as its most important resource

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Our product development team is tirelessly working on the next innovative Durlon® fluid sealing solution for critical service applications. Durlon® sealing products have been designed, laboratory and field tested as proven before they are introduced into the industries we serve so that we are confident that Durlon products will perform well every day. That is the Durlon® commitment to you, our valued customer. Visit www.trianglefluid.com to locate some of the specialized industries we serve and related information specific to your industry. We value your interest in TFC and our Durlon® sealing products and look forward to working with you.

Standardization:

Terminate NARs in your fleet by reducing installation and gasket selection errors through standardization.

If you would like to discuss participating in the SecureTrack™ program and learn more about how Durlon® or Genuine Viton® gaskets are compatible for your product shipments, please contact Triangle Fluid Controls Ltd. at 1-866-537-1133 or info@trianglefluid.com.



www.TriangleFluid.com
www.SecureTrackProgram.com
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www.TriangleFluid.com
www.SecureTrackProgram.com
info@TriangleFluid.com

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Triangle Fluid Controls Ltd.[®]

399 College St E. • Belleville, ON K8N 5S7
P 613-968-1100 • TF 866-537-1133 • F 613-968-1099
www.trianglefluid.com • www.durlonsealingsolutions.com
info@trianglefluid.com