SEALING SYSTEMS

Engineering Equipment for Sanitary Applications

ISO Gaskets

Viton™ compound material has excellent mechanical, chemical and heat resistance properties. The formulation is a superior blend that is especially good for hard vacuum service because of its high molecular weight and low gas permeability. It has been used to -54°C (-65°F) in some static seals. Flexibility, 18°C (64°F) to 200°C (392°F) under continuous duty and will take 316°C (600°F) for short periods of time.

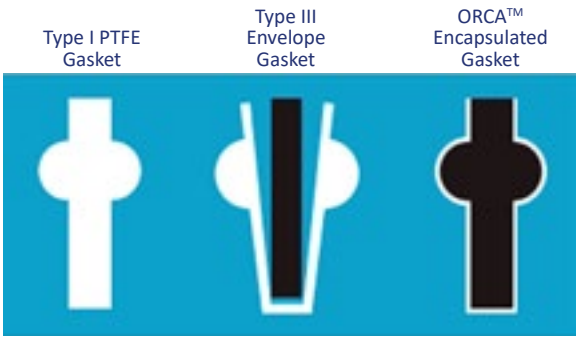
Teflon®/Teflon® Envelope material has been a standard in the industry and is a registered trademark of DuPont. Teflon® fluoropolymer has excellent performance properties in almost all enviromental conditions with excellent resistance to weather, heat, steam, abrasion, acid, petroleum oil and vegetable oil. This products made with Teflon® fluoropolymer are unsurpassed in the industry for sanitation requirements and are in compliant with FDA and USP VI citeria. Operating temperature ratings, -110°F to 450°F.

Orca Encapsulated Gasket is made from EPDM that has been chemically bonded to a thin layer of PTFE, encapsulating the EPDM.
This combination of materials gives the gasket the chemical resistance of PTFE while greatly reducing the traditional problems associated with PTFE/Teflon® hygienic seals.

- Improved Resistance to Cold Flow & Creep
- Improved Flexibility
- Improved Sealing Performance
- Ultra-Low Extractables
- Superior Chemical Resistance
- No Pigmentation
- No Intrusion
- Non-Stick Surface
- FDA and USP Class VI Compliant

Silicone material is known for its standard of purity and non-leaching characteristics. Its ability to withstand many chemicals and combinations of chemicals is the reason it is so popular with the pharmaceutical industry. Silicone has excellent low temperature flexibility - to -73,33oC (-100°F) in dry heat. 204°C (400°F) is the maximum for continuous duty with 316°C (600°F) possible for short periods of time. Rated at 26,66°C to 204°C (-80°F to 400°F) .
*** short term 316°C (600°F)**

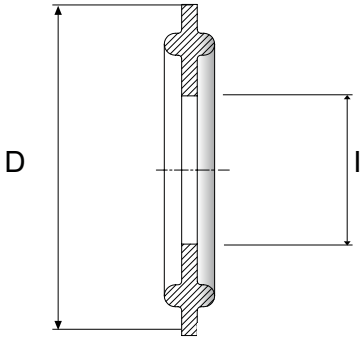
EPDM (ethylene propylene diene monomer rubber) is excellent for hot water and steam service up to 163°C (325°F). It is very abrasion resistant and has excellent resistance to ozone, sunlight or weather and de-ionized water. EPDM alsohas good tensile strength and good resistance to mild acids, alkalis and alcohols. Rated -54°C (-65°F) to 176°C (350°F) (short term to 204°C (400°F).



GASKETS

SMS 3019 — Tri-Clamp Style Gasket STANDARD

Nominal Size	I(ID)	D (OD)	Ordering Code
	mm	mm	
12	10,2	34,0	12-TCI.*
18	16,2	34,0	20-TCI.*
25	22,8	50,5	25-TCI.*
33,7	31,5	50,5	32-TCI.*
38	35,8	50,5	38-TCI.*
51	48,8	64,0	51-TCI.*
63,5	60,5	77,5	63-TCI.*
76,1	73,1	91,0	76-TCI.*
88,9	85,1	106,0	80-TCI.*
101,6	97,8	119,0	100-TCI.*
114,3	110,5	130,0	115-TCI.*
139,7	135,9	155,0	140-TCI.*
168,3	163,3	183,0	168-TCI.*
219,1	214,1	233,5	219-TCI.*



***For choosing materials, see the table below**

Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Envelope PTFE/EPDM	GREP	GREP.RX
Envelope PTFE/FKM	GRV	GRV.RX
EnvelopePTFE/ FKM (White)	GRVW	GRVW.RX
Orca FDA-Class VI		TB.RX

*CLASS VI available on request

Ordering Example

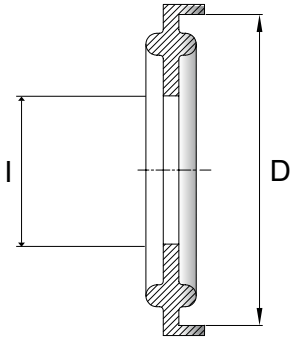
Description	Nomimal Size	Ordering Code
Type TCI	12	12-TCI.BW

***Material and Surface are inclouding to the ordering code**

SEALING SYSTEMS

SMS 3019 Tri-Clamp Style Gasket FLANGED

Nominal Size	I(ID)	D (OD)	Ordering Code
12	10,2	34,0	12-TCI.L.*
18	16,2	34,0	20-TCI.L.*
25	22,8	50,5	25-TCI.L.*
33,7	31,5	50,5	32-TCI.L.*
38	35,8	50,5	38-TCI.L.*
51	48,8	64,0	51-TCI.L.*
63,5	60,5	77,5	63-TCI.L.*
76,1	73,1	91,0	76-TCI.L.*
88,9	85,1	106,0	80-TCI.L.*
101,6	97,8	119,0	100-TCI.L.*
114,3	110,5	130,0	115-TCI.L.*
139,7	135,9	155,0	140-TCI.L.*
168,3	163,3	183,0	168-TCI.L.*
219,1	214,1	233,5	219-TCI.L.*



***For choosing materials, see the table below**

Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Envelope PTFE/EPDM	GREP	GREP.RX
Envelope PTFE/FKM	GRV	GRV.RX
EnvelopePTFE/ FKM (White)	GRVW	GRVW.RX
Orca FDA-Class VI		TB.RX

*CLASS VI available on request

Ordering Example

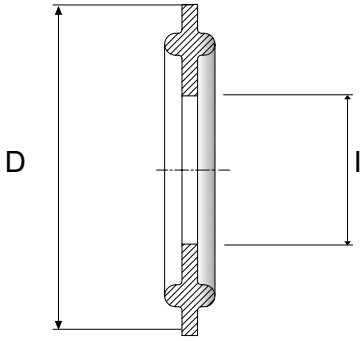
Description	Nomimal Size	Ordering Code
Type TCI.L.	12	12-TCI.L.BW

***Material and Surface are inclouding to the ordering code**

GASKETS

SMS 2852 — Tri-Clamp Style Gasket STANDARD

Nominal Size	I(ID)	D (OD)	Ordering Code
	mm	mm	
25	22,80	50,50	25-TCM.*
33,7	31,50	50,50	32-TCM.*
38	35,80	50,50	38-TCM.*
40	37,80	64,00	40-TCM.*
51	48,80	64,00	51-TCM.*
63,5	60,50	77,50	63-TCM.*
70	67,00	91,00	70-TCM.*
76,1	73,10	91,00	76-TCM.*
88,9	85,10	106,00	88-TCM.*
101,6	97,80	119,00	100-TCM.*
114,3	110,50	130,00	115-TCM.*
139,7	135,90	155,00	140-TCM.*
168,3	163,30	183,00	168-TCM.*
219,1	214,30	233,50	219-TCM.*



***For choosing materials, see the table below**

Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Envelope PTFE/EPDM	GREP	GREP.RX
Envelope PTFE/FKM	GRV	GRV.RX
EnvelopePTFE/ FKM (White)	GRVW	GRVW.RX
Orca FDA-Class VI		TB.RX

*CLASS VI available on request

Ordering Example

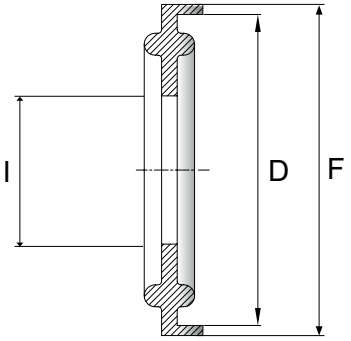
Description	Nomimal Size	Ordering Code
Type TCM	25	25-TCM.BW

***Material and Surface are inclouding to the ordering code**

GASKETS

SMS 2852 Tri-Clamp Style Gasket FLANGED

Nominal Size	I(ID)	D (OD)	F	Ordering Code
	mm	mm		
25	22,80	50,50	52,70	25-TCM.L.*
33,7	31,50	50,50	52,70	32-TCM.L.*
38	35,80	50,50	52,70	38-TCM.L.*
40	37,80	64,00	66,20	40-TCM.L.*
51	48,80	64,00	66,20	51-TCM.L.*
63,5	60,50	77,50	79,70	63-TCM.L.*
70	67,00	91,00	93,20	70-TCM.L.*
76,1	73,10	91,00	93,20	76-TCM.L.*
88,9	85,10	106,00	108,20	88-TCM.L.*
101,6	97,80	119,00	121,20	100-TCM.L.*
114,3	110,50	130,00	132,20	115-TCM.L.*
139,7	135,90	155,00	157,20	140-TCM.L.*
168,3	163,30	183,00	185,20	168-TCM.L.*
219,1	214,30	233,50	235,70	219-TCM.L.*



***For choosing materials, see the table below**

Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Envelope PTFE/EPDM	GREP	GREP.RX
Envelope PTFE/FKM	GRV	GRV.RX
EnvelopePTFE/ FKM (White)	GRVW	GRVW.RX
Orca FDA-Class VI		TB.RX

*CLASS VI available on request

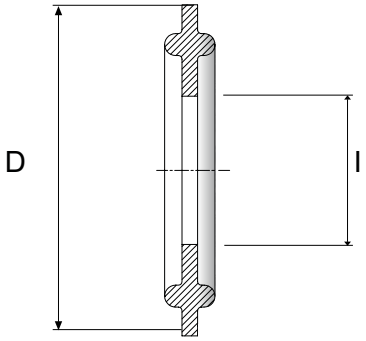
Ordering Example

Description	Nomimal Size	Ordering Code
Type TCM.L.	25	25-TCM.L.BW

***Material and Surface are inclouding to the ordering code**

BS 4825-3 — Tri-Clamp Style Gasket STANDARD

Nominal Size	I(ID)	D (OD)	Ordering Code
	mm	mm	
25,4	22,8	50,5	25-TCB.*
38,1	35,5	50,5	38-TCB.*
50,8	48,2	64	51-TCB.*
63,5	60,5	77,5	63-TCB.*
76,2	73,2	91	76-TCB.*
101,6	97,8	119	100-TCB.*
114,3	110,5	130	115-TCB.*
139,7	135,9	155	140-TCB.*
168,3	163,3	183	168-TCB.*
219,1	214,1	233,5	219-TCB.*



***For choosing materials, see the table below**

Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Envelope PTFE/EPDM	GREP	GREP.RX
Envelope PTFE/FKM	GRV	GRV.RX
EnvelopePTFE/ FKM (White)	GRVW	GRVW.RX
Orca FDA-Class VI		TB.RX

*CLASS VI available on request

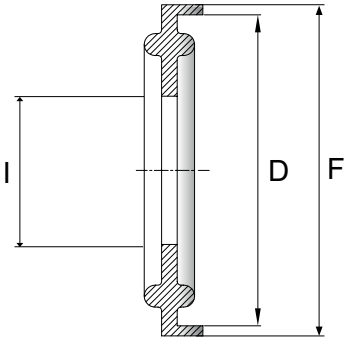
Ordering Example

Description	Nomimal Size	Ordering Code
25-TCB.	25	25-TCB.BW

***Material and Surface are inclouding to the ordering code**

BS 4825-3 Tri-Clamp Style Gasket FLANGED

Nominal Size	I(ID)	D (OD)	F	Ordering Code
	mm	mm		
25,4	22,8	50,5	52,7	25-TCB.L.*
38,1	35,5	50,5	52,7	38-TCB.L.*
50,8	48,2	64	66,2	51-TCB.L.*
63,5	60,5	77,5	79,7	63-TCB.L.*
76,2	73,2	91	93,2	76-TCB.L.*
101,6	97,8	119	121,2	100-TCB.L.*
114,3	110,5	130	132,2	115-TCB.L.*
139,7	135,9	155	157,2	140-TCB.L.*
168,3	163,3	183	185,2	168-TCB.L.*
219,1	214,1	233,5	235,7	219-TCB.L.*



***For choosing materials, see the table below**

Material	FDA Certified	FDA Class VI Certified
Buna-N	BW	
EPDM Black	EP	EP.RX
EPDM White	EPW	EPW.RX
Silicone Platinum		SX.RX
Silicone Peroxide	SP	SP.RX
Viton Black	V	V.RX
Viton White	VW	VW.RX
PTFE	TF	TF.RX
Envelope PTFE/EPDM	GREP	GREP.RX
Envelope PTFE/FKM	GRV	GRV.RX
EnvelopePTFE/ FKM (White)	GRVW	GRVW.RX
Orca FDA-Class VI		TB.RX

*CLASS VI available on request

Ordering Example

Description	Nomimal Size	Ordering Code
25-TCB.L.	25	25-TCB.L.BW

***Material and Surface are inclouding to the ordering code**

COMPOUND SELECTION FOR FLUIDS AND CHEMICALS

	BUNA-N	E.P.D.M.	VITON™	SILICONE
Milk	A	A	A	A
Mineral Oil	A	C	A	B
Monoethanol Amine	D	A	D	B
Monomethyl Ether	A	D	A	A
Monovinyl Acetylene	A	A	A	B
Mustard Gas	E	A	E	A
Naphthalenic Acid	B	D	A	D
Natural Gas	A	D	A	A
Nickel Acetate (aq)	B	A	D	D
Nickel Chloride (aq)	A	A	A	A
Nickel Sulfate (aq)	A	A	A	A
Nitric Acid (dilute)	D	B	A	B
Nitrobenzene (Ligroin)	A	D	A	D
Nitroethane	D	B	D	D
Nitrogen Tetroxide	D	C	D	D
Octachlorotoluene	D	D	A	D
Octadecane	A	D	A	D
N-Octane	B	D	A	D
Octyl Alcohol	B	C	A	B
Oleic Acid	C	D	B	D
Oxalic Acid	B	A	A	B
Oxygen - Cold	B	A	A	A
Ozone	D	A	A	A
Palmitic Acid	A	B	A	D
Perchloric Acid	D	B	A	D
Phenyl Ethyl Ether	D	D	D	D
Phosphoric Acid - 20%	B	A	A	B
Phosphorus Trichloride	D	A	A	E
Piperidine	D	A	D	D
Polyvinyl Acetate Emulsion	E	A	E	E
Potassium Acetate (aq)	B	A	D	D
Potassium Chloride (aq)	A	A	A	A
Potassium Cyanide (aq)	A	A	A	A
Potassium Nitrate (aq)	A	A	A	A
i-Propyl Acetate	D	B	D	D
Propyl Nitrate	D	B	D	D
Propylene	D	D	A	D
Pyridine	D	B	D	D

	BUNA-N	E.P.D.M.	VITON™	SILICONE
Salicylic Acid	B	A	A	E
Silicone Oils	A	A	A	C
Soap Solutions	A	A	A	A
Sodium Acetate (aq)	B	A	D	D
Sodium Bicarbonate (aq)	A	A	A	A
Sodium Borate (aq)	A	A	A	A
Sodium Chloride (aq)	A	A	A	A
Sodium Hydroxide (aq)	B	A	B	B
Sodium Nitrate (aq)	B	A	E	D
Sodium Peroxide (aq)	B	A	A	D
Soybean Oil	A	C	A	A
Steam, under 300°F	A	A	A	B
Stearic Acid	B	B	E	B
Stoddard Solvent	A	D	A	D
Sulfur Chloride (aq)	C	D	A	C
Sulfuric Acid (dilute)	C	B	A	D
Sulfurous Acid	B	B	A	D
Tannic Acid	A	A	A	B
Tartaric Acid	A	B	A	A
Tetrachloroethylene	D	D	A	D
Toluene	D	D	A	D
Triethanol Amine	B	A	D	E
Trioctyl Phosphate	D	A	B	C
Tung Oil (China Wood Oil)	A	C	A	D
Turpentine	A	D	A	D
Vegetable Oils	A	C	A	B
Vinegar	B	A	A	A
Whiskey, Wines	A	A	A	A
White Pine Oil	B	D	A	D
Zinc Chloride (aq)	A	A	A	A

A – SATISFACTORY B – FAIR C – SEVERE EFFECT – EXCEPT FOR SOME STATIC APPLICATIONS D – UNSATISFACTORY E – INSUFFICIENT INFORMATION

COMPOUND SELECTION FOR FLUIDS AND CHEMICALS

	BUNA-N	E.P.D.M.	VITON™	SILICONE
Diethylene Glycol	A	A	A	B
Diethyl Sebecate	B	B	B	B
Diisobutylene	B	D	A	D
Diisopropyl Benzene	D	D	A	E
Diisopropyl Ketone	D	A	D	D
Diisopropylidene Acetone	D	C	D	D
Dimethyl Aniline (Xylidine)	C	B	D	D
Dimethyl Ether (Methyl Ether)	A	D	A	A
Dimethyl Formamide	B	B	D	B
Dimethyl Phthalate	D	B	B	E
Dinitrotoluene	D	D	D	D
Dioctyl Phthalate	C	B	B	C
Dioctyl Sebecate	D	B	B	C
Dioxane	D	B	D	D
Dioxolane	D	B	D	D
Dipentene	A	D	A	D
Diphenyl (Phenylbenzene)	D	D	A	D
Diphenyl Oxides	D	D	A	C
Dowtherm Oil	D	D	A	C
Ethane	A	D	A	D
Ethanolamine	B	B	D	B
Ethyl Acetate	D	B	D	B
Ethyl Acetoacetate	D	B	D	B
Ethyl Acrylate	D	B	D	B
Ethyl Alcohol	A	A	C	A
Ethyl Benzene	D	D	A	D
Ethyl Benzoate	D	A	A	D
Ethyl Cellosolve	D	B	D	D
Ethyl Cellulose	B	B	D	C
Ethyl Chloride	A	C	A	D
Ethyl Chlorocarbonate	D	B	A	D
Ethyl Chloroformate	D	B	D	D
Ethyl Ether	C	C	D	D
Ethyl Pentachlorobenzene	D	D	A	D
Ethylene	A	B	A	E
Ethylene Chloride	D	C	B	D
Ethylene Diamine	A	A	D	A
Ethylene Dichloride	D	C	A	D
Ethylene Glycol	A	A	A	A
Fluoroboric Acid	A	A	E	E
Freon 11	B	D	A	D
Freon 12	A	B	B	D
Freon 22	D	A	D	D
Fumaric A cid	A	B	A	B
Gallic Acid	B	B	A	E

	BUNA-N	E.P.D.M.	VITON™	SILICONE
Gasoline	B	D	A	D
Glucose	A	A	A	A
Glycerin	A	A	A	A
Hexane	A	D	A	D
Hexyl Alcohol	A	C	A	B
Hydrazine	B	A	D	C
Hydrobromic Acid	D	A	A	D
Hydrocyanic Acid	B	A	A	C
Hydrofluoric Acid (conc.) cold	D	C	A	D
Hydrofluosilicic Acid	B	B	A	D
Hydrogen Gas	A	A	A	C
Hydrogen Peroxide (90%)	D	B	B	B
Hydrogen Sulfide (wet) cold	D	A	D	C
Hydroquinone	C	B	B	E
Iodoform	E	D	E	E
Isobutyl Alcohol	B	A	A	A
Isooctane	A	D	A	D
Isopropyl Acetate	D	B	D	D
Isopropyl Alcohol	B	A	A	A
Isopropyl Chloride	D	D	A	D
Isopropyl Ether	B	D	D	D
Kerosene	A	D	A	D
Lacquers	D	D	D	D
Lactic Acid (cold)	A	A	A	A
Lead Acetate (aq)	B	A	D	D
Lead Nitrite (aq)	A	A	E	B
Lime Bleach	A	A	A	B
Linoleic Acid	B	D	B	B
Maleic Acid	D	B	A	E
Malic Acid	A	B	A	B
Methane	A	D	B	D
Methyl Acetate	D	A	D	D
Methyl Acrylate	D	B	D	D
Methylacrylic Acid	D	B	D	D
Methyl Alcohol	A	A	D	A
Methyl Bromide	B	D	A	E
Methyl Butyl Ketone	D	A	D	C
Methyl Cellosolve	C	B	D	D
Methyl Chloride	D	C	B	D
Methyl Cyclopentane	D	D	B	D
Methylene Chloride	D	C	B	D
Methyl Ether	A	D	A	A
Methyl Ethyl Ketone	D	A	D	D
Methyl Isobutyl Ketone	D	B	D	D
Methyl Methacrylate	D	C	D	D

A – SATISFACTORY B – FAIR C – SEVERE EFFECT – EXCEPT FOR SOME STATIC APPLICATIONS D – UNSATISFACTORY E – INSUFFICIENT INFORMATION

COMPOUND SELECTION FOR FLUIDS AND CHEMICALS

	BUNA-N	E.P.D.M.	VITON ™	SILICONE
Acetaldehyde	D	A	D	B
Acetamide	A	A	B	B
Acetic Acid, 30%	B	A	B	A
Acetone	D	A	D	C
Acetophenone	D	A	D	D
Acetyl Chloride	D	D	A	C
Acetylene	A	A	A	B
Acrylonitrile	D	D	C	D
Adipic Acid	A	A	E	E
Ammonia Gas (cold)	A	A	D	A
Ammonium Chloride (aq)	A	A	A	E
Ammonium Hydroxide (conc.)	D	A	B	A
Ammonium Nitrate (aq)	A	A	E	E
Ammonium Nitrite (aq)	A	A	E	B
Ammonium Phosphate (aq)	A	A	E	A
Ammonium Sulfate (aq)	A	A	D	E
Amyl Acetate (Banana Oil)	D	A	D	D
Amyl Alcohol	B	A	B	D
Amyl Borate	A	D	A	E
Arsenic Acid	A	A	A	A
Arsenic Trichloride (aq)	A	C	E	E
Barium Chloride (aq)	A	A	A	A
Barium Hydroxide (aq)	A	A	A	A
Barium Sulfate (aq)	A	A	A	A
Barium Sulfide (aq)	A	A	A	A
Benzaldehyde	D	A	D	B
Benzene	D	D	A	D
Benzoic Acid	C	C	A	C
Benzoyl Chloride	D	D	A	E
Benzyl Alcohol	D	A	A	B
Benzyl Chloride	D	D	A	D
Boric Acid	A	A	A	A
Brine	A	A	A	A
Bromine, Anhydrous	D	D	A	D
Bromine Water	D	B	A	D
Butadiene	D	C	A	D
Butane	A	D	A	D
Butyl Acetate	D	C	D	D
Butyl Acetyl Ricinoleate	C	A	A	E
Butyl Alcohol	A	B	A	B
Butyl Amine	C	B	D	D
Butyl Benzoate	D	B	A	E
Butyl Carbitol	D	A	A	D
Butyl Cellosolve	D	A	D	E
Butyl Oleate	D	B	A	E
Butyl Stearate	B	C	A	E

	BUNA-N	E.P.	VITON	SILICONE
Butylene	B	D	A	D
Butyraldehyde	D	B	D	D
Carbolic Acid (Phenol)	D	B	A	D
Carbon Bisulfide	C	D	A	D
Carbon Dioxide	A	B	A	B
Carbonic Acid	B	A	A	A
Carbon Monoxide	A	A	A	A
Carbon Tetrachloride	C	D	A	D
Castor Oil	A	B	A	A
Cellosolve Acetate	D	B	D	D
China Wood Oil (Tung Oil)	A	C	A	D
Chlorine (wet)	D	C	A	D
Chlorine Dioxide	D	C	A	E
Chloroacetic Acid	D	A	D	E
Chloroacetone	D	A	D	D
Chlorobenzene	D	D	A	D
Chlorobromomethane	D	B	A	D
Chloroform	D	D	A	D
Chlorotoluene	D	D	A	D
Chrome Plating Solutions	D	C	A	C
Chromic Acid	D	B	A	B
Cod Liver Oil	A	A	A	B
Copper Acetate (aq)	B	A	D	D
Copper Chloride (aq)	A	A	A	A
Copper Cyanide (aq)	A	A	A	A
Copper Sulfate (aq)	A	A	A	A
Creosote (coal tar)	A	D	A	D
Cresylic Acid	D	D	A	D
Cyclohexane	A	D	A	D
Cyclohexanol	C	C	A	D
Cyclohexanone	D	B	D	D
Denatured Alcohol	A	A	A	A
Detergent Solutions	A	A	A	A
Diacetone Alcohol	D	A	D	B
Dibenzyl E ther	D	B	D	E
Dibenzyl Sebecate	D	B	B	C
Dibromoethyl Benzene (Alkazene)	D	D	B	D
Dibutyl Amine	D	C	D	C
Dibutyl Ether	D	C	C	D
Dibutyl Phthalate	D	B	C	B
Dibutyl Sebecate	D	B	B	B
O-Dichlorobenzene	D	D	A	D
Dichloro-Isopropyl Ether	D	C	C	D
Diethylamine	B	B	D	B
Diethyl Benzene	D	D	A	D
Diethyl Ether	D	D	D	D

A – SATISFACTORY B – FAIR C – SEVERE EFFECT – EXCEPT FOR SOME STATIC APPLICATIONS D – UNSATISFACTORY E – INSUFFICIENT INFORMATION

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