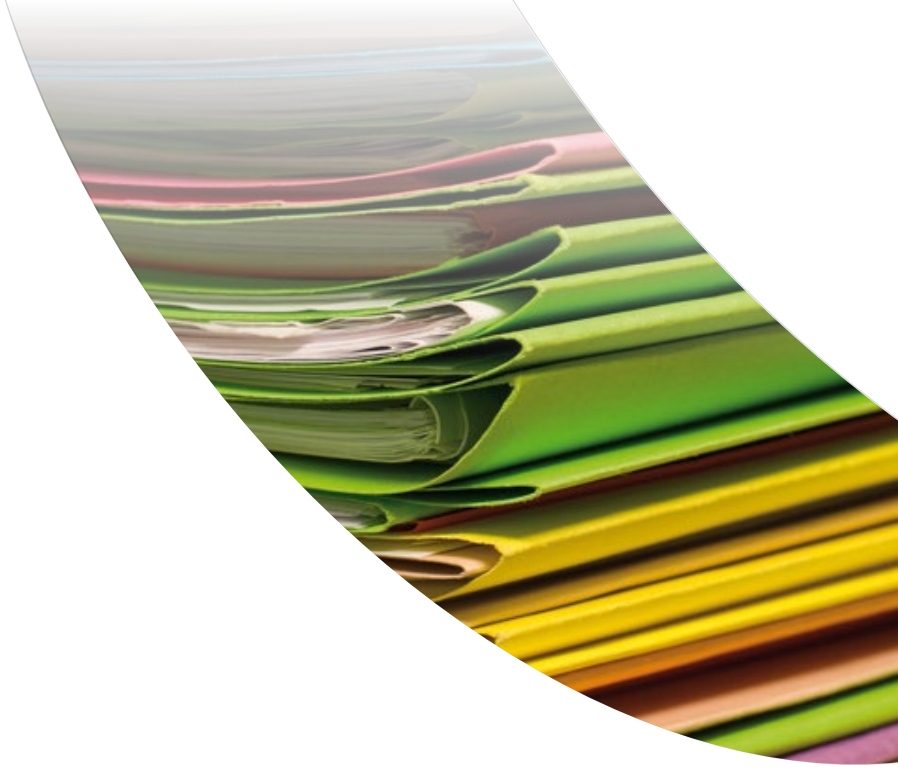
TECHNICAL FORM



TECHNICAL FORM

PLASTUB GENERAL TERMS AND CONDITIONS OF SALE

Plastub

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CALCULATION OF LINEAR WEIGHT OF BARE TUBE

*The linear weight of a tube or sleeving varies according to its diameter, its thickness and the constituent material.

$$M=[(\pi*D^2)/4 - (\pi*d^2)/4]*G$$

M: Linear weight
π: 3.14159265359
D: External tube diameter
d: Internal tube diameter
G: Material density

Equivalence in units of pressure

- Pressure in N/m^2 = Pressure in bar * 100,000
- Pressure in N/m^2 = Pressure in Psi * 6,894.8
- Pressure in Psi = Pressure in N/m^2 * 14,500
- Pressure in bar = Pressure in Psi * 0.0689
- Pressure in Kg/cm^2 = Pressure in bar * 0.9806

Conversion factors for metric and imperial units

MEASUREMENT	US/GB UNITS	METRIC UNITS	US/GB SI	US/GB SI
Lengths	Inch = inches (in)	Metre (m) Millimetre (mm)	(in) x 0.0254 = (m) (in) x 25.4 = (mm)	(m) x 39.370 = (in) (mm) x 0.0393 = (in)
Pressure	Pound/square inch = Pound/Sq Inch (PSI) (PSI) (bar) (bar)	Newton per square metre = (N/m^2) Bar (Bar) (Kg/cm^2) (N/m^2)	(psi) x 6.8948×10^3 = (N/m^2) (psi) x 0.0689 = (Bar) (Bar) x 0.9806 = (Kg/cm^2) (Bar) x 100 000 = (N/m^2)	(N/m^2) x 1.450×10^4 = (PSI) (Bar) x 14.504 = (psi) (Kg/cm^2) x 1.0197 = (Bar) (N/m^2) x 10^{-5} = (Bar)
Temperature	Degrees Fahrenheit (°F)	Degrees Celsius (°C)	(°F-32)/1.8 = (°C)	(°C x 1.8) + 32 = (F°)
Momentum	Pound-inch Pound-inch = (ib_f – in)	Newton Metre (= N.m)	(ib_f –14) x a.113 = (N.m)	(mN) x 8.8507 = (ib_f – in)
Volumes	US Gallon (USGal) GB Gallon (GBGal) Cubic Inch (in^3)	(dcm^3) = litre Litre = (dcm^3) Litre = (dcm^3)	(USGal) x 3.785 = (dcm^3) (GBGal) x 4.546 = (dcm^3) (in) 3 x 0.0164 = (dcm^3)	(dcm^3) = 0.2641 (USGal) (dcm^3) = 0.299 (GBGal) (dcm^3) = 60.98 (in^3)
Flow rates	(in^3/mn) US Gallon/hour = (USGal/h) GB Gallon/hour = (GBGal/h)	Litre/mn (l/mn) (m^3/h) (m^3/h)	(in^3/mn) x 0.0164 = (l/mn) (USGal/h) x 0.0038 = (m^3/h) (GBGal/h) x 0.0045 = (m^3/h)	(l/mn) = 60.98 (in^3/mn) (m^3/h) = 264.2 (USGal/h) (m^3/h) = 220 (GBGal/h)

Equivalence inch/mm

Inch	3/64	1/16	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	1 1/2	2	3	4
mm	1.19	1.59	2.38	3.18	4.76	6.35	7.94	9.53	12.7	15.9	19.1	25.4	38.1	50.8	76.2	101.6

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TOLERANCE VALUES

Indicative non-contractual information, subject to modification without notice. Contact Plastub and refer to forms d042, d024 and d124

Dimensional tolerances (mm) applicable to PVC and TPE special polymer thermoplastic extruded tubes and sleevings

The values of the nominal linear weights are indicative and vary according to the diametrical and material density tolerances.

PLASTUB® PVC120 / PLASTUB® PVC21 / PLASTUB® PVC22 / PLASTUB® PVC23 / PLASTUB® PVC24 / PLASTUB® PVC29 / PLASTUB® PVC33 / PLASTUB® PVC42 / PLASTUB® GS / PLASTUB® GR / PLASTUB® GHT / PLASTUB® GHTC / PLASTUB® GTHT / PLASCORD® PVC23 / PLASCORD® PVC33 / PLASCORD® PVC33 reinforced / PLASTUB® STA55 / ELASTUB® STA64 / ELASTUB® ST73 / ELASTUB® ST87 / ELASTUB® GTS / ELASTUB® GST73 / ELASTUB® GSTI70	
Diameters (internal or outside)	Tolerances applicable to diameter
Ø ≤ 6 mm	+/- 0.2 mm
Ø > 6 mm and Ø ≤ 12 mm	+/- 0.3 mm
Ø > 12 mm and Ø ≤ 20 mm	+/- 0.4 mm
Ø > 20 mm and Ø ≤ 30 mm	+/- 0.7 mm
Ø > 30 mm and Ø ≤ 40 mm	+/- 1 mm
Ø > 40 mm	+/- 3 mm
Lengths	Tolerances applicable to cut lengths
< 100 mm	+/- 2 mm
101 to 300 mm	+/- 3 mm
301 to 400 mm	+/- 4 mm
401 to 500 mm	+/- 5 mm
501 to 600 mm	+/- 6 mm
601 to 700 mm	+/- 7 mm
701 to 800 mm	+/- 8 mm
801 to 900 mm	+/- 9 mm
901 to 1000 mm	+/- 10 mm
1001 to 1100 mm	+/- 11 mm
1101 to 1200 mm	+/- 12 mm
1201 to 1300 mm	+/- 13 mm
1301 to 1400 mm	+/- 14 mm
1401 to 1500 mm	+/- 15 mm
1501 to 1600 mm	+/- 16 mm
1601 to 1700 mm	+/- 17 mm
1701 to 1800 mm	+/- 18 mm
1801 to 1900 mm	+/- 19 mm
1901 to 3000 mm	+/- 20 mm
3001 to 6000 mm	+/- 1 %
Roll	+/- 1 %

Dimensional tolerances (mm) applicable to silicone elastomer tubes, sleevings and rods

Due to its limited thickness, a silicone sleeving is relatively elastic, which makes it difficult to verify its length, hence the following tolerance

SILITUBE® SI50 / SILITUBE® SI60 / SILITUBE® SI70 / SILITUBE® SI80 / SILITUBE® SITEC / SILITUBE® GSI / SILITUBE® GSI811 / SILFORM® JONC SI70	
Diameters (internal or outside)	Tolerances applicable to diameter
Ø ≤ 3 mm	+/- 0.2 mm
Ø > 3 mm and Ø ≤ 4 mm	+/- 0.3 mm
Ø > 4 mm and Ø ≤ 6 mm	+/- 0.35 mm
Ø > 6 mm and Ø ≤ 10 mm	+/- 0.4 mm
Ø > 10 mm and Ø ≤ 15 mm	+/- 0.5 mm
Ø > 15 mm	+/- 0.7 mm
Lengths	Tolerances applicable to cut lengths
< 100 mm	+/- 3 mm
101 to 200 mm	+/- 4 mm
201 to 300 mm	+/- 5 mm
301 to 400 mm	+/- 6 mm
401 to 500 mm	+/- 7 mm
> 500 mm	+/- 10 mm

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Dimensional tolerances (mm) applicable to braided sleevings

Tolerances applicable to references	Internal diameter	Tolerance values
SILIGAINE® 15C3	Ø < 1 mm	+/- 0.15 mm
	Ø ≥ 1 mm and Ø ≤ 3 mm	+/- 0.2 mm
	Ø > 3 mm and Ø ≤ 8 mm	+/- 0.25 mm
	Ø > 8 mm and Ø ≤ 12 mm	+/- 0.5 mm
	Ø > 12 mm and Ø ≤ 25 mm	+/- 1 mm
	Ø > 25 mm	+/- 2 mm

Dimensional tolerances (mm) applicable to other thermoplastic, fluoropolymer or fluorinated special polymer tubes

Internal diameter x Outside diameter	PLASTUB® CPU	PLASTUB® PU98	PLASTUB® PA	PLASTUB® PA ATEX	PLASTUB® PAR	PLASTUB® PEBD	PLASTUB® PEHD	ELASTUB® PTFE	ELASTUB® PFA	ELASTUB® FEP
	Tolerances applicable to internal / external diameter									
2 x 4	*	*	*	*	*	+/- 0.15	+/- 0.15	+/- 0.10	+/- 0.10	+/- 0.10
2.5 x 4	+/- 0.10	+/- 0.10	*	*	*	*	*	*	*	*
2.7 x 4	*	*	+/- 0.10	*	*	*	*	*	*	*
3 x 6	*	*	*	*	+/- 0.10	*	*	*	*	*
4 x 6	+/- 0.10	+/- 0.10	+/- 0.10	+/- 0.10		+/- 0.15	+/- 0.15	+/- 0.10	+/- 0.10	+/- 0.10
5 x 8	*	*	*	*	+/- 0.10	*	*	*	*	*
5.5 x 8	*	+/- 0.15	*	*	*	*	*	*	*	*
6 x 8	+/- 0.10	*	+/- 0.10	+/- 0.10	*	+/- 0.20	+/- 0.20	+/- 0.15	+/- 0.10	+/- 0.10
7 x 10	*	+/- 0.15	*	*	*	*	*	*	*	*
8 x 10	+/- 0.15	*	+/- 0.10	+/- 0.10	*	+/- 0.20	+/- 0.20	+/- 0.20	+/- 0.15	+/- 0.15
8 x 12	*	+/- 0.15	*	*	*	*	*	*	*	*
9 x 12	+/- 0.15	*	*	*	*	*	*	*	*	*
10 x 12	*	*	+/- 0.15	*	*	+/- 0.25	+/- 0.25	+/- 0.20	+/- 0.15	+/- 0.15
12 x 14	*	*	+/- 0.15	*	*	*	*	*	*	*
14 x 18	*	*	+/- 0.15	*	*	*	*	*	*	*
16 x 20	*	*	+/- 0.15	*	*	*	*	*	*	*

*Specific dimensional tolerance on request
The values of the nominal linear weights are indicative and vary according to the diametrical and density tolerances.

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Dimensional tolerances (mm) applicable to reinforced braided tubes without sheathing

Internal diameter x diameter on braid	SILITUBE® SI70TPCC		SILITUBE® SITST		SILITUBE® SITIA/SITIG		STARFLEX® NG		STARFLEX® EI		STARFLEX® NPN		STARFLEX® PEXI		STARFLEX® PTFEI	
Applicable tolerances	int	ext	int	ext	int	ext	int	ext	int	ext	int	ext	int	ext	int	ext
4 x 8					+/-0,5	+/-0,5										
4 x 9							+/-0,3	+/-0,5								
4.4 x 8.3	+/-0,5	+/-0,5														
4.6 x 10.8											+/-0,3	+/-0,5				
5.5 x 10.2	+/-0,5	+/-0,5														
6 x 10									+/-0,5	+/-0,5			+/-0,5	+/-0,5		
6 x 10.5					+/-0,5	+/-0,5	+/-0,3	+/-0,5								
6 x 12			+/-0,5													
6.2 x 9.2																
6.4 x 12.4											+/-0,3	+/-0,5				
6.5 x 9															+/-0,5	+/-0,5
7.9 x 13.9											+/-0,3	+/-0,5				
8 x 11															+/-0,5	+/-0,5
8 x 12.2	+/-0,5	+/-0,5											+/-0,5	+/-0,5		
8 x 12.8					+/-0,5	+/-0,5	+/-0,3	+/-0,5								
8 x 14.5			+/-0,5	+/-0,5												
8.2 x 11.2																
8.5 x 12									+/-0,5	+/-0,5						
9.5 x 13																
9.5 x 14									+/-0,5	+/-0,5						
9.5 x 15.5											+/-0,3	+/-0,5				
9.5 x 16			+/-0,5	+/-0,5												
10 x 13															+/-0,5	+/-0,5
10 x 14.8					+/-0,5	+/-0,5	+/-0,3	+/-0,5								
12 x 17																
12 x 17.8					+/-0,5	+/-0,5	+/-0,3	+/-0,5								
12 x 18									+/-0,5	+/-0,5						
12.7 x 18.7											+/-0,3	+/-0,5				
12.7 x 20			+/-0,5	+/-0,5												
13 x 16															+/-0,5	+/-0,5
15 x 21.8					+/-0,5	+/-0,5	+/-0,3	+/-0,5								
15 x 22									+/-0,5	+/-0,5						
15.9 x 22.9											+/-0,3	+/-0,5				
16 x 19															+/-0,5	+/-0,5
16 x 24.5			+/-0,5	+/-0,5												
19 x 22															+/-0,5	+/-0,5
19 x 26											+/-0,3	+/-0,5				
19 x 28			+/-0,5	+/-0,5												
20 x 28					+/-0,5	+/-0,5			+/-0,5	+/-0,5						
25 x 33					+/-0,5	+/-0,5										
25.4 x 34.5			+/-0,5	+/-0,5												
26 x 29															+/-0,5	+/-0,5
26 x 35									+/-0,5	+/-0,5						
33 x 43									+/-0,5	+/-0,5						
40 x 50									+/-0,5	+/-0,5						
50 x 61									+/-0,5	+/-0,5						

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TOLERANCE VALUES

Indicative information, not contractually binding

Dimensional tolerances (mm) applicable to reinforced braided tubes with sheath

Internal diameter x diameter on braid	TUBOL® STGP		TUBOL® STIP		TUBOL® NIP		TUBOL® NGP		TUBOL® PVCP	
	Tolerances applicable to internal / external diameter									
Tolerances applicable to diameter	int	ext	int	ext	int	ext	int	ext	int	ext
4 x 8.3	+/-0,3	+/-0,5	+/-0,3	+/-0,5						
6 x 10	+/-0,3	+/-0,5	+/-0,3	+/-0,5						
6.3 x 11									+/-0,3	+/-0,5
8 x 12.8	+/-0,3	+/-0,5	+/-0,3	+/-0,5						
8 x 13									+/-0,3	+/-0,5
10 x 14.8					+/-0,3	+/-0,5	+/-0,3	+/-0,5		
10 x 15									+/-0,3	+/-0,5
12 x 17.8					+/-0,3	+/-0,5	+/-0,3	+/-0,5		
12.5 x 18									+/-0,3	+/-0,5
15 x 21.8					+/-0,3	+/-0,5	+/-0,3	+/-0,5		
16 x 22									+/-0,3	+/-0,5
19 x 26									+/-0,3	+/-0,5
25 x 33									+/-0,3	+/-0,5

The values of the nominal linear weights are indicative and vary according to the diametrical and material density tolerances.

Dimensional tolerances (mm) applicable to special polymer, copper and aluminium tape thermoplastic extruded tubes with sheath

Internal diameter x external tube diameter	TUBOL® PAP	TUBOL® PAR	TUBOL® PEP	TUBOL® PTFEP	TUBOL® CRP BITUBE CRP	TUBOL® ALU BITUBE® ALU
	Tolerances applicable to internal / external diameter					
2.7 x 4	+/-0,10	*	+/- 0.10	*	*	*
4 x 6	+/- 0.10	+/- 0.10	+/- 0.10	+/- 0.10	+/-0,05	+/- 0.15
6 x 8	+/- 0.10	*	+/- 0.10	+/- 0.10	+/-0,05	+/- 0.20
8 x 10	+/- 0.15	*	+/- 0.10	+/- 0.10	+/-0,05	+/- 0.20
8 x 12	*	+/- 0.15	*	*	+/-0,05	*
10 x 12	*	*	+/- 0.15	*	+/-0,05	+/- 0.25

The values of the nominal linear weights are indicative and vary according to the diametrical and material density tolerances.

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TABLE OF CHEMICAL COMPATIBILITY

Indicative information, not contractually binding

A Very good
B Good
C Fairly good
D Not compatible
Compatibility unknown
1 Satisfactory at ambient temp.
2 Satisfactory up to 50°C
3 Satisfactory for O-ring seals

		PLASTICS					ELASTOMERS			METALS					
		POLYESTER	POLYETHYLENE	POLYAMIDE	PTFE	PVC	NITRILE	EPDM	SILICONE	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	ALUMINIUM	BRASS	CAST IRON	COPPER
Acetaldehyde		–	A	A1	A	D	D	A	A	A	A	B	A	C	–
Acetamide		–	A	A	A	D	A	A	B	B	A	A	–	D	–
Acetic anhydride		C	D	A1	A	D	D	B	C	B	A	A1	D	D	B
Acetic acid		–	A2	D	A	D	C3	A	C	D	B	B	D	D	B
	20 %	–	A	D	A	D	B	A	B	B	A	B	D	D	B
	80 %	–	D	D	A	C	C3	A	B	D	B	B	D	D	B
	Glacial	A1	D	B	A	D	C	B	B	C	A	B	–	D	B
Acetone		B	B1	A	A	D	D	A	B	A	A	A	A	A	A
Acetylene		A	D	A	A	A1	B	A	B	A	A	A	B	A	D
Alcohol (Ethanol)		–	B	A1	A	C	C	A	B	A	A	B	A	B	A
Aluminium chloride		C	B2	B1	A	A2	A	A	B	B	B	D	D	D	B
Aluminium fluoride		–	A2	A1	A	A2	A	A	B	D	D	B1	–	D	D
Aluminium hydroxide		–	A2	A1	A	A2	A	A	–	A1	C1	B1	B	A	D
Aluminium sulphate		B1	A2	A2	A	A2	A	A	A	B	B2	B1	B1	D	A2
Alums		D	A	A	A	–	A	A1	A1	–	A	A	–	D	C
Ammonia	10 %	–	C1	A	A	B1	A	A	–	A	A	A2	–	A	–
Ammonium carbonate		–	B2	A1	A	A2	B	A	C	B	B	B	D	B	D
Ammonium chloride		A1	A2	B	A	A2	B	A	C	C	B2	B1	D	D	D
Ammonium hydroxide		C	A1	A	A	A	D	A	A	A1	A1	B2	D	D	D
Ammonium nitrate		B1	A1	A1	A	A2	A	A	C	A1	A	B1	D	B	D
Ammonium phosphate	dibasic	–	A2	C1	A2	A2	A	A	A	B	C	B1	B1	D	D
	monobasic	B1	A	B	A	A	A	A	A	B	C	B	–	D	D
	tribasic	–	C	B	A	A	A	A	A	B	B	B	–	D	D
Ammonium sulphate		B1	A1	A1	A	A2	A	A	A	B	B	A1	D	D	D
Ammonium thiosulphate		A	–	–	–	A	A1	–	–	A	–	D	D	D	
Amyl alcohol		A1	B2	A1	A	A2	B	A	D	A	A	B	A1	B	A
Amyl chloride		–	D	C1	A	D	D	D	D	A2	A2	A1	–	A	A
Anhydrous ammonia		D	B2	A1	A	A2	B	A	C	A	A2	A1	D	A	D
Anhydrous liquid chlorine		–	D	D	A	D	D	B	D	C1	C	D	D	D	–
Aniline		D	C	A2	A	C1	D	B	B	A	B	C	D	C	D
Arsenic acid		–	B2	C1	A	A1	A2	A2	A	A2	A2	D	D	D	A
Arsenic salts		B1	B	A	–	A	–	–	–	–	–	–	–	–	–
Asphalt		B1	A1	A	A1	A2	B	D	D	B	A	A	B1	A	A
ASTM oil no. 1		–	–	–	–	–	A	C	B	–	–	–	–	–	–
ASTM oil no. 2		–	–	–	–	–	A	C	B	–	–	–	–	–	–
ASTM oil no. 3		–	–	–	–	–	B	C	C	–	–	–	–	–	–
Barium carbonate		–	B2	A1	A	A2	A2	A	–	B1	B	D	B1	A	A
Barium chloride		B1	A1	A	A	A1	A	A	A	A1	A1	D	B1	C	B1
Barium hydroxide		B1	B2	A1	A	A2	A	A	A	B1	B	D	D	D	–
Barium sulphate		D	B2	A1	A	B1	A	A	A	B1	B1	B	B	B	B
Barium sulphide		–	B2	A1	A	A2	A	A	A	B1	B2	D	D	D	D
Beer		A1	A2	A1	A	A2	A	A	A	A	A	A	B	D	B
Benzaldehyde		B	A1	A1	A1	D	D	A	D	B	B	B	–	A	B
Benzene		C	C1	A1	A	C1	D	D	D	B	B	B	–	A	B
Benzyl chloride		–	–	A2	–	–	D	D	D	C1	B1	D	–	–	D
Borax (Sodium borate)		A1	A2	A	A	A1	B	A	B	A	A	B1	–	A	B
Boric acid		A1	A2	B	A	A2	A	A	A	B2	A1	D	–	D	B
Bromine		D	D	D	A	C1	D	D	D	D	D	D	–	–	–
Bromochloromethane		–	A	C	A	D	D	B	D	–	–	–	–	B	B

		PLASTICS					ELASTOMERS			METALS					
		POLYESTER	POLYETHYLENE	POLYAMIDE	PTFE	PVC	NITRILE	EPDM	SILICONE	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	ALUMINIUM	BRASS	CAST IRON	COPPER
Butane		–	C1	A2	A	C1	A	D	D	A2	A2	A	–	–	C
Butyl alcohol		B1	B2	B1	A2	C1	A	A	B	A	A1	B	–	–	B
Butyric acid		B1	D	C1	A2	B1	D	B	D	B2	B2	B	–	D	C
Calcium bisulphite		B	A1	A2	A	B	A	D	A	B	A	D	–	–	–
Calcium chloride		A1	B2	A1	A	C	A	A	A	C2	B2	D	–	C	D
Calcium hydroxide		B1	A2	A2	A	B	A	A	A	B1	B	C1	–	A	–
Calcium hypochlorite		C1	A1	D	A	B1	C1	B1	B	C1	B1	D	–	D	C
Carbolic acid (phenol)		D	D	D	A	D	D	B	D	B	B	A	D	D	D
Carbon dioxide		A	A1	A1	A	A1	A	B	B	A	A1	B	–	D	–
Carbon monoxide		A	A2	A1	A	A2	A	A	A2	A	A	A	–	A	A
Carbon tetrachloride		–	–	–	A	–	D	D	D	A2	A2	D	B1	C	–
Caustic peroxide		D	A	C1	A	A1	B1	A2	C	B	A1	D	D	B2	B
Caustic soda	20 %	B	D	A	A	A	A	B	A2	B	B2	D	B	A2	A2
	50 %	C	D	A	A	A	A1	B1	A1	B	B1	D	D	D	B
	80 %	–	D	C	A1	A	D	B1	A1	C	B1	D	D	D	D
Chlorine in solution		–	B1	C1	A	A2	D	C	D	C	C	D	D	–	D
Chloroacetic acid		D	D	D	A	B1	D	B	D	B1	A1	D	D	D	D
Chlorobenzene		D	C1	D	B	D	D	D	D	A	B	A	B1	B	B
Chloroform		D	C1	A	A1	D	D	D	D	A	A	B1	B1	B	A
Chlorosulfuric acid		D	D	D	A	D	D	D	D	B2	C	B	D	D	
Chromic acid	5 %	D	D	D	A	A2	A	A	C	B	A	C	D	D	D
	10 %	D	D	D	A	A2	D	C	C	B	B	D	D	D	D
	30 %	D	D	D	A	A1	D	B	C	B2	B2	D	D	D	D
	50 %	D	D	D	A	D	D	B	C	C	B2	D	D	D	D
Citric acid		A1	D	A1	A	B2	A	A	A	B1	A2	C	D	D	D
Coconut oil		–	A	–	A	A1	A	D	A	A	A	A	–	A	–
Cod liver oil		–	–	–	A	A1	A	A	B	A	A	A	–	–	–
Copper chloride		A1	–	D	A	A1	A	A	A1	D	D	–	–	–	–
Copper cyanide		–	B2	D	A	A2	A	A	A	B	B	D	D	A	–
Copper nitrate		–	B2	D	A	A2	A	–	–	A	A2	D	D	D	D
Copper sulphate	5 %	A1	A2	D	A	A2	A	A	A	B	B	D	D	D	B
	> 5 %	A1	A2	D	A	A2	A	A	A	B	B	D	D	D	–
Corn oil		A	A	A	A	B	D	C	A	A	A	A	–	A	B
Cotton oil		A1	A	B	A	B2	A	D	A	A	A	A	A	A	A
Cresylic acid		–	B1	D	A	D	D	D	D	A1	A	B2	–	A	B
Cyclohexane		A1	B1	A	A	D	B	D	D	A1	A	A	A	B	B
Cyclohexanone		–	D	A	A	D	D	B	D	A1	A2	A	–	B	B
Diacetone alcohol		–	B1	A	A	B1	D	A	D	A	A	A1	A	A	–
Dibutyl ether		–	–	A2	A1	A2	B2	D	D	–	A1	A1	–	–	–
Dichlorobenzene		–	–	D	A	D	D	D	D	–	B1	B1	–	–	–
Dichloroethane		C	D	A1	A	D	D	C	D	B	B	A1	B	A	–
Diethyl ether		–	D	A	A	D	D	C	D	A	A	B1	B1	C	A
Diethylamine		–	D	A	D	D	C	B	B	A	A	B	A	B	A
Diethylene glycol		–	B2	A1	A2	C1	A2	A2	B1	A1	A	B1	–	A	–
Dimethylaniline		–	–	A	A	D	D	B2	D	B2	B2	A2	–	–	–
Dimethylformamide		–	A	A	D	D	D	B	C	A	B	A1	–	–	A
Diphenyl oxide		–	–	–	A1	D	A	D	C	B1	A	B1	–	A	A
Distilled water		–	A2	A1	A	A2	D	A	C	A	A	A	A	D	B
Dry carbon tetrachloride		D	D	–	A	–	C1	B1	D	B	B2	D	A1	–	–

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		PLASTICS					ELASTOMERS			METALS					
		POLYESTER	POLYETHYLENE	POLYAMIDE	PTFE	PVC	NITRILE	EPDM	SILICONE	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	ALUMINIUM	BRASS	CAST IRON	COPPER
Dry chlorine		D	D	D	A	D	B	A	D	A 1	B	C 1	D	D	A
Ethane		–	–	D	A	A 1	A	D	D	A	A 1	–	–	–	A
Ethanolamine		–	–	A	A 1	D	B	B	B	A	A	B	–	–	D
Ethanolamine		–	–	A	A 1	D	B	B	B	A	A	B	–	–	D
Ether		–	D	A	A	D	D	C	D	A	A	B 1	B 1	C	A
Ethyl alcohol		–	B	A 1	A	C	C	A	B	A	A	B	A	B	A
Ethyl chloride		C	C 1	A 1	A	D	A	A	D	A	A	B	A	C	B
Ethylene chlorohydrin		–	D	D	A	D	D	B	C	B	B	B	B	–	B
Ethylene dibromide		–	D	–	A	D	D	D	D	B	B	B	–	–	B
Ethylene glycol		A	D	A	A	A	A	A	A	B	B	A	B 1	A	A
Ethylene oxide		A	A	A 1	A	D	D	C	D	B	B	D	D	D	D
Ethylenediamine		–	A	D	A	D	A	A	A	B 1	B	B 1	D	–	D
Fatty acids		–	D	A 1	A	A	B	D	C	B	A	A	C	C	D
Ferric chloride		C	A 1	A	A	A	A	A	B	D	D	D	D	D	D
Ferrous chloride		–	A 2	D	A	A	A	–	–	D	D	D	D	D	B
Ferric sulphate		–	A 2	A 1	A	A	A	A	B	B 1	A	D	D	D	D
Ferrous sulphate		–	A 2	D	A	A	A 2	A	–	B	B	B 1	B 1	D	B
Formaldehyde	40 %	B	D	A	A	A	B	A	–	A 1	A	B	A	B	B 2
	100 %	–	B	D	A	A	C	A	B	C	A	A	–	C	A 2
Formic acid		B	D	D	A	A 1	C	A	B	B 1	A 1	A	D	D	C
Freon 11		A	C	D	A	A 2	B	D	D	A	A	D	–	A	A
Freon 113		A	–	–	A	B	A	D	D	–	–	–	–	–	A
Freon 12		A	A 1	A 1	A	A 2	A	B	D	B 1	B	B 1	B 1	A	A
Freon 22		–	–	B	A	A	D	A	D	A	A	D	A	D	B
Freon TF		A	–	D	–	B	A	D	D	A	A	D	–	A	A
Fuel oil		–	B	A 1	B	A 2	D	D	D	A	A	C 1	B	A	A
Furan (resin)		–	D	–	A	A	D	C	D	A 1	A	A	–	–	–
Furfural		–	D	B	A	D	D	D	D	A	B	A 1	–	B	A
Gasoline		A	–	A 2	A	B	A 2	D	D	A 1	A 2	A	–	–	B
Gasoline, lead-free		–	–	A 2	A	C 2	A 1	D	D	A 1	A 2	A 2	–	A	B
Gelatine		–	A 2	A 1	A	B	A	A	A	A 2	A 2	A	D	A	A
Glucose		–	A 2	A	A	A 2	A	A	A	A 1	A	A	A	A	A
Glycerine		A	A 1	A 1	A	A	A	A	A	A 2	A	A	B	A	A
Glycol propane		–	B 2	A	A	C 1	A	A	A	B	B	B	–	A	A
Grease		–	–	–	A	A	A	D	D	–	A	–	A	A	A
Hexahydrobenzene (cyclohexane)		A 1	B 1	A	A	D	B	D	D	A 1	A	A	A	B	B
Hexane		A	D	B	A	B 1	A	D	D	A	A	A	A	A	A
Hexyl alcohol		–	A	A	A	A 2	A	C	B	A	A	A	–	A	–
Hydraulic oil		–	C	A 1	A	A	A	D	B	A	A	A	A	A	A
Hydrobromic acid	20 %	–	B 2	D	–	B 2	D	A	D	D	D	D	D	D	D
	100 %	–	B 1	D	A	A 1	D	A	D	D	D	D	D	D	D
Hydrochloric acid	20 %	B	A 2	D	A	A 2	–	A	D	D	D	–	D	D	D
	37 %	C	B 2	D	A	B	B	C	B	D	D	D	–	D	D
	100 %	–	–	D	A	D	D	D	D	D	D	D	D	D	D
Hydrofluoric acid	20 %	–	A 2	C 1	A	B	D	D	D	D	D	D	–	D	B
	50 %	D	A 1	D	A	B 1	D	D	D	D	D	D	–	D	B
	75 %	D	C 1	D	A	C	D	C	D	D	D	D	–	D	B
	100 %	D	–	D	A	C	D	D	D	B 1	B 1	D	–	D	B
Hydrogen		A	A 2	A 2	A	A 2	A	A	C	A	A	A	–	–	A
Hydrogen cyanide		C	A 2	B	A	B	B	B	C	B 1	A	A	D	D	D

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		POLYESTER	POLYETHYLENE	POLYAMIDE	PTFE	PVC	NITRILE	EPDM	SILICONE	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	ALUMINIUM	BRASS	CAST IRON	COPPER
Hydrogen sulphide		–	A	C 1	A	B 1	D	B	C	C	A	B	–	D	–
	dry	A	A	C 1	A	A 2	D	B	C	C 1	A	B	D	D	D
Hydrogen gas		A	A 2	A 2	A	A 2	A	A	C	A	A	A	–	–	A
Hydrogen peroxide	10 %	–	A	C 1	A	A 1	D	A	A	B 2	B	A	–	C	D
	30 %	–	C 2	D	A	A 1	D	B	B	B 2	B	A	–	B	D
	50 %	–	C 2	D	A	A 1	D	B	B	B 2	A 2	A	–	–	D
	100 %	–	C 2	D	A	A	D	D	B	B 2	A 2	A	D	B	D
Iso-octane		A	B	A 1	A	A 1	A 2	D	D	A 1	A 1	A 1	A	–	–
Isobutanol		–	A 2	A 1	A 2	A 1	B	A	A	A	A	B	–	C	–
Isopropyl alcohol		–	A 2	D	A 2	A 1	B	A	A	B	B	B	–	A	B
Isopropyl ether		–	B	A 1	A 1	B	B	D	D	A	A	A	A	–	B
JP 3 JP 4 JP 5		–	D	C	A	C	A	D	D	A	A	A	–	A	A
Kerosene		C	C 1	A	A	A 2	A	D	D	A	A	A	A	A	A
Lactic acid		D	A 1	B	A	B 1	A	A	A	B 1	B 1	B	D	D	B
Lard		–	A	A 1	A	A 1	A	D	B	A	A	A	–	A	–
Lead nitrate		–	A 2	–	A 1	A 2	A 2	A 2	B 1	B 1	B 1	D	–	–	–
Lead sulphamate		–	A 1	B 1	B	B	B	A	B	C	C	C	–	–	–
Ligroin		A	A	A	B	A	A	D	D	A	A	D	–	A	–
Linseed oil		B 1	A	A 1	A	A 2	A	D	A	A	A	B	B	–	B
Liquid ammonia		–	C 1	B 1	A	A 1	C	A	–	B 2	A 2	A	–	A	–
Liquid beet sugars		–	A 1	A	A 1	A 2	A	A	A	A	A	A	–	A	A
Liquid propane		A	C 1	A 1	A	A 1	A	D	D	A	A	A	A	A	A
Liquid sugars		–	–	A 1	A	–	A	A	A	A	A	A	–	–	A
Magnesium carbonate		–	B	–	A 1	B	A 2	A	–	B	B	A	–	–	A
Magnesium chloride		C	A 1	A 1	A	B	A 2	A	A	D	D	D	D	D	A 2
Magnesium hydroxide		C	A 2	B 1	A	A 2	A	A	A	B	A 1	C 1	D	A	B
Magnesium nitrate		–	A 2	A 1	A	A 2	A	A	–	B	B	B	–	D	B
Magnesium sulphate		–	A 2	A 1	A	A 1	A	A	A	A	B	B 1	A	A	A
Malic acid		–	B 2	A	A	A 2	A	D	B	A	A 2	B 1	B	–	D
Manganese sulphate		–	A 1	A 2	A	C	A 2	A 2	A 1	B	B 2	B 1	D	A	B
Mercury		B	A	A	A	A	A	A	–	A	A	D	D	A	D
Mercury chloride		B	A	D	A	A	A	A 1	–	D	D	D	D	D	D
Mercury cyanide		–	A	A 2	B	A	A	A 1	A	C	C	D	–	C	D
Methane		–	–	A	A	B	A	D	D	A	A	A	–	–	–
Methyl alcohol		B	A 1	B 1	A	A 1	A	A	A	A	A	A 1	A	A	B 1
Methyl chloride		–	C 1	B 1	A	D	D	D	D	A	A	D	A	D	–
Methyl ethyl ketone		B	B 2	A 1	A	D	D	A 2	D	A	A	B	A	A	A
Methyl isobutyl ketone		B	C	B 2	A	D	D	B 1	D	B	B	B	–	C	B
Methyl methacrylate		–	–	–	–	A	D	D	C	B	B	–	–	C	–
Methylene chloride		D	D	C 1	A	D	D	C 1	–	B	B	C	A	B	B
Milk		–	A	A	A	A 2	A 1	A	A	A	A	A	D	D	D
Mineral oils		A	B 1	A	A	B	A	D	C	A	A	A	A	–	B
Monochlorobenzene		D	C 1	D	B	D	D	D	D	A	B	A	B 1	B	B
Muriatic acid (hydrochloric acid)															
Mustard		–	A	A	A	B	B	A	–	A	A	B	–	D	–
Nitrobenzene		D	C 1	B 1	A	D	D	B 1	D	B	B	B	–	C	B
Natural gas		–	A	–	A	A	A	D	A	A	A	A	–	A	–
Naphtha		B	A 1	A	B	A 1	A	D	D	A	A	A	A	B	A
Naphthalene		B	C	A 1	A	D	D	D	D	A	A	B 1	–	A	–
Nickel nitrate		–	A	A 1	A 2	A	A 1	A 2	–	B	B 2	D	–	C	–

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		PLASTICS					ELASTOMERS			METALS					
		POLYESTER	POLYETHYLENE	POLYAMIDE	PTFE	PVC	NITRILE	EPDM	SILICONE	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	ALUMINIUM	BRASS	CAST IRON	COPPER
Nickel chloride		–	A	C 1	A	A	A 1	A 1	A	D	C	D	D	D	–
Nickel sulphate		–	A	A 1	A	A	A 1	A 1	A	B	B 1	D	D	D	–
Nitro-hydrochloric acid	(80 % HC1 + 20% HNO^3)	–	B 1	D	A	C 1	D	C	D	D	D	D	D	D	D
Nitric acid	5-10 %	C	B	D	A	A 1	D	A 1	C	A	A	A	D	D	D
	20 %	D	C	D	A	A 1	D	A 1	D	A	A	D	D	D	D
	50 %	D	B 1	D	A	B 1	D	D	D	A 2	A 1	D	D	D	D
	concentrated	D	C 1	D	A	B 1	D	D	D	A 1	A 1	D	D	D	D
Oleic acid		A	C 2	A	A	C 2	B	B	D	A	A	A	D	–	A
Olive oil		–	A 1	A 1	A 1	C	D	D	D	A	A	A	–	–	–
Oxalic acid		D	A 2	B 2	A 1	B	D	A	B	B	A	A	D	C	B
Oxocarbon		A	A 2	A 1	A	A 2	A	A	A 2	A	A	A	–	A	A
Ozone		C	A	D	A	B	D	A	A	B	A	B	–	–	A
Palmitic acid		A	–	A	A 2	B 1	A 2	B 1	D	B 1	A 1	B	D	–	B
Paraffin		–	B	A 1	A	B	B	D	–	A	A	A	A	–	B
Peanut oil		–	A	–	A	A 1	A	D	A	A	A	A	–	A	A
Pentane		–	D	A 1	A	A	A	D	D	C	C	B	–	–	–
Petrol		B	C 1	A 1	A 2	–	A 2	D	D	A 1	A 1	D	–	–	B
Phenol		D	D	D	A	D	D	B	D	B	B	A	D	D	D
Phenol	10 %	–	B	D	A	C 1	D	B	D	B	B	A	–	D	B
Phosphoric acid	≤ 40 %	–	A	B 1	A	B	D	B	C	D	C	C	D	D	D
	> 40 %	–	B 1	B 1	A	B	D	B	D	D	D	C	D	D	D
Phosphorus trichloride		–	B	–	A 2	D	D	A 1	–	A 1	A 2	D	–	–	D
Phtalic anhydride		–	–	–	A	D	D	A	–	A	A	A	–	–	C
Picric acid		–	A	C 1	A	D	C	B	D	B	B	C	–	A	D
Pine oil		–	D	A	A	D	D	D	D	A	A	A	–	C	–
Potassium bromide		–	A	A 1	A	A	A	A 1	A 1	B	B	C 1	–	D	B
Potassium carbonate		D	A 1	A	–	A	A	A 1	–	B	B	D	–	C	B
Potassium chloride		B	A 1	A 1	A	A	A 1	A 1	A	B 1	A 1	D	D	A	B
Potassium cyanide in solution		B	A	A 1	A	A	A 1	A 1	A	B 1	B 1	D	D	B	D
Potassium dichromate		C	A	B 1	A	A	A 1	A 1	A	B	B 1	B	–	A	B
Potassium hydroxide		D	A	C 1	A	A 1	B 1	A 2	C	B	A 1	D	D	B 2	B
Potassium nitrate		B	A	B 1	A	A	A 2	A	A	B	B	B	B	A	A
Potassium permanganate		D	A	D	A	A 1	C	A	–	B 1	B	B 1	–	A	A
Potassium sulphate		B	A 2	A 1	A	A 2	A 2	A 1	A	B 1	A	C	D	A	B
Propyl alcohol		–	A 2	D	A	A 1	A	A	A	A	A	A	A	A	A
Pyridine		C	B 1	C 1	A	D	D	B	D	A	A	B	B	A	B
Salicylic acid		–	B 2	A 1	A 2	B 1	B	A	–	B 2	B 2	B 2	–	A	A
Saltwater		A	A 2	A 2	A	B	D	A	B	B	B	B	D	D	B
Seawater		A	A 2	A 2	A	A 2	D	A 2	A 1	C	C	B	D	D	B
Silicone oil		A	A	A 1	A	A	A	A	C	A	A	A	–	A	A
Silver nitrate		–	A	A 1	A	A 1	B	A	A	B	B	D	–	C	–
Soap solutions		A	D	A 1	A	A	A	A	A	A	A	A 1	C	B	A	A

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Soda (sodium carbonate)		–	B 2	B 1	A	A 2	A	A 2	A	A	A	D	B	B	A
Sodium bicarbonate		–	A 2	A	A	A 2	A 1	A 2	A	A	A 1	D	D	C	B
Sodium carbonate		–	B 2	B 1	A	A 2	A	A 2	A	A	A	D	B	B	A
Sodium chloride		A	A 2	A 1	A	A 2	A	A	A	B	B	C	D	D	B
Sodium cyanide		B	A 2	A 1	A	A 2	A	A 2	A	A 1	B 1	D	D	A	D
Sodium fluoride		–	A 2	B	A 1	A 2	A 1	A	–	D	D	B	–	C	D
Sodium hydroxide	20 %	B	D	A	A	A	A	B	A 2	B	B 2	D	B	A 2	A 2
	50 %	C	D	A	A	A	A 1	B 1	A 1	B	B 1	D	D	D	B
	80 %	–	D	C	A 1	A	D	B 1	A 1	C	B 1	D	D	D	D
Sodium hypochlorite		D	B 2	D	A	B	D	B 1	B	D	D	D	D	D	–
Sodium hypochlorite	< 20 %	A	A	D	A	A	B	B	B	C	C	D	D	D	–
Sodium nitrate		–	A 2	A 1	A	A 2	A 1	A	D	B 1	B 1	B	–	B	D
Sodium peroxide		–	A	A 1	A	B 2	B	A	D	A	A	C	D	C	B
Sodium phosphate		–	A	A 1	A	A 1	A	A	D	B	B	D	D	D	A
Sodium silicate		–	A 2	A 1	A	A 2	A	A	A	A	B	D	D	B	B
Sodium sulphate		–	A 2	A	A	A 2	A	A	A	B	B 1	A	B	B	B
Sodium sulphide		–	A 2	A 1	A	A 2	A	A 2	A	B	D	D	D	C	D
Sodium thiosulphate		–	A 1	B	A	A 2	B	A 2	A	A 2	B	A	D	C	D
Soy oil		B	A 1	A	A	A 1	A	C	A	A	A	A	–	A	–
Stearic acid		C	B 1	A 2	A	B 2	B	B	B	B	A	B	D	C	D
Styrene		D	–	A 1	A	D	D	D	D	A	A	A	A	A	B
Sulphur chloride		–	C 1	A 1	A	C 1	D	D	C	D	D	D	D	D	B
Sulphur trioxide		–	–	D	A	A	D	C 2	B	A	C	A	D	B	C
Sulphuric acid	10-75 %	–	A 1	D	A	A 1	B 1	B 2	D	D	D	D	–	D	–
	75-100 %	C	B 1	D	A	D	C	B 1	D	C	D	D	–	D	D
	< 10 %	A	A 1	C 1	A	A 1	A 1	A	C	D	B	D	–	C	–
	cold concentrate	B	C	D	A	D	D	C	D	C	B	B	–	D	–
	hot concentrate	C	D	D	A	D	D	D	D	D	C	D	–	D	–
Sulphurous acid		–	B 2	D	A	A 2	B 1	B	D	B 1	B	B 1	–	D	D
Synthetic hydraulic oil		–	A	A 1	A	A	D	A	B	A	A	A	A	–	A
Tannic acid		A	B 2	C 1	A	A 1	A	A	B	B 1	A	C	B	C	A
Tartaric acid		C	A 1	B 2	A	A 1	A	B	A	C 2	C 2	B 1	D	C	A
Tetrachloroethylene		–	B	A 1	A	D	D	D	D	–	A	–	–	A	A
Toluene		B	C 1	A 1	A	D	D	D	D	A	A	A	A	A	A
Trichloroethylene		C	D	C 1	A	D	D	D	D	B	B	D	–	C	A 1
Tricresyl phosphate		–	B 1	A 2	A	D	D	A	C	B	B	D	–	B	B
Triethylamine		–	–	A 1	A	B	C	A	–	A	A	–	–	A	A 1
Turpentine		–	D	B	A	D	–	D	D	A	A	A	D	–	B
Varnish lacquer		–	A	A 1	A	D	D	D	D	A 1	A	A	–	C	A
Vinegar		–	A	A	A	B	B	A	A	A	A	D	D	D	B
Vinyl chloride		–	–	A 1	A 2	D	D	C	–	B 2	A 1	B 1	–	B	B
Water	< 80 °C	A	A 2	A 1	A	B	D	A	B	A	A	B	D	D	B

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