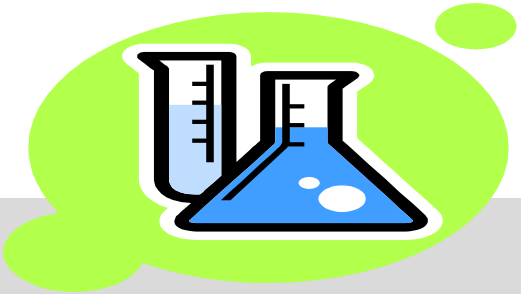
VERSION 2015 - V.2.0

Safety information:

This information is based on laboratory tests (for e.g. test procedure according to DIN-EN ISO 6529), and on solid data banc scan /analysis over 30 years.
It is intended as a **general overview** of our materials against chemicals and gasses. In practical situations there are many variable factors, such as temperature, ventilation, exposure time, stability of gasses or liquids, mechanical loads and wettability, which may result in a deviation from the values determined in the laboratory.

TESIMAX-Altinger GmbH does not guarantee any results or accept liability of any kind in connection with this information.
This publication does not represent a license and does not intend an infringement
of any existing patents, utility models or trademarks.



Tesimax-Altinger GmbH
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Rules of the thumb

- Definition „permeation time“ = „x“ = breakthrough time,
  in which a substance / chemical could diffuse. Based on the framework of actually DIN EN 943 part 1 und 2 (ET).
- As bigger the time (x) is, as higher is the protection level of the suit for long durance uses.
- But under restriction, for e.g. a SCBA air reserve is approx. 30 minutes (isolating pressure device),
  so with that, end-user must check (x) and make a suitable choice (suit) or request for further information.
- All times/values (x) are ascertained solid and reliable. All times are primarily for the material.
- All times (x) could be used also for the suit components, without any warranty, under restriction of:
  - X gloves= 1:1 (for e.g. WIPAN CK+)
  - X view pane = 1:1
  - X zipper = zipper plus splash protection
  - X a-valves= valves plus splash protection
  - X boots = 1:2; take care of the additional permeation list info for the boots, on request.
  - X sockets out of suit material = 1:1
  - X light green marked permeation times = testet by notified labor and controled via 11a quality system (TÜV Rheinland).
- Allways in attention to the safety rules (manual) and the proofed and certified reference substances (certificat).
- For material reference TSO PLUS, we could support with another databanc - on demand.
- We can also offer you individual permeation tests – please enquire!

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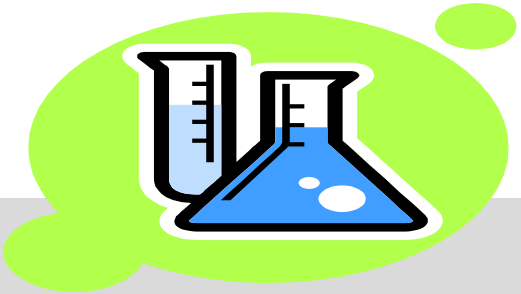

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Safety information – permeation times:

- The determined permeation times are given in minutes (= X).
- For chemical protection suits the classification in minutes according to applicable DIN EN standards (DIN EN 943 part 1 and 2 (ET) generally apply:

Classification in minutes					
Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
>10 minutes	>30 minutes	>60 minutes	>120 minutes	>240 minutes	>480 minutes

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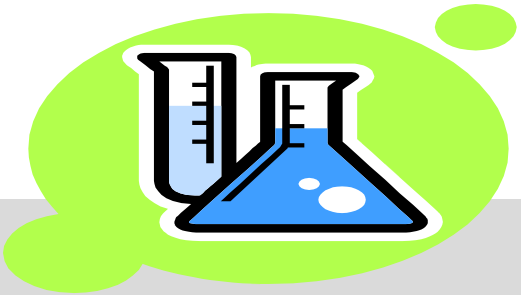

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Safety information – UN/CAS numbers:

- The allocation of CAS/UN numbers have been verified with due diligence with CHEMDAT for each chemical (in cooperation with MEMPLEX, Germany). An allocation is not possible in all cases, as some chemicals are listed under their manufacturer's product name.

- Chemicals that can not be allocated a number are marked –.

- Chemicals that have been allocated a number but where the allocation is not clearly definable (for example groups of substances) are marked *.

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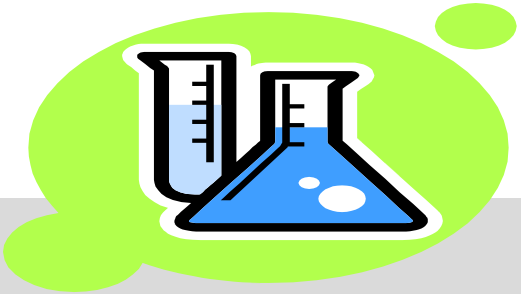

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TESIMAX PERMEATION LIST 22.05.2015 - V.2.0 - www.tesimax.de									
Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
1,1,1-trichlorethane								2831	71-55-6
1,2,4-trichlorobenzene								2321	120-82-1
1,2-dibromethane								1605	106-93-4
1,4-dichloro-2-butene (cis/trans mixture)								1993	764-41-0
2,2,2-trichlorethanol	98%							2810	115-20-8
2,4,6-trinitrophenol					>480			1344	88-89-1
2,4-dinitrotoluene								3454	121-14-2
2-chloropropene								2456	557-98-2
2-chlortoluene	98%							2238	95-49-8
2-cutoxyethanol					>480			9063	111-76-2
2-furaldehyde	99%							1199	98-01-1
2-methoxyethanol		<10		>120	>480	>60	>240	1188	109-86-4
4,4'-methylendicyclohexyldiisocyanate	Liquid, 20 °C			>480	>480	>480	>480		5124-30-1
Acetaldehyde		18		>240	>240	>240	>240	1089	75-07-0
Acetamide				>60	>480		>480		60-35-5
Acetic acid	100%			>480	>480	>480	>480	2789	64-19-7
Acetic acid	10%	>480		>480	>480	>480	>480	2789	64-19-7
Acetic acid	100%	>480		>240	>240	>240	>480	2789	64-19-7
Acetic acid	20%	>480		>480	>480	>480	>480	2790	64-19-7
Acetic acid	30%	>480		>480	>480	>480	>480	2790	64-19-7
Acetic acid amyl ester				60	120		>480	1104	628-63-7
Acetic acid ethyl ester									141-97-9
Acetic acid ethyl ester				>120	>120	>120	180	1173	141-78-6
Acetic acid isopropyl ester				>120	>120	>120		1220	108-21-4
Acetic acid methyl ester								1231	79-20-9
Acetic acid propyl ester								1276	109-60-4
Acetic acid, anhydride				>480	>480	>480	>480	1715	108-24-7
Acetic acid, n-butyl ester								1123	123-86-4
Acetic anhydride				>480	>480	>480	>480	1715	108-24-7
Acetic anhydride (99%) (2 °C)								1005	7664-41-7
Acetone		21	>480	>480	>480	>480	>480	1090	67-64-1
Acetone/toulene (50/50)					>30				
Acetonitrile		<=10	>480	>480	>480	>480	>480	1648	75-05-8
Acetophenone								2810	98-86-2
Acetous esters									
Acetous ether									
Acetyl chloride	98%			>480	>480	>480	130	1717	75-36-5
Acetylene				180	>480		>480	1001	74-86-2
Acetylene dichloride								1150	540-59-0
Acetylene tetrabromide				>480	>480	>480		2504	79-27-6
Acrylamide	40%	>480		>480	>480	>480	>480		79-06-1
Acrylic acid	99%	19		>480	>480	>480	>480	2218	79-10-7
Acrylic acid butyl ester					60		120	2348	141-32-2
Acrylic acid ethyl ester, stabilized					60		120	1917	140-88-5
Acrylic acid methyl ester					60		120	1919	96-33-3
Acrylonitrile	Liquid, 20 °C	<=10		>240	>240	>240	>180	1093	107-13-1
Adipic acid				>480	>480	>480			124-04-9
Alum				>480	>480	>480			10043-67-1
Aluminium acetate				>480	>480	>480			139-12-8
Aluminium chloride, anhydrous				>480	>480	>480	>480	1726	7446-70-0
Aluminium fluoride		>30		>480	>480	>480	>480	9101	7784-18-1
Aluminium nitrate				>480	>480		>480	1438	13473-90-0
Aluminium phosphate				>480	>480	>480	>480		7784-30-7
Aluminium sulphate, anhydrous		>480		>480	>480	>480	>480		10043-01-3
Aminobutane-1									109-73-9
Aminoethanol								2491	141-43-5
Ammonia (gas)	20°C	<=30	>480	>480	>480	>480	>480	1005	7664-41-7
Ammonia				>480	>480	>480	>480		
Ammonia , solutions <35 %	32% sol.			>240	>240	>240	>120	2672	1336-21-6

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Ammonium bifluoride	Solid, 20 °C	>30		>480	>480	<480	>480		1341-49-7
Ammonium carbonate				>480	>480	>480	>480		506-87-6
Ammonium chloride				>480	>480	>480	>480	9095	12125-02-9
Ammonium hydroxide	28%	480		>240	>240	>240	>480	2073	7664-41-7
Ammonium nitrate (fertilizer)				>240	>240	>240	>480	0222 / 1942	6484-52-2
Ammonium nitrite				>480	>480	>480	>480		13446-48-5
Ammonium peroxodisulphate				>480	>480	>480		1444	7727-54-0
Ammonium persulphate				>240	>240	>240	>480	1444	7727-54-0
Ammonium phosphate				>480	>480	>480	>480		7722-76-1
Ammonium sulphate				>480	>480	>480	>480		7783-20-2
Ammonium sulphate, 40% solution				>480	>480	>480	>480		7783-20-2
Amyl acetate				>120	>120	>120	>480	1104	628-63-7
Amyl alcohol				>480	>480	>480	>480	1105	
Amyl borate				>480	>480	>480			621-78-3
Amyl chloronaphthalene				>480	>480	>480			
Amylnaphthalene				>480	>480	>480			
Aniline	70 °C	<=10		>480	>480	>480	>480	1547	62-53-3
Aniline dye		<=10		>240	>240	>240	>480		
Aniline hydrochloride				>480	>480	>480	>480	1548	142-04-1
Aniline oil				>480	>480	>480	>480	1547	62-53-3
Animal fats		480		>480	>480	>480	>480		
Aqua regia		23		>240	>240	>240	>480	1798	8007-56-5
Arochlor				>480	>480	>480		2315	53469-21-9
Arsenic		240		>480	>480	>480	>480	1558 / 1561	1327-53-3; 7440-38-2
Arsenic acid, liquid		240		>480	>480	>480	>480	1553 / 1554	7778-39-4
Arsenic trichloride								1560	7784-34-1
Arsenic trioxide				>480	>480	>480		1561	1327-53-3
Arsine				>480	>480	>480	>60		7784-42-1
Asphalt		240		>480	>480	>480	>480	1999	8052-42-4
ASTM – oil No. 1				>480	>480	>480	>480		
ASTM – oil No. 3				>240	>240	>240	>480		
ASTM reference fuel A				>120	>120	>120	>480		
ASTM reference fuel B				>120	>120	>120	>480		
ASTM reference fuel C				60			>480		
Barium chloride		480		>480	>480	>480	>480	1564	10361-37-2
Barium hydroxide		480		>480	>480	>480	>480	1564	17194-00-2
Barium sulphate		480		>480	>480	>480	>480		7727-43-7
Barium sulphide		480		>480	>480	>480	>480	1564	21109-95-5
Beer		480		>480	>480	>480	>480		
Benzaldehyde				>120	>120	>120	>480	1990	100-52-7
Benzene		>=10		>120	>120	>120	>480	1203	86290-81-5
Benzene		<=10		>120	>120	>120	>480	1114	71-43-2
Benzenesulfonic acid					>480			3261	98-11-3
Benzoic acid				>120	>120	>120		9204	65-85-0
Benzoic acid benzyl ester				>480	>480	>480		9112	120-51-4
Benzoic acid butyl ester				>480	>480	>480			136-60-7
Benzonitrile	99%							2224	100-47-0
Benzophenone								3077	119-61-9
Benzoyl chloride				>480	>480	>480	240	1736	98-88-4
Benzyl alcohol				>480	>480	>480		9109	100-51-6
Benzyl benzoate				>480	>480	>480		9112	120-51-4
Benzyl chloride				>120	>120	>120		1738	100-44-7
Benzylamine								2735	100-46-9
Bitumen, flash points -18 – 23 °C				>240	>240	>240	>480	1999	8052-42-4
Blast furnace gas				>480	>480	>480	>480		
Bleaching lime (lime chloride)				>480	>480	>480	>480	1748	7778-54-3
Bleaching solutions				>240	>240	>240	>480	1791	7681-52-9

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Borax		480		>480	>480	>480	>480		1303-96-4, 1330-43-4
Boric acid		480		>480	>480	>480	>480		10043-35-3
Boric acid amyl ester				>480	>480	>480			621-78-3
Boron fluoride				<30	<30	<30	<30	1008	7637-07-2
Brine		480		>480	>480		>480		7647-14-5
Bromine		< 10		>120	>120	>120	240	1744	7726-95-6
Bromine trifluoride								1746	7787-71-5
Bromine water				>120	>120	>120		1744	7726-95-6
Bromobenzene				>120	>120	>120		2514	108-86-1
Bromochloromethane					>120			1887	74-97-5
Bromomethane				>240	>240	>240		1062	74-83-9
Butadiene (1,3-butadiene)	Gaseous			>480	>480	>480	>60	1010	106-99-0
Butane	98%	120		>480	>480	>480	>480	1011	106-97-8
Butane, wet				>480	>480	>480	>480	1011	106-97-8
Butanethiol, tert.				>480	>480	>480	>480	2347	75-66-1
Butanol, tert.				>480	>480	>480	>480	1120	75-65-0
Butanol-1				>480	>480	>480	>480	1120	71-36-3
Butanol-2				>480	>480	>480	>480	1120	78-92-2
Butanone (MEK)		<10		>120	>120	>120	>30		78-93-3
Butene				>480	>480	>480	>480	1012	25167-67-3
Butyl				>480	>480	>480	>480		
Butyl acetate		<10		>240	>240	>240	>30	1123	123-86-4
Butyl acetylricinoelate				>480	>480	>480			140-04-5
Butyl alcohol				>480	>480	>480	240	1120	71-36-3
Butyl aldehyde				>120	>120	>120	240	1129	123-72-8
Butyl benzoate				>120	>120	>120			136-60-7
Butyl Carbitol				>480	>480	>480		9023	112-34-5
Butyl cellosolve (2-butoxyethanol)	99%			>480	>480	>480		9063	111-76-2
Butyl Cellusolv								9063	111-76-2
Butyl ether				>480	>480	>480		1149	142-96-1
Butyl glycol	Liquid, 20 °C			>480	>480	>480	240		111-76-2
Butyl oleate				>120	>120	>120			142-77-8
Butyl stearate				>240	>240	>240			123-95-5
Butylamine				>120	>120	>120		1125	109-73-9
Butylcatechol, tert.				>480	>480	>480			98-29-3
Butylene				>240	>240	>240	>480	1012	
Butyric acid		480		>240	>240	>240	>480		107-92-6
Cadmium (non-pyrophoric)		>480		>480	>480	>480	>480	-	7440-43-9
Calcium				>480	>480	>480	>480	1401	7440-70-2
Calcium acetate				>480	>480	>480	>480		62-54-4
Calcium bisulphite		480		>480	>480	>480	>480	1923	13780-03-5
Calcium bisulphite				>480	>480	>480	>480	1923	13780-03-5
Calcium chloride		480		>480	>480	>480	>480	3258	10043-52-4
Calcium hydroxide		480		>480	>480	>480	>480	1759	1305-62-0
Calcium nitrate		480		>480	>480	>480	>480	1454	10124-37-5
Calcium oxide (Quicklime)		>480		>480	>480	>480	>480	1910	1305-78-8
Calcium sulphide		480		>480	>480	>480	>480	3288	20548-54-3
Calium hypochlorite		>240		>480	>480	>480	>480	1748 / 2208/ 2880	7778-54-3
Calium hypochlorite	20%	>240		>480	>480	>480	>480	1748 / 2208/ 2880	7778-54-3
Calium hypochlorite	5%	>240		>480	>480	>480	>480	1748 / 2208/ 2880	7778-54-3
Carbamate				>480	>480	>480	>480		
Carbitol					>120				111-46-6, 111-90-0
Carbolic acid				>240	>240	>240	>480	1671 / 2312	108-95-2
Carbon dioxide		480		>480	>480	>480	>480	1013 / 1845 / 2187	124-38-9

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Carbon dioxide				>480	>480	>480	>480	1013	124-38-9
Carbon disulphide				200				1131	75-15-0
Carbon disulphide		<=10		>480	>480	>480	>480	1131	75-15-0
Carbon disulphide			>10	>480	>480	>480	>480	1131	75-15-0
Carbon monoxide		480		>480	>480	>480	>480	1016	630-08-0
Carbon monoxide				>480	>480	>480	>480	1016	630-08-0
Carbonic acid		480		>480	>480	>480	>480	1013	124-38-9
Carboxylic acid	99%	480		>480	>480	>480	>480		
Castor oil		480		>480	>480	>480	>480		8001-79-4
Caustic soda				>480	>480	>480		1823	1310-73-2
Caustic soda	0-98%	<240		>480	>480	>480	>480	1824	1310-73-2
Caustic solution (lye)		240		>480	>480	>480	>480		
Cellosolve				>480	>480	>480		1171	110-80-5
Cellosolve acetate								1172	111-15-9
Cellulube				>240	>240	>240			
Chlorinated biphenyles				>480	>480	>480		2315	
Chlorine (gas)	23,2°C	>480	>480	>480	>480	>480	>480	1017	7782-50-5
Chlorine dioxide				>480	>480	>480	>480		10049-04-4
Chlorine trifluoride (tested)		<10		10<x<15	10<x<15	10<x<15	<10	1749	7790-91-2
Chlorine, dry		120		>240	>240	>240	>480	1017	7782-50-5
Chlorine, wet		120		>240	>240	>240	>480	1017	7782-50-5
Chloroacetic acid				>480	>480	>480	>480	1750	79-11-8
Chloroacetone				240			>480	1695	78-95-5
Chlorobenzene	99%	30		>120	>120	>120	>480	1134	108-90-7
Chlorobromomethane				>120	>120	>120		1887	74-97-5
Chlorobutadiene				>480	>480	>480	>480	1991	126-99-8
Chlorocarbonic acid methyl ester				>480	>480	>480		1238	79-22-1
Chlorododecane				>480	>480	>480	>480		112-52-7
Chloroethane				>480	>480	>480		1037	75-00-3
Chloroethanol 2-				>480	>480	>480		1135	107-07-3
Chloroform		<=10		>120	>120	>120	>240	1888	67-66-3
Chloroformic acid ethyl ester				>480	>480	>480		1182	541-41-3
Chloromethane				>120	>120	>120		1063	74-87-3
Chloronaphthalene, 0-				>480	>480	>480			
Chloroprene				>480	>480	>480	>480	1991	126-99-8
Chloropropane-2				>480	>480	>480	>480	2356	75-29-6
Chlorosulphonic acid				>240	>240	>240	180	1754	7790-94-5
Chlorosulphuric acid				>480	>480	>480	>480	1754	7790-94-5
Chlorotoluene				>480	>480	>480		1738 / 2238	25168-05-2
Chlorotrifluoroethane								1983	75-88-7
Chromating solutions				>480	>480	>480	>480		
Chromic acid				>240	>240	>240	>480	1463	1333-82-0
Chromic acid (chromium VI compounds)				>480	>480	>480	>480		
Chromic acid, solution	62%			>240	>240	>240		1755	7738-94-5
Chromium				240			>480	3288	7440-47-3
Chromium baths for electroplating				>480	>480	>480	>480		
Chromium trioxide				>480	>480	>480		1463	1333-82-0
Chromium(VI) oxide				>480	>480	>480	>480	1463	1333-82-0
Citric acid		480		>480	>480	>480	>480		77-92-9
Cleaning liquids (aqueous)		480		>480	>480	>480	>480		
Clophene (polychlorinated biphenyles)				>120	>120	>120			1336-36-3
Cobalt chloride				>480	>480	>480		3077	7646-79-9
Cobalt chloride				>480	>480	>480		3077	7646-79-9
Coconut oil		480		>240	>240	>240	>480	1363	8001-31-8
Cod-liver oil		480		>480	>480	>480	>480		
Coke oven gas				>480	>480	>480	>480	951025	
Copper acetate				>480	>480	>480			142-71-2
Copper chloride		480		>480	>480	>480	>480	2802	7758-89-6
Copper cyanide		480		>480	>480	>480	>480	1587	544-92-3

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Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
Copper sulphate (blue vitriol)		480		>480	>480	>480	>480	3077	7758-99-8
Copper sulphate solutions				>480	>480	>480		3077	7758-98-7
Cottonseed oil		480		>480	>480	>480	>480		8001-29-4
Creosol (m-cresol)				>120	>120	>120	>240		108-39-4
Creosolic acid				>480	>480	>480			
Creosote		67		>240	>240	>240	>480	3082	
Creosote oil				>480	>480	>480	>480	3082	
Cumene				>120	>120	>120		1918	98-82-8
Cumene				>480	>480	>480			
Cyanogen bromine	Solid, 20 °C	>30		>30	>30	>30	>30		506-68-3
Cyclohexane	99%	<=10		>120	>120	>120		1145	110-82-7
Cyclohexanol				>480	>480	>480		2282	108-93-0
Cyclohexanone				>120	>120	>120		1915	108-94-1
Cymene, para				>480	>480	>480		2046	99-87-6
DCDP						>120			
Decahydronaphthalene				>480	>480	>480		1147	91-17-8
Decalin				>120	>120	>120		1147	91-17-8
Decane		60						2247	124-18-5
Denatured alcohol		12		>480	>480	>480		1170	64-17-5
Detergents – alcohol				>480	>480	>480			
Developers – liquid				>480	>480	>480	>480		
Diacetone		30		>480	>480	>480		1148	123-42-2
Diacetone alcohol		38		>240	>240	>240		1148	123-42-2
Diamine									
Diaminodiphenylmethane				>480	>480	>480		2651	101-77-9
Diaminoethane-1,2								1604	107-15-3
Dibenzyl ether		60		>120	>120	>120			103-50-4
Dibenzyl sebacate		60			>120				
Dibutyl ether		60						1149	142-96-1
Dibutyl sebacate				>120	>120	>120			109-43-3
Dibutylamine				>120	>120	>120		2248	111-92-2
Dibutylphthalate				>120	>120	>120	186	3082	84-74-2
Dichloroacetylene									7572-29-4
Dichlorobutene-3,4								1993	760-23-6
Dichloroethane				>60	>60		>60	1184	107-06-2
Dichloroethane-1,2					>480			1184	107-06-2
Dichloroethylene				>120	>120	>120		1303	75-35-4, 540-59-0
Dichlorohexylamine									
Dichloromethane			>240	<=120	<=400	>480	<=120	1593	75-09-2
Diesel oil		60		>240	>240	>240	>480	1202	68476-34-6
Diethyl ether		240		>480	>480	>480		1155	60-29-7
Diethyl ether	99%			>120	>120	>120	<30	1155	60-29-7
Diethyl oxalate				>480	>480	>480		2525	95-92-1
Diethyl Sebacate				>120	>120	>120	>480		110-40-7
Diethyl sebazate				>120	>120	>120	>480		110-40-7
Diethylamine			>10	>480	>480	>480	>480	1154	109-89-7
Diethylbenzene				>120	>120	>120		2049	105-05-5, 135-01-3, 141-93-5
Diethylbenzene				>120	>120	>120		2049	135-01-3, 141-93-5
Diethylen glycol				>480	>480	>480			111-46-6
Diethylene glycol				>480	>480	>480			111-46-6
Diethylene glycol ether									112-36-7
Diethylenetriamine		<10		>480	>480	>480	>480		111-40-0
Diisobutylene				>480	>480	>480		2050	
Diisopropyl ether								1159	108-20-3
Diisopropyl ketone								1224	565-80-0
Diisopropylamine					240			1158	108-18-9
Diisopropylbenzene				>480	>480	>480		3082	
Dimethyl ketone								1090	67-64-1

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Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
Dimethyl phthalate				>120	>120	>120			131-11-3
Dimethyl sulphate					240			1595	77-78-1
Dimethylamine				>120	>120	>120		1032	124-40-3
Dimethylbenzene				>480	>480	>480		1307	1330-20-7
Dimethyldichlorosilan	Liquid, 20 °C			>60	>120		>30		75-78-5
Dimethylether	Gaseous	>30		>240	>240	>240	>240	1033	115-10-6
Dimethylformamide				>240	>240	>240		2265	68-12-2
Dimethylhydrazine	98%			>240	>240	>240	>480	1163	57-14-7
Dinitrotoluene								2038	121-14-2
Dioctyl phthalate				>120	>120	>120	94		117-81-7, 117-84-0
Dioctyl sebacate		68		>120	>120	>120			122-62-3
Dioxane				>120	>120	>120	>60	1165	123-91-1
Dioxolane								1166	646-06-0
Dipentene				>240	>240	>240	>480	2052	138-86-3
Diphenyl				>120	>120	>120		3077	92-52-4
Diphenyl ether								3077	101-84-8
Diphenyl oxide				>120	>120	>120		3077	101-84-8
Disulphur dichloride				>480	>480	>480		1828	10025-67-9
Dowtherm A				>240	>240	>240	>480		8004-13-5
Epichlorohydrin	99%			>120	>120	>120	120	2023	106-89-8
Epoxymethyl acetate	98%								
Epoxypropane, 1,2-				>480	>480	>480	>480	1280	75-56-9
Etchning/pickling solution		240		>480	>480	>480	>480		
Ethane		240		>240	>240	>240	>480	1035	74-84-0
Ethane		240		>240	>240	>240	>480	1035	74-84-0
Ethanethiol				>480	>480	>480	>480	2363	75-08-1
Ethanol				>480	>480	>480	>480	1170	64-17-5
Ethanol		<=10		>480	>480	>480	>480	1170	64-17-5
Ethanolamine		60		>480	>480	>480	>480	2491	141-43-5
Ethanolamine		60		>240	>240	>240	>480	2491	141-43-5
Ethene				>120	>120	>120		1038 / 1962	74-85-1
Ethene				>480	>480	>480		1001	74-86-2
Ether				>120	>120	>120	<30	1155	60-29-7
Ethoxyethanol		>=10		>480	>480	>480	>480	1171	110-80-5
Ethoxyethyl acetate				>480	>480	>480	>480	1172	111-15-9
Ethyl acetate				>480	>480	>480	180	1173	141-78-6
Ethyl acetate					60			1173	141-78-6
Ethyl acetate	99%	<10	>480	>480	>480	>480	>480	1173	141-78-6
Ethyl acrylate				>480	>480	>480		1917	140-88-5
Ethyl acrylate		<10		>120	>120	>120	>120	1917	140-88-5
Ethyl alcohol		240		>480	>480	>480	>480/93 °C	1170	64-17-5
Ethyl alcohol		240		>480	>480	>480	>480/93 °C	1170	64-17-5
Ethyl benzene				>120	>120	>120		1175	100-41-4
Ethyl benzene	99%			>120	>120	>120		1175	100-41-4
Ethyl benzoate					>480				93-89-0
Ethyl benzoate				>480	>480	>480			93-89-0
Ethyl cellosolve									111-90-0
Ethyl cellosolve	98%			>480	>480	>480	>480		111-90-0
Ethyl cellulose		120		>480	>480	>480	>480		9004-57-3
Ethyl cellulose									9004-57-3
Ethyl chloride		120		>120	>120	>120	>480	1037	75-00-3
Ethyl chloride		120		>120	>120	>120	>480	1037	75-00-3
Ethyl chlorocarbonate				>480	>480	>480		1182	541-41-3
Ethyl chlorocarbonate								1182	541-41-3
Ethyl chloroformate				>480	>480	>480		1182	541-41-3
Ethyl chlorohydrin				>480	>480	>480		1135	107-07-3
Ethyl chlorohydrin				>480	>480	>480		1135	107-07-3
Ethyl dichloride				>480	>480	>480	>480	1184	107-06-2
Ethyl ether		120		>480	>480	>480	>480	1155	60-29-7

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Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
Ethyl formate				>480	>480	>480		1190	109-94-4
Ethyl formate								1190	109-94-4
Ethyl glycol		240		>120	>120	>120	>480/93 °C	1171	110-80-5
Ethyl glycol				>480	>480	>480	>480	1171	110-80-5
Ethyl glycol acetate					>30			1172	111-55-7
Ethyl mercaptan					>30			2363	75-08-1
Ethyl oxalate				>480	>480	>480		2525	95-92-1
Ethyl pentachlorbenzene		30		>480	>480	>480			
Ethyl silicate				>480	>480	>480		1292	78-10-4
Ethyl silicate				>480	>480	>480		1292	78-10-4
Ethylamine								1036 / 2270	75-04-7
Ethylbutanols				>480	>480	>480		2275	97-95-0
Ethylene				>120	>120	>120	>480	1962	74-85-1
Ethylene alcohol				>480	>480	>480	>480/93 °C		107-21-1
Ethylene chloride				>120	>120	>120		1184	107-06-2
Ethylene chloride (1,1-)				>480	>480	>480	240	2362	75-34-3
Ethylene dichloride								1184	107-06-2
Ethylene dichloride				>480	>480	>480		2362	75-34-3
Ethylene dichloride				>480	>480	>480		1184	107-06-2
Ethylene glycol				>480	>480	>480			107-21-1
Ethylene oxalate				>480	>480	>480			
Ethylene oxide								1040	75-21-8
Ethylene oxide		>30		>120	>120	>120	>480	1040	75-21-8
Ethylene, liquefied				>480	>480	>480		1038 / 1942	74-85-1
Ethylenediamine		<=10			>30			1604	107-15-3
Ethylmethyl ketone		5		30	40		120	1193	78-93-3
Ethylmethyl ketone		>10		>30	>30	>10	>30	1193	78-93-3
Ethylpentachlorbenzene		30		>480	>480	>480			
Fat: Cod-liver oil		480		>120	>120	>120	>480		
Fat: Animal fats		480		>120	>120	>120	>480		
Fat: Lard		480		>120	>120	>120	>480		
Fat: Silicone		480		>120	>120	>120	>480		
Fatty acids		480		>240	>240	>240	>480		
Fish oil		480		>240	>240	>240	>480		
Fluorine	Liquid			>480	>480	>480	>480	1045	7782-41-4
Fluorobenzene				>120	>120	>120	240	2387	462-06-6
Fluoroboric acid	65%			>480	>480	>480		1775	16872-11-0
Fluorohydrocarbons (oils)				>480	>480	>480	>480		
Fluorolube					>120				9002-83-9
Fluorosilicic acid				>480	>480	>480	>480	1778	16961-83-4
Fluorosulphonic acid				>480	>480	>480	>480	1777	7789-21-1
Formaldehyde	37%			>480	>480	>480	>480	1198 / 2209	50-00-0
Formalin in solution >30%				>240	>240	>240	>480	1198 / 2209	50-00-0
Formic acid	92%	220		>120	>120	>120	>480	1779	64-18-6
Formic acid ethyl ester								1190	109-94-4
Formic acid methyl ester								1243	107-31-3
Freon 11				>480	>480	>480	>480	1956	75-69-4
Freon 113	98%	370		>480	>480	>480	>480	1956	76-13-1
Freon 114		480		>480	>480	>480	>480	1958	76-14-2
Freon 114 B 2				>480	>480	>480	>480		124-73-2
Freon 115				>480	>480	>480	>480	1020	76-15-3
Freon 12		480		>480	>480	>480	>480	1028	75-71-8
Freon 13				>480	>480	>480	>480	1022	75-72-9
Freon 13 B 1		480		>480	>480	>480	>480	1009	75-63-8
Freon 142 b								2517	75-68-3
Freon 21								1029	75-43-4
Freon 218				>480	>480	>480		2024	76-19-7
Freon 22				>480	>480	>480	>480	1018	75-45-6
Freon 31									593-70-4

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Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
Freon 32									
Freon 502					>120			1020	76-15-3
Freon BF								1956	76-13-1
Freon C 316								2193	76-16-4
Freon C 318				>480	>480	>480		1976	115-25-3
Freon MF								1956	75-69-4
Freon T - WD 602		480		>480	>480	>480	>480		
Freon TA		480							
Freon TC		480		>480	>480	>480			
Freon TF		480		>480	>480	>480		1965	76-13-1
Freon TMC		120		>480	>480	>480		1593	75-09-2
Freon TP 35		480						1956	76-13-1
Fumaric acid				>480	>480	>480		9212	110-17-8
Fuming sulphuric acid	65%			>480	>480	>480	>480	1831	8014-95-7
Furan (furfuran)				>120	>120	>120	240	2389	110-00-9
Furfural				240	120		>480	1199	98-01-1
Furfurol				>240	>240	>240	>480	2874	98-00-0
Furnace gas				>480	>480	>480			
Furylmethanol								1199	98-01-1
Gallic acid				>480	>480	>480			149-91-7
Gasohol				>480	>480	>480		1203	86290-81-5
Gasoline		120		240	>480		>480	1203	86290-81-5
Gelatins		480		>480	>480	>480	>480		9000-70-8
Generator gas		480		>480	>480	>480	>480		
Glauber's salt		480		>480	>480	>480	>480	1993	7727-73-3
Glucose		480		>480	>480	>480	>480		
Glue		480		>480	>480	>480	>480		
Glycerin		480		>480	>480	>480	>480	9278	56-81-5
Glycerin oil		480						9278	56-81-5
Glycerol triacetate				>480	>480	>480	>480		102-76-1
Glycol		240		>480	>480	>480	>480		107-21-1
Glycol monoethyl ether				>480	>480	>480		1171	110-80-5
Heating oil (fuel oil)		120		>240	>240	>240	>480	1202	
Hexamethylene diisocyanate								2281	822-06-0
Hexanal		120		>480	>480	>480	>480	1207	66-25-1
Hexane		120		>480	>480	>480	>480	1208	110-54-3
Hexanol				>480	>480	>480	>480	2282	111-27-3
Hexanone-2				>480	>480	>480	>480	1993	591-78-6
Hexene-1		480		>240	>240	>240	>480	2370	592-41-6
Hydraulic oil		480		>120	>120	>120	>480		
Hydrazine	Liquid, 15%	120		>480	>480	>480	>480	2029 / 2030	302-01-2, 7803-57-8
Hydrobromic acid				>480	>480	>480		1048 / 1788	10035-10-6
Hydrochloric acid	37%	480		>480	>480	>480	>480	1050 / 1789	7647-01-0
Hydrochloride	Gaseous			>480	>480	>480		1050	7647-01-0
Hydrocyanic acid	99%			>480	>480	>480	>480	1051	74-90-8
Hydrocyanic acid	Gaseous			>480	>480	>480	>480	1051	74-90-8
Hydrogen chloride (gas)	21° C	>480	>480	>480	>480	>480	>480	1789	7647-01-0
Hydrogen cyanide		>10		>480	>480	>480	>480	1051 / 1613 / 1614	74-90-8
Hydrogen fluoride	37%	>120		>480	>480	>480	>480	1790	7664-39-3
Hydrogen fluoride	48%	>120		>480	>480	>480	>480	1790	7664-39-3
Hydrogen fluoride	75%			>240	>240	>240	>480	1790	7664-39-3
Hydrogen fluoride	92% 90 °C			>30	>60	>60	>10	1052	7664-39-3
Hydrogen fluoride				>480	>480	>480	>480	1052	7664-39-3
Hydrogen fluoride gas, concentrated	100%			>30	>60	>60	>10	1790	7664-39-3
Hydrogen peroxide	10%	>480		>480	>480	>480	>480	2015	7722-84-1
Hydrogen peroxide (30%)	30%	>480		>480	>480	>480	>480	2015	7722-84-1
Hydrogen sulphate, aqueous solution				>480	>480	>480	>480	2837	7681-38-1
Hydrogen sulphide	Wet, hot			>480	>480	>480	>480	1053	04/06/7783

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Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
Hydrogen sulphide, aqueous solution				>480	>480	>480	>480/132 °C	1719	
Hydrogen sulphide, liquefied	Wet, cold			>480	>480	>480	>480	1053	04/06/7783
Hydrogen superoxide	90%			>240	>120			2015	7722-84-1
Hydrogen superoxide, concentrations <60% peroxide	dil.			>240				2015	7722-84-1
Hydrogen superoxide, concentrations >60% peroxide	conc.			>240				2015	7722-84-1
Hydrogen, compressed	Gaseous	480		>480	>480	>480	>480	1049	1333-74-0
Hydroquinone				>240	>240	>240		2662	123-31-9
Hyperchlorous acid				>480	>480	>480	>480	2626	7790-93-4
Hypochlorous acid				>480	>480	>480	>480		92112-70-4
Iodine pentalfluoride								2495	7783-66-6
Iodine, wet				>480	>480	>480	>480	3290	7553-56-2
Iron (III) chloride, granulate				>480	>480	>480	>480	2582	10025-77-1
Iron chloride		480		>480	>480	>480	>480	1773 / 2582	7705-08-0
Iron nitrate				>480	>480	>480	>480	1466	10421-48-4
Iron sulphate		>480		>480	>480	>480	>480		7720-78-7
Isoamyl alcohols				>480	>480	>480		1105	125-51-3
Isobutanol				>480	>480	>480	>480	1212	78-83-1
Isobutyl alcohol				>480	>480	>480	>480	1212	78-83-1
Isobutylamine					>120			1214	78-81-9
Isocyanate	Liquid, 20 °C	<10		>480	>480	>480	>480	-	5124-30-1
Isooctane		97		>480	>480	>480	>480	1262	540-84-1
Isophorone		35		>120	>120	>120		9018	78-59-1
Isopropanol				>480	>480	>480		1219	67-63-0
Isopropenylbenzene				>480	>480	>480	>120		98-83-9
Isopropyl acetate		22		>120	>120	>120		1220	108-21-4
Isopropyl alcohol				>480	>480	>480	>480	1219	67-63-0
Isopropyl chloride				>120	>120	>120	>480	2356	75-29-6
Isopropyl ether		45		>240	>240	>240	130	1159	108-20-3
Isopropylbenzene				>120	>120	>120		1918	98-82-8
Jet fuel A				>480	>480	>480	>480		
Jodoform									75-47-8
JP-4				>480	>480	>480	>480		50815-00-4
JP-5 jet fuel				>480	>480	>480	>480	1223	8008-20-6
JP-6	38°C			>480	>480	>480	>480		
Kerosene		>=10		>240	>240	>240	>480	1230	8008-20-6
Lactic acid		480		>120	>120	>120	>480		50-21-5
Lactic acid ethyl ester				>480	>480	>480	>480	1192	97-64-3
Lard		480		>480	>480	>480	>480		
Lavender oil		480		>240	>240	>240	>480		
Lead		>480		>480	>480	>480	>480	-	7439-92-1
Lead acetate				>480	>480	>480	>480	1616	301-04-2
Lead nitrate				>480	>480	>480	>480	1469	10099-74-8
Lead sulfamate				>480	>480	>480	>480	2291	13767-78-7
Lewisite (L)				>480	>480	>90	>420		
Linoleic acid		60		120	>120		>480		60-33-3
Linseed oil		480		>480	>480	>480	>480		8001-26-1
Lubricating oils (petroleum)		480		>480	>480	>480	>480		
Magnesium bisulphite	Solid	>120		>120	>120	>120	>120		
Magnesium chloride		480		>480	>480	>480	>480		7786-30-3
Magnesium chloride solutions				>480	>480	>480	>480		17638-61-8
Magnesium hydroxide		480		>480	>480	>480	>480		1309-42-8
Magnesium hydroxide solutions				>480	>480	>480	>480		1309-42-8
Magnesium sulphate (Epsom salts)				>480	>480	>480	>480		7487-88-9, 10034-99-8
Maize oil		480		>480	>480	>480	>480		8001-30-7
Maleic acid		>30		>120	>120	>120	>480	3261	110-16-7
Maleic anhydride		>30		>480	>480	>480	>480	2215	108-31-6
Malic acid		480		>480	>480	>480	>480		617-48-1

TESIMAX PERMEATION LIST 22.05.2015 - V.2.0 - www.tesimax.de									
Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
MDA	65% MDA & 35% formaldehyde			>480	>480	>480	>480	2651	101-77-9
MEK (methyl ethyl ketone)		5		>120	>120	>120	120	1193	78-93-3
Mercury		480		>480	>480	>480	>480	2809	7439-97-6
Mercury chloride	99%			>480	>480	>480	>480	1624 / 3077	7487-94-7, 10112-91-1
Mercury nitrate				>480	>480	>480	>480	1625	10045-94-0
Mercury(II) chloride solutions				>480	>480	>480	>480	1624	7487-94-7
Mesityl oxide				>120	>120	>120		1229	141-79-7
Methacrylic acid				>480	>480	>480	>480	2531	79-41-4
Methacrylic acid				>480	>480	>480		2823	107-93-7
Methacrylic acid methyl ester								1247	80-62-6
Methane		240		>240	>240	>240	>480	1971	74-82-8
Methanol		<=10	>480	>480	>480	>480	>480	1230	67-56-1
Methoxyethyl acetate	98%							1189	110-49-6
Methyl acetate				>120	>120	>120	>480	1231	79-20-9
Methyl acrylate				>120	>120	>120		1919	96-33-3
Methyl alcohol				>480	>480	>480	>480	1230	67-56-1
Methyl bromide				120	280		260	1062	74-83-9
Methyl bromide				>480	>480	>480		1062	74-83-9
Methyl butyl ketone								1993	591-78-6
Methyl cellosolve				>480	>480	>480		1188	109-86-4
Methyl chloride				>120	>120	>120	>480	1063	74-87-3
Methyl chloroacetate				>480	>480	>480		2295	96-34-4
Methyl cyanide								1648	75-05-8
Methyl cyanide								1648	75-05-8
Methyl formate								1243	107-31-3
Methyl glycol				>240	>240	>240	>480	1188	109-86-4
Methyl hydrazine				>240	>240	>240	>60		60-34-4
Methyl isobutyl ketone				>120	>120	>120		1229	141-79-7
Methyl methacrylate								1247	80-62-6
Methyl oleate				>480	>480	>480			112-62-9
Methylaniline					>120			2294	100-61-8
Methylbenzene								1294	108-88-3
Methylbenzene				>480	>480	>480		1294	108-88-3
Methylchloroform				>120	>120	>120		2831	71-55-6
Methylcyclopentane				>480	>480	>480		2298	96-37-7
Methylendianiline				>480	>480	>480		2651	101-77-9
Methylene bromide								2664	74-95-3
Methylene chloride				>120	>120	>120	220	1593	75-09-2
Methylhydrazine (= monomethylhydrazine)				60	60		80	1244	60-34-4
Methylisopropylbenzene				>480	>480	>480		2046	99-87-6
Methylparathion	10%							2783	298-00-0
Methylparathion	57%							2783	298-00-0
Methylpentane								1208	107-83-5
Milk		480		>480	>480	>480	>480		
Mineral oil		480		>480	>480	>480	>480	1267	09/05/8002
Mineral oil, crude oil				>240	>240	>240	>480	1268	8002-05--9
Mirbane								1662	98-95-3
Monochloroacetic acid, solid				>480	>480	>480	>480	1750 / 1751	79-11-8
Monochlorobenzene				>120	>120	>120		1134	108-90-7
Monoethanolamine								2491	141-43-5
Monomethyl aniline					>120			2294	100-61-8
Monomethylamine								1061 / 1235	74-89-5
Monovinyl acetylene				>480	>480	>480			689-97-4
Mustard gas (HD) - SUIT COMPONENTS TESTED				>480	>480	>480	>480		505-60-2
m-xylene								1307	108-38-3
n,n-dimethylacetamide									127-19-5

TESIMAX PERMEATION LIST 22.05.2015 - V.2.0 - www.tesimax.de									
Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
n-amylacetate	99%							1104	628-63-7
Naphtalene		65		>240	>240	>240	>480	1334 / 2304	91-20-3
Naphtha		23		>120	>120	>120	>480	1203	86290-81-5
Naphtha mixture							>480		
Naphthenic acid				>480	>480	>480			
Naphtholsulphonic acids				>480	>480	>480			
Natural gas, compressed		120		>240	>240	>240	>480	1971	74-82-8
Natural gas, liquefied (LPG)				>480	>480	>480	>480	1972	74-82-8
n-butanol	99%							1120	71-36-3
n-butyl acrylate				>30	>30	>30	>30		141-32-2
n-butyl mercaptan								2347	109-79-5
Neatsfoot oil		480		>480	>480	>480	>480		
Neville's acid				>480	>480	>480			
n-heptane			>480	>480	>480	>480	>480	1206	142-82-5
n-hexane	93°C			>480	>480	>480	>480	1208	110-54-3
Nickel acetate		>30		>120	>120	>120	>480		373-02-4
Nickel chloride				>480	>480	>480		3288	7718-54-9
Nickel sulphate		480		>480	>480	>480	>480	3077	7786-81-4
Nicocide								1654	54-11-5
Nicotine		480		>480	>480	>480	>480	1654	
Nitric acid	70%	<10		>120	>120	>120	<60	2031	7697-37-2
Nitric acid	10%	240		>240	>240	>240	>480	2031	7697-37-2
Nitric acid	30%	240		>240	>240	>240	>480	2031	7697-37-2
Nitric acid	65%	>30		>120	>120	>120	<120	2031	7697-37-2
Nitric acid	90%	<10		>120	>120	>120	<30	2032	7697-37-2
Nitric acid dibenzyl ester				>480	>480	>480			
Nitric acid dibutyl ester					>120				
Nitric acid diethyl ester					>120			9116	625-58-1
Nitric acid dioctyl ester									
Nitric acid propyl ester								1865	627-13-4
Nitrobenzene				>120	>120	>120	220	1662	98-95-3
Nitroethane					>120			2842	79-24-3
Nitroethane					>120			2842	79-24-3
Nitrogen (elementar)	gas	>480		>480	>480	>480	>480	1066	7727-37-9
Nitrogen (liquid)	minus 196° C	<5		<5	>5	<5	<5	1066	7727-37-9
Nitrogen dioxide	99%			>480	>480	>480	>480	1067	10102-44-0
Nitrogen tetroxide				>480	>480	>480	>480	1067	10102-44-0
Nitromethane	98%			>240	>240	>240		1261	75-52-5
Nitropropane				>120	>120	>120		2608	108-03-2, 79-46-9
n-octane				>480	>480	>480		1262	111-65-9
n-octane				>120	>120	>120		1262	111-65-9
n-propyl acetate					>30			1276	109-60-4
Octachlorotoluene				>480	>480	>480			
Octadecane		480		>480	>480	>480			593-45-3
Octanols				>480	>480	>480		1987	
Octyl alcohol				>480	>480	>480		3082	111-87-5
o-dichlorobenzene				>480	>480	>480		1591	95-50-1
Oleic acid		240		>120	>120	>120	>480		112-80-1
Oleic acid butyl ester				>480	>480	>480	>480		142-77-8
Oleic acid methyl ester				>480	>480	>480			112-62-9
Oleum	20%	10		>120	>120	>120	>480	1831	8014-95-7
Oleum	40%			>120	>120	>120	>480	1831	8014-95-7
Oleum				>120	>120	>120	>480	1831	8014-95-7
Olive oil		480		>480	>480	>480	>480		
Orthophosphoric acid				>480	>480	>480		1805	7664-38-2
Orthotoloidine								3077	119-93-7
Oxalic acid				>480	>480	>480	>480		144-62-7
Oxalic acid diethyl ester				>480	>480	>480		2525	95-92-1
Oxirane				>120	>120	>120		1040	75-21-8

TESIMAX PERMEATION LIST 22.05.2015 - V.2.0 - www.tesimax.de									
Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
Oxygen, chilled, liquefied	Cold	480		>480	>480	>480	>480	1072	7782-44-7
Oxygen, compressed	100–200 °C				>120		>480	1072	7782-44-7
Oxymethylene (formaldehyde)				>480	>480	>480		1198	50-00-0
Ozone		480		>480	>480	>480	>480		10028-15-6
Paint (or lacquer) solvent				>480	>480	>480	120		
Paint (or varnish)				>480	>480	>480	>480		
Paint thinner									
Palladium, powder		>120		>480	>480	>480	>480		03/05/7440
Palmitic acid		480		>240	>240	>240	>480		57-10-3
PCB in trichlorobenzene (50/50)				>480	>480	>480			
p-cymene								2046	99-87-6
Peanut oil		230		>480	>480	>480	>480		
Pentanols				>480	>480	>480		1105	
Pentyl acetate					>30			1104	628-63-7
Perchloric acid				>480	>480	>480		1873	7601-90-3
Perchloroethylene	99%	60		>120	>120	>120		1897	127-18-4
Petroleum	<25 °C	68		>240	>240	>240	>480	1268	
Petroleum	>25 °C			>240	>240	>240	>480	1268	
Petroleum ether				>480	>480	>480	>480	1203	86290-81-5
Phenol	85%			>240	>240	>240	>480	1671	108-95-2
Phenol	99%			>240	>240	>240	>480	1671	108-95-2
Phenol solution	50%				>120			1671 / 2821	108-95-2
Phenylamine				>480	>480	>480		1547	62-53-5
Phenylbenzene					>480			3077	92-52-4
Phenylethylene								2055	100-42-5
Phenylhydrazine				>480	>480	>480		2572	100-63-0
Phenylmethane								1294	108-88-3
Phosgene	20° (gaseous)			>240	>240	>240	>30		000075-44-5
Phosphine				>240	>240	>240	>30	2199	7803-51-2
Phosphoric acid	20%	480		>480	>480	>480	>480	1805	7664-38-2
Phosphoric acid	45 + 60%	480		>480	>480	>480	>480	1805	7664-38-2
Phosphoric acid	85%			>480	>480	>480	>480/93 °C	1805	7664-38-2
Phosphoric acid tributyl ester									126-73-8
Phosphoric acid tricresyl ester					>120			2574	1330-78-5
Phosphoric acid trioctyl ester					>120				1806-54-8
Phosphorus trichloride				>480	>480	>480		1809	02/12/7719
Phthalic acid dibutyl ester					>120			3082	84-74-2
Phthalic acid diethyl ester				>480	>480	>480			84-66-2
Phthalic acid dimethyl ester					>120				131-11-3
Phthalic acid dioctyl ester					>120				117-81-7
Picric acid		240		>480	>480	>480	>480	0154 / 1344	88-89-1
Pine needle oil (pinimenthol)				>480	>480	>480	>480		
Pinene		240		>120	>120	>120		2368	7785-26-4
Piperidine								2401	110-89-4
Polychlorinated biphenyls				>120	>120	>120	>480	2315	53469-21-9
Polychlorinated diphenyl	90 °C								
Potassium				>480	>480	>480	>480	2257	07/09/7440
Potassium (gold) cyanide	Solid	>480		>480	>480	>480	>480		13967-50-5
Potassium acetate	98%			>120	>120	>120			127-08-2
Potassium aluminium sulphate				>480	>480	>480	>480		10043-67-1
Potassium bichromate		480		>480	>480	>480	>480	3288	7778-50-9
Potassium chloride		480		>480	>480	>480	>480		7447-40-7
Potassium chromate	98%			>480	>480	>480	>480	3288	7789-00-6
Potassium cuprocyanide		480		>480	>480	>480	>480	1679	13682-73-0
Potassium cyanide				>480	>480	>480		1680	151-50-8
Potassium cyanide		480		>480	>480	>480	>480	1680	151-50-8
Potassium dichromate solutions				>480	>480	>480	>480	3288	7778-50-9
Potassium hydrogen fluoride		>480		>480	>480	>480	>480		7789-29-9
Potassium hydroxide				>480	>480	>480	>480	1813 / 1814	1310-58-3

TESIMAX PERMEATION LIST 22.05.2015 - V.2.0 - www.tesimax.de									
Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
Potassium hydroxide		245		>480	>480	>480	>480	1813 / 1814	1310-58-3
Potassium nitrate		480		>480	>480	>480	>480	1486	7757-79-1
Potassium permanganate	30%			>480	>480	>480	>480	1490	7722-64-7
Potassium sulphate		480		>480	>480	>480	>480		7778-80-5
Propane		240		>240	>240	>240	>480	1978 / 1965	74-98-6
Propanol, normal				>480	>480	>480	>480	1274	71-23-8
Propanone-2								1090	67-64-1
Propene				>480	>480	>480		1077	115-07-1
Propyl alcohol				>480	>480	>480		1274	71-23-8
Propylene				>120	>120	>120		1077	115-07-1
Propylene ether								1280	75-56-9
Propylene oxide		<10		>120	>120	>120	<30	1280	75-56-9
Propylnitrate								1865	627-13-4
Pydraul				>480	>480	>480	>480		
Pyran		240							
Pyridine				>240	>240	>240	>480	1282	110-86-1
Pyroligneous acid				>480	>480	>480		2789	64-19-7
Pyrrole				>240	>240	>240		1993	109-97-7
Rapeseed oil		480		>480	>480	>480	>480		
Salicylic acid		240		>480	>480	>480	>480	2811	69-72-7
Salicylic acid methyl ester									119-36-8
Sarin (GB) - SUIT COMPONENTS TESTED				>480	>480	>480			
Sea water		480		>480	>480	>480	>480		7647-14-5
Sea water		480		>480	>480	>480	>480		
Silicic acid ester		480		>480	>480	>480	>480	1292	78-10-4
Silicic acid tetraethyl ester				>480	>480	>480		1292	78-10-4
Silicone grease		480		>480	>480	>480	>480		
Silicone oil		480		>480	>480	>480	>480		
Silver nitrate		480		>480	>480	>480	>480	1493	7761-88-8
Skydrol				>240	>240	>240	120		
Soap solutions		480		>480	>480	>480	>480		
Soda lime				>480	>480	>480	>480	1907	8006-28-8
Sodium acetate				>480	>480	>480	>480	9246	127-09-3
Sodium bicarbonate				>480	>480	>480	>480		144-55-8
Sodium bisulphite				>480	>480	>480	>480	2693	7631-90-5
Sodium borate				>480	>480	>480	>480		1330-43-4
Sodium carbonate				>480	>480	>480		9319	497-19-8
Sodium carbonate		480		>480	>480	>480	>480		497-19-8
Sodium chloride		480		>480	>480	>480	>480		7647-14-5
Sodium cyanide	98%			>480	>480	>480		1689 / 3414	143-33-9
Sodium dichromate	20%			>480	>480	>480	>480	3288	7789-12-0
Sodium dichromate	3%	480		>480	>480	>480	>480	3288	7789-12-0
Sodium fluoride	Solid	<240		>480	>480	>480	>480		7681-49-4
Sodium hydrogen sulphate		<240		>480	>480	>480	>480		7681-38-1
Sodium hydrogen sulphide		<240		>480	>480	>480	>480	2693	7631-90-5
Sodium hydrogencarbonate				>480	>480	>480	>480		144-55-8
Sodium hydroxide	98%	<240		>120	>120	>120	>480	1823	1310-73-2
Sodium hydroxide	20%	<240		>120	>120	>120	>480/93 °C	1823 / 1824	1310-73-2
Sodium hydroxide	40%	<240	>480	>480	>480	>480	>480	1823 / 1824	1310-73-2
Sodium hydroxide	50%	<240		>120	>120	>120	>480/140 °C	1823 / 1824	1310-73-2
Sodium hydroxide	73%	<240		>120	>120	>120	>480/138 °C	1823 / 1824	1310-73-2
Sodium hydroxide	40%	>480		>480	>480	>480	>480	1824	1310-73-2
Sodium hypochlorite with chlorine 13%	Liquid	>480		>480	>480	>480	>480	1791	7681-52-9
Sodium metaphosphate				>480	>480	>480	>480		10124-56-8
Sodium nitrate				>480	>480	>480	>480	1498	7631-99-4
Sodium perborate				>480	>480	>480		3247	04/04/7632
Sodium peroxide				>480	>480	>480	>480	1504	1313-60-6
Sodium persulphate	Liquid, 20 °C	<30		>480	>480	>480	>480		7775-27-1
Sodium phosphate		480		>120	>120	>120	>480		7601-54-9

TESIMAX PERMEATION LIST 22.05.2015 - V.2.0 - www.tesimax.de									
Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
Sodium silicate				>480	>480	>480			1344-09-8, 13870-30-9
Sodium sulphate, anhydrous		480		>480	>480	>480	>480		7757-82-6
Sodium tetraborate				>480	>480	>480			1303-96-4
Sodium thiosulphate		480		>480	>480	>480			7772-98-7
Sodium, cake		480		>480	>480	>480	>480	1428	7440-23-5
Soman (GD)				>480	>180	>480	>180		
Soyabean oil as solvent		480		>240	>240	>240	>480		8001-22-7
St. John's oil		480		>240	>240	>240	>480	1547	62-53-3
Steam below 150 °C				>30	>240	>240	>480		
Stearic acid		480		>240	>240	>240	>480		57-11-4
Stearic acid butyl ester				>480	>480	>480			123-95-5
Stoddard solvent		480		>480	>480	>480	>480	1300	8052-41-3
Styrene	99%							2055	100-42-5
Styrene	98%	<10		>120	>120	>120	>120	2055	100-42-5
Succinic acid	Solid, 20 °C	480		>480	>480	>480	>480		110-15-6
Sugar solutions, beet sugar		480		>480	>480	>480	>480		57-50-1
Sugar solutions, beet sugar		480		>480	>480	>480	>480		
Sugar solutions, cane sugar		480		>480	>480	>480	>480		57-50-1
Sugar solutions, cane sugar		480		>480	>480	>480	>480		
Sulfole				>480	>480	>480	>480		
Sulphite liquor				>480	>480	>480	>480		
Sulphur				>480	>480	>480	>480	1350	7704-34-9
Sulphur chloride				>480	>480	>480	>480	1828	10025-67-9
Sulphur dioxide				>480	>480	>480	>480	1079	05/09/7446
Sulphur hexafluoride				>480	>480	>480		1080	2551-62-4
Sulphur lime				>480	>480	>480	>480		1344-81-6
Sulphur trioxide				>240	>240	>240	>480	1829	09/11/7446
Sulphuric acid	96%	>480	>480	>480	>480	>480	>480	1830	7664-93-9
Sulphuric acid	50-80%	>480		>120	>120	>120	>480	1830	7664-93-9
Sulphuric acid	20% steam	>480		>120	>120	>120	>480/121°C	2796	7664-93-9
Sulphuric acid	10-50%	>480		>120	>120	>120	>480	2796	7664-93-9
Sulphuric acid	5-10%	>480		>120	>120	>120	>480	2796	7664-93-9
Sulphuric acid anhydride				>480	>480	>480		1829	09/11/7446
Sulphurous acid	75%	240		>240	>240	>240	>480	1833	7782-99-2
Tabun (GA)				>480	>420	>480	>480		
Tannic acid		480		>480	>480	>480	>480		1401-55-4
Tannin	10%			>480	>480	>480	>480		1401-55-4
Tartaric acid		480		>480	>480	>480	>480		87-69-4
Tartaric acid		480		>480	>480	>480	>480		87-69-4
Terpineol				>480	>480	>480			10482-56-1
Tertiary butyl alcohol				>480	>480	>480		1120	75-65-0
Tertiary butyl mercaptan				>480	>480	>480		2347	75-66-1
Tertiary butyl titanate								1993	5593-70-4
Tertiary butylcatechol				>480	>480	>480		2923	98-29-3
Tetrabromoethane				>480	>480	>480		2504	79-27-6
Tetrabromomethane				>480	>480	>480		2516	558-13-4
Tetrabutyl orthotitanate				>480	>480	>480		1993	5593-70-4
Tetrachloroethane	98%			>120	>120	>120	<30	1702	79-34-5
Tetrachloroethylene		240		>480	>480	>480	>480	1897	127-18-4
Tetrachloroethylene				>120	>120	>120		1897	127-18-4
Tetrachloromethane				>480	>480	>480		1846	56-23-5
Tetraethyl ammonium hydroxide	20% (aqueous)	>120		>120	>120	>120	>120		77-98-5
Tetraethyl lead				>480	>480	>480		1649	78-00-2
Tetraethyl orthosilicate				>480	>480	>480		1292	78-10-4
Tetrafluoromethane (carbon tetrafluoride)		30		>120	>120	>120	>480	1846	56-23-5
Tetrahydrofuran			>30	>480	>480	>480	>480	2056	109-99-9
Tetralin		0		>120	>120	>120		3082	119-64-2
Thionyl chloride		<10		>120	>120	>120	>480	1836	07/09/7719

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Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
Tin chloride				>480	>480	>480	>480	1827	7646-78-8
Tin(II) chloride, anhydrous	15%			>480	>480	>480	>480	1760	10025-69-1
Tin(IV) chloride				>480	>480	>480	>480	1827	7646-78-8
Titanic acid tetrabutyl ester				>480	>480	>480		1993	5593-70-4
Titanium tetrachloride				>480	>480	>480		1838	7550-45-0
Titanium(IV) chloride				>480	>480	>480		1838	7550-45-0
Toluene		<10	>10	>480	>480	>480	>480	1294	108-88-3
Toluene diisocyanate				>480	>480	>480		2078	584-84-9
Toluylen diisocyanate-2,4 (T.D.I.)					240		280	2078	584-84-9
Transformer oil		480		>480	>480	>480	>480	2315	1336-36-3
Triacetin									102-76-1
Triacrylphosphate		240		>480	>480	>480			
Tributoxy ethyl phosphate				>480	>480	>480			78-51-3
Tributyl mercaptan				>480	>480	>480			
Tributyl phosphate				>120	>120	>120	78		126-73-8
Trichloroacetic acid				>120	>120	>120		1839	76-03-9
Trichloroacetic acid	65 °C							1839	76-03-9
Trichlorobenzene									
Trichloroethane				>120	>120	>120		2831	71-55-6
Trichloroethylene				>120	>120	>120	320	1710	79-01-6
Trichloromethane				>480	>480	>480		1888	67-66-3
Tricresyl phosphate		15		>120	>120	>120	300	2574	1330-78-5
Triethanolamine				>240	>240	>240	>480		102-76-1
Triethyl aluminium					>120			3051	97-93-8
Triethyl borane				>480	>480	>480			97-94-9
Triethylamine	20 °C			>480	>480	>480	>480	1296	121-44-8
Triiodomethane									75-47-8
Trimethylpentane-2,2,4				>480	>480	>480		1262	540-84-1
Trinitrotoluene					>120			0209	118-96-7
Trioctyl phosphate				>120	>120	>120			78-42-2, 1806-54-8
Trioxan					>120			2213	110-88-3, 30525-89-4
Trisodium phosphate solutions				>480	>480	>480	>480		10101-89-0
Tung oil				>240	>240	>240	>480		
Tungsten hexafluoride		>30		>60	>60	>60	>60		7783-82-6
Turbine oil		240		>480	>480	>480	>480		
Turpentine		<10		>120	>120	>120	>480	1299	8006-64-2
Turpentine oil (spirit of turpentine)		<10		>120	>120	>120	>480	1299	8006-64-2
Urine		480		>480	>480	>480	>480		
Vaseline oil		480		>480	>480	>480	>480		
Vegetable oils		480		>480	>480	>480	>480		
Vinyl chloride				>120	>120	>120	>480	1086	75-01-4
Vinyl cyanide								1093	107-13-1
Vinyl fluoride, stabilised				>480	>480	>480		1860	75-02-5
Vinylacetylene				>480	>480	>480			689-97-4
Vinylbenzene								2055	
Vinylbenzene					>120			2055	100-42-5
VX				>480	>420	>480	>480		
Wagner 21 B fluid				>480	>480	>480	>480		25322-69-4
Waste water		480		>480	>480	>480	>480		
Water		480		>480	>480	>480	>480		7732-18-5
White mineral oil		480		>480	>480	>480	>480		8042-47-5
White spirit				>480	>480	>480			
Wine vinegar		480		>480	>480	>480	>480	2790	64-19-7
Wines, whisky		480		>480	>480	>480	>480		
Wood oil (tung oil)		480		>240	>240	>240	>480	1299	8006-64-2
Xylene	Gaseous	60		<120	>120	>120	>480	1307	1330--20-7
Xylene		60		>120	>120	>120	>480	1307	1330-20-7
Zeolite									

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Hazardous material	**Concentr./state**	**Polyran-L**	**TSO plus**	**Sykan 2**	**Sykan 4**	**Sykan 5**	**Silverflash**	**UN_NR**	**CAS_NR**
Zinc		>480		>480	>480	>480	>480		7440-66-6
Zinc acetate	Solid	>480		>120	>120	>120	>480		557-34-6
Zinc chloride				>480	>480	>480	>480	1840 / 2331	7646-85-7
Zinc sulphate		120		>480	>480	>480	>480	3077	7446-20-0, 7733-02-0