

DuPont Permeation Guide

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Caution:

This information is based upon technical data that DuPont believes to be reliable on the date issued. It is subject to revision as additional knowledge and experience are gained. The information set forth herein reflects laboratory performance of fabrics, not complete garments, under controlled conditions. It is intended for informational use by persons having technical skill for evaluation under their specific end-use conditions, at their own discretion and risk.

It is the user's responsibility to determine the level of toxicity and the proper personal protective equipment needed. Anyone intending to use this information should first verify that the garment selected is suitable for the intended use. In many cases, seams and closures have shorter breakthrough times and higher permeation rates than the fabric. If fabric becomes torn,

abraded or punctured, or if seams or closures fail, or if attached gloves, visors, etc. are damaged, end user should discontinue use of garment to avoid potential exposure to chemical.

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This information is not intended as a license to operate under or a recommendation to infringe any patent, trademark or technical information of DuPont or others covering any material or its use.

Warning:

- Tychem® and Tyvek® fabrics should not be used around heat, flames, sparks or in potentially flammable or explosive environments. Only Tychem® ThermoPro, Tychem® Reflector® and Tychem® TK styles 600T/601T (with aluminized outer suit) garments are designed and tested to help reduce burn injury during escape from a flash fire. Users of Tychem® ThermoPro, Tychem® Reflector® and Tychem® TK styles 600T/601T (with aluminized outer suit) garments should not knowingly enter an explosive environment.
- Tychem® garments with attached socks must be worn inside protective outer footwear and are not suitable as outer footwear. These attached socks do not have adequate durability or slip resistance to be worn as the outer foot covering.

How to Use this Permeation Guide

To Find Permeation Test Results

1. Locate the desired chemical in the Chemical Index (Appendix).

The Chemical Index is presented in two ways:

- Alphabetical Index
- Chemical Abstract System (CAS) Number Index

For each chemical, the following information is listed:

- Chemical name
- CAS number
- Chemical class and subclass number(s)
- Synonyms, if applicable

2. Using the chemical name or CAS number, locate the class and subclass (es) of the chemical in the permeation index table.
3. Using the class and subclass, go to the chemical permeation data tables to locate the chemical. The range of fabrics is listed across the top of the table. If testing was done, the permeation data is reported.

Independent Testing

All testing reported in this guide was performed by a third party laboratory.

Permeation data for industrial chemicals is obtained per ASTM F739. Normalized breakthrough times (the time at which the permeation rate exceeds $0.1 \mu\text{g}/\text{cm}^2/\text{min}$) are reported in minutes. All chemicals have been tested between approximately 20°C and 27°C unless otherwise stated. All chemicals have been tested at a concentration of greater than 95% unless otherwise stated.

Chemical warfare agents (Lewisite, Sarin, Soman, Sulfur Mustard, Tabun and VX Nerve Agent) have been tested at 22°C and 50% relative humidity per military standard MIL-STD-282. "Breakthrough time" for chemical warfare agents is defined as the time when the cumulative mass which permeated through the fabric exceeds the limit in MIL-STD-282 [either 1.25 or $4.0 \mu\text{g}/\text{cm}^2$].

What is Permeation?

Permeation is the absorption, diffusion and desorption of a chemical through a barrier material at the molecular level. Penetration, on the other hand, is the bulk passage of a chemical through a pore or opening in the barrier material.

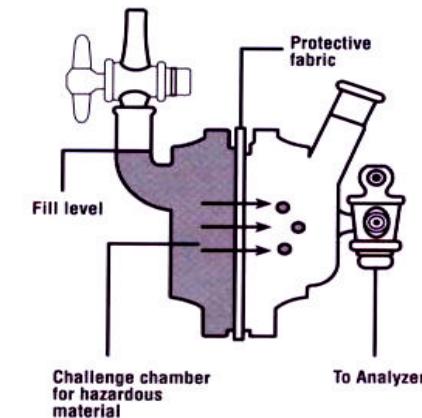
To help you understand the difference between these two mechanisms, consider this example. Have you ever opened a bottle of soda to find out that it was flat? There aren't any holes in the bottle. The liquid is still inside. Why is the soda flat? It's flat because the carbon dioxide that gives soda its fizz has permeated through the bottle over time. If you opened a fresh bottle of soda and did not replace the cap, the carbon dioxide would just escape out of the top of the bottle. That would be penetration.

Permeation tests are best suited for testing liquids and vapors.

How Permeation Tests Are Conducted

Other than for Chemical Warfare Agents, permeation tests are conducted following ASTM F739 "Test Method for Resistance of Protective Clothing Materials to Permeation by Liquids and Gases." A swatch of test fabric is inserted into a special test cell, with the outside surface of the fabric toward the

challenge chamber, thus exposing it to a challenge chemical. The inside surface of the fabric is toward the sampling chamber. If the chemical moves through the fabric and is detected on the inside surface of the fabric, it is said to have permeated through the fabric.



ASTM F739 Test Cell

Definitions of Key Terms for ASTM F739

Breakthrough time: In permeation testing, the actual breakthrough time is the length of time it takes for a challenge chemical to permeate the fabric being tested. It is measured from the point of initial contact of the challenge chemical with the outside surface of the fabric to the time that the challenge chemical is detected on the inside of the fabric. Sensitive analytical equipment is often used to measure the amount of chemical permeating the fabric.

Normalized, or sometimes called "standardized" breakthrough time, is a measure of the elapsed time from initial contact with the challenge chemical until the chemical permeates the fabric at a rate of $0.1 \text{ g/cm}^2/\text{min}$. This is defined in ASTM F739 test method. Normalized breakthrough times eliminate biased results due to differences in the sensitivity of the detection equipment and are thus the industry

standard measure of breakthrough time. This DuPont Permeation Guide reports normalized breakthrough times using the $0.1 \text{ g/cm}^2/\text{min}$ criteria.

A normalized breakthrough time of >480 minutes does not always mean that there was no chemical permeation; it means that the rate of permeation did not exceed $0.1 \text{ g/cm}^2/\text{min}$ during the 8 hour test. If the permeation rate exceeds $0.1 \text{ g/cm}^2/\text{min}$ in the first 10 minutes of testing, DuPont chooses to report the breakthrough time as "immediate" (imm.).

PLEASE NOTE: In Europe, normalized breakthrough times are based on a permeation rate of $1.0 \text{ g/cm}^2/\text{min}$. This is 10 times less sensitive than the basis used in North America.

Physical phase: The phase of the challenge chemical during the test: solid-S, liquid-L, gas-G.

Chemical Class & Subclass Listing*

100 Carboxylic acids 102 Aliphatic and Alicyclic, Unsubstituted 103 Aliphatic and Alicyclic, Substituted 104 Aliphatic and Alicyclic, Polybasic	230 Non-Carboxylic Esters 233 Carbamates and Others	316 Aromatic, Phenols 318 Aromatic, Others
110 Acid Halides, Carboxylic 111 Aliphatic and Alicyclic 112 Aromatic 113 Chloroformates	240 Ethers 241 Aliphatic and Alicyclic 245 Glycol Ethers 246 Vinylic	330 Elements
120 Aldehydes 121 Aliphatic and Alicyclic 122 Aromatic	260 Halogen Compounds 261 Aliphatic and Alicyclic 263 Aromatic 264 Vinylic 265 Alylic 266 Benzyllic	340 Inorganic Salts and Inorganic Salt Solutions
130 Amides 132 Aliphatic and Alicyclic 135 Acrylamides	270 Heterocyclic Compounds 271 Nitrogen, Pyridines 274 Nitrogen, Others 275 Oxygen, Epoxides 277 Oxygen, Furans 278 Oxygen, Others	345 Inorganic Cyano Compounds
140 Amines 141 Aliphatic and Alicyclic, Primary 142 Aliphatic and Alicyclic, Secondary 143 Aliphatic and Alicyclic, Tertiary 145 Aromatic, Primary 146 Aromatic, Secondary and Tertiary 148 Aliphatic and Alicyclic Polyamines 149 Aromatic Polyamines	280 Hydrazines	350 Inorganic Gases and Vapors
150 Hydroxamines and Ketoximes	290 Hydrocarbons 291 Aliphatic and Alicyclic, Saturated 292 Aromatic 293 Aromatic Polynuclear 294 Aliphatic and Alicyclic, Unsaturated 296 Polyenes	360 Inorganic Acid Halides 365 Inorganic Acid Oxides
160 Anhydrides 161 Aliphatic and Alicyclic	300 Peroxides 301 Inorganic 302 Organic	370 Inorganic Acids
210 Isocyanates 211 Aliphatic and Alicyclic 212 Aromatic	310 Hydroxylic Compounds (includes alcohols) 311 Aliphatic and Alicyclic, Primary 312 Aliphatic and Alicyclic, Secondary 313 Aliphatic and Alicyclic, Tertiary 314 Aliphatic and Alicyclic, Polyols 315 Aliphatic and Alicyclic, Substituted	380 Inorganic Bases
220 Carboxylic Esters 221 Formates 222 Acetates 223 Acrylates and Methacrylates 224 Aliphatic, Others 226 Benzoates and Phthalates		390 Ketones 391 Aliphatic and Alicyclic
		430 Nitriles 431 Aliphatic and Alicyclic 432 Aromatic
		440 Nitro Compounds 441 Unsubstituted 442 Substituted
		450 Nitroso Compounds
		460 Organo-Phosphorus Compounds 462 Derivatives of Phosphorus-based acids
		470 Organo-Metallic Compounds
		480 Organo-Silicon Compounds
		500 Sulfur Compounds 501 Thiols 502 Sulfides and Disulfides 503 Sulfones and Sulfoxides 504 Sulfonic Acids 505 Sulfonyl Chlorides 507 Sulfonates, Sulfates, and Sulfites 509 Other
		550 Organic Salts and Organic Salt Solutions
		590 Miscellaneous (Not classified)

*Partial list based on ASTM F1186. A complete copy of ASTM F1186 may be purchased from ASTM (www.astm.org).

ASTM F1001 List of Challenge Chemicals (Permeation Test Method ASTM F739)

Sub-class	Chemical Name	CAS Number	Phase	Normalized Breakthrough Time (Minutes)									
				Tychem® 2000 SFR	Tychem® 2000	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000
100	Acetic acid (10%)	64-19-7	Liquid		imm								
130	Dimethyl formamide, N,N-	68-12-2	Liquid		imm		90	>480	>480	>480	>480	>480	>480
140	Diethyl amine	109-89-7	Liquid		imm		15	>480	>480	>480	>480	>480	>480
140	Ethyl ethanamine, N-	109-89-7	Liquid		imm		15	>480	>480	>480	>480	>480	>480
220	Acetic acid ethyl ester	141-78-6	Liquid		imm		imm	>480	>480	>480	>480	>480	>480
220	Ethyl acetate	141-78-6	Liquid		imm		imm	>480	>480	>480	>480	>480	>480
260	Dichloro methane	75-09-2	Liquid		imm		imm	imm	imm	imm	>480	>480	>480
260	Dichloro methane (10.000 ppm)	75-09-2	Vapor							52			
260	Dichloro methane (1000 ppm)	75-09-2	Vapor							>480			
260	Methyl chloride (gaseous)	74-87-3	Vapor		imm		>480	>480	>480	>480	>480	>480	>480
260	Methylene chloride	75-09-2	Liquid		imm		imm	imm	imm	imm	>480	>480	>480
260	Methylene chloride (10.000 ppm)	75-09-2	Vapor							52			
260	Methylene chloride (1000 ppm)	75-09-2	Vapor							>480			
260	Ethylene tetrachloride	127-18-4	Liquid		imm		imm	>480	>480	>480	>480	>480	>480
260	Tetrachloro ethylene, 1,1,2,2-	127-18-4	Liquid		imm		imm	>480	>480	>480	>480	>480	>480
270	Epoxy ethane (gaseous)	75-21-8	Vapor		imm		imm	12	>480	126	>480	>480	>480
270	Ethylene oxide (gaseous)	75-21-8	Vapor		imm		imm	12	>480	126	>480	>480	>480
270	Tetrahydrofuran	109-99-9	Liquid		imm		imm	>480	>480	>480	>480	>480	>480
290	Hexane, n-	110-54-3	Liquid		imm		imm	>480	>480	>480	>480	>480	>480
290	Methyl benzol	108-88-3	Liquid		imm		imm	>480	>480	>480	>480	>480	>480
290	Toluene	108-88-3	Liquid		imm		imm	>480	>480	>480	>480	>480	>480
290	Butadiene, 1,3- (gaseous)	106-99-0	Vapor	imm	imm		>480	>480	>480	>480	>480	>480	>480
290	Vinyl ethylene (gaseous)	106-99-0	Vapor	imm	imm		>480	>480	>480	>480	>480	>480	>480
310	Methanol	67-56-1	Liquid		imm		>480	imm	117	117	>480	>480	>480
330	Chlorine (gaseous)	7782-50-5	Vapor		imm		>480	imm	>480	>480	>480	>480	>480
350	Ammonia (gaseous)	7664-41-7	Vapor	imm	imm		26	imm	90	20	105*/133	>480	>480
350	Chlorine (gaseous)	7782-50-5	Vapor		imm		>480	imm	>480	>480	>480	>480	>480
350	Hydrogen chloride (gaseous)	7647-01-0	Vapor		imm		>480	>480	>480	>480	>480	>480	>480
370	Hydrogen chloride (gaseous)	7647-01-0	Vapor		imm		>480	>480	>480	>480	>480	>480	>480
370	Sulfuric acid (>95%)	7664-93-9	Liquid	>480	>480		>480	>480	50	>480	>480	>480	>480
380	Ammonia (gaseous)	7664-41-7	Vapor	imm	imm		26	imm	90	20	105*/133	>480	>480
390	Acetone	67-64-1	Liquid	imm	imm		13	462	>480	>480	>480	>480	>480
390	Dimethyl ketal	67-64-1	Liquid	imm	imm		13	462	>480	>480	>480	>480	>480
390	Dimethyl ketone	67-64-1	Liquid	imm	imm		13	462	>480	>480	>480	>480	>480
390	Ketone propane	67-64-1	Liquid	imm	imm		13	462	>480	>480	>480	>480	>480
390	Methyl acetyl	67-64-1	Liquid	imm	imm		13	462	>480	>480	>480	>480	>480
390	Methyl ketone	67-64-1	Liquid	imm	imm		13	462	>480	>480	>480	>480	>480
390	Propan -2-one	67-64-1	Liquid	imm	imm		13	462	>480	>480	>480	>480	>480
390	Pyroacetic ether	67-64-1	Liquid	imm	imm		13	462	>480	>480	>480	>480	>480

ASTM F1001 List of Challenge Chemicals (Permeation Test Method ASTM F739)

Sub-class	Chemical Name	CAS Number	Phase	Normalized Breakthrough Time (Minutes)									
				Tychem® 2000 SFR	Tychem® 2000	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000
430	Acetonitrile	75-05-8	Liquid	imm	imm		60	imm	>480	131	>480	>480	>480
430	Cyanomethane	75-05-8	Liquid	imm	imm		60	imm	>480	131	>480	>480	>480
430	Ethane nitrile	75-05-8	Liquid	imm	imm		60	imm	>480	131	>480	>480	>480
430	Ethyl nitrile	75-05-8	Liquid	imm	imm		60	imm	>480	131	>480	>480	>480
430	Methyl cyanide	75-05-8	Liquid	imm	imm		60	imm	>480	131	>480	>480	>480
440	Nitro benzene	98-95-3	Liquid		imm		59	>480	>480	>480	>480	>480	>480
500	Carbon disulfide	75-15-0	Liquid	imm	imm		imm	imm	>480	>480	>480	>480	>480

> = greater than imm. = immediate (<10 minutes) {empty} = not tested L = Liquid G = Gas S = Solid

* Actual breakthrough time; normalized breakthrough time is not available.
 ** Solid tested, vapor phase permeation measured.

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
100																		
102		Acetic acid (10%)	64-19-7	Liquid					imm									
		Acetic acid (2%)	64-19-7	Liquid					imm									
		Acetic acid (30%)	64-19-7	Liquid			imm	imm	imm									
		Acetic acid (5%)	64-19-7	Liquid					imm									
		Acetic acid (>95%)	64-19-7	Liquid		imm				>480	34	>480	>480	>480	>480	>480	>480	
		Acroleic acid	79-10-7	Liquid		imm				>480		>480	>480	>480	270	>480		
		Acrylic acid	79-10-7	Liquid		imm				>480		>480	>480	>480	270	>480		
		Butyric Acid	107-92-6	Liquid										>480				
		Ethyl hexanoic acid	149-57-5	Liquid										>480				
		Ethylene carboxylic acid	79-10-7	Liquid		imm				>480		>480	>480	>480	270	>480		
		Formic acid (30%)	64-18-6	Liquid			imm	imm										
		Formic acid (50%)	64-18-6	Liquid								>480	>480					
		Formic acid (88%)	64-18-6	Liquid						>480								
		Formic acid (>95%)	64-18-6	Liquid							>480	260	260	>480	>480	>480	>480	
		Methacrylic acid	79-41-4	Liquid							81	>480	>480	>480	>480	>480	>480	
		Methyl propenoic acid, 2-	79-41-4	Liquid							81	>480	>480	>480	>480	>480	>480	
		Propanoic acid	79-09-4	Liquid										>480				
		Propene acid	79-10-7	Liquid		imm				>480		>480	>480	>480	270	>480		
103		Chloro acetic acid (80%)	79-11-8	Liquid		>480				>480	>480	>480	>480	>480	>480	>480	>480	
		Glycolic acid (sat)	79-14-1	Liquid											>480	>480	>480	
		Hydroxy acetic acid (sat)	79-14-1	Liquid											>480	>480	>480	
		Mercapto acetic acid	68-11-1	Liquid								>480	>480	>480	>480	>480	>480	
		Thioglycolic acid	68-11-1	Liquid						>480	>480	>480	>480	>480	>480	>480	>480	
		Trichloro acetic acid (sat)	76-03-9	Liquid							>480	>480	>480					
		Trifluoro acetic acid	76-05-1	Liquid						>480		>480	>480	>480				
104		Citric acid (50%)	77-92-9	Liquid							>480							
		Citric acid (sat)	77-92-9	Liquid								>480	>480	>480				
		Ethane dioic acid (10.5%)	144-62-7	Liquid											>480	>480	>480	
		Ethane dioic acid (sat)	144-62-7	Liquid							>480	>480	>480					
		Hydroxy 1,2,3-propanetricarboxylic acid, 2-(50%)	77-92-9	Liquid							>480							
		Hydroxy 1,2,3-																

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
110		propanetricarboxylic acid, 2-(sat)	77-92-9	Liquid								>480	>480				
110		Oxalic acid (10.5%)	144-62-7	Liquid										>480	>480	>480	
110		Oxalic acid (sat)	144-62-7	Liquid							>480	>480	>480				
111		Isopropyl bromoacetate (>95%)	29921-57-1	Liquid									>480				
111		Acetic chloride	75-36-5	Liquid						39*/63	>480	>480	>480	>480	>480	>480	>480
111		Acetyl chloride	75-36-5	Liquid						39*/63	>480	>480	>480	>480	>480	>480	>480
111		Acryloyl Chloride	814-68-6	Liquid						imm	55	334	334				
111		Chloro acetyl chloride	79-04-9	Liquid						120	77			160	160	160	
111		Dichloro acetyl chloride	79-36-7	Liquid							160	160	100	100	100	>480	
111		Ethanolyl chloride	75-36-5	Liquid						39*/63	>480	>480	>480	>480	>480	>480	
111		Perfluoro 2-propoxy propionyl fluoride	2062-98-8	Liquid										>480	>480	>480	
112		Benzene carbonyl chloride	98-88-4	Liquid							>480	>480	>480	>480	>480	>480	
112		Benzoyl chloride	98-88-4	Liquid							>480	>480	>480	>480	>480	>480	
112		Isophthaloyldichloride (45 °C, molten)	99-63-8	Liquid							>480	>480					
113		Benzyl chloro formate	501-53-1	Liquid							>480						
113		Butylchloroformate	592-34-7	Liquid									>480				
113		Diphosgene	503-38-8	Liquid									>480				
113		Ethylchloroformate	541-41-3	Liquid									>480				
113		Methyl chloro formate	79-22-1	Liquid							204*/308	204*/308	>480	>480	>480	>480	
113		Octyl chlor formate	7452-59-7	Liquid									>480				
113		Propylchloroformate	109-61-5	Liquid									>480				
120		Acetaldehyde	75-07-0	Liquid							19	>480	imm	>480	>480	>480	>480
121																	

Chemical Permeation Data Tables

C l a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Acrolein	107-02-8	Liquid							25*/178	75*/101	75*/101	>480	>480	>480	
		Acrolein (10 g/m ²)	107-02-8	Liquid								>480	>480				
		Acrolein (90%)	107-02-8	Liquid						24							
		Butanal, n-	123-72-8	Liquid		imm				41			>480	>480	>480	>480	
		Butenal, 2-	123-73-9	Liquid						34			147	>480	>480	>480	
		Butyraldehyde, n-	123-72-8	Liquid		imm				41			>480	>480	>480	>480	
		Croton aldehyde	123-73-9	Liquid						34			147	>480	>480	>480	
		Ethane diol dipropionate, 1,2-	123-73-9	Liquid						34			147	>480	>480	>480	
		Formaldehyde (10%)	50-00-0	Liquid					imm								
		Formaldehyde (100 ppm)	50-00-0	Vapor										>480	>480	>480	
		Formaldehyde (37%)	50-00-0	Liquid						>480	>480	>480	>480				
		Formalin (10%)	50-00-0	Liquid					imm								
		Formalin (100 ppm)	50-00-0	Vapor										>480	>480	>480	
		Formalin (3.7%, 1-1.5% Methanol)	50-00-0	Liquid		>480											
		Formalin (37% (10-15% Methanol))	50-00-0	Liquid		imm				>480	>480	>480	>480	>480	>480	>480	
		Formalin (37%)	50-00-0	Liquid						>480	>480	>480	>480				
		Glutaral (5%)	111-30-8	Liquid		>480								>480	>480	>480	
		Glutaral (50%)	111-30-8	Liquid						>480		170	170	>480	>480	>480	
		Glutaraldehyde (5%)	111-30-8	Liquid		>480								>480	>480	>480	
		Glutaraldehyde (50%)	111-30-8	Liquid						>480		170	170	>480	>480	>480	
		Methyl acrolein	123-73-9	Liquid						34			147	>480	>480	>480	
		Pentanedral, 1,5- (5%)	111-30-8	Liquid		>480								>480	>480	>480	
		Pentanedral, 1,5- (50%)	111-30-8	Liquid						>480		170	170	>480	>480	>480	
		Prop-2-en-1-al	107-02-8	Liquid							25*/178	75*/101	75*/101	>480	>480	>480	
		Prop-2-en-1-al (10 g/m ²)	107-02-8	Liquid							>480	>480					

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Prop-2-en-1-al (90%)	107-02-8	Liquid						24							
		Propylene aldehyde	123-73-9	Liquid						34			147	>480	>480	>480	
122		Benzaldehyde	100-52-7	Liquid									>480				
130																	
132		Cyanamide (50%)	420-04-2	Liquid									nm				
		Dimethyl acetamide, N,N-	127-19-5	Liquid	imm					96	>480	>480	>480	>480	>480	>480	
		Dimethyl acetamide, N,N- (8%)	127-19-5	Liquid	>480	>480											
		Dimethyl formamide, N,N-	68-12-2	Liquid		imm				90	>480	>480	>480	>480	>480	>480	
		Methyl 2-pyrrolidin, N-	872-50-4	Liquid						101		>480	>480	>480	>480	>480	
		Methyl formamide, N-	123-39-7	Liquid						>480	>480	>480					
135		Acrylamide (50%)	79-06-1	Liquid						>480		>480	>480	>480	>480	>480	
		Acrylicamide (50%)	79-06-1	Liquid						>480		>480	>480	>480	>480	>480	
		Propenamide (50%)	79-06-1	Liquid						>480		>480	>480	>480	>480	>480	
140																	
141		Amino ethanol, 2-	141-43-5	Liquid							>480	>480	>480	>480	>480	>480	
		Amino ethylpiperazine	140-31-8	Liquid						>480	>480	>480	>480	>480	>480	>480	
		Amino propane, 2-	75-31-0	Liquid							15	>480	>480	>480	>480	>480	
		Butyl amine	109-73-9	Liquid						>480	200	200	>480	>480	>480	>480	
		Diisopropylethylamine (DIPEA)	7087-68-5	Liquid						>480	>480						
		Ethanol amine	141-43-5	Liquid						>480	>480	>480	>480	>480	>480	>480	
		Ethyl amine (15 °C, liquid)	75-04-7	Liquid									361	361	>480		
		Isopropyl amine	75-31-0	Liquid							15	>480	>480	>480	>480	>480	
		Methyl amine (40%)	74-89-5	Liquid							140			261	261	261	
		Methyl amine (50%)	74-89-5	Liquid									232	232	232	232	
		Methyl amine (gaseous)	74-89-5	Vapor							>480	>480	105	105	>480		

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
		Propyl amine, n-	107-10-8	Liquid							100	16*/21	16*/21					
		Tetraethylene pentamine	112-57-2	Liquid						>480	>480	>480	>480	>480	>480	>480		
		Triethylentetramine (60%)	112-24-3	Liquid						>480	>480	>480	>480	>480	>480	>480		
142																		
		Amino ethylethanolamine	111-41-1	Liquid						imm	>480	>480	>480	>480	>480	>480	>480	
		Amino ethylethanolamine (60%)	111-41-1	Liquid						>480	>480	>480	>480	>480	>480	>480		
		Diethanolamine	111-42-2	Liquid						>480			>480					
		Diethyl amine	109-89-7	Liquid		imm				15	>480	>480	>480	>480	>480	>480	>480	
		Dimethyl amine	124-40-3	Vapor						>480	>480	>480				>480		
		Ethyl ethanamine, N-	109-89-7	Liquid		imm				15	>480	>480	>480	>480	>480	>480	>480	
143																		
		Amino 2-methylpropane, 2-	75-64-9	Liquid											>480	>480	>480	
		Butyl amine, tert-	75-64-9	Liquid											>480	>480	>480	
		Diethyl ethanamine, N,N-	121-44-8	Liquid						12*/22		>480	>480	>480	>480	>480	>480	
		Tributyl amine (95%)	102-82-9	Liquid						>480	>480	>480						
		Triethyl amine	121-44-8	Liquid						12*/22		>480	>480	>480	>480	>480	>480	
		Trimethyl amine	75-50-3	Vapor												>480		
		Trimethyl aminomethane	75-64-9	Liquid											>480	>480	>480	
		Tripropyl amine	102-69-2	Liquid											>480	>480	>480	
145																		
		Amino 3,4-dichlorobenzene, 1-	95-76-1	Solid											>480	>480	>480	
		Amino 3,4-dichlorobenzene, 1- (70 °C, molten)	95-76-1	Liquid						imm					216*/284	216*/284	216*/284	
		Amino benzene	62-53-3	Liquid		imm				>480	320	>480	>480	>480	>480	>480	>480	
		Amino diphenyl, 4- (1 mg/ml in Methanol)	92-67-1	Liquid						>480	>480	>480	>480	>480			>480	
		Anilin, 4-Trifluoromethoxy-	461-82-5	Liquid								>480	>480					
		Aniline	62-53-3	Liquid		imm				>480	320	>480	>480	>480	>480	>480	>480	
		Benzenamine	62-53-3	Liquid		imm				>480	320	>480	>480	>480	>480	>480	>480	

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
		Benzidine (25% in Methanol)	92-87-5	Liquid											>480	>480	>480	
		Benzidine (75% in Methanol)	92-87-5	Liquid													>480	
		Biphenyl 4,4'-diamine, 1,1'-(25% in Methanol)	92-87-5	Liquid											>480	>480	>480	
		Biphenyl 4,4'-diamine, 1,1'-(75% in Methanol)	92-87-5	Liquid													>480	
		Chloro aniline, p-	106-47-8	Solid											>480	>480	>480	
		Chloro aniline, p- (70 °C, molten)	106-47-8	Liquid						imm		imm	imm	272*/323	272*/323	272*/323		
		Chloro benzenamine, 4-	106-47-8	Solid											>480	>480	>480	
		Chloro benzenamine, 4- (70 °C, molten)	106-47-8	Liquid						imm		imm	imm	272*/323	272*/323	272*/323		
		Diaminobiphenyl, 4,4'-(25% in Methanol)	92-87-5	Liquid											>480	>480	>480	
		Diaminobiphenyl, 4,4'-(75% in Methanol)	92-87-5	Liquid													>480	
		Diaminodiphenyl, p- (25% in Methanol)	92-87-5	Liquid											>480	>480	>480	
		Diaminodiphenyl, p- (75% in Methanol)	92-87-5	Liquid													>480	
		Diaminodiphenylmethane, 4,4'	101-77-9	Liquid													>480	
		Diaminodiphenylmethane, 4,4'-(15% in Methyl Ethyl Ketone)	101-77-9	Liquid											>480	>480	>480	
		Dichloro aniline, 3,4-	95-76-1	Solid											>480	>480	>480	
		Dichloro aniline, 3,4- (70 °C, molten)	95-76-1	Liquid						imm				216*/284	216*/284	216*/284		
		Diethyl m-toluidine, N,N-	91-67-8	Liquid						>480					>480			
		Methyl aniline, o-	95-53-4	Liquid						>480		>480	>480	>480		>480		
		Methylene dianiline	101-77-9	Liquid													>480	
		Methylene dianiline (15% in Methyl Ethyl Ketone)	101-77-9	Liquid											>480	>480	>480	
		Phenyl amine	62-53-3	Liquid		imm				>480	320	>480	>480	>480		>480		
		Toluidine, m-	108-44-1	Liquid						>480					>480			
		Toluidine, o-	95-53-4	Liquid						>480		>480	>480	>480		>480		
		Xylydine, 2,4-	95-68-1	Liquid										>480				
146		Benzyl methylamine, N-	103-67-3	Liquid										>480	>480			

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
		Diethyl aniline crude	91-66-7	Liquid						>480					>480			
		Diethyl aniline, N,N-	91-66-7	Liquid							>480					>480	>480	
		Dimethyl aniline, N,N-	121-69-7	Liquid							imm	>480	>480	>480	>480	>480	>480	
		Dimethyl phenylamine, N,N-	121-69-7	Liquid							imm	>480	>480	>480	>480	>480	>480	
		Methyl benzylamine, N-	103-67-3	Liquid								>480	>480					
148		Amino ethylethanolamine	111-41-1	Liquid							imm	>480	>480	>480	>480	>480	>480	
		Amino ethylethanolamine (60%)	111-41-1	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Amino ethylpiperazine	140-31-8	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Diaminoethane, 1,2-	107-15-3	Liquid		>480					>480	>480	>480	>480	>480	>480	>480	
		Diethylene triamine	111-40-0	Liquid							imm* / 321	>480	>480	>480	>480	>480	>480	
		Dytek® A	15520-10-2	Liquid								>480	>480	>480				
		Ethylene diamine	107-15-3	Liquid		>480					>480	>480	>480	>480	>480	>480	>480	
		Hexamethylene diamine (45 °C, molten)	124-09-4	Liquid									>480	>480	>480	>480	>480	
		Hexamethylene diamine (50 °C, molten)	124-09-4	Liquid							80	45				80		
		Methylen Isocyclohexylamine, 4,4- (40 °C)	1761-71-3	Liquid										>480				
		Methylen Isocyclohexylamine, 4,4- (50 °C, molten)	1761-71-3	Liquid							>480							
		Tetraethylene pentamine	112-57-2	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Tetramethyleneethylenediamine (TMEDA)	110-18-9	Liquid								>480	>480					
		Tributyl amine (95%)	102-82-9	Liquid							>480	>480	>480					
		Triethylentetramine (60%)	112-24-3	Liquid							>480	>480	>480	>480	>480	>480	>480	
149		Benzidine (25% in Methanol)	92-87-5	Liquid											>480	>480	>480	
		Benzidine (75% in Methanol)	92-87-5	Liquid												>480		
		Biphenyl 4,4'-diamine, 1,1' (25% in Methanol)	92-87-5	Liquid											>480	>480	>480	

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
Biphenyl 4,4'-diamine, 1,1'- (75% in Methanol)	92-87-5	Liquid														>480	
Diaminobiphenyl, 4,4'- (25% in Methanol)	92-87-5	Liquid													>480	>480	>480
Diaminobiphenyl, 4,4'- (75% in Methanol)	92-87-5	Liquid															>480
Diaminodiphenyl, p- (25% in Methanol)	92-87-5	Liquid													>480	>480	>480
Diaminodiphenyl, p- (75% in Methanol)	92-87-5	Liquid															>480
Diaminodiphenylmethane, 4,4'-	101-77-9	Liquid															>480
Diaminodiphenylmethane, 4,4'- (15% in Methyl Ethyl Ketone)	101-77-9	Liquid													>480	>480	>480
Dichloro-4,4'-methyleneedianiline, 2,2'- (sat in Methanol)	101-14-4	Liquid								>480					>480	>480	>480
Methylene bis(2-Chloroaniline), 4,4'- (sat in Methanol)	101-14-4	Liquid								>480					>480	>480	>480
Methylene dianiline	101-77-9	Liquid															>480
Methylene dianiline (15% in Methyl Ethyl Ketone)	101-77-9	Liquid													>480	>480	>480
150																	
150																	
Butanone oxime, 2-	96-29-7	Liquid								>480					>480	>480	>480
Methyl ethyl ketoxime	96-29-7	Liquid								>480					>480	>480	>480
Tetraethyl ammonium hydroxide (35%)	77-98-5	Liquid								>480					>480		
160																	
161																	
Acetic anhydride	108-24-7	Liquid								12*/48	>480	>480	>480	>480	>480	>480	>480
Maleic anhydride (66 °C, molten)	108-31-6	Liquid								13				22			
210																	
211																	
Cyclo hexyl isocanyte	3173-53-3	Liquid								36*/54					36*/54		
Hexamethylene diisocyanate	822-06-0	Liquid			>480					>480	>480	>480	>480	>480	>480	>480	
Methyl isocyanate	624-83-9	Liquid								imm	12	imm	imm	>480	>480	>480	
212																	

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
Diphenyl methane diisocyanate, 4,4'-	101-68-8	Solid												>480	>480	>480	
Diphenyl methane diisocyanate, 4,4'- (50 °C, molten)	101-68-8	Liquid		>480						>480	>480	>480	>480	>480	>480	>480	
Methylene diphenyl diisocyanate, 4,4'-	101-68-8	Solid												>480	>480	>480	
Methylene diphenyl diisocyanate, 4,4'- (50 °C, molten)	101-68-8	Liquid		>480						>480	>480	>480	>480	>480	>480	>480	
Paraphenylene diisocyanate (PPDI) crude	104-49-4	Liquid												>480	>480	>480	
Poly(methylene polyphenyle isocyanate (p-MDI)	9016-87-9	Liquid		>480						>480	>480	>480	>480	>480	>480	>480	
Toluene diisocyanate, 1,3-	26471-62-5	Liquid												>480	>480	>480	
Toluene diisocyanate, 2,4-	584-84-9	Liquid		imm						>480	>480	>480	>480	>480	>480	>480	
Toluene diisocyanate, 2,4- (80%)	584-84-9	Liquid		60						>480	>480	>480	>480	>480	>480	>480	

220

220

Dimethylmalonate	108-59-8	Vapor												>480			
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221

Butylchloroformate	592-34-7	Liquid												>480			
Diphosgene	503-38-8	Liquid												>480			
Ethylchloroformate	541-41-3	Liquid												>480			
Hexyl chloro formate, 2-	6092-54-2	Liquid												>480			
Methyl formate	107-31-3	Liquid													>480		
Octyl chlor formate	7452-59-7	Liquid												>480			
Phenyl chlor formate	1885-14-9	Liquid												>480			
Propylchloroformate	109-61-5	Liquid												>480			

222

Acetic acid ethenyl ester	108-05-4	Liquid						24	>480	>480	>480	>480	>480	>480	>480	>480	
Acetic acid ethyl ester	141-78-6	Liquid		imm				imm	>480	>480	>480	>480	>480	>480	>480	>480	

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Acetic acid pentyl ester	628-63-7	Liquid							>480	>480	>480	>480	>480	>480	
		Amyl acetate, n-	628-63-7	Liquid							>480	>480	>480	>480	>480	>480	
		Amyl ester acetic acid	628-63-7	Liquid							>480	>480	>480	>480	>480	>480	
		Butyl acetate, n-	123-86-4	Liquid							>480	>480	>480	>480	>480	>480	
		Chloroacetic ethylester	105-39-5	Liquid									>480				
		Chloroacetic ethylester (75% in Ethanol)	105-39-5	Liquid													
		Ethyl acetate	141-78-6	Liquid		imm				imm	>480	>480	>480	>480	>480	>480	
		Isopropyl bromoacetate (>95%)	29921-57-1	Liquid									>480				
		Methyl -2-pyridyl acetate	1658-42-0	Liquid									>480				
		Pentyl acetate	628-63-7	Liquid							>480	>480	>480	>480	>480	>480	
		Vinyl acetate	108-05-4	Liquid						24	>480	>480	>480	>480	>480	>480	
223																	
		Acrylic acid ethyl ester	140-88-5	Liquid									imm*/162	14	14	>480	
		Acrylic acid n-butyl ester	141-32-2	Liquid						>480		>480	>480	51	51	>480	
		Butyl acrylate, n-	141-32-2	Liquid						>480		>480	>480	51	51	>480	
		Ethyl acrylate	140-88-5	Liquid									imm*/162	14	14	>480	
		Ethylene glycol acrylate	818-61-1	Liquid							>480						
		Methyl 2-methyl-2-propenoate	80-62-6	Liquid						23		imm*/53	imm*/53	>480	>480	>480	
		Methyl acrylate	96-33-3	Liquid							>480	>480	>480	>480	>480	>480	
		Methyl methacrylate	80-62-6	Liquid						23		imm*/53	imm*/53	>480	>480	>480	
		Propenoic acid butyl ester, 2-	141-32-2	Liquid						>480		>480	>480	51	51	>480	
224																	
		Dibutyl sebacate	109-43-3	Liquid								nm	nm				
		Dimethyl fumarate (27 °C, solid)	624-49-7	Solid								nm					
			624-49-														

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Dimethyl fumarate (37 °C, solid)	7	Solid									nm				
		Dimethyl maleate	624-48-6	Liquid						>480	>480			>480			
		Dimethylmalonate	108-59-8	Vapor										>480			
226																	
		DEHP	117-81-7	Liquid								>480			>480	>480	>480
		Dibutyl 1,2-benzenedicarboxylate	84-74-2	Liquid									nm	nm			
		Dibutyl phthalate	84-74-2	Liquid									nm	nm			
		Diethyl hexyl phthalate	117-81-7	Liquid								>480			>480	>480	>480
		Methyl salicylate	119-36-8	Liquid		<15					>480				>480		
230																	
233																	
		Methomyl (29%)	16752-77-5	Liquid											>480	>480	>480
240																	
241																	
		Butyl ether, n-	142-96-1	Liquid								117	>480	223*/285	>480	>480	>480
		Chloro methyl methyl ether	107-30-2	Liquid									imm*/37	imm*/37	>480	>480	>480
		Dichloro ethyl ether	111-44-4	Liquid								>480	>480	>480	>480	>480	>480
		Diethyl ether	60-29-7	Liquid							imm	>480	>480	>480	>480	>480	>480
		Dimethyl ether	115-10-6	Vapor													>480
		Ethyl ether	60-29-7	Liquid							imm	>480	>480	>480	>480	>480	>480
		Methoxy 2-methylpropane, 2-	1634-04-4	Liquid							>480	>480	>480	>480	>480	>480	>480
		Methoxy chloromethane	107-30-2	Liquid									imm*/37	imm*/37	>480	>480	>480
		Methyl tert-butyl ether	1634-04-4	Liquid							>480	>480	>480	>480	>480	>480	>480
		Perfluoro 2-propoxy propionyl fluoride	2062-98-8	Liquid											>480	>480	>480
245																	
		2-(2-Butoxyethoxy) ethanol	112-34-5	Liquid									>480	>480			
			111-90-														

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		2-(2-Ethoxyethoxy) ethanol	0	Liquid						>480					>480		
		Acetic acid 2 ethoxy ethyl ester	111-15-9	Liquid						116*/238	>480	>480	>480	>480	>480	>480	>480
		Acetic acid 2 methoxy ethyl ester	110-49-6	Liquid						>480	>480	>480	>480	>480	>480	>480	>480
		Butoxy ethanol, 2-	111-76-2	Liquid						>480		>480	>480	>480	>480		
		Cellosolve acetate	110-80-5	Liquid						>480	>480	>480	>480	>480	>480	>480	>480
		Diethylene glycol monobutyl ether	112-34-5	Liquid							>480	>480	>480				
		Ethoxy ethanol, 2-	110-80-5	Liquid						>480	>480	>480	>480	>480	>480	>480	>480
		Ethoxy ethylacetat	111-15-9	Liquid						116*/238	>480	>480	>480	>480	>480	>480	>480
		Ethyl Cellosolve®	110-80-5	Liquid						>480	>480	>480	>480	>480	>480	>480	>480
		Ethyl glycol acetate	111-15-9	Liquid						116*/238	>480	>480	>480	>480	>480	>480	>480
		Ethylene glycol mono ethyl ether acetate	111-15-9	Liquid						116*/238	>480	>480	>480	>480	>480	>480	>480
		Ethylene glycol monobutyl ether	111-76-2	Liquid						>480		>480	>480	>480			
		Ethylene glycol monoethyl ether	110-80-5	Liquid						>480	>480	>480	>480	>480	>480	>480	>480
		Ethylene glycol monomethyl ether	109-86-4	Liquid						>480	405	>480	>480	>480	>480	>480	>480
		Ethylene glycol monomethyl ether acetate	110-49-6	Liquid						>480	>480	>480	>480	>480	>480	>480	>480
		Methoxy ethanol, 2	109-86-4	Liquid						>480	405	>480	>480	>480	>480	>480	>480
		Methoxy ethylacetate, 2-	110-49-6	Liquid						>480	>480	>480	>480	>480	>480	>480	>480
		Polyethylene glycol dimethyl ether	24991-55-7	Liquid							>480						
260																	
260																	
		Butylchloroformate	592-34-7	Liquid										>480			
		Diphosgene	503-38-8	Liquid										>480			
		Ethylchloroformate	541-41-3	Liquid										>480			
			29921-														

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
		Isopropyl bromoacetate (>95%)	57-1	Liquid									>480					
		Propychloroformate	109-61-5	Liquid									>480					
261																		
		Bromo methane	74-83-9	Vapor						>480					>480	>480	>480	
		Carbon tetrachloride	56-23-5	Liquid							>480	imm*11	imm*11	>480	>480	>480		
		Carbon tetrachloride (1000 ppm)	56-23-5	Vapor									>480					
		Carbon tetrafluoride	75-73-0	Vapor											>480	>480	>480	
		Chlor trinitromethan	76-06-2	Liquid								>480	>480					
		Chlordane (44%)	57-74-9	Liquid						>480								
		Chlordane (60-75%)	57-74-9	Liquid											>480	>480	>480	
		Chloro 2,3-epoxy propane, 1-	106-89-8	Liquid						15	36*/67	395	395	>480	>480	>480		
		Chloro ethanol, 2-	107-07-3	Liquid		imm					>480	>480	>480	>480	>480	>480		
		Chloro form	67-66-3	Liquid		imm				imm	imm	imm	imm	>480	>480	>480	>480	
		Chloro form (1000 ppm)	67-66-3	Vapor										>480				
		Chloro picrin	76-06-2	Liquid										>480	>480			
		Diamino sulfo chloride	13360-57-1	Liquid											>480			
		Dibromo -3-chloropropane, 1,2-	96-12-8	Liquid														
		Dibromoethane, 1,2-	106-93-4	Liquid														
		Dichlorethane, 1,2.-	107-06-2	Liquid						imm	>480	93	93	>480	>480	>480	>480	
		Dichloro -2-propanone, 1,3- (45 °C, molten)	534-07-6	Liquid														
		Dichloro -2-propanone, 1,3- (95% at 40 °C, molten)	534-07-6	Liquid														>480
		Dichloro acetone, 1,3- (45 °C, molten)	534-07-6	Liquid														
		Dichloro acetone, 1,3- (95% at 40 °C, molten)	534-07-6	Liquid														>480
		Dichloro ethyl ether	111-44-4	Liquid														
		Dichloro methane	75-09-2	Liquid		imm				imm	imm	imm	imm	>480	>480	>480	>480	
		Dichloro methane (10.000 ppm)	75-09-2	Vapor											52			
		Dichloro methane (1000 ppm)	75-09-2	Vapor												>480		
		Dichloro propene, 1,3- (95%)	542-75-6	Liquid														
		Dichloro propene, 2,3-	78-88-6	Liquid														

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Diiodo-1,1,2,2-tetrafluorobutane, 1,4-	755-95-3	Liquid										>480	>480	>480	
		Epichlorohydrin	106-89-8	Liquid						15	36*/67	395	395	>480	>480	>480	
		Ethane trichloride	79-00-5	Liquid								164*/232	164*/232	>480	>480	>480	
		Ethyl chloride	75-00-3	Vapor												>480	
		Ethylene chlorohydrin	107-07-3	Liquid		imm					>480	>480	>480	>480	>480	>480	
		Ethylene dibromide	106-93-4	Liquid							>480	144*/288	144*/288	>480	>480	>480	
		Ethylene dichloride	107-06-2	Liquid						imm	>480	93	93	>480	>480	>480	
		Glycol chlorohydrin	107-07-3	Liquid		imm					>480	>480	>480	>480	>480	>480	
		Hexachloro cyclohexane, 1,2,3,4,5,6- (sat in Acetone)	58-89-9	Liquid										>480	>480	>480	
		Hexachloro cyclohexane, 1,2,3,4,5,6- (sat in Methanol)	58-89-9	Liquid												>480	
		Hexafluoro ethane	76-16-4	Vapor										>480	>480	>480	
		Hexafluoro isobutylene	382-10-5	Vapor										>480	>480	>480	
		Iodomethane	74-88-4	Liquid						imm		296	296	>480	>480	>480	
		Lindane (sat in Acetone)	58-89-9	Liquid										>480	>480	>480	
		Lindane (sat in Methanol)	58-89-9	Liquid												>480	
		Methyl bromide	74-83-9	Vapor						>480				>480	>480	>480	
		Methyl chloride (-70 °C, liquid)	74-87-3	Liquid												>180	
		Methyl chloride (gaseous)	74-87-3	Vapor		imm				>480	>480	>480	>480	>480	>480	>480	
		Methyl chloroform	71-55-6	Liquid							>480	>480		>480	>480	>480	
		Methyl fluoride	593-53-3	Vapor										>480	>480	>480	
		Methyl iodide	74-88-4	Liquid						imm		296	296	>480	>480	>480	
		Methyl trichloromethane	71-55-6	Liquid							>480	>480		>480	>480	>480	
		Methylene bromide	74-95-3	Liquid							40	imm	imm				
		Methylene chloride	75-09-2	Liquid		imm				imm	imm	imm	imm	>480	>480	>480	
		Methylene chloride (10.000 ppm)	75-09-2	Vapor									52				
		Methylene chloride (1000 ppm)	75-09-2	Vapor									>480				
		Nitro chlormethan	76-06-2	Liquid								>480	>480				
		Norflurane	811-97-2	Vapor						>480	>480		>480	>480	>480	>480	
		Perfluoro 2-propoxy propionyl fluoride	2062-98-8	Liquid										>480	>480	>480	

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Perfluoroethane	76-16-4	Vapor										>480	>480	>480	
		Propyl bromide, n-	106-94-5	Liquid						12	>480		>480	12			
		Propylene dichloride	78-87-5	Liquid										>480	>480	>480	
		Tetrachloro ethane, 1,1,2,2,-	79-34-5	Liquid						25	>480	>480	>480	>480	>480	>480	
		Tetrachloro methane	56-23-5	Liquid							>480	imm*11	imm*11	>480	>480	>480	
		Tetrachloro methane (1000 ppm)	56-23-5	Vapor									>480				
		Tetrafluoroethane, 1,1,1,2-	811-97-2	Vapor						>480	>480		>480	>480	>480	>480	
		Tetrafluoromethane	75-73-0	Vapor										>480	>480	>480	
		Trichloro 1,2,2-trifluoroethane, 1,1,2-	76-13-1	Liquid							>480			>480	>480	>480	
		Trichloro acetone, 1,1,3-(87.7%)	921-03-9	Liquid								467*/476	467*/476				
		Trichloro ethane, 1,1,1-	71-55-6	Liquid							>480	>480		>480	>480	>480	
		Trichloro ethane, 1,1,2-	79-00-5	Liquid								164*/232	164*/232	>480	>480	>480	
		Trichloro methane	67-66-3	Liquid		imm					imm	imm	imm	>480	>480	>480	
		Trichloro methane (1000 ppm)	67-66-3	Vapor									>480				
		Trifluoro 2-(trifluoromethyl) propene, 3,3,3-	382-10-5	Vapor										>480	>480	>480	
		Trifluoro acetic acid	76-05-1	Liquid							>480		>480	>480			
		Trifluoro methane	75-46-7	Vapor										>480	>480	>480	

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Amino 3,4-dichlorobenzene, 1-	95-76-1	Solid												>480	>480	>480	
Amino 3,4-dichlorobenzene, 1- (70 °C, molten)	95-76-1	Liquid							imm					216*/284	216*/284	216*/284	
Beno trichloride	98-07-7	Liquid								>480							
Bromo 4-fluorobenzene, 1-	460-00-4	Liquid								>480		>480	>480	>480	>480	>480	
Bromo fluorobenzene, 4-	460-00-4	Liquid								>480		>480	>480	>480	>480	>480	
Chloro 1-methylbenzene, 2-	95-49-8	Liquid							13	>480		>480	>480	>480	>480	>480	
Chloro 2-nitrobenzene, 1-	88-73-3	Solid		15													
Chloro 2-nitrobenzene, 1- (35-40 °C, molten)	88-73-3	Liquid										>480	>480				
Chloro benzene	108-90-7	Liquid									63	>480	>480	>480	>480	>480	
Chloro benzotrichloride, 4-	5216-25-1	Liquid									>480						
Chloro benzotrifluoride, 4-	98-56-6	Liquid									460						
Chloro phenol, p- (sat in	106-48-																

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Methanol)	9	Liquid										>480	>480	>480	
		Chloro toluene, o-	95-49-8	Liquid						13	>480	>480	>480	>480	>480	>480	>480
		Cyanide chloride (20% in Toluene)	108-77-0	Liquid											>480	>480	>480
		Dichlorbenzen, 1,2-	95-50-1	Liquid						76	>480		>480	>480	>480	>480	>480
		Dichlorbenzen, 1,3-	541-73-1	Liquid						45	>480	>480	>480	>480	>480	>480	>480
		Dichlorbenzen, 1,4- (50% in Ethanol)	106-46-7	Liquid						>480	131		>480	>480	>480	>480	>480
		Dichloro aniline, 3,4-	95-76-1	Solid											>480	>480	>480
		Dichloro aniline, 3,4- (70 °C, molten)	95-76-1	Liquid						imm				216*/284	216*/284	216*/284	
		Fluorobenzene	462-06-6	Liquid						imm	>480	>480	>480	>480	>480	>480	>480
		Hydroxy chlorobenzene (sat in Methanol)	106-48-9	Liquid											>480	>480	>480
		Nitro chlorobenzene, p-	100-00-5	Solid		imm											
		PCB (50% in Trichlorbenzene)	mix	Liquid											>480	>480	>480
		PCB 1254 (50% in Mineral Oil)	11097-69-1	Liquid						>480					>480		
		PCB 1254 (90%)	11097-69-1	Liquid						>480							
		PCB in transformer oil (mix)	mix	Liquid							>480	>480	>480				
		Phenyl chloride	108-90-7	Liquid							63	>480	>480	>480	>480	>480	>480
		Tetrachloro bisphenol-A, 2,2', 6,6'-	79-95-8	Solid								>480	>480				
		Trichloro 1,3,5-triazine, 2,4,6-(20% in Toluene)	108-77-0	Liquid											>480	>480	>480
		Trichloro benzene, 1,2,4-	120-82-1	Liquid		imm				87	>480	>480	>480	>480	>480	>480	>480
264																	
		Chloro acrylonitrile, 2-	920-37-6	Liquid							146	>480	>480	>480	>480		
		Chloro ethene	75-01-4	Vapor						>480	>480	>480	>480	>480	>480	>480	>480
		Dichloro ethylene, 1,1-	75-35-4	Liquid							170	>480	>480	>480	>480	>480	>480
		Ethylene tetrachloride	127-18-4	Liquid		imm				imm	>480	>480	>480	>480	>480	>480	>480
		Ethylene trichloride	79-01-6	Liquid						imm	>480	>480	>480	>480	>480	>480	>480
		Hexachloro butadiene	87-68-3	Liquid											>480	>480	>480
		Tetrachloro ethylene, 1,1,2,2-	127-18-4	Liquid		imm				imm	>480	>480	>480	>480	>480	>480	>480

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
		Trichloro ethylene	79-01-6	Liquid						imm	>480	>480	>480	>480	>480	>480		
		Vinyl chloride	75-01-4	Vapor						>480	>480	>480	>480	>480	>480	>480		
		Vinylidene chloride	75-35-4	Liquid							170	>480	>480	>480	>480	>480	>480	
265																		
		Allyl chloride	107-05-1	Liquid							12	381*/447	381*/447	>480	>480	>480	>480	
		Chlor allylene	107-05-1	Liquid							12	381*/447	381*/447	>480	>480	>480	>480	
		Chloro prene, 3-	107-05-1	Liquid							12	381*/447	381*/447	>480	>480	>480	>480	
266																		
		Benzyl chloride	100-44-7	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Chloro toluene, alpha-	100-44-7	Liquid							>480	>480	>480	>480	>480	>480	>480	
270																		
		2-Methyl-4-isothiazolin-3-one (20%)	2682-20-4	Liquid		>480				>480			>480					
		Benzisothiazol, 1,2- (20%)	2634-33-5	Liquid		>480				>480			>480					
271																		
		Amino pyridine, 2- (sat)	504-29-0	Liquid						>480					>480			
		Methyl pyridine, 2-	109-06-8	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Methyl pyridine, 3-	108-99-6	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Nicotine	54-11-5	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Nicotine (9 mg/ml)	54-11-5	Liquid		>480	>480											
		Picoline, 2-	109-06-8	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Picoline, 3-	108-99-6	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Pyridene, 2-fluoro-6-(trifluoromethyl)	94239-04-0	Liquid							>480	>480	>480					
		Pyridine	110-86-1	Liquid						31	>480	>480	>480	>480	>480	>480	>480	
		Vinyl pyridine, 4-	100-43-6	Liquid						15					15			
274																		
		2-Methyl-4-isothiazolin-3-one (20%)	2682-20-4	Liquid		>480				>480			>480					

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Amino ethylpiperazine	140-31-8	Liquid						>480	>480	>480	>480	>480	>480	>480	
		Aziridine	151-56-4	Liquid										59	59	>480	
		Azolidine	123-75-1	Liquid							342	45*/100	45*/100	413	413	413	413
		Benzisothiazol, 1,2- (20%)	2634-33-5	Liquid		>480				>480			>480				
		Cyanide chloride (20% in Toluene)	108-77-0	Liquid										>480	>480	>480	
		Dichloro -6-isopropyl-S-triazine, 2,4- (22% in Toluene)	30894-74-7	Liquid										>480	>480	>480	
		Diethylene imide oxide	110-91-8	Liquid						158				>480	>480	>480	
		Ethylene imine	151-56-4	Liquid										59	59	>480	
		Methyl imidazole, 1-	616-47-7	Liquid									>480				
		Morpholine	110-91-8	Liquid						158				>480	>480	>480	
		N-Methylmorpholine (NMM)	109-02-4	Liquid							>480	>480					
		Propylene imine (90%)	75-55-8	Liquid										150	150	150	
		Pyrrolidine	123-75-1	Liquid							342	45*/100	45*/100	413	413	413	413
		Thiazol, 1,3-	288-47-1	Liquid									>480				
		Trichloro 1,3,5-triazine, 2,4,6- (20% in Toluene)	108-77-0	Liquid									>480	>480	>480		
275		Bis (4-(2,3-epoxypropoxy)phenyl) propane	1675-54-3	Liquid									>480	>480	>480	>480	
		Bis (4-(2,3-epoxypropoxy)phenyl) propane (80%)	1675-54-3	Liquid						>480							
		Bis phenol A diglycidyl ether	1675-54-3	Liquid								>480					
		Bis phenol A diglycidyl ether (80%)	1675-54-3	Liquid							>480						
		Chloro 2,3-epoxy propane, 1-	106-89-8	Liquid						15	36*/67	395	395	>480	>480	>480	
		Epichlorohydrin	106-89-8	Liquid						15	36*/67	395	395	>480	>480	>480	
		Epoxy ethane (-70 °C, liquid)	75-21-8	Liquid												>180	
		Epoxy ethane (0 °C, liquid)	75-21-8	Liquid										>480	>480	>480	

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Epoxy ethane (10% in HCFC)	75-21-8	Vapor												>480	
		Epoxy ethane (11 °C, liquid)	75-21-8	Liquid								18					
		Epoxy ethane (gaseous)	75-21-8	Vapor		imm					imm	12	>480	126	>480	>480	>480
		Epoxy propane, 1,2-	75-56-9	Liquid								47	13*20	43	>480	>480	>480
		Ethylene oxide (-70 °C, liquid)	75-21-8	Liquid												>180	
		Ethylene oxide (0 °C, liquid)	75-21-8	Liquid											>480	>480	>480
		Ethylene oxide (10% in HCFC)	75-21-8	Vapor												>480	
		Ethylene oxide (11 °C, liquid)	75-21-8	Liquid													
		Ethylene oxide (gaseous)	75-21-8	Vapor		imm					imm	12	>480	126	>480	>480	>480
		Isopropylidenediphenol diglycidyl ether, 4,4'-	1675-54-3	Liquid									>480	>480	>480	>480	
		Isopropylidenediphenol diglycidyl ether, 4,4'-(80%)	1675-54-3	Liquid								>480					
		Phenyl glycidyl ether	122-60-1	Liquid								>480				>480	
		Propylene oxide, 1,2-	75-56-9	Liquid								47	13*20	43	>480	>480	>480
277																	
277		Furaldehyde, 2-	98-01-1	Liquid							198*/227	>480	>480	>480	>480	>480	>480
277		Furan	110-00-9	Liquid										97			
277		Furfural	98-01-1	Liquid							198*/227	>480	>480	>480	>480	>480	>480
277		Tetrahydrofuran	109-99-9	Liquid		imm					imm	>480	>480	>480	>480	>480	>480
278																	
278		Diethylene imide oxide	110-91-8	Liquid							158					>480	>480
278		Diketene Acetone (95%)	5394-63-8	Liquid													
278		Dioxane, 1,4-	123-91-1	Liquid													
278		Morpholine	110-91-8	Liquid							158					>480	>480
278		N-Methylmorpholine (NMM)	109-02-4	Liquid													
280																	
280		Dimethyl hydrazine, N,N-	57-14-7	Liquid							13					>480 ⁸	>480 ⁸
280		Hydrazine	302-01-2	Liquid								>480		283	283	>480	>480
280		Hydrazine hydrate	10217-52-4	Liquid												>480	
280			10217-														

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Hydrazine hydrate (51%)	52-4	Liquid												>480	
		Hydrazine hydrate (85%)	10217-52-4	Liquid										440	440	440	
		Methyl hydrazine	60-34-4	Liquid								183*/283	183*/283	>480	>480	>480	
290																	
290		Diesel Fuel Grade D-2	mix	Liquid						>480				>480			>480
291		Crude oil, California	8002-05-9	Liquid						>480					>480	>480	>480
		Cyclo hexane	110-82-7	Liquid							>480	>480	>480	>480	>480	>480	
		Diesel automotive test fuel	mix	Liquid		imm											
		Diesel fuel	68334-30-5	Liquid							199	>480	>480	>480	>480	>480	>480
		Fuel-oil no 2	68476-30-2	Liquid		imm				>480				>480			
		Gasoline, leaded	mix	Liquid								imm*/21	imm*/21			>480	
		Gasoline, unleaded	86290-81-5	Liquid						imm	>480	>480	>480	>480	>480	>480	
		Gasoline, unleaded E10 (87 Octane)	308066-70-8	Liquid						imm				imm			
		Heptane	142-82-5	Liquid							>480			>480			
		Hexane, n-	110-54-3	Liquid		imm				imm	>480	>480	>480	>480	>480	>480	
		JP-4 Jet Fuel	50815-00-4	Liquid						imm				>480	>480	>480	
		JP-8 Jet Fuel	94114-58-6	Liquid						39*/67	>480			>480	>480	>480	
		Kerosene	8008-20-6	Liquid						69	>480	>480	>480				
		Low boiling point naphtha - unspecified	8052-41-3	Liquid										>480	>480	>480	
		Mineral oil	8012-95-1	Liquid						>480				>480			
		Mineral spirit	64475-85-0	Liquid		imm				190				>480	>480	>480	
		Octane, n-	111-65-9	Liquid										>480	>480	>480	
		Pentanoic acid	109-52-4	Liquid								>480					
		Propane	74-98-6	Vapor									nm	>480			

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Stoddard solvent	8052-41-3	Liquid										>480	>480	>480	
		VM & P Naphtha	8030-30-6	Liquid						imm				>480	>480	>480	
		White spirit	mix	Liquid									>480	>480			
292																	
		Benzene	71-43-2	Liquid						imm	>480	>480	>480	>480	>480	>480	>480
		Benzyl methylamine, N-	103-67-3	Liquid								>480	>480				
		Cumene	98-82-8	Liquid							364	>480	>480	>480	>480	>480	>480
		Diethyl benzene (95%)	25340-17-4	Liquid						31		>480	>480	>480	>480	>480	>480
		Ethyl benzene	100-41-4	Liquid						imm	>480	>480	>480	>480	>480	>480	>480
		Isopropyl benzene	98-82-8	Liquid							364	>480	>480	>480	>480	>480	>480
		Methyl benzol	108-88-3	Liquid		imm				imm	>480	>480	>480	>480	>480	>480	>480
		Methyl benzylamine, N-	103-67-3	Liquid								>480	>480				
		Phenethylene	100-42-5	Liquid						16	>480	>480	>480	>480	>480	>480	>480
		Phenyl ethane	100-41-4	Liquid						imm	>480	>480	>480	>480	>480	>480	>480
		Phenyl propane, 2-	98-82-8	Liquid							364	>480	>480	>480	>480	>480	>480
		Styrene	100-42-5	Liquid						16	>480	>480	>480	>480	>480	>480	>480
		Toluene	108-88-3	Liquid		imm				imm	>480	>480	>480	>480	>480	>480	>480
		Vinyl benzol	100-42-5	Liquid						16	>480	>480	>480	>480	>480	>480	>480
		Xylene, mixed isomers	1330-20-7	Liquid							>480	>480	>480	>480	>480	>480	>480
		Xylene, o-	95-47-6	Liquid							>480						
293																	
		Anthracene (sat in Toluene)	120-12-7	Liquid								>480	>480	>480			
		Anthracin (sat in Toluene)	120-12-7	Liquid								>480	>480	>480			
		Naphthalene	91-20-3	Solid								>480	>480	>480			
		Naphthalene (25% in Diethylene glycol dimethylether)	91-20-3	Liquid						79	>480	>480	>480	>480	>480	>480	>480
294																	
			8002-														

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
		Crude oil, California	05-9	Liquid						>480					>480	>480	>480	
296																		
		Butadiene, 1,3- (0 °C, liquid)	106-99-0	Liquid														>180
		Butadiene, 1,3- (gaseous)	106-99-0	Vapor	imm	imm					>480	>480	>480	>480	>480	>480	>480	
		Cyclo octadiene	1552-12-1	Liquid								>480						
		Limonene d-	5989-27-5	Liquid		imm						>480	>480	>480	>480	>480	>480	
		Methyl 4-isopropenyl-1-cyclohexene, 1-	5989-27-5	Liquid		imm						>480	>480	>480	>480	>480	>480	
		Vinyl ethylene (0 °C, liquid)	106-99-0	Liquid														>180
		Vinyl ethylene (gaseous)	106-99-0	Vapor	imm	imm					>480	>480	>480	>480	>480	>480	>480	
300																		
		Methyl Ethyl Ketone Peroxide (35%)	1338-23-4	Liquid							>480	>480			>480			
		Peracetic Acid (32%)	79-21-0	Liquid							272	>480			>480			
		Tert-Butyl Hydroperoxide	75-91-2	Liquid									>480					
301																		
		Hydrogen peroxide (10%)	7722-84-1	Liquid			>10	>10										
		Hydrogen peroxide (30%)	7722-84-1	Liquid		>480	imm	imm			>480					>480		>480
		Hydrogen peroxide (50%)	7722-84-1	Liquid		>480						>480	>480	>480				
		Hydrogen peroxide (70%)	7722-84-1	Liquid	>480	>480							>480	>480	>480	>480	>480	
302																		
		Methyl Ethyl Ketone Peroxide (35%)	1338-23-4	Liquid							>480	>480			>480			
		Peracetic Acid (32%)	79-21-0	Liquid							272	>480			>480			
		Tert-Butyl Hydroperoxide	75-91-2	Liquid									>480					
310																		
311																		
		2-(2-Butoxyethoxy) ethanol	112-34-5	Liquid										>480	>480			
		Allyl alcohol	107-18-6	Liquid							>480	>480	>480	>480	>480	>480	>480	
			141-43-															

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
		Amino ethanol, 2-	5	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Amino ethylethanolamine	111-41-1	Liquid						imm	>480	>480	>480	>480	>480	>480	>480	
		Amino ethylethanolamine (60%)	111-41-1	Liquid						>480	>480	>480	>480	>480	>480	>480	>480	
		Amyl alcohol	71-41-0	Liquid							>480	>480	>480	>480				
		Butanol, 1-	71-36-3	Liquid		imm					>480	>480	>480	>480	>480	>480	>480	
		Butanol, n-	71-36-3	Liquid		imm					>480	>480	>480	>480	>480	>480	>480	
		Butyl alcohol, n-	71-36-3	Liquid		imm					>480	>480	>480	>480	>480	>480	>480	
		Diethylene glycol monobutyl ether	112-34-5	Liquid								>480	>480					
		Ethanol	64-17-5	Liquid					imm	>480	>480	>480	>480	>480	>480			
		Ethanol amine	141-43-5	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Ethyl alcohol	64-17-5	Liquid					imm	>480	>480	>480	>480	>480	>480			
		Ethylene glycol monomethyl ether	109-86-4	Liquid							>480	405	>480	>480	>480	>480	>480	
		Hydroxy 1-ethanethiol, 2-	60-24-2	Liquid								>480	>480				>480	
		Hydroxy propene	107-18-6	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Mercapto ethanol	60-24-2	Liquid									>480	>480			>480	
		Methanol	67-56-1	Liquid		imm					>480	imm	117	117	>480	>480	>480	
		Methoxy ethanol, 2	109-86-4	Liquid							>480	405	>480	>480	>480	>480	>480	
		Pentanol, 1-	71-41-0	Liquid								>480	>480	>480				
		Prop-2-yn-1-ol	107-19-7	Liquid									123	123			>480	
		Propan -1-ol	71-23-8	Liquid									>480	>480				
		Propanol, 1-	71-23-8	Liquid									>480	>480				
		Propanol, n-	71-23-8	Liquid									>480	>480				
		Propargyl alcohol	107-19-7	Liquid									123	123			>480	
		Propen 1-ol, 2-	107-18-6	Liquid							>480	>480	>480	>480	>480	>480	>480	
		Propyl alcohol	71-23-8	Liquid									>480	>480				
		Spiritus	64-17-5	Liquid					imm	>480	>480	>480	>480	>480	>480			
		Vinyl carbinol	107-18-6	Liquid							>480	>480	>480	>480	>480	>480	>480	
312		Benzyl alcohol	100-51-6	Liquid							>480							
			100-51-															

DuPont Permeation Guide

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
		Hydroxy toluene	6	Liquid						>480			>480	>480	>480			
		Isoamyl alcohol	123-51-3	Liquid						>480					>480			
		Isopropanol	67-63-0	Liquid		imm			imm	>480	>480	>480	>480	>480	>480	>480	>480	
		Isopropanol (70%)	67-63-0	Liquid		imm			imm	>480		>480						
		Isopropyl alcohol	67-63-0	Liquid		imm			imm	>480	>480	>480	>480	>480	>480	>480	>480	
		Isopropyl alcohol (70%)	67-63-0	Liquid		imm			imm	>480		>480						
		Methyl butan-1-ol, 3-	123-51-3	Liquid						>480					>480			
		Propan -2-ol	67-63-0	Liquid		imm			imm	>480	>480	>480	>480	>480	>480	>480	>480	
		Propan -2-ol (70%)	67-63-0	Liquid		imm			imm	>480		>480						
313		2-Methyl-2-Butanol	75-85-4	Liquid										>480				
		Acetone cyanohydrin	75-86-5	Liquid										>480	>480	>480	>480	
		Amyl alcohol, tert-	75-85-4	Liquid										>480				
		Butanol, tert-	75-65-0	Liquid										37*/205	37*/205			
		Cyanopropan-2-ol, 2-	75-86-5	Liquid										>480	>480	>480	>480	
		Hydroxy 2-methylpropionitrile, 2-	75-86-5	Liquid										>480	>480	>480	>480	
		Hydroxy isobutyronitrile	75-86-5	Liquid										>480	>480	>480	>480	
		Methyl propan-2-ol, 2-	75-65-0	Liquid										37*/205	37*/205			
		Pentanol, tert-	75-85-4	Liquid										>480				
314		Chloro 1,2-propanediol, 3-	96-24-2	Liquid												>480	>480	>480
		Ethane 1,2-diol	107-21-1	Liquid		>480	imm	imm	imm	>480				>480	>480	>480	>480	
		Ethylene glycol	107-21-1	Liquid		>480	imm	imm	imm	>480				>480	>480	>480	>480	
		Glycerine	56-81-5	Liquid			>480	>480										
		Glycerol	56-81-5	Liquid			>480	>480										
		Glycol alcohol	107-21-1	Liquid		>480	imm	imm	imm	>480				>480	>480	>480	>480	
		Propane -1,2,3-triol	56-81-5	Liquid			>480	>480										
315		Chloro ethanol, 2-	107-07-3	Liquid		imm								>480	>480	>480	>480	>480
		Ethylene chlorohydrin	107-07-3	Liquid		imm								>480	>480	>480	>480	>480
		Glycol chlorohydrin	107-07-3	Liquid		imm								>480	>480	>480	>480	>480
		Trichloro ethanol, 2,2,2-	115-20-8	Liquid						>480	>480	>480	>480	>480	>480	>480	>480	>480

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Trifluoro ethanol, 2,2,2-	75-89-8	Liquid		imm									>480	>480	>480
316																	
		Chloro 1-methylbenzene, 2-	95-49-8	Liquid						13	>480	>480	>480	>480	>480	>480	>480
		Chloro phenol, p- (sat in Methanol)	106-48-9	Liquid											>480	>480	>480
		Chloro toluene, o-	95-49-8	Liquid						13	>480	>480	>480	>480	>480	>480	>480
		Creosote	8001-58-9	Liquid								>480	>480				
		Cresol o-	95-48-7	Liquid		13				>480	198	179	179	>480			
		Cresols, mixed isomers	1319-77-3	Liquid		71				100				>480	>480	>480	>480
		Cresylic acid	1319-77-3	Liquid		71				100				>480	>480	>480	>480
		Dinitro-o-cresol, 4,6- (sat in Methanol)	534-52-1	Liquid											>480	>480	>480
		Dinitrocresol (sat in Methanol)	534-52-1	Liquid											>480	>480	>480
		Hydroxy 2-nitrobenzene, 1- (70 °C, molten)	88-75-5	Liquid						imm					208	208	208
		Hydroxy chlorobenzene (sat in Methanol)	106-48-9	Liquid											>480	>480	>480
		Hydroxy toluene, o-	95-48-7	Liquid		13				>480	198	179	179	>480			
		Methyl phenols	1319-77-3	Liquid		71				100				>480	>480	>480	>480
		Nitro phenol, o- (70 °C, molten)	88-75-5	Liquid						imm					208	208	208
		Pentachlorophenol (sat in Methanol)	87-86-5	Liquid											>480	>480	>480
		Phenol (45 °C, molten)	108-95-2	Liquid						44	17	25	25	101	>480	>480	>480
		Phenol (60 °C, molten)	108-95-2	Liquid						imm	imm			imm	121	87	125
		Phenol (85% at 45 °C)	108-95-2	Liquid											149	>480	>480
		Phenol (85%)	108-95-2	Liquid		11				>480	341	>480	>480	>480	>480	>480	>480
		Tetrachloro bisphenol-A, 2,2', 6,6'-	79-95-8	Solid								>480	>480	>480			
		m-Cresol 55%, p-Cresol 30%, Phenol 15% (mix)	mix	Liquid											>480	>480	>480
318																	
		Phenethyl alcohol, 2-	60-12-8	Liquid								>480					
		Phenyl ethanol, 1-	98-85-1	Liquid						>480	>480			>480	>480	>480	>480
330																	

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
330		Bromine	7726-95-6	Liquid		imm					imm	imm	imm	imm	imm	15		
		Bromine (10 g/m ²)	7726-95-6	Liquid												>480		
		Bromine (sat vapour)	7726-95-6	Vapor												30*/40		
		Chlorine (-70 °C, liquid)	7782-50-5	Liquid						>480				441	>480	>480		
		Chlorine (20 ppm)	7782-50-5	Vapor		>480 ⁸												
		Chlorine (gaseous)	7782-50-5	Vapor		imm				>480	imm	>480	>480	>480	>480	>480	>480	
		Iodine	7553-56-2	Solid						>480								
		Mercury	7439-97-6	Liquid		>480				>480	>480	>480	>480	>480	>480	>480		
340																		
340		Ammonium bifluoride (sat)	1341-49-7	Liquid								>480	>480					
		Ammonium chloride (sat)	12125-02-9	Liquid							>480							
		Ammonium fluoride (40%)	12125-01-8	Liquid									>480	>480	>480	>480	>480	
		Ammonium hydrogendifluoride (sat)	1341-49-7	Liquid								>480	>480					
		Arsenic (III) chloride	7784-34-1	Liquid								32*/38	32*/38					
		Arsenic trichloride	7784-34-1	Liquid								32*/38	32*/38					
		Calomel (sat)	10112-91-1	Liquid								>480	>480					
		Disodium sulfide (60% (slurry))	1313-82-2	Liquid		>480				>480	>480				>480	>480	>480	
		Ferric (II) chloride (sat)	7758-94-3	Liquid										>480	>480			
		Ferric (III) chloride (40%)	7705-08-0	Liquid										>480				
		Ferric (III) chloride (50%)	7705-08-0	Liquid						>480					>480			
		Lithium chloride (20%)	7447-41-8	Liquid		>480												
			10112-															

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Mercuric I chloride (sat)	91-1	Liquid								>480	>480				
		Mercuric II chloride (sat)	7487-94-7	Liquid						>480				>480 ⁸	>480 ⁸	>480 ⁸	
		Potassium acetate (sat)	127-08-2	Liquid						>480			>480	>480 ⁸	>480 ⁸	>480 ⁸	
		Potassium carbonate (sat)	584-08-7	Liquid							>480						
		Potassium chromate (sat)	7789-00-6	Liquid			>480	>480		>480		>480	>480	>480 ⁸	>480 ⁸	>480 ⁸	
		Potassium permanganate (sat)	7722-64-7	Liquid		>480											
		Sodium fluoride (sat)	7681-49-4	Liquid						>480				>480			
		Sodium hypochlorite (10-15 % active chlorine)	7681-52-9	Liquid			>240	>240	>480								
		Sodium hypochlorite (15%)	7681-52-9	Liquid	>480	>480				>480	>480	>480	>480	>480	>480	>480	
		Sodium hypochlorite (5.25-6%)	7681-52-9	Liquid		>480	>480	>480	>480								
		Sodium metabisulphite (38%)	7681-57-4	Liquid		imm				>480	23			>480	>480	>480	
		Sodium silicate (40-42%)	6834-92-0	Liquid		>480											
345														135	135	>480	
		Hydrogen cyanide (21 °C, liquid)	74-90-8	Liquid													
		Hydrogen cyanide (27 °C, gaseous)	74-90-8	Vapor							30			>480	>480	>480	>480
		Potassium cyanide (10%)	151-50-8	Liquid		>480											
		Sodium cyanide (45%)	143-33-9	Liquid	>480	>480					>480	>480	>480				
		Sodium cyanide (sat)	143-33-9	Liquid						>480		>480	>480	>480			
350																	
350																	
		Ammonia (-33 °C, liquid)	7664-41-7	Liquid							35	30	20			>480	
		Ammonia (-70 °C, liquid)	7664-41-7	Liquid							>480				>480	>480	
		Ammonia (gaseous)	7664-41-7	Vapor	imm	imm				26	imm	90	20	105*/133	>480	>480	
		Ammonium bifluoride (sat)	1341-49-7	Liquid							>480	>480					

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
		Ammonium hydrogendifluoride (sat)	1341-49-7	Liquid								>480	>480					
		Arsine	7784-42-1	Vapor										>480	>480	>480		
		Boron trichloride	10294-34-5	Vapor										>480	>480	>480		
		Boron trifluoride	7637-07-2	Vapor										>480	>480	>480		
		Carbon monoxide	630-08-0	Vapor										330	330	330		
		Chlorine (-70 °C, liquid)	7782-50-5	Liquid						>480				441	>480	>480		
		Chlorine (20 ppm)	7782-50-5	Vapor		>480 ⁸												
		Chlorine (gaseous)	7782-50-5	Vapor		imm				>480	imm	>480	>480	>480	>480	>480	>480	
		Chlorine trifluoride	7790-91-2	Vapor										45	45	45		
		Diborane (10%)	19287-45-7	Vapor										>480	>480	>480		
		Fluorine	7782-41-4	Vapor												>480		
		Hydrofluoric acid (10%)	7664-39-3	Liquid					imm									
		Hydrofluoric acid (48-51%)	7664-39-3	Liquid	400	446				>480	>480	15	>480	>480	>480	>480	>480	
		Hydrofluoric acid (60%)	7664-39-3	Liquid										52				
		Hydrofluoric acid (70%)	7664-39-3	Liquid						143	126		35	>480	>480	>480		
		Hydrogen bromide (gaseous)	10035-10-6	Vapor								>480	>480	>480	>480	>480		
		Hydrogen chloride (-90 °C, liquid)	7647-01-0	Liquid												>180		
		Hydrogen chloride (gaseous)	7647-01-0	Vapor		imm				>480	>480	>480	>480	>480	>480	>480		
		Hydrogen cyanide (21 °C, liquid)	74-90-8	Liquid										135	135	>480		
		Hydrogen cyanide (27 °C, gaseous)	74-90-8	Vapor							30			>480	>480	>480		
		Hydrogen fluoride (20-27 °C, gaseous)	7664-39-3	Vapor		imm				93*/134	186	imm	imm	130	>480	>480		
		Hydrogen selenide	7783-07-5	Vapor										>480	>480	>480		

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
		Hydrogen sulfide	7783-06-4	Vapor							imm	>480			>480	>480	>480	
		Methanethiol	74-93-1	Vapor							>480	>480	>480	>480	>480	>480	>480	
		Methyl mercaptan	74-93-1	Vapor							>480	>480	>480	>480	>480	>480	>480	
		Nitric oxide	10102-43-9	Vapor													>480	
		Nitrogen Dioxide (liquid)	10102-44-0	Liquid							>480							
		Nitrogen dioxide	10102-44-0	Vapor								<15	<15					
		Nitrogen tetroxide	10544-72-6	Liquid											>480	>480	>480	
		Nitrogen tetroxide (21 °C, liquid)	10544-72-6	Liquid													450	
		Nitrogen tetroxide (gaseous)	10544-72-6	Vapor											90	90	90	
		Nitrogen trifluoride	7783-54-2	Vapor											>480	>480	>480	
		Nitrous oxide	10024-97-2	Vapor											>480	>480	>480	
		Phosgene	75-44-5	Vapor							>480	>480	>480	>480	>480	>480	>480	
		Phosphine	7803-51-2	Vapor								imm	imm		>480	>480	>480	
		Sulfur dioxide	7446-09-5	Vapor		imm					>480		26*/37	28*/46		>480	>480	
		Sulfur hexafluoride	2551-62-4	Vapor											>480	>480	>480	
		Tungsten hexafluoride	7783-82-6	Vapor											>480	>480	>480	

360

360

Antimony pentachloride	7647-18-9	Liquid							>480			<15	<15	<15	>480		
Boron trichloride	10294-34-5	Vapor													>480	>480	>480
Boron trifluoride	7637-07-2	Vapor													>480	>480	>480
Pentachloroantimony	7647-18-9	Liquid							>480			<15	<15	<15	>480		
Phosphorus oxychloride	10025-87-3	Liquid								410	>480	>480	>480	>480	>480	>480	>480
Phosphorus trichloride	7719-12-2	Liquid							imm	>480	>480	>480	>480	>480	>480	>480	>480
	10026-																

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Silicon tetrachloride	04-7	Liquid						35	>480	>480	>480	>480	>480	>480	
		Thionyl chloride	7719-09-7	Liquid							15	21	21	35	35	90	
		Titan(IV) chloride	7550-45-0	Liquid						imm	120	>480	>480	>480	>480	>480	
		Titanium tetrachloride	7550-45-0	Liquid						imm	120	>480	>480	>480	>480	>480	
		Vanadium tetrachloride	7632-51-1	Liquid							>480						
365																	
		Sulfur dioxide	7446-09-5	Vapor		imm				>480		26*/37	28*/46	>480	>480	>480	
		Sulfur trioxide	7446-11-9	Liquid							imm			90	90	90	
370																	
		Amido sulfonic acid (15%)	5329-14-6	Liquid		>480							>480	>480	>480	>480	
		Chlorosulfonic acid	7790-94-5	Liquid	41					>480	330	17	>480	>480	180	>480	
		Chromic acid (CrO ₃) (44.9%)	1333-82-0	Liquid	>480					>480			>480	>480	>480	>480	
		Fluoroboric acid (48-50%)	16872-11-0	Liquid						>480				>480			
		Fluorosilicic acid (33-35%)	16961-83-4	Liquid						>480	>480	>480	>480	>480	>480		
		Fluorosulfonic acid	7789-21-1	Liquid									194	>480	>480	>480	
		Hydriodic acid (47%)	10034-85-2	Liquid						>480				>480			
		Hydriodic acid (55-57%)	10034-85-2	Liquid							>480	>480	>480	>480	>480	>480	
		Hydrobromic acid (48%)	10035-10-6	Liquid							>480			>480			
		Hydrochloric acid (16%)	7647-01-0	Liquid			imm	imm	imm								
		Hydrochloric acid (32%)	7647-01-0	Liquid			imm	imm	imm								
		Hydrochloric acid (37%)	7647-01-0	Liquid	54	140				>480	>480	>480	>480	>480	>480	>480	
		Hydrofluoric acid (10%)	7664-39-3	Liquid					imm								
		Hydrofluoric acid (48-51%)	7664-39-3	Liquid	400	446				>480	>480	15	>480	>480	>480	>480	

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Hydrofluoric acid (60%)	7664-39-3	Liquid										52			
		Hydrofluoric acid (70%)	7664-39-3	Liquid						143	126			35	>480	>480	>480
		Hydrogen bromide (gaseous)	10035-10-6	Vapor									>480	>480	>480	>480	>480
		Hydrogen chloride (-90 °C, liquid)	7647-01-0	Liquid													>180
		Hydrogen chloride (gaseous)	7647-01-0	Vapor		imm				>480	>480	>480	>480	>480	>480	>480	>480
		Hydrogen cyanide (21 °C, liquid)	74-90-8	Liquid											135	135	>480
		Hydrogen cyanide (27 °C, gaseous)	74-90-8	Vapor								30			>480	>480	>480
		Hydrogen fluoride (20-27 °C, gaseous)	7664-39-3	Vapor		imm				93*/134	186	imm	imm	130	>480	>480	>480
		Hypophosphorus acid (50%)	6303-21-5	Liquid							>480	>480	>480				
		Nitric acid (10%)	7697-37-2	Liquid			>120	>120									
		Nitric acid (30%)	7697-37-2	Liquid			imm	imm	imm								
		Nitric acid (50%)	7697-37-2	Liquid								>480					
		Nitric acid (70%)	7697-37-2	Liquid	203	>480				>480		105*/140	>480	>480	>480	>480	>480
		Nitric acid (90%)	7697-37-2	Liquid						>480				>480	>480	>480	>480
		Nitric acid (>95%)	7697-37-2	Liquid									46				390
		Nitric acid, red fuming (90%)	52583-42-3	Liquid							imm	imm*/10	>480	>480	>480	>480	>480
		Oleum (103% (13% free SO ₃))	8014-95-7	Liquid		230											>480
		Oleum (20% free SO ₃)	8014-95-7	Liquid		60				>480		15*/59	>480	>480	>480	>480	>480
		Oleum (30% free SO ₃)	8014-95-7	Liquid						>480				>480			
		Oleum (40% free SO ₃)	8014-95-7	Liquid							imm*/12	455*/468	>480	>480	>480	>480	>480
		Oleum (65% free SO ₃)	8014-95-7	Liquid						15		248					>480
		Perchloric acid (70%)	7601-90-3	Liquid								>480	>480	>480	>480	>480	>480

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Phosphinic acid (50%)	6303-21-5	Liquid							>480	>480	>480				
		Phosphoric acid (50%)	7664-38-2	Liquid			>480	>480	>480								
		Phosphoric acid (85%)	7664-38-2	Liquid						>480	>480	>480	>480	>480	>480	>480	>480
		Sulfamic acid (15%)	5329-14-6	Liquid		>480							>480	>480	>480	>480	>480
		Sulfamidic acid (15%)	5329-14-6	Liquid		>480							>480	>480	>480	>480	>480
		Sulfuric acid (18%)	7664-93-9	Liquid			>240	>240	>480								
		Sulfuric acid (30%)	7664-93-9	Liquid			>240	>240	>480			>480					
		Sulfuric acid (50%)	7664-93-9	Liquid			>30	>30				>480					
		Sulfuric acid (70%)	7664-93-9	Liquid								>480					
		Sulfuric acid (98% at 50 °C)	7664-93-9	Liquid									>480				
		Sulfuric acid (>95%)	7664-93-9	Liquid	>480	>480				>480	>480	50	>480	>480	>480	>480	>480
		Sulfuric acid fuming (103% (13% free SO ₃))	8014-95-7	Liquid		230											>480
		Sulfuric acid fuming (20% free SO ₃)	8014-95-7	Liquid		60				>480		15*/59	>480	>480			
		Sulfuric acid fuming (30% free SO ₃)	8014-95-7	Liquid						>480				>480			
		Sulfuric acid fuming (40% free SO ₃)	8014-95-7	Liquid							imm*/12	455*/468	>480	>480	>480	>480	
		Sulfuric acid fuming (65% free SO ₃)	8014-95-7	Liquid							15		248				>480

380

380

Ammonia (-33 °C, liquid)	7664-41-7	Liquid								35	30	20					>480
Ammonia (-70 °C, liquid)	7664-41-7	Liquid								>480							>480
Ammonia (gaseous)	7664-41-7	Vapor	imm	imm					26	imm	90	20	105*/133	>480	>480		
Ammonium hydroxide (16%)	1336-21-6	Liquid			imm	imm	imm										
Ammonium hydroxide (2-3% in Householdcleaner)	1336-21-6	Liquid							>480		>480		>480				

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Ammonium hydroxide (28% - 30%)	1336-21-6	Liquid		imm	imm	imm			89			160	>480	>480	
		Ammonium hydroxide (32%)	1336-21-6	Liquid						55		35	>480				
		Caustic ammonia (16%)	1336-21-6	Liquid			imm	imm	imm								
		Caustic ammonia (2-3% in Householdcleaner)	1336-21-6	Liquid						>480		>480		>480			
		Caustic ammonia (28% - 30%)	1336-21-6	Liquid		imm	imm	imm			89			160	>480	>480	
		Caustic ammonia (32%)	1336-21-6	Liquid						55		35	>480				
		Caustic soda (10%)	1310-73-2	Liquid			>480	>480	>480								
		Caustic soda (40%)	1310-73-2	Liquid			>30	>30									
		Caustic soda (50% at 50 °C)	1310-73-2	Liquid									>480				
		Caustic soda (50%)	1310-73-2	Liquid	>480	>480	>30	>30	>30	>480	>480	>480	>480	>480	>480	>480	
		Caustic soda (>95%, solid)	1310-73-2	Solid			>480	>480									
		Lithium hydroxide (14.9%)	1310-65-2	Liquid	>480	>480											
		Methanethiol	74-93-1	Vapor							>480	>480	>480	>480	>480	>480	
		Methyl mercaptan	74-93-1	Vapor							>480	>480	>480	>480	>480	>480	
		Potassium hydroxide (40%)	1310-58-3	Liquid			imm	imm	>120								
		Potassium hydroxide (45%)	1310-58-3	Liquid	>480	>480				>480	>480	>480	>480	>480	>480	>480	
		Potassium hydroxide (50%)	1310-58-3	Liquid								>480	>480				
		Sodium hydroxide (10%)	1310-73-2	Liquid			>480	>480	>480								
		Sodium hydroxide (40%)	1310-73-2	Liquid			>30	>30									
		Sodium hydroxide (50% at 50 °C)	1310-73-2	Liquid									>480				
		Sodium hydroxide (50%)	1310-73-2	Liquid	>480	>480	>30	>30	>30	>480	>480	>480	>480	>480	>480	>480	
		Sodium hydroxide (>95%, solid)	1310-73-2	Solid			>480	>480									

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Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		2-Methyl-4-isothiazolin-3-one (20%)	2682-20-4	Liquid		>480				>480			>480				
		Benzisothiazol, 1,2- (20%)	2634-33-5	Liquid		>480				>480			>480				
391																	
		2-Methyl-4-isothiazolin-3-one (20%)	2682-20-4	Liquid		>480				>480			>480				
		Acetone	67-64-1	Liquid	imm	imm				13	462	>480	>480	>480	>480	>480	>480
		Benzisothiazol, 1,2- (20%)	2634-33-5	Liquid		>480				>480			>480				
		But-3-en-2-one	78-94-4	Liquid								>480	>480				
		Butanone	78-93-3	Liquid						18	>480	40*/64	40*/64	>480	>480	>480	>480
		Chloro acetone (95%)	78-95-5	Liquid						258	>480	>480	>480	>480 ⁸			
		Chloro propan-2-one, 1- (95%)	78-95-5	Liquid						258	>480	>480	>480	>480 ⁸			
		Cyclo hexanone	108-94-1	Liquid						136		>480	>480	>480	>480	>480	>480
		Dichloro -2-propanone, 1,3- (45 °C, molten)	534-07-6	Liquid								>480	>480				
		Dichloro -2-propanone, 1,3- (95% at 40 °C, molten)	534-07-6	Liquid													>480
		Dichloro acetone, 1,3- (45 °C, molten)	534-07-6	Liquid								>480	>480				
		Dichloro acetone, 1,3- (95% at 40 °C, molten)	534-07-6	Liquid													>480
		Diketene Acetone (95%)	5394-63-8	Liquid									>480				
		Dimethyl ketal	67-64-1	Liquid	imm	imm				13	462	>480	>480	>480	>480	>480	>480
		Dimethyl ketone	67-64-1	Liquid	imm	imm				13	462	>480	>480	>480	>480	>480	>480
		Hexanone	108-94-1	Liquid						136		>480	>480	>480	>480	>480	>480
		Hexone	108-10-1	Liquid							>480	>480	>480	>480	>480	>480	>480
		Isobutyl methyl ketone	108-10-1	Liquid							>480	>480	>480	>480	>480	>480	>480
		Ketone propane	67-64-1	Liquid	imm	imm				13	462	>480	>480	>480	>480	>480	>480
		MEK	78-93-3	Liquid						18	>480	40*/64	40*/64	>480	>480	>480	>480
		Methyl acetyl	67-64-1	Liquid	imm	imm				13	462	>480	>480	>480	>480	>480	>480
		Methyl ethyl ketone	78-93-3	Liquid						18	>480	40*/64	40*/64	>480	>480	>480	>480
		Methyl ketone	67-64-1	Liquid	imm	imm				13	462	>480	>480	>480	>480	>480	>480
		Methyl pentan-2-one, 4-	108-10-1	Liquid							>480	>480	>480	>480	>480	>480	>480
		Methyl vinyl ketone	78-94-4	Liquid							>480	>480	>480	>480			

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Pimelic ketone	108-94-1	Liquid						136		>480	>480	>480	>480	>480	
		Propan -2-one	67-64-1	Liquid	imm	imm				13	462	>480	>480	>480	>480	>480	
		Pyroacetic ether	67-64-1	Liquid	imm	imm				13	462	>480	>480	>480	>480	>480	
		Trichloro acetone, 1,1,3-(87.7%)	921-03-9	Liquid								467*/476	467*/476				

430

431

Acetone cyanohydrin	75-86-5	Liquid								>480	>480	>480	>480	>480			
Acetonitrile	75-05-8	Liquid	imm	imm					60	imm	>480	131	>480	>480	>480		
Acrylonitrile	107-13-1	Liquid		imm					36*/48	31	108	73*/92	>480	>480	>480		
Adipic acid dinitrile	111-69-3	Liquid								>480	>480	>480	>480	>480			
Adipic acid nitrile	111-69-3	Liquid								>480	>480	>480	>480	>480			
Adiponitrile	111-69-3	Liquid								>480	>480	>480	>480	>480			
Adipyl dinitrile	111-69-3	Liquid								>480	>480	>480	>480	>480			
Chloro acrylonitrile, 2-	920-37-6	Liquid								146	>480	>480	>480	>480			
Cyanoethylene	107-13-1	Liquid		imm					36*/48	31	108	73*/92	>480	>480	>480		
Cyanomethane	75-05-8	Liquid	imm	imm					60	imm	>480	131	>480	>480	>480		
Cyanopropan-2-ol, 2-	75-86-5	Liquid								>480	>480	>480	>480	>480			
Dicyanobutane, 1,4-	111-69-3	Liquid								>480	>480	>480	>480	>480			
Ethane nitrile	75-05-8	Liquid	imm	imm					60	imm	>480	131	>480	>480	>480		
Ethyl nitrile	75-05-8	Liquid	imm	imm					60	imm	>480	131	>480	>480	>480		
Hydroxy 2-methylpropionitrile, 2-	75-86-5	Liquid								>480	>480	>480	>480	>480			
Hydroxy isobutyronitrile	75-86-5	Liquid								>480	>480	>480	>480	>480			
Methyl 1,5-pentanedinitrile, 2-	4553-62-2	Liquid									>480	>480					
Methyl 1,5-pentanedinitrile, 2-(87%)	4553-62-2	Liquid											>480	>480	>480		
Methyl cyanide	75-05-8	Liquid	imm	imm					60	imm	>480	131	>480	>480	>480		
Pentene nitrile, 2-	13284-42-9	Liquid									>480	>480	>480	>480			
Pentene nitrile, 3-	4635-87-4	Liquid											>480	>480	>480		
	25899-																

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)														
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS		
Pentene nitrile, cis-2- (70%)			50-7	Liquid										>480	>480	>480			
Propenenitrile, 2-			107-13-1	Liquid		imm				36*/48	31	108	73*/92	>480	>480	>480			
Propenoic acid nitrile			107-13-1	Liquid		imm				36*/48	31	108	73*/92	>480	>480	>480			
Vinyl cyanide			107-13-1	Liquid		imm				36*/48	31	108	73*/92	>480	>480	>480			
432																			
Benzo nitrile			100-47-0	Liquid							450	>480	>480	>480	>480	>480	>480		
Benzyl cyanide			140-29-4	Liquid							>480	>390	>390						
Cyanobenzene			100-47-0	Liquid							450	>480	>480	>480	>480	>480	>480		
Phenyl acetonitrile			140-29-4	Liquid							>480	>390	>390						
Phenyl cyanide			100-47-0	Liquid							450	>480	>480	>480	>480	>480	>480		
440																			
441																			
Nitro benzene			98-95-3	Liquid		imm				59	>480	>480	>480	>480	>480	>480	>480		
Nitro methane			75-52-5	Liquid							>480	233	233	>480	>480	>480	>480		
Nitro propane, 2-			79-46-9	Liquid							>480	>480	>480	>480	>480	>480	>480		
442																			
Chloro 2-nitrobenzene, 1-			88-73-3	Solid		15													
Chloro 2-nitrobenzene, 1- (35-40 °C, molten)			88-73-3	Liquid								>480	>480						
Dinitro-o-cresol, 4,6- (sat in Methanol)			534-52-1	Liquid											>480	>480	>480		
Dinitrocresol (sat in Methanol)			534-52-1	Liquid											>480	>480	>480		
Hydroxy 2-nitrobenzene, 1- (70 °C, molten)			88-75-5	Liquid						imm				208	208	208			
Nitro chlorobenzene, p-			100-00-5	Solid		imm													
Nitro phenol, o- (70 °C, molten)			88-75-5	Liquid						imm				208	208	208			
Nitro toluene, 2-			88-72-2	Liquid						95			>480	95					
Nitro toluene, p-			99-99-0	Solid		imm													
450																			
450																			
Dimethyl nitrosamine			62-75-9	Liquid								>480	>480						
Methyl N-nitrosomethanamine,																			

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)													
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS	
	N-		62-75-9	Liquid									>480	>480				
460	462	Ethyl parathion	56-38-2	Liquid											>480	>480	>480	
		Malathion	121-75-5	Liquid											>480	>480	>480	
		Sarin (GB), MIL-STD-282 (10 g/m ²)	107-44-8	Liquid						>480 ⁸	120 ⁸				>480 ⁸	>480 ⁸	>480 ⁸	
		Sarin (GB), MIL-STD-282 (100 g/m ²)	107-44-8	Liquid									>480 ⁸	>480 ⁸	>480 ⁸	>480 ⁸	>480 ⁸	
		Soman (GD), FINABEL 0.7.C	96-64-0	Liquid									>1400 ⁸	>1400 ⁸				
		Soman (GD), MIL-STD-282 (10 g/m ²)	96-64-0	Liquid									>480 ⁸		>480 ⁸	>480 ⁸	>480 ⁸	
		Soman (GD), MIL-STD-282 (100 g/m ²)	96-64-0	Liquid									>480 ⁸	>480 ⁸			>480 ⁸	
		Tabun (GA), FINABEL 0.7.C	77-81-6	Liquid									>1400 ⁸	>1400 ⁸				
		Tabun (GA), MIL-STD-282 (10 g/m ²)	77-81-6	Liquid											>480 ⁸	>480 ⁸	>480 ⁸	
		Tabun (GA), MIL-STD-282 (100 g/m ²)	77-81-6	Liquid									>480 ⁸	>480 ⁸			>480 ⁸	
		Trimethyl phosphate	512-56-1	Liquid											>480	>480	>480	
		Trimethyl phosphite	121-45-9	Liquid						210					>480	>480	>480	
		VX Nerve Agent, FINABEL 0.7.C	50782-69-9	Liquid									>1400 ⁸	>1400 ⁸				
		VX Nerve Agent, MIL-STD-282 (10 g/m ²)	50782-69-9	Liquid						>480 ⁸	>480 ⁸				>480 ⁸	>480 ⁸	>480 ⁸	
		VX Nerve Agent, MIL-STD-282 (100 g/m ²)	50782-69-9	Liquid									>480 ⁸	>480 ⁸	>480 ⁸	>480 ⁸	>480 ⁸	
470	470	Butyl stannium trichloride	1118-46-3	Liquid										>480	>480			
		Dimethyl mercury in decane (100 ppm in Decane)	593-74-8	Liquid										>480				
		Lewisite (L), FINABEL 0.7.C	541-25-3	Liquid										>155 ⁸	>155 ⁸			
		Lewisite (L), MIL-STD-282 (10 g/m ²)	541-25-3	Liquid						>360 ⁸	120 ⁸				>480 ⁸	>480 ⁸	>480 ⁸	
		Lewisite (L), MIL-STD-282 (100 g/m ²)	541-25-															

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)															
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS			
		/m ²)	3	Liquid								360 ⁸	360 ⁸	120 ⁸	120 ⁸	>480 ⁸				
		Nickel carbonyl	13463-39-3	Liquid													>480			
		Tetracarbonylnickel	13463-39-3	Liquid													>480			
		Tetraethyl lead	78-00-2	Liquid							>480				>480	>480	>480			
		Tetramethyl tin (0.5% in Pentane)	594-27-4	Liquid											>480	>480	>480			
		Tin chloride, mono-n-butyl	1118-46-3	Liquid								>480	>480							
		Tin chloride, tri-n-butyl	1461-22-9	Liquid								nm	nm							
		Triethyl aluminum (93%)	97-93-8	Liquid												>480				
		Vinyl magnesium chloride (15% in Tetrahydrofuran)	3536-96-7	Liquid						imm					imm					
		Vinyl magnesium chloride (16.5% in Tetrahydrofuran)	3536-96-7	Liquid											>480	>480	>480			
480																				
480		Dichloro silane	4109-96-0	Vapor											>480	>480	>480			
480		Dimethyl dichlorosilane	75-78-5	Liquid						46		>480	>480	46			>480			
480		Hexamethyl disilazane	999-97-3	Liquid						>480					>480	>480	>480			
480		Hexamethyl disilazane, 1,1,1,3,3,3-	999-97-3	Liquid						>480					>480	>480	>480			
480		Methyl trichlorosilane	75-79-6	Liquid							>480		>480	>480	>480		>480			
480		Phenyl trichlorosilane	98-13-5	Liquid						>480		>480	>480	>480				>480		
480		Silane	7803-62-5	Vapor								>480	>480	>480						
480		Silicon tetrachloride	10026-04-7	Liquid						35	>480	>480	>480	>480						
480		Tetraethoxysilane	78-10-4	Liquid											>480	>480	>480			
480		Trichlor vinylsilane	75-94-5	Liquid						100					100					
480		Trichloro phenylsilane	98-13-5	Liquid						>480		>480	>480	>480				>480		
480		Trichloro silane	10025-78-2	Liquid						60		>480	>480	>480						
500																				
500		2-Methyl-4-isothiazolin-3-one (20%)	2682-20-4	Liquid		>480				>480				>480						
500			2634-																	

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Benzisothiazol, 1,2- (20%)	33-5	Liquid		>480					>480			>480			
501																	
		Benzene thiol	108-98-5	Liquid											>480	>480	>480
		Ethane thiol	75-08-1	Liquid						imm	>480	>480	>480	>480	>480	>480	>480
		Ethyl mercaptan	75-08-1	Liquid						imm	>480	>480	>480	>480	>480	>480	>480
		Hydroxy 1-ethanethiol, 2-	60-24-2	Liquid							>480	>480	>480	>480	>480	>480	>480
		Mercapto acetic acid	68-11-1	Liquid							>480	>480	>480	>480	>480	>480	>480
		Mercapto ethanol	60-24-2	Liquid							>480	>480	>480	>480	>480	>480	>480
		Methanethiol	74-93-1	Vapor							>480	>480	>480	>480	>480	>480	>480
		Methyl mercaptan	74-93-1	Vapor							>480	>480	>480	>480	>480	>480	>480
		Phenyl mercaptan	108-98-5	Liquid											>480	>480	>480
		Thioglycolic acid	68-11-1	Liquid							>480	>480	>480	>480	>480	>480	>480
502																	
		Carbon disulfide	75-15-0	Liquid	imm	imm				imm	imm	>480	>480	>480	>480	>480	>480
		Chlorine sulfide	10545-99-0	Liquid													440
		Chlorine sulfide (80%)	10545-99-0	Liquid							imm			70	70	>480	
		Dimethyl sulfide	75-18-3	Liquid							>480	271	271				
		Disulphur dichloride	10025-67-9	Liquid											>480	>480	>480
		Hydrogen sulfide	7783-06-4	Vapor							imm	>480			>480	>480	>480
		Sulfur Mustard (HD), FINABEL 0.7.C	505-60-2	Liquid								>1400 ⁸	>1400 ⁸				
		Sulfur Mustard (HD), MIL-STD-282 (10 g/m ²)	505-60-2	Liquid						>480 ⁸	120 ⁸				>480 ⁸	>480 ⁸	>480 ⁸
		Sulfur Mustard (HD), MIL-STD-282 (100 g/m ²)	505-60-2	Liquid							>480 ⁸	>480 ⁸	>480 ⁸	>480 ⁸	>480 ⁸	>480 ⁸	
		Sulfur monochloride	10025-67-9	Liquid											>480	>480	>480
		Sulphur dichloride	10545-99-0	Liquid													440
		Sulphur dichloride (80%)	10545-99-0	Liquid							imm			70	70	>480	
503																	
		Dimethyl sulfoxide	67-68-5	Liquid								>480	>480	>480	>480	>480	>480
504																	
		Chlorosulfonic acid	7790-94-5	Liquid	41						>480	330	17	>480	>480	180	>480

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Ethansulphonic acid (70%)	594-45-6	Liquid										>480			
		Methanesulphonic acid	75-75-2	Liquid									>480	>480			
		Methanesulphonic acid (70%)	75-75-2	Liquid						>480				>480			
		Trifluoro methansulfonic acid	1493-13-6	Liquid						>480			>480	>480	>480	>480	
505																	
		Benzene sulfone chloride	98-09-9	Liquid								>480	>480	>480	>480	>480	
		Benzene sulfonyl chloride	98-09-9	Liquid								>480	>480	>480	>480	>480	
		Methanesulfonyl chloride	124-63-0	Liquid									>480	>480	>480	>480	
507																	
		Diethyl sulfate	64-67-5	Liquid								>480	>480	>480			>480
		Dimethyl sulfate	77-78-1	Liquid			imm	imm			>480	>480	>480	>480	>480		>480
		Sodium bisulphite (38-40%)	7631-90-5	Liquid							>480			>480			
		Sulfuric acid diethyl ester	64-67-5	Liquid								>480	>480	>480			>480
		Sulfuric acid dimethyl ester	77-78-1	Liquid			imm	imm			>480	>480	>480	>480	>480		>480
509																	
		2-Methyl-4-isothiazolin-3-one (20%)	2682-20-4	Liquid		>480					>480			>480			
		Amido sulfonic acid (15%)	5329-14-6	Liquid		>480								>480	>480	>480	>480
		Benzisothiazol, 1,2- (20%)	2634-33-5	Liquid		>480					>480			>480			
		Brom thiophene, 2-	1003-09-4	Liquid										>480			
		Sulfamic acid (15%)	5329-14-6	Liquid		>480								>480	>480	>480	>480
		Sulfamidic acid (15%)	5329-14-6	Liquid		>480								>480	>480	>480	>480
		Sulfur hexafluoride	2551-62-4	Vapor											>480	>480	>480
550																	
		Sodium acetate (sat)	127-09-3	Liquid				>480	>480								
		Sodium methylate (50% in Methanol)	124-41-4	Liquid											>480	>480	>480
		Tetraethyl ammonium hydroxide (35%)	77-98-5	Liquid							>480				>480		
		Tetramethyl ammonium hydroxide (25%)	75-59-2	Liquid		>480					>480		>480	>480			>480

Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
590																	
590		Black Liquor (mix)	mix	Liquid	>480	>480				>480	>480	>480	>480	>480	>480	>480	
		Boron fluoride ethyl ether	109-63-7	Liquid								>480	>480	>480			>480
		Boron trifluoride diethyl etherate	109-63-7	Liquid								>480	>480				>480
		Boron trifluoride dimethyl etherate	353-42-4	Liquid							>480	>480	>480				
		Boron trifluoride etherate	109-63-7	Liquid							>480	>480	>480				>480
		Chemguard S-764P14A	mix	Liquid		>480				>480			>480				
		Chemidize 727 ND (mix)	mix	Liquid						>480					>480		
		Dahlgren Decon solution	mix	Liquid								>480	>480				
		Dowtherm Heat Transfer Fluid	mix	Liquid							>480		>480				
		DuPont Activator 193S (mix)	mix	Liquid		>480											
		DuPont Activator 4505S (mix)	mix	Liquid		>480											
		DuPont Activator 4507S (mix)	mix	Liquid		>480											
		Green Liquor (mix)	mix	Liquid	>480	>480				>480	>480	>480	>480	>480	>480	>480	
		Skydrol 4D	mix	Liquid						>480							
		Skydrol 5	mix	Liquid						>480							
		Skydrol PE-5	mix	Liquid						>480							
		Spectracide® (50% Malathion, 44% Aromatic Solvent)	mix	Liquid		imm				>480							
		White Liquor	mix	Liquid	>480	>480				>480	>480	>480	>480	>480	>480	>480	
		t-Sodium-amylate / t-amyl alcohol (mix)	mix	Liquid										120	120	120	
990																	
991		Carboplatin (10 mg/ml)	41575-94-4	Liquid			>240	>240	>240								>240
		Carmustine (3.3 mg/ml, 10 % Ethanol)	154-93-8	Liquid		>240	imm	imm	>240								imm
		Cisplatin (1 mg/ml)	15663-27-1	Liquid			>240	>240	>240								>240
		Cyclo phosphamide (20 mg/ml)	50-18-0	Liquid		>240	>240	>240	>240								>10
		Doxorubicin HCl (2 mg/ml)	25136-40-9	Liquid		>240	>240	>240	>240								>240
		Etoposide (Toposar®, Teva) (20 mg/ml, 33.2 % (v/v) Ethanol)	33419-42-0	Liquid		>240	>240	>240	>240								>240
		Fluorouracil, 5- (50 mg/ml)	51-21-8	Liquid		>240	imm	imm	>240								imm
			82410-														

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Chemical Permeation Data Tables

C I a s s	S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)												
					Tychem® 2000 SFR	Tychem® 2000	Tyvek® 500	Tyvek® 600	Tyvek® 800	Tychem® 4000	Tychem® 5000	Tychem® 6000 FR	Tychem® 6000	Tychem® RESPONDER® CSM	Tychem® 10000FR	Tychem® 10000	Tyvek® IsoClean® CS
		Ganciclovir (3 mg/ml)	32-0	Liquid			>240	>240									
		Gemcitabine (38 mg/ml)	95058-81-4	Liquid			>60	>60	>240								>60
		Ifosfamide (50 mg/ml)	3778-73-2	Liquid			imm	imm	>240								imm
		Irinotecan (20 mg/ml)	100286-90-6	Liquid			>240	>240									
		Methotrexate (25 mg/ml, 0.1 N NaOH)	59-05-2	Liquid			>240	>240	>240								
		Mitomycin (0.5 mg/ml)	50-07-7	Liquid			>240	>240	>240								
		Oxaliplatin (5 mg/ml)	63121-00-6	Liquid			imm	imm	>240								imm
		Paclitaxel (Hospira) (6 mg/ml, 49.7 % (v/v) Ethanol)	33069-62-4	Liquid		>240	>240	>240									>240
		Sodium chloride (9 g/l)	7647-14-5	Liquid			>240	>240									
		Thiotepa (10 mg/ml)	52-24-4	Liquid		>240	imm	imm	>240								imm
		Vincristine sulfate (1 mg/ml)	2068-78-2	Liquid			>240	>240									
		Vinorelbine (0.1 mg/ml)	71486-22-1	Liquid			>240	>240									

> = greater than

imm. = immediate (<10 minutes)

{empty} = not tested

L = Liquid

G = Gas

S = Solid

* Actual breakthrough time; normalized breakthrough time is not available.

** Solid tested, vapor phase permeation measured.

Permeation data for Tyvek® Plus and Tyvek® Xpert

DuPont™ Tyvek® fabric provides an ideal balance of protection, durability and comfort. Tyvek® garments are composed of flash spun high density polyethylene fabric which creates a unique, nonwoven material available only from DuPont.

Tyvek® Plus and Tyvek® Xpert garments use a special type of Tyvek® fabric which has different physical properties and improved chemical resistance properties when compared to fabric used in standard Tyvek® garments.

Tyvek® Xpert garments have external sewn seams where the seam thread is visible on the outside of the garment. This seam design, when coupled with the enhanced fabric, offers improved overall garment protection levels. Tyvek® Xpert garments are CE certified to Types 5 & 6 (light liquid aerosols and airborne solid particles).

Tyvek® Plus garments have sewn seams which are over-taped. This seam design, when coupled with the enhanced fabric, offers further improved overall garment protection levels. Tyvek® Plus garments are CE certified to Types 4, 5 & 6 (light and heavy liquid aerosols and airborne solid particles).

NOTE

The permeation data provided in the following table only applies to Tyvek® Xpert and Tyvek® Plus garment fabrics.

Chemical Permeation Data Table

S u b - C l i a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)			Tyvek® IsoClean® CS
				Tyvek® 500	Tyvek® 600	Tyvek® 800	
100							
102							
	Acetic acid (10%)	64-19-7	Liquid			imm	
	Acetic acid (2%)	64-19-7	Liquid			imm	
	Acetic acid (30%)	64-19-7	Liquid	imm	imm	imm	
	Acetic acid (5%)	64-19-7	Liquid			imm	
	Formic acid (30%)	64-18-6	Liquid	imm	imm		
120							
121							
	Formaldehyde (10%)	50-00-0	Liquid			imm	
	Formalin (10%)	50-00-0	Liquid			imm	
270							
271							
	Nicotine (9 mg/ml)	54-11-5	Liquid	>480	>480		
300							
301							
	Hydrogen peroxide (10%)	7722-84-1	Liquid	>10	>10		
	Hydrogen peroxide (30%)	7722-84-1	Liquid	imm	imm		
310							
311							
	Ethanol	64-17-5	Liquid			imm	
	Ethyl alcohol	64-17-5	Liquid			imm	
	Spiritus	64-17-5	Liquid			imm	
312							
	Isopropanol	67-63-0	Liquid			imm	
	Isopropanol (70%)	67-63-0	Liquid			imm	
	Isopropyl alcohol	67-63-0	Liquid			imm	
	Isopropyl alcohol (70%)	67-63-0	Liquid			imm	
	Propan -2-ol	67-63-0	Liquid			imm	

Chemical Permeation Data Table

S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)			Tyvek® IsoClean® CS
				Tyvek® 500	Tyvek® 600	Tyvek® 800	
	Propan -2-ol (70%)	67-63-0	Liquid			imm	
314	Ethane 1,2-diol	107-21-1	Liquid	imm	imm	imm	
	Ethylene glycol	107-21-1	Liquid	imm	imm	imm	
	Glycerine	56-81-5	Liquid	>480	>480		
	Glycerol	56-81-5	Liquid	>480	>480		
	Glycol alcohol	107-21-1	Liquid	imm	imm	imm	
	Propane -1,2,3-triol	56-81-5	Liquid	>480	>480		
340	Potassium chromate (sat)	7789-00-6	Liquid	>480	>480		
	Sodium hypochlorite (10-15 % active chlorine)	7681-52-9	Liquid	>240	>240	>480	
	Sodium hypochlorite (5.25-6%)	7681-52-9	Liquid	>480	>480	>480	
350	Hydrofluoric acid (10%)	7664-39-3	Liquid			imm	
370	Hydrochloric acid (16%)	7647-01-0	Liquid	imm	imm	imm	
	Hydrochloric acid (32%)	7647-01-0	Liquid	imm	imm	imm	
	Hydrofluoric acid (10%)	7664-39-3	Liquid			imm	
	Nitric acid (10%)	7697-37-2	Liquid	>120	>120		
	Nitric acid (30%)	7697-37-2	Liquid	imm	imm	imm	
	Phosphoric acid (50%)	7664-38-2	Liquid	>480	>480	>480	
	Sulfuric acid (18%)	7664-93-9	Liquid	>240	>240	>480	
	Sulfuric acid (30%)	7664-93-9	Liquid	>240	>240	>480	
	Sulfuric acid (50%)	7664-93-9	Liquid	>30	>30		
380	380						

Chemical Permeation Data Table

S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)			Tyvek® IsoClean® CS
				Tyvek® 500	Tyvek® 600	Tyvek® 800	
500	Ammonium hydroxide (16%)	1336-21-6	Liquid	imm	imm	imm	
500	Ammonium hydroxide (28% - 30%)	1336-21-6	Liquid	imm	imm		
500	Caustic ammonia (16%)	1336-21-6	Liquid	imm	imm	imm	
500	Caustic ammonia (28% - 30%)	1336-21-6	Liquid	imm	imm		
500	Caustic soda (10%)	1310-73-2	Liquid	>480	>480	>480	
500	Caustic soda (40%)	1310-73-2	Liquid	>30	>30		
500	Caustic soda (50%)	1310-73-2	Liquid	>30	>30	>30	
500	Caustic soda (>95%, solid)	1310-73-2	Solid	>480	>480		
500	Potassium hydroxide (40%)	1310-58-3	Liquid	imm	imm	>120	
500	Sodium hydroxide (10%)	1310-73-2	Liquid	>480	>480	>480	
500	Sodium hydroxide (40%)	1310-73-2	Liquid	>30	>30		
500	Sodium hydroxide (50%)	1310-73-2	Liquid	>30	>30	>30	
500	Sodium hydroxide (>95%, solid)	1310-73-2	Solid	>480	>480		
507	Dimethyl sulfate	77-78-1	Liquid	imm	imm		
507	Sulfuric acid dimethyl ester	77-78-1	Liquid	imm	imm		
550							
550	Sodium acetate (sat)	127-09-3	Liquid	>480	>480		
990							
991	Carboplatin (10 mg/ml)	41575-94-4	Liquid	>240	>240	>240	>240
991	Carmustine (3.3 mg/ml, 10 % Ethanol)	154-93-8	Liquid	imm	imm	>240	imm
991	Cisplatin (1 mg/ml)	15663-27-1	Liquid	>240	>240	>240	>240
991	Cyclo phosphamide (20 mg/ml)	50-18-0	Liquid	>240	>240	>240	>10
991	Doxorubicin HCl (2 mg/ml)	25136-40-9	Liquid	>240	>240	>240	>240

Chemical Permeation Data Table

S u b - C l a s s	Chemical Name	CAS	P h a s e	Breakthrough Time (Minutes)			Tyvek® IsoClean® CS
				Tyvek® 500	Tyvek® 600	Tyvek® 800	
	Etoposide (Toposar®, Teva) (20 mg/ml, 33.2 % (v/v) Ethanol)	33419-42-0	Liquid	>240	>240	>240	>240
	Fluorouracil, 5- (50 mg/ml)	51-21-8	Liquid	imm	imm	>240	imm
	Ganciclovir (3 mg/ml)	82410-32-0	Liquid	>240	>240		
	Gemcitabine (38 mg/ml)	95058-81-4	Liquid	>60	>60	>240	>60
	Ifosfamide (50 mg/ml)	3778-73-2	Liquid	imm	imm	>240	imm
	Irinotecan (20 mg/ml)	100286-90-6	Liquid	>240	>240		
	Methotrexate (25 mg/ml, 0.1 N NaOH)	59-05-2	Liquid	>240	>240	>240	
	Mitomycin (0.5 mg/ml)	50-07-7	Liquid	>240	>240	>240	
	Oxaliplatin (5 mg/ml)	63121-00-6	Liquid	imm	imm	>240	imm
	Paclitaxel (Hospira) (6 mg/ml, 49.7 % (v/v) Ethanol)	33069-62-4	Liquid	>240	>240	>240	>240
	Sodium chloride (9 g/l)	7647-14-5	Liquid	>240	>240		
	Thiotepa (10 mg/ml)	52-24-4	Liquid	imm	imm	>240	imm
	Vincristine sulfate (1 mg/ml)	2068-78-2	Liquid	>240	>240		
	Vinorelbine (0.1 mg/ml)	71486-22-1	Liquid	>240	>240		

> = greater than imm. = immediate (<10 minutes) {empty} = not tested L = Liquid G = Gas S = Solid

* Actual breakthrough time; normalized breakthrough time is not available.
 ** Solid tested, vapor phase permeation measured.

APPENDIX
CHEMICAL INDEX - Alphabetical Listing - Chemical Names and Synonyms

CAS Number	Chemical Name	Synonym	Class	Sub-Class
109-55-7	1,3-Propanediamine, N,N'-Dimethyl		140	148
112-34-5	2-(2-Butoxyethoxy) ethanol	Diethylene glycol monobutyl ether	310	311
112-34-5	2-(2-Butoxyethoxy) ethanol	Diethylene glycol monobutyl ether	240	245
111-90-0	2-(2-Ethoxyethoxy) ethanol		240	245
75-85-4	2-Methyl-2-Butanol	2-Methyl-2-Butanol::Amyl alcohol, tert-	310	313
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	270	270
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	390	390
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	270	274
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	500	509
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	390	391
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	500	500
75-07-0	Acetaldehyde		120	121
64-19-7	Acetic acid		100	102
111-15-9	Acetic acid 2 ethoxy ethyl ester	Acetic acid 2 ethoxy ethyl ester::Ethyl glycol acetate::Ethylene glycol mono ethyl ether acetate	240	245
110-49-6	Acetic acid 2 methoxy ethyl ester	Acetic acid 2 methoxy ethyl ester::Ethylene glycol monomethyl ether acetate	240	245
108-05-4	Acetic acid ethenyl ester	Acetic acid ethenyl ester	220	222
141-78-6	Acetic acid ethyl ester	Acetic acid ethyl ester	220	222
628-63-7	Acetic acid pentyl ester	Acetic acid pentyl ester::Amyl ester acetic acid::Pentyl acetate	220	222
108-24-7	Acetic anhydride		160	161
75-36-5	Acetic chloride	Acetic chloride::Ethanoyl chloride	110	111
67-64-1	Acetone	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
75-86-5	Acetone cyanohydrin	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	430	431
75-86-5	Acetone cyanohydrin	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	310	313
75-05-8	Acetonitrile	Cyanomethane::Ethane nitrile::Ethyl nitrile::Methyl cyanide	430	431
13831-31-7	Acetoxyacetyl Chloride		110	111
75-36-5	Acetyl chloride	Acetic chloride::Ethanoyl chloride	110	111
79-10-7	Acroleic acid	Acroleic acid::Ethylene carboxylic acid::Propene acid	100	102
107-02-8	Acrolein	Prop-2-en-1-al	120	121
79-06-1	Acrylamide	Acrylicamide::Propenamide	130	135
79-10-7	Acrylic acid	Acroleic acid::Ethylene carboxylic acid::Propene acid	100	102
140-88-5	Acrylic acid ethyl ester	Acrylic acid ethyl ester	220	223
141-32-2	Acrylic acid n-butyl ester	Acrylic acid n-butyl ester::Propenoic acid butyl ester, 2-	220	223
79-06-1	Acrylicamide	Acrylicamide::Propenamide	130	135
107-13-1	Acrylonitrile	Cyanoethylene::Propenenitrile, 2-::Propenoic acid nitrile::Vinyl cyanide	430	431
814-68-6	Acryloyl Chloride		110	111
111-69-3	Adipic acid dinitrile	Adipic acid dinitrile::Adipic acid nitrile::Adipyl dinitrile::Dicyanobutane, 1,4-	430	431
111-69-3	Adipic acid nitrile	Adipic acid dinitrile::Adipic acid nitrile::Adipyl dinitrile::Dicyanobutane, 1,4-	430	431
111-69-3	Adiponitrile	Adipic acid dinitrile::Adipic acid nitrile::Adipyl dinitrile::Dicyanobutane, 1,4-	430	431

CAS Number	Chemical Name	Synonym	Class	Sub-Class
95-76-1	Amino 3,4-dichlorobenzene, 1-	Amino 3,4-dichlorobenzene, 1-	260	263
62-53-3	Amino benzene	Amino benzene::Benzenamine::Phenyl amine	140	145
92-67-1	Amino diphenyl, 4-		140	145
141-43-5	Amino ethanol, 2-	Amino ethanol, 2-	140	141
141-43-5	Amino ethanol, 2-	Amino ethanol, 2-	310	311
111-41-1	Amino ethylethanolamine		140	148
111-41-1	Amino ethylethanolamine		310	311
111-41-1	Amino ethylethanolamine		140	142
140-31-8	Amino ethylpiperazine		140	141
140-31-8	Amino ethylpiperazine		270	274
75-31-0	Amino propane, 2-	Amino propane, 2-	140	141
504-29-0	Amino pyridine, 2-		270	271
7664-41-7	Ammonia	30081410	380	380
7664-41-7	Ammonia	30081410	350	350
7664-41-7	Ammonia		380	380
7664-41-7	Ammonia		350	350
1341-49-7	Ammonium bifluoride	Ammonium hydrogendifluoride	340	340
1341-49-7	Ammonium bifluoride	Ammonium hydrogendifluoride	350	350
12125-02-9	Ammonium chloride		340	340
12125-01-8	Ammonium fluoride		340	340
1341-49-7	Ammonium hydrogendifluoride	Ammonium hydrogendifluoride	340	340
1341-49-7	Ammonium hydrogendifluoride	Ammonium hydrogendifluoride	350	350
1336-21-6	Ammonium hydroxide	Caustic ammonia	380	380
628-63-7	Amyl acetate, n-	Acetic acid pentyl ester::Amyl ester acetic acid::Pentyl acetate	220	222
71-41-0	Amyl alcohol	Amyl alcohol	310	311
75-85-4	Amyl alcohol, tert-	2-Methyl-2-Butanol::Amyl alcohol, tert-	310	313
628-63-7	Amyl ester acetic acid	Acetic acid pentyl ester::Amyl ester acetic acid::Pentyl acetate	220	222
461-82-5	Anilin, 4-Trifluoromethoxy-		140	145
62-53-3	Aniline	Amino benzene::Benzenamine::Phenyl amine	140	145
120-12-7	Anthracene	Anthracin	290	293
120-12-7	Anthracin	Anthracin	290	293
7647-18-9	Antimony pentachloride	Pentachloroantimony	360	360
8007-56-5	Aqua regia	Aqua regia	370	370
7784-34-1	Arsenic (III) chloride	Arsenic trichloride	340	340
7784-34-1	Arsenic trichloride	Arsenic trichloride	340	340
7784-42-1	Arsine		350	350
151-56-4	Aziridine	Aziridine	270	274
123-75-1	Azolidine	Azolidine	270	274
100-52-7	Benzaldehyde	Benzaldehyde	120	122
62-53-3	Benzenamine	Amino benzene::Benzenamine::Phenyl amine	140	145
71-43-2	Benzene		290	292
98-88-4	Benzene carbonyl chloride	Benzene carbonyl chloride	110	112
98-09-9	Benzene sulfone chloride	Benzene sulfone chloride	500	505
98-09-9	Benzene sulfonyl chloride	Benzene sulfone chloride	500	505

111-69-3	Adipyl dinitrile	Adipic acid dinitrile::Adipic acid nitrile:: Adipyl dinitrile::Dicyanobutane, 1,4-	430	431
107-18-6	Allyl alcohol	Hydroxy propene::Propen 1-ol, 2-::Vinyl carbinol	310	311
107-05-1	Allyl chloride	Chlor allylene::Chloro prene, 3-	260	265
5329-14-6	Amido sulfonic acid	Amido sulfonic acid::Sulfamidic acid	500	509
5329-14-6	Amido sulfonic acid	Amido sulfonic acid::Sulfamidic acid	370	370
75-64-9	Amino 2-methylpropane, 2-	Amino 2-methylpropane, 2-::Trimethyl aminomethane	140	143
95-76-1	Amino 3,4-dichlorobenzene, 1-	Amino 3,4-dichlorobenzene, 1-	140	145

APPENDIX
CHEMICAL INDEX - Alphabetical Listing - Chemical Names and Synonyms

CAS Number	Chemical Name	Synonym	Class	Sub-Class
108-98-5	Benzene thiol	Benzene thiol	500	501
328-84-7	Benzene, Dichloro-4-Trifluoro		260	263
92-87-5	Benzidine	Biphenyl 4,4'-diamine, 1,1'::: Diaminobiphenyl, 4,4':::Diaminodiphenyl, p-	140	145
92-87-5	Benzidine	Biphenyl 4,4'-diamine, 1,1'::: Diaminobiphenyl, 4,4':::Diaminodiphenyl, p-	140	149
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	390	390
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	500	500
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	270	274
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	500	509
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	390	391
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	270	270
100-47-0	Benzo nitrile	Cyanobenzene::Phenyl cyanide	430	432
98-07-7	Benzo trichloride		260	263
98-88-4	Benzoyl chloride	Benzene carbonyl chloride	110	112
100-51-6	Benzyl alcohol	Hydroxy toluene	310	312
100-44-7	Benzyl chloride	Chloro toluene, alpha-	260	266
501-53-1	Benzyl chloro formate		110	113
140-29-4	Benzyl cyanide	Phenyl acetonitrile	430	432
103-67-3	Benzyl methylamine, N-	Methyl benzylamine, N-	290	292
103-67-3	Benzyl methylamine, N-	Methyl benzylamine, N-	140	146
92-87-5	Biphenyl 4,4'-diamine, 1,1'	Biphenyl 4,4'-diamine, 1,1'::: Diaminobiphenyl, 4,4':::Diaminodiphenyl, p-	140	149
92-87-5	Biphenyl 4,4'-diamine, 1,1'	Biphenyl 4,4'-diamine, 1,1'::: Diaminobiphenyl, 4,4':::Diaminodiphenyl, p-	140	145
1675-54-3	Bis (4-(2,3-epoxypropoxy)phenyl)propane	Bis (4-(2,3-epoxypropoxy)phenyl)propane::Isopropylidenediphenol diglycidyl ether, 4,4'-	270	275
1675-54-3	Bis phenol A diglycidyl ether	Bis (4-(2,3-epoxypropoxy)phenyl)propane::Isopropylidenediphenol diglycidyl ether, 4,4'-	270	275
mix	Black Liquor		590	590
109-63-7	Boron fluoride ethyl ether	Boron fluoride ethyl ether::Boron trifluoride diethyl etherate	590	590
10294-34-5	Boron trichloride		360	360
10294-34-5	Boron trichloride		350	350
7637-07-2	Boron trifluoride		360	360
7637-07-2	Boron trifluoride		350	350
109-63-7	Boron trifluoride diethyl etherate	Boron fluoride ethyl ether::Boron trifluoride diethyl etherate	590	590
353-42-4	Boron trifluoride dimethyl etherate		590	590
109-63-7	Boron trifluoride etherate	Boron fluoride ethyl ether::Boron trifluoride diethyl etherate	590	590
1003-09-4	Brom thiophene, 2-		500	509
7726-95-6	Bromine		330	330
460-00-4	Bromo 4-fluorobenzene, 1-	Bromo 4-fluorobenzene, 1-	260	263
460-00-4	Bromo fluorobenzene, 4-	Bromo 4-fluorobenzene, 1-	260	263
74-83-9	Bromo methane	Bromo methane	260	261
927-68-4	Bromoethyl Acetate, 2-		260	261
927-68-4	Bromoethyl Acetate, 2-		220	222
75-25-2	Bromoform		260	261
78-94-4	But-3-en-2-one	But-3-en-2-one	390	391

CAS Number	Chemical Name	Synonym	Class	Sub-Class
75-65-0	Butanol, tert-	Methyl propan-2-ol, 2-	310	313
78-93-3	Butanone	Butanone::MEK	390	391
96-29-7	Butanone oxime, 2-	Butanone oxime, 2-	150	150
123-73-9	Butenal, 2-	Butenal, 2-::Ethane diol dipropanoate, 1,2-::Methyl acrolein::Propylene aldehyde	120	121
111-76-2	Butoxy ethanol, 2-	Ethylene glycol monobutyl ether	240	245
143-22-6	Butoxytriglycol		240	245
123-86-4	Butyl acetate, n-		220	222
141-32-2	Butyl acrylate, n-	Acrylic acid n-butyl ester::Propenoic acid butyl ester, 2-	220	223
71-36-3	Butyl alcohol, n-	Butanol, n-::Butyl alcohol, n-	310	311
109-73-9	Butyl amine		140	141
75-64-9	Butyl amine, tert-	Amino 2-methylpropane, 2-::Trimethyl aminomethane	140	143
112-07-2	Butyl Cellosolve Acetate		240	245
29911-28-2	Butyl Dipropasol Solvent		240	245
142-96-1	Butyl ether, n-		240	241
1118-46-3	Butyl stannium trichloride	Butyl stannium trichloride	470	470
592-34-7	Butylchloroformate		110	113
592-34-7	Butylchloroformate		220	221
592-34-7	Butylchloroformate		260	260
123-72-8	Butyraldehyde, n-	Butyraldehyde, n-	120	121
107-92-6	Butyric Acid		100	102
10112-91-1	Calomel	Calomel	340	340
75-15-0	Carbon disulfide		500	502
630-08-0	Carbon monoxide		350	350
56-23-5	Carbon tetrachloride	Tetrachloro methane	260	261
75-73-0	Carbon tetrafluoride	Carbon tetrafluoride	260	261
41575-94-4	Carboplatin		990	991
154-93-8	Carmustine		990	991
1336-21-6	Caustic ammonia	Caustic ammonia	380	380
1310-73-2	Caustic soda	Caustic soda	380	380
110-80-5	Cellosolve acetate	Cellosolve acetate::Ethyl Cellosolve®:: Ethylene glycol monoethyl ether	240	245
mix	Chemguard S-764P14A	Chemguard S-764P14A	590	590
mix	Chemidize 727 ND		590	590
107-05-1	Chlor allylene	Chlor allylene::Chloro prene, 3-	260	265
76-06-2	Chlor trinitromethan	Chloro picrin::Nitro chlormethan	260	261
57-74-9	Chlordane		260	261
7782-50-5	Chlorine		330	330
7782-50-5	Chlorine		350	350
10545-99-0	Chlorine sulfide	Sulphur dichloride	500	502
7790-91-2	Chlorine trifluoride		350	350
96-24-2	Chloro 1,2-propanediol, 3-		310	314
95-49-8	Chloro 1-methylbenzene, 2-	Chloro 1-methylbenzene, 2-	310	316
95-49-8	Chloro 1-methylbenzene, 2-	Chloro 1-methylbenzene, 2-	260	263
106-89-8	Chloro 2,3-epoxy propane, 1-	Chloro 2,3-epoxy propane, 1-	270	275
106-89-8	Chloro 2,3-epoxy propane, 1-	Chloro 2,3-epoxy propane, 1-	260	261
88-73-3	Chloro 2-nitrobenzene, 1-	Chloro 2-nitrobenzene, 1-	260	263

Item No.	Chemical Name	Item No.	Chemical Name	PPM	PPM
106-99-0	Butadiene, 1,3-		Vinyl ethylene	290	296
123-72-8	Butanal, n-		Butyraldehyde, n-	120	121
71-36-3	Butanol, 1-		Butanol, n-:Butyl alcohol, n-	310	311
71-36-3	Butanol, n-		Butanol, n-:Butyl alcohol, n-	310	311

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CAS Number	Chemical Name	Synonym	Class	Sub-Class
88-73-3	Chloro 2-nitrobenzene, 1-	Chloro 2-nitrobenzene, 1-	440	442
79-11-8	Chloro acetic acid		100	103
78-95-5	Chloro acetone	Chloro propan-2-one, 1-	390	391
79-04-9	Chloro acetyl chloride		110	111
920-37-6	Chloro acrylonitrile, 2-		260	264
920-37-6	Chloro acrylonitrile, 2-		430	431
106-47-8	Chloro aniline, p-	Chloro benzenamine, 4-	140	145
106-47-8	Chloro benzenamine, 4-	Chloro benzenamine, 4-	140	145
108-90-7	Chloro benzene	Phenyl chloride	260	263
5216-25-1	Chloro benzotrichloride, 4-		260	263
98-56-6	Chloro benzotrifluoride, 4-		260	263
107-07-3	Chloro ethanol, 2-	Ethylene chlorohydrin::Glycol chlorohydrin	260	261
107-07-3	Chloro ethanol, 2-	Ethylene chlorohydrin::Glycol chlorohydrin	310	315
75-01-4	Chloro ethene	Chloro ethene	260	264
67-66-3	Chloro form	Trichloro methane	260	261
107-30-2	Chloro methyl methyl ether	Methoxy chloromethane	240	241
106-48-9	Chloro phenol, p-	Hydroxy chlorobenzene	260	263
106-48-9	Chloro phenol, p-	Hydroxy chlorobenzene	310	316
76-06-2	Chloro picrin	Chloro picrin::Nitro chlormethan	260	261
107-05-1	Chloro prene, 3-	Chlor allylene::Chloro prene, 3-	260	265
78-95-5	Chloro propan-2-one, 1-	Chloro propan-2-one, 1-	390	391
100-44-7	Chloro toluene, alpha-	Chloro toluene, alpha-	260	266
95-49-8	Chloro toluene, o-	Chloro 1-methylbenzene, 2-	260	263
95-49-8	Chloro toluene, o-	Chloro 1-methylbenzene, 2-	310	316
105-39-5	Chloroacetic ethylester		220	222
7790-94-5	Chlorosulfonic acid		500	504
7790-94-5	Chlorosulfonic acid		370	370
1333-82-0	Chromic acid (CrO ₃)		370	370
1333-82-0	Chromic acid (H ₂ SO ₄ x CrO ₃)		370	370
15663-27-1	Cisplatin		990	991
77-92-9	Citric acid	Hydroxy 1,2,3-propanetricarboxylic acid, 2-	100	104
68956-56-9	Citrus Terpenes Mixture		140	148
8001-58-9	Creosote		310	316
95-48-7	Cresol o-	Hydroxy toluene, o-	310	316
1319-77-3	Cresols, mixed isomers	Cresylic acid::Methyl phenols	310	316
1319-77-3	Cresylic acid	Cresylic acid::Methyl phenols	310	316
123-73-9	Croton aldehyde	Butenal, 2-::Ethane diol dipropionate, 1,2-::Methyl acrolein::Propylene aldehyde	120	121
8002-05-9	Crude oil, California	Mineral oil	290	291
8002-05-9	Crude oil, California	Mineral oil	290	294
98-82-8	Cumene	Isopropyl benzene::Phenyl propane, 2-	290	292
420-04-2	Cyanamide		130	132
108-77-0	Cyanide chloride	Trichloro 1,3,5-triazine, 2,4,6-	260	263
108-77-0	Cyanide chloride	Trichloro 1,3,5-triazine, 2,4,6-	270	274
100-47-0	Cyanobenzene	Cyanobenzene::Phenyl cyanide	430	432
107-13-1	Cyanoethylene	Cyanoethylene::Propenenitrile, 2-::Propenoic acid nitrile::Vinyl cyanide	430	431

CAS Number	Chemical Name	Synonym	Class	Sub-Class
75-05-8	Cyanomethane	Cyanomethane::Ethane nitrile::Ethyl nitrile::Methyl cyanide	430	431
75-86-5	Cyanopropan-2-ol, 2-	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	310	313
75-86-5	Cyanopropan-2-ol, 2-	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	430	431
110-82-7	Cyclo hexane		290	291
108-94-1	Cyclo hexanone	Hexanone::Pimelic ketone	390	391
3173-53-3	Cyclo hexyl isocanate		210	211
1552-12-1	Cyclo octadiene		290	296
50-18-0	Cyclo phosphamide		990	991
108-93-0	Cyclohexanol	Hexalin	310	312
mix	Dahlgren Decon solution	Dahlgren Decon solution	590	590
117-81-7	DEHP	DEHP	220	226
108-83-8	Di Isobutyl Ketone	Dimethyl-4-Heptanone, 2,6-	390	391
123-42-2	Diacetone Alcohol		390	391
13360-57-1	Diamino sulfo chloride		260	261
92-87-5	Diaminobiphenyl, 4,4'-	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	149
92-87-5	Diaminobiphenyl, 4,4'-	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	145
92-87-5	Diaminodiphenyl, p-	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	149
92-87-5	Diaminodiphenyl, p-	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	145
101-77-9	Diaminodiphenylmethane, 4,4'-	Diaminodiphenylmethane, 4,4'-	140	145
101-77-9	Diaminodiphenylmethane, 4,4'-	Diaminodiphenylmethane, 4,4'-	140	149
107-15-3	Diaminoethane, 1,2-	Diaminoethane, 1,2-	140	148
19287-45-7	Diborane		350	350
96-12-8	Dibromo -3-chloropropane, 1,2-		260	261
106-93-4	Dibromoethane, 1,2-	Dibromoethane, 1,2-	260	261
84-74-2	Diethyl 1,2-benzenedicarboxylate	Diethyl 1,2-benzenedicarboxylate	220	226
84-74-2	Diethyl phthalate	Diethyl 1,2-benzenedicarboxylate	220	226
109-43-3	Diethyl sebacate		220	224
95-50-1	Dichlorobenzen, 1,2-		260	263
541-73-1	Dichlorobenzen, 1,3-		260	263
106-46-7	Dichlorobenzen, 1,4-		260	263
107-06-2	Dichlorethane, 1,2,-	Ethylene dichloride	260	261
534-07-6	Dichloro -2-propanone, 1,3-	Dichloro -2-propanone, 1,3-	260	261
534-07-6	Dichloro -2-propanone, 1,3-	Dichloro -2-propanone, 1,3-	390	391
101-14-4	Dichloro -4,4'-methylenedianiline, 2,2'-	Dichloro -4,4'-methylenedianiline, 2,2'	140	149
30894-74-7	Dichloro -6-isopropyl-S-triazine, 2,4-		270	274
534-07-6	Dichloro acetone, 1,3-	Dichloro -2-propanone, 1,3-	390	391
534-07-6	Dichloro acetone, 1,3-	Dichloro -2-propanone, 1,3-	260	261
79-36-7	Dichloro acetyl chloride		110	111
95-76-1	Dichloro aniline, 3,4-	Amino 3,4-dichlorobenzene, 1-	260	263
95-76-1	Dichloro aniline, 3,4-	Amino 3,4-dichlorobenzene, 1-	140	145
111-44-4	Dichloro ethyl ether		260	261
111-44-4	Dichloro ethyl ether		240	241
75-35-1	Dichloro ethylene 1,1-	Dichloro ethylene 1,1-	260	261



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Product	Description	Thickness, mils	Thickness, microns
75-09-2	Dichloro methane	260	261
542-75-6	Dichloro propene, 1,3-	260	261

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CAS Number	Chemical Name	Synonym	Class	Sub-Class
78-88-6	Dichloro propene, 2,3-		260	261
4109-96-0	Dichloro silane		480	480
628-76-2	Dichloropentane		260	261
111-69-3	Dicyanobutane, 1,4-mix	Adipic acid dinitrile::Adipic acid nitrile::Adipyl dinitrile::Dicyanobutane, 1,4-	430	431
68334-30-5	Diesel fuel		290	291
mix	Diesel automotive test fuel		290	291
111-42-2	Diesel Fuel Grade D-2		290	290
109-89-7	Diethanolamine		140	142
91-66-7	Diethyl amine	Ethyl ethanamine, N-	140	142
91-66-7	Diethyl aniline crude		140	146
25340-17-4	Diethyl aniline, N,N-		140	146
121-44-8	Diethyl benzene		290	292
60-29-7	Diethyl ether	Diethyl ether	240	241
117-81-7	Diethyl hexyl phthalate	DEHP	220	226
91-67-8	Diethyl m-toluidine, N,N-		140	145
64-67-5	Diethyl sulfate	Sulfuric acid diethyl ester	500	507
111-46-6	Diethylene Glycol		310	314
112-34-5	Diethylene glycol monobutyl ether	Diethylene glycol monobutyl ether	240	245
112-34-5	Diethylene glycol monobutyl ether	Diethylene glycol monobutyl ether	310	311
111-77-3	Diethylene Glycol Monomethyl Ether		240	245
6881-94-3	Diethylene Glycol Monopropyl Ether		240	245
110-91-8	Diethylene imide oxide	Diethylene imide oxide	270	274
110-91-8	Diethylene imide oxide	Diethylene imide oxide	270	278
111-40-0	Diethylene triamine		140	148
755-95-3	Diodo-1,1,2,2-tetrafluorobutane, 1,4-		260	261
7087-68-5	Diisopropylethylamine (DIPEA)		140	141
5394-63-8	Diketene Acetone		270	278
5394-63-8	Diketene Acetone		390	391
127-19-5	Dimethyl acetamide, N,N-		130	132
124-40-3	Dimethyl amine		140	142
121-69-7	Dimethyl aniline, N,N-	Dimethyl phenylamine, N,N-	140	146
75-78-5	Dimethyl dichlorosilane		480	480
115-10-6	Dimethyl ether		240	241
68-12-2	Dimethyl formamide, N,N-		130	132
624-49-7	Dimethyl fumarate		220	224
57-14-7	Dimethyl hydrazine, N,N-		280	280
67-64-1	Dimethyl ketal	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
67-64-1	Dimethyl ketone	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
624-48-6	Dimethyl maleate		220	224
593-74-8	Dimethyl mercury in decane		470	470
756-79-6	Dimethyl Methyl Phosphonate		460	462
62-75-9	Dimethyl nitrosamine	Methyl N-nitrosomethanamine, N-	450	450
121-69-7	Dimethyl phenylamine, N,N-	Dimethyl phenylamine, N,N-	140	146
77-78-1	Dimethyl sulfate	Sulfuric acid dimethyl ester	500	507

CAS Number	Chemical Name	Synonym	Class	Sub-Class
75-18-3	Dimethyl sulfide		500	502
67-68-5	Dimethyl sulfoxide		500	503
108-83-8	Dimethyl-4-Heptanone, 2,6-	Dimethyl-4-Heptanone, 2,6-	390	391
108-59-8	Dimethylmalonate	Dimethylmalonate	220	220
108-59-8	Dimethylmalonate	Dimethylmalonate	220	224
534-52-1	Dinitro-o-cresol, 4,6-	Dinitro-o-cresol, 4,6-	310	316
534-52-1	Dinitro-o-cresol, 4,6-	Dinitro-o-cresol, 4,6-	440	442
534-52-1	Dinitrocresol	Dinitro-o-cresol, 4,6-	440	442
534-52-1	Dinitrocresol	Dinitro-o-cresol, 4,6-	310	316
123-91-1	Dioxane, 1,4-		270	278
101-68-8	Diphenyl methane diisocyanate, 4,4'-	Methylene diphenyl diisocyanate, 4,4'-	210	212
503-38-8	Diphosgene		110	113
503-38-8	Diphosgene		260	260
503-38-8	Diphosgene		220	221
29911-27-1	Dipropylene Glycol Monopropyl Ether		240	245
1313-82-2	Disodium sulfide		340	340
10025-67-9	Disulphur dichloride	Disulphur dichloride	500	502
1321-74-0	Divinyl Benzene		290	292
mix	Dowtherm Heat Transfer Fluid	Dowtherm Heat Transfer Fluid	590	590
25136-40-9	Doxorubicin HCl		990	991
mix	DuPont Activator 193S		590	590
mix	DuPont Activator 4505S		590	590
mix	DuPont Activator 4507S		590	590
15520-10-2	Dytek® A		140	148
106-89-8	Epichlorohydrin	Chloro 2,3-epoxy propane, 1-	270	275
106-89-8	Epichlorohydrin	Chloro 2,3-epoxy propane, 1-	260	261
75-21-8	Epoxy ethane	Epoxy ethane	270	275
75-56-9	Epoxy propane, 1,2-	Epoxy propane, 1,2-	270	275
107-21-1	Ethane 1,2-diol	Ethane 1,2-diol::Glycol alcohol	310	314
144-62-7	Ethane dioic acid	Ethane dioic acid	100	104
123-73-9	Ethane diol dipropanoate, 1,2-	Butenal, 2-::Ethane diol dipropanoate, 1,2-::Methyl acrolein::Propylene aldehyde	120	121
75-05-8	Ethane nitrile	Cyanomethane::Ethane nitrile::Ethyl nitrile::Methyl cyanide	430	431
75-08-1	Ethane thiol	Ethane thiol	500	501
79-00-5	Ethane trichloride	Ethane trichloride	260	261
64-17-5	Ethanol	Ethyl alcohol::Spiritus	310	311
141-43-5	Ethanol amine	Amino ethanol, 2-	310	311
141-43-5	Ethanol amine	Amino ethanol, 2-	140	141
75-36-5	Ethanoyl chloride	Acetic chloride::Ethanoyl chloride	110	111
594-45-6	Ethansulphonic acid		500	504
110-80-5	Ethoxy ethanol, 2-	Cellosolve acetate::Ethyl Cellosolve®::Ethylene glycol monoethyl ether	240	245
111-15-9	Ethoxy ethylacetat	Acetic acid 2 ethoxy ethyl ester::Ethyl glycol acetate::Ethylene glycol mono ethyl ether acetate	240	245
112-50-5	Ethoxytriglycol		240	245
141-78-6	Ethyl acetate	Acetic acid ethyl ester	220	222
140-88-5	Ethyl acrylate	Acrylic acid ethyl ester	220	223
64-17-5	Ethyl alcohol	Ethyl alcohol::Spiritus	310	311

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CAS Number	Chemical Name	Synonym	Class	Sub-Class
75-04-7	Ethyl amine		140	141
100-41-4	Ethyl benzene	Phenyl ethane	290	292
97-95-0	Ethyl Butanol		310	312
110-80-5	Ethyl Cellosolve®	Cellosolve acetate::Ethyl Cellosolve®::Ethylene glycol monoethyl ether	240	245
75-00-3	Ethyl chloride		260	261
109-89-7	Ethyl ethanamine, N-	Ethyl ethanamine, N-	140	142
60-29-7	Ethyl ether	Diethyl ether	240	241
111-15-9	Ethyl glycol acetate	Acetic acid 2 ethoxy ethyl ester::Ethyl glycol acetate::Ethylene glycol mono ethyl ether acetate	240	245
149-57-5	Ethyl hexanoic acid		100	102
75-08-1	Ethyl mercaptan	Ethane thiol	500	501
75-05-8	Ethyl nitrile	Cyanomethane::Ethane nitrile::Ethyl nitrile::Methyl cyanide	430	431
56-38-2	Ethyl parathion		460	462
541-41-3	Ethylchloroformate		220	221
541-41-3	Ethylchloroformate		260	260
541-41-3	Ethylchloroformate		110	113
79-10-7	Ethylene carboxylic acid	Acroleic acid::Ethylene carboxylic acid::Propene acid	100	102
107-07-3	Ethylene chlorohydrin	Ethylene chlorohydrin::Glycol chlorohydrin	310	315
107-07-3	Ethylene chlorohydrin	Ethylene chlorohydrin::Glycol chlorohydrin	260	261
107-15-3	Ethylene diamine	Diaminoethane, 1,2-	140	148
106-93-4	Ethylene dibromide	Dibromoethane, 1,2-	260	261
107-06-2	Ethylene dichloride	Ethylene dichloride	260	261
107-21-1	Ethylene glycol	Ethane 1,2-diol::Glycol alcohol	310	314
818-61-1	Ethylene glycol acrylate		220	223
111-15-9	Ethylene glycol mono ethyl ether acetate	Acetic acid 2 ethoxy ethyl ester::Ethyl glycol acetate::Ethylene glycol mono ethyl ether acetate	240	245
111-76-2	Ethylene glycol monobutyl ether	Ethylene glycol monobutyl ether	240	245
110-80-5	Ethylene glycol monoethyl ether	Cellosolve acetate::Ethyl Cellosolve®::Ethylene glycol monoethyl ether	240	245
112-25-4	Ethylene Glycol Monoethyl Ether		240	245
109-86-4	Ethylene glycol monomethyl ether	Ethylene glycol monomethyl ether	240	245
109-86-4	Ethylene glycol monomethyl ether	Ethylene glycol monomethyl ether	310	311
110-49-6	Ethylene glycol monomethyl ether acetate	Acetic acid 2 methoxy ethyl ester::Ethylene glycol monomethyl ether acetate	240	245
151-56-4	Ethylene imine	Aziridine	270	274
75-21-8	Ethylene oxide	Epoxy ethane	270	275
127-18-4	Ethylene tetrachloride	Ethylene tetrachloride	260	264
79-01-6	Ethylene trichloride	Ethylene trichloride	260	264
33419-42-0	Etoposide (Toposar®, Teva)		990	991
7758-94-3	Ferric (II) chloride		340	340
7705-08-0	Ferric (III) chloride		340	340
7782-41-4	Fluorine		350	350
462-06-6	Fluorobenzene		260	263
16872-11-0	Fluoroboric acid		370	370
16961-83-4	Fluorosilicic acid		370	370
7789-21-1	Fluorosulfonic acid		370	370
51-21-8	Fluorouracil, 5-		990	991
50-00-0	Formaldehyde	Formalin	120	121

CAS Number	Chemical Name	Synonym	Class	Sub-Class
50-00-0	Formalin		120	121
64-18-6	Formic acid		100	102
68476-30-2	Fuel-oil no 2		290	291
98-01-1	Furaldehyde, 2-	Furaldehyde, 2-	270	277
110-00-9	Furan		270	277
98-01-1	Furfural	Furaldehyde, 2-	270	277
82410-32-0	Ganciclovir		990	991
mix	Gasoline, leaded		290	291
86290-81-5	Gasoline, unleaded		290	291
308066-70-8	Gasoline, unleaded E10 (87 Octane)		290	291
95058-81-4	Gemcitabine		990	991
111-30-8	Glutaral	Glutaral::Pantanedral, 1,5-	120	121
111-30-8	Glutaraldehyde	Glutaral::Pantanedral, 1,5-	120	121
56-81-5	Glycerine	Glycerine::Propane -1,2,3-triol	310	314
56-81-5	Glycerol	Glycerine::Propane -1,2,3-triol	310	314
107-21-1	Glycol alcohol	Ethane 1,2-diol::Glycol alcohol	310	314
107-07-3	Glycol chlorohydrin	Ethylene chlorohydrin::Glycol chlorohydrin	260	261
107-07-3	Glycol chlorohydrin	Ethylene chlorohydrin::Glycol chlorohydrin	310	315
79-14-1	Glycolic acid	Hydroxy acetic acid	100	103
mix	Green Liquor		590	590
142-82-5	Heptane		290	291
87-68-3	Hexachloro butadiene		260	264
58-89-9	Hexachloro cyclohexane, 1,2,3,4,5,6-	Hexachloro cyclohexane, 1,2,3,4,5,6-	260	261
76-16-4	Hexafluoro ethane	Perfluoroethane	260	261
382-10-5	Hexafluoro isobutylene	Trifluoro 2-(trifluoromethyl)propene, 3,3,3-	260	261
108-93-0	Hexalin	Hexalin	310	312
999-97-3	Hexamethyl disilazane	Hexamethyl disilazane, 1,1,1,3,3,3-	480	480
999-97-3	Hexamethyl disilazane, 1,1,1,3,3,3-	Hexamethyl disilazane, 1,1,1,3,3,3-	480	480
124-09-4	Hexamethylene diamine		140	148
822-06-0	Hexamethylene diisocyanate		210	211
110-54-3	Hexane, n-		290	291
108-94-1	Hexanone	Hexanone::Pimelic ketone	390	391
592-41-6	Hexene		290	294
108-10-1	Hexone	Isobutyl methyl ketone::Methyl pentan-2-one, 4-	390	391
112-59-4	Hexyl Carbitol Solvent		240	245
6092-54-2	Hexyl chloro formate, 2-		220	221
302-01-2	Hydrazine		280	280
10217-52-4	Hydrazine hydrate		280	280
10034-85-2	Hydriodic acid		370	370
10035-10-6	Hydrobromic acid		370	370
7647-01-0	Hydrochloric acid		370	370
7664-39-3	Hydrofluoric acid		370	370
7664-39-3	Hydrofluoric acid		350	350
10035-10-6	Hydrogen bromide		350	350
10035-10-6	Hydrogen bromide		370	370



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50-00-0	Formalin	Formalin	120	121
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CAS Number	Chemical Name	Synonym	Class	Sub-Class
7647-01-0	Hydrogen chloride		350	350
7647-01-0	Hydrogen chloride		370	370
74-90-8	Hydrogen cyanide		340	345
74-90-8	Hydrogen cyanide		370	370
74-90-8	Hydrogen cyanide		350	350
7664-39-3	Hydrogen fluoride		370	370
7664-39-3	Hydrogen fluoride		350	350
7722-84-1	Hydrogen peroxide		300	301
7783-07-5	Hydrogen selenide		350	350
7783-06-4	Hydrogen sulfide		350	350
7783-06-4	Hydrogen sulfide		500	502
77-92-9	Hydroxy 1,2,3-propanetricarboxylic acid, 2-	Hydroxy 1,2,3-propanetricarboxylic acid, 2-	100	104
60-24-2	Hydroxy 1-ethanethiol, 2-	Hydroxy 1-ethanethiol, 2-	310	311
60-24-2	Hydroxy 1-ethanethiol, 2-	Hydroxy 1-ethanethiol, 2-	500	501
75-86-5	Hydroxy 2-methylpropionitrile, 2-	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	310	313
75-86-5	Hydroxy 2-methylpropionitrile, 2-	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	430	431
88-75-5	Hydroxy 2-nitrobenzene, 1-	Hydroxy 2-nitrobenzene, 1-	310	316
88-75-5	Hydroxy 2-nitrobenzene, 1-	Hydroxy 2-nitrobenzene, 1-	440	442
79-14-1	Hydroxy acetic acid	Hydroxy acetic acid	100	103
106-48-9	Hydroxy chlorobenzene	Hydroxy chlorobenzene	260	263
106-48-9	Hydroxy chlorobenzene	Hydroxy chlorobenzene	310	316
75-86-5	Hydroxy isobutyronitrile	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	430	431
75-86-5	Hydroxy isobutyronitrile	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	310	313
107-18-6	Hydroxy propene	Hydroxy propene::Propen 1-ol, 2-::Vinyl carbinol	310	311
100-51-6	Hydroxy toluene	Hydroxy toluene	310	312
95-48-7	Hydroxy toluene, o-	Hydroxy toluene, o-	310	316
6303-21-5	Hypophosphorus acid	Phosphinic acid	370	370
3778-73-2	Ifosfamide		990	991
7553-56-2	Iodine		330	330
74-88-4	Iodomethane	Iodomethane	260	261
100286-90-6	Irinotecan		990	991
123-92-2	Iso Amyl Acetate		220	222
123-51-3	Isoamyl alcohol	Methyl butan-1-ol, 3-	310	312
78-83-1	Isobutanol		310	311
78-83-1	Isobutanol		310	312
108-10-1	Isobutyl methyl ketone	Isobutyl methyl ketone::Methyl pentan-2-one, 4-	390	391
99-63-8	Isophthaloyldichloride		110	112
67-63-0	Isopropanol	Isopropanol::Isopropyl alcohol	310	312
108-21-4	Isopropyl Acetate		220	222
67-63-0	Isopropyl alcohol	Isopropanol::Isopropyl alcohol	310	312
75-31-0	Isopropyl amine	Amino propane, 2-	140	141
98-82-8	Isopropyl benzene	Isopropyl benzene::Phenyl propane, 2-	290	292
29921-57-1	Isopropyl bromoacetate		220	222
29921-57-1	Isopropyl bromoacetate		260	260

CAS Number	Chemical Name	Synonym	Class	Sub-Class
1675-54-3	Isopropylidenediphenol diglycidyl ether, 4,4'-	Bis (4-(2,3-epoxypropoxy)phenyl) propane:::Isopropylidenediphenol diglycidyl ether, 4,4'-	270	275
50815-00-4	JP-4 Jet Fuel		290	291
94114-58-6	JP-8 Jet Fuel		290	291
8008-20-6	Kerosene		290	291
67-64-1	Ketone propane	Dimethyl ketal::Dimethyl ketone::Ketone propane:::Methyl acetyl::Methyl ketone:::Propan -2-one:::Pyroacetic ether	390	391
50-21-5	Lactic Acid		100	103
541-25-3	Lewisite (L), FINABEL 0.7.C		470	470
541-25-3	Lewisite (L), MIL-STD-282		470	470
5989-27-5	Limonene d-	Methyl 4-isopropenyl-1-cyclohexene, 1-	290	296
58-89-9	Lindane	Hexachloro cyclohexane, 1,2,3,4,5,6-	260	261
7447-41-8	Lithium chloride		340	340
1310-65-2	Lithium hydroxide		380	380
8052-41-3	Low boiling point naphtha - unspecified	Low boiling point naphtha - unspecified	290	291
mix	m-Cresol 55%, p-Cresol 30%, Phenol 15%		310	316
121-75-5	Malathion		460	462
108-31-6	Maleic anhydride		160	161
78-93-3	MEK	Butanone::MEK	390	391
68-11-1	Mercapto acetic acid	Mercapto acetic acid	100	103
68-11-1	Mercapto acetic acid	Mercapto acetic acid	500	501
60-24-2	Mercapto ethanol	Hydroxy 1-ethanethiol, 2-	310	311
60-24-2	Mercapto ethanol	Hydroxy 1-ethanethiol, 2-	500	501
10112-91-1	Mercuric I chloride	Calomel	340	340
7487-94-7	Mercuric II chloride		340	340
7439-97-6	Mercury		330	330
79-41-4	Methacrylic acid	Methyl propenoic acid, 2-	100	102
124-63-0	Methanesulfonyl chloride		500	505
75-75-2	Methanesulphonic acid		500	504
74-93-1	Methanethiol	Methanethiol	350	350
74-93-1	Methanethiol	Methanethiol	500	501
74-93-1	Methanethiol	Methanethiol	380	380
67-56-1	Methanol		310	311
16752-77-5	Methomyl		230	233
59-05-2	Methotrexate		990	991
1634-04-4	Methoxy 2-methylpropane, 2-	Methoxy 2-methylpropane, 2-	240	241
107-30-2	Methoxy chloromethane	Methoxy chloromethane	240	241
109-86-4	Methoxy ethanol, 2	Ethylene glycol monomethyl ether	240	245
109-86-4	Methoxy ethanol, 2	Ethylene glycol monomethyl ether	310	311
110-49-6	Methoxy ethylacetate, 2-	Acetic acid 2 methoxy ethyl ester::Ethylene glycol monomethyl ether acetate	240	245
112-35-6	Methoxytriglycerol		240	245
1658-42-0	Methyl -2-pyridyl acetate		220	222
4553-62-2	Methyl 1,5-pentanedinitrile, 2-		430	431
80-62-6	Methyl 2-methyl-2-propenoate	Methyl 2-methyl-2-propenoate	220	223
872-50-4	Methyl 2-pyrrolidon, N-		130	132
5989-27-5	Methyl 4-isopropenyl-1-cyclohexene, 1-	Methyl 4-isopropenyl-1-cyclohexene, 1-	290	296
79-20-9	Methyl Acetate		220	222



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29921-57-1	Isopropyl bromoacetate	110	110
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APPENDIX
CHEMICAL INDEX - Alphabetical Listing - Chemical Names and Synonyms

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CAS Number	Chemical Name	Synonym	Class	Sub-Class
67-64-1	Methyl acetyl	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
123-73-9	Methyl acrolein	Butenal, 2-::Ethane diol dipropionate, 1,2-::Methyl acrolein::Propylene aldehyde	120	121
96-33-3	Methyl acrylate		220	223
74-89-5	Methyl amine		140	141
95-53-4	Methyl aniline, o-	Methyl aniline, o-	140	145
108-88-3	Methyl benzol	Methyl benzol	290	292
103-67-3	Methyl benzylamine, N-	Methyl benzylamine, N-	290	292
103-67-3	Methyl benzylamine, N-	Methyl benzylamine, N-	140	146
74-83-9	Methyl bromide	Bromo methane	260	261
123-51-3	Methyl butan-1-ol, 3-	Methyl butan-1-ol, 3-	310	312
74-87-3	Methyl chloride		260	261
79-22-1	Methyl chloro formate		110	113
71-55-6	Methyl chloroform	Methyl chloroform::Methyl trichloromethane	260	261
75-05-8	Methyl cyanide	Cyanomethane::Ethane nitrile::Ethyl nitrile::Methyl cyanide	430	431
78-93-3	Methyl ethyl ketone	Butanone::MEK	390	391
1338-23-4	Methyl Ethyl Ketone Peroxide	Methyl Ethyl Ketone Peroxide	300	300
1338-23-4	Methyl Ethyl Ketone Peroxide	Methyl Ethyl Ketone Peroxide	300	302
96-29-7	Methyl ethyl ketoxime	Butanone oxime, 2-	150	150
593-53-3	Methyl fluoride		260	261
123-39-7	Methyl formamide, N-		130	132
107-31-3	Methyl formate		220	221
60-34-4	Methyl hydrazine		280	280
616-47-7	Methyl imidazole, 1-		270	274
74-88-4	Methyl iodide	Iodomethane	260	261
105-44-2	Methyl Isobutyl Ketoxime		150	150
624-83-9	Methyl isocyanate		210	211
563-80-4	Methyl Isopropyl Ketone		390	391
67-64-1	Methyl ketone	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
74-93-1	Methyl mercaptan	Methanethiol	500	501
74-93-1	Methyl mercaptan	Methanethiol	380	380
74-93-1	Methyl mercaptan	Methanethiol	350	350
80-62-6	Methyl methacrylate	Methyl 2-methyl-2-propenoate	220	223
62-75-9	Methyl N-nitrosomethanamine, N-	Methyl N-nitrosomethanamine, N-	450	450
108-10-1	Methyl pentan-2-one, 4-	Isobutyl methyl ketone::Methyl pentan-2-one, 4-	390	391
1319-77-3	Methyl phenols	Cresylic acid::Methyl phenols	310	316
75-65-0	Methyl propan-2-ol, 2-	Methyl propan-2-ol, 2-	310	313
79-41-4	Methyl propenoic acid, 2-	Methyl propenoic acid, 2-	100	102
107-87-9	Methyl Propyl Ketone		390	391
109-06-8	Methyl pyridine, 2-	Methyl pyridine, 2-	270	271
108-99-6	Methyl pyridine, 3-	Methyl pyridine, 3-	270	271
119-36-8	Methyl salicylate		220	226
1634-04-4	Methyl tert-butyl ether	Methoxy 2-methylpropane, 2-	240	241
71-55-6	Methyl trichloromethane	Methyl chloroform::Methyl trichloromethane	260	261
75-79-6	Methyl trichlorosilane		480	480
78-94-4	Methyl vinyl ketone	But-3-en-2-one	390	391

CAS Number	Chemical Name	Synonym	Class	Sub-Class
1761-71-3	Methylene Isocyclohexylamine, 4,4-		140	148
101-14-4	Methylene bis(2-Chloroaniline), 4,4-	Dichloro -4,4'-methylenedianiline, 2,2'-	140	149
74-95-3	Methylene bromide		260	261
75-09-2	Methylene chloride	Methylene chloride	260	261
101-77-9	Methylene dianiline	Diaminodiphenylmethane, 4,4'-	140	149
101-77-9	Methylene dianiline	Diaminodiphenylmethane, 4,4'-	140	145
101-68-8	Methylene diphenyl diisocyanate, 4,4'-	Methylene diphenyl diisocyanate, 4,4'-	210	212
8012-95-1	Mineral oil		290	291
64475-85-0	Mineral spirit		290	291
50-07-7	Mitomycin		990	991
110-91-8	Morpholine	Diethylene imide oxide	270	274
110-91-8	Morpholine	Diethylene imide oxide	270	278
109-02-4	N-Methylmorpholine (NMM)		270	278
109-02-4	N-Methylmorpholine (NMM)		270	274
8032-32-4	Naphtha		290	292
91-20-3	Naphthalene		290	293
13463-39-3	Nickel carbonyl	Tetracarbonylnickel	470	470
54-11-5	Nicotine		270	271
7697-37-2	Nitric acid		370	370
52583-42-3	Nitric acid, red fuming		370	370
10102-43-9	Nitric oxide		350	350
97697-37-4	Nitric/Hydrofluoric Pickling Solution		370	370
98-95-3	Nitro benzene		440	441
76-06-2	Nitro chloromethan	Chloro picrin::Nitro chlormethan	260	261
100-00-5	Nitro chlorobenzene, p-		440	442
100-00-5	Nitro chlorobenzene, p-		260	263
75-52-5	Nitro methane		440	441
88-75-5	Nitro phenol, o-	Hydroxy 2-nitrobenzene, 1-	310	316
88-75-5	Nitro phenol, o-	Hydroxy 2-nitrobenzene, 1-	440	442
79-46-9	Nitro propane, 2-		440	441
88-72-2	Nitro toluene, 2-		440	442
99-99-0	Nitro tolue, p-		440	442
10102-44-0	Nitrogen dioxide		350	350
10102-44-0	Nitrogen Dioxide (liquid)	Nitrogen Dioxide (liquid)	350	350
10544-72-6	Nitrogen tetroxide		350	350
7783-54-2	Nitrogen trifluoride		350	350
8007-56-5	Nitrohydrochloric Acid	Aqua regia	370	370
10024-97-2	Nitrous oxide		350	350
811-97-2	Norflurane		260	261
111-65-9	Octane, n-		290	291
111-87-5	Octanol, n-		310	311
7452-59-7	Octyl chlor formate		110	113
7452-59-7	Octyl chlor formate		220	221
112-80-1	Oleic Acid		100	102
8014-95-7	Oleum	Sulfuric acid fuming	370	370



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CAS Number	Chemical Name	Synonym	Class	Sub-Class
144-62-7	Oxalic acid	Ethane dioic acid	100	104
63121-00-6	Oxaliplatin		990	991
98-51-1	P-Tert Butyl Toluene		290	292
33069-62-4	Paclitaxel (Hospira)		990	991
104-49-4	Paraphenylenediisocyanate (PPDI) crude		210	212
mix	PCB		260	263
11097-69-1	PCB 1254		260	263
mix	PCB in transformer oil		260	263
7647-18-9	Pentachloroantimony	Pentachloroantimony	360	360
87-86-5	Pentachlorophenol		310	316
109-66-0	Pentane		290	291
111-30-8	Pantanedral, 1,5-	Glutaral::Pantanedral, 1,5-	120	121
109-52-4	Pentanoic acid		290	291
71-41-0	Pentanol, 1-	Amyl alcohol	310	311
75-85-4	Pentanol, tert-	2-Methyl-2-Butanol::Amyl alcohol, tert-	310	313
13284-42-9	Pentene nitrile, 2-		430	431
4635-87-4	Pentene nitrile, 3-		430	431
25899-50-7	Pentene nitrile, cis-2-		430	431
628-63-7	Pentyl acetate	Acetic acid pentyl ester::Amyl ester acetic acid::Pentyl acetate	220	222
79-21-0	Peracetic Acid		300	302
79-21-0	Peracetic Acid		100	102
79-21-0	Peracetic Acid	Peracetic Acid	300	302
79-21-0	Peracetic Acid	Peracetic Acid	300	300
7601-90-3	Perchloric acid		370	370
2062-98-8	Perfluoro 2-propoxy propionyl fluoride		110	111
2062-98-8	Perfluoro 2-propoxy propionyl fluoride		240	241
2062-98-8	Perfluoro 2-propoxy propionyl fluoride		260	261
76-16-4	Perfluoroethane	Perfluoroethane	260	261
60-12-8	Phenethyl alcohol, 2-		310	318
100-42-5	Phenethylene	Phenethylene::Vinyl benzol	290	292
108-95-2	Phenol		310	316
140-29-4	Phenyl acetonitrile	Phenyl acetonitrile	430	432
62-53-3	Phenyl amine	Amino benzene::Benzenamine::Phenyl amine	140	145
1885-14-9	Phenyl chlor formiate		220	221
108-90-7	Phenyl chloride	Phenyl chloride	260	263
100-47-0	Phenyl cyanide	Cyanobenzene::Phenyl cyanide	430	432
100-41-4	Phenyl ethane	Phenyl ethane	290	292
98-85-1	Phenyl ethanol, 1-		310	318
122-60-1	Phenyl glycidyl ether		270	275
108-98-5	Phenyl mercaptan	Benzene thiol	500	501
98-82-8	Phenyl propane, 2-	Isopropyl benzene::Phenyl propane, 2-	290	292
98-13-5	Phenyl trichlorosilane	Phenyl trichlorosilane	480	480
75-44-5	Phosgene		350	350
7803-51-2	Phosphine		350	350
6303-21-5	Phosphinic acid	Phosphinic acid	370	370

CAS Number	Chemical Name	Synonym	Class	Sub-Class
7664-38-2	Phosphoric acid		370	370
10025-87-3	Phosphorus oxychloride		360	360
7719-12-2	Phosphorus trichloride		360	360
109-06-8	Picoline, 2-	Methyl pyridine, 2-	270	271
108-99-6	Picoline, 3-	Methyl pyridine, 3-	270	271
108-94-1	Pimelic ketone	Hexanone::Pimelic ketone	390	391
24991-55-7	Polyethylene glycol dimethyl ether		240	245
9016-87-9	Polymethylene polyphenyle isocyanate (p-MDI)		210	212
127-08-2	Potassium acetate		340	340
584-08-7	Potassium carbonate		340	340
7789-00-6	Potassium chromate		340	340
151-50-8	Potassium cyanide		340	345
1310-58-3	Potassium hydroxide		380	380
7722-64-7	Potassium permanganate		340	340
107-02-8	Prop-2-en-1-al	Prop-2-en-1-al	120	121
107-19-7	Prop-2-yn-1-ol	Prop-2-yn-1-ol	310	311
71-23-8	Propan -1-ol	Propanol, 1-::Propanol, n-::Propyl alcohol	310	311
67-63-0	Propan -2-ol	Isopropanol::Isopropyl alcohol	310	312
67-64-1	Propan -2-one	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
74-98-6	Propane		290	291
56-81-5	Propane -1,2,3-triol	Glycerine::Propane -1,2,3-triol	310	314
79-09-4	Propanoic acid		100	102
71-23-8	Propano, 1-	Propanol, 1-::Propanol, n-::Propyl alcohol	310	311
71-23-8	Propano, n-	Propanol, 1-::Propanol, n-::Propyl alcohol	310	311
107-19-7	Propargyl alcohol	Prop-2-yn-1-ol	310	311
107-18-6	Propen 1-ol, 2-	Hydroxy propene::Propen 1-ol, 2-::Vinyl carbinol	310	311
79-06-1	Propenamide	Acrylicamide::Propenamide	130	135
79-10-7	Propene acid	Acroleic acid::Ethylene carboxylic acid::Propene acid	100	102
107-13-1	Propenenitrile, 2-	Cyanoethylene::Propenenitrile, 2-::Propenoic acid nitrile::Vinyl cyanide	430	431
141-32-2	Propenoic acid butyl ester, 2-	Acrylic acid n-butyl ester::Propenoic acid butyl ester, 2-	220	223
107-13-1	Propenoic acid nitrile	Cyanoethylene::Propenenitrile, 2-::Propenoic acid nitrile::Vinyl cyanide	430	431
1569-01-3	Propoxypropanol		240	245
109-61-5	Propylchloroformate		110	113
109-61-5	Propylchloroformate		220	221
109-61-5	Propylchloroformate		260	260
109-60-4	Propyl Acetate		220	222
71-23-8	Propyl alcohol	Propanol, 1-::Propanol, n-::Propyl alcohol	310	311
107-10-8	Propyl amine, n-		140	141
106-94-5	Propyl bromide, n-		260	261
2807-30-9	Propyl Cellosolve, n-		240	245
123-73-9	Propylene aldehyde	Butenal, 2-::Ethane diol dipropanoate, 1,2-::Methyl acrolein::Propylene aldehyde	120	121
78-87-5	Propylene dichloride		260	261
57-55-6	Propylene Glycol		310	314
75-55-8	Propylene imine		270	274
75-56-9	Propylene oxide, 1,2-	Epoxy propane, 1,2-	270	275

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CAS Number	Chemical Name	Synonym	Class	Sub-Class
94239-04-0	Pyridene, 2-fluoro-6-(trifluoromethyl)		270	271
110-86-1	Pyridine		270	271
67-64-1	Pyroacetic ether	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
123-75-1	Pyrrolidine	Azolidine	270	274
1717-00-6	Refrigerant 141B		260	261
31218-83-4	Safrotin		460	462
107-44-8	Sarin (GB), MIL-STD-282		460	462
7803-62-5	Silane		480	480
10026-04-7	Silicon tetrachloride		360	360
10026-04-7	Silicon tetrachloride		480	480
mix	Skydrol 4D	Skydrol 4D	590	590
mix	Skydrol 5	Skydrol 5	590	590
126-73-8	Skydrol 500 B-4		460	462
mix	Skydrol PE-5	Skydrol PE-5	590	590
127-09-3	Sodium acetate		550	550
7631-90-5	Sodium bisulphite		500	507
7647-14-5	Sodium chloride		990	991
143-33-9	Sodium cyanide		340	345
7681-49-4	Sodium fluoride		340	340
1310-73-2	Sodium hydroxide	Caustic soda	380	380
7681-52-9	Sodium hypochlorite		340	340
7681-57-4	Sodium metabisulphite		340	340
124-41-4	Sodium methylate		550	550
6834-92-0	Sodium silicate		340	340
96-64-0	Soman (GD), FINABEL 0.7.C		460	462
96-64-0	Soman (GD), MIL-STD-282		460	462
mix	Spectracide® (50% Malathion, 44% Aromatic Solvent)	Spectracide® (50% Malathion, 44% Aromatic Solvent)	590	590
64-17-5	Spiritus	Ethyl alcohol::Spiritus	310	311
8052-41-3	Stoddard solvent	Low boiling point naphtha - unspecified	290	291
100-42-5	Styrene	Phenethylene::Vinyl benzol	290	292
5329-14-6	Sulfamic acid	Amido sulfonic acid::Sulfamidic acid	500	509
5329-14-6	Sulfamic acid	Amido sulfonic acid::Sulfamidic acid	370	370
5329-14-6	Sulfamidic acid	Amido sulfonic acid::Sulfamidic acid	500	509
5329-14-6	Sulfamidic acid	Amido sulfonic acid::Sulfamidic acid	370	370
7446-09-5	Sulfur dioxide		360	365
7446-09-5	Sulfur dioxide		350	350
2551-62-4	Sulfur hexafluoride		350	350
2551-62-4	Sulfur hexafluoride		500	509
10025-67-9	Sulfur monochloride	Disulphur dichloride	500	502
505-60-2	Sulfur Mustard (HD), FINABEL 0.7.C		500	502
505-60-2	Sulfur Mustard (HD), MIL-STD-282		500	502
7446-11-9	Sulfur trioxide		360	365
7664-93-9	Sulfuric acid		370	370
64-67-5	Sulfuric acid diethyl ester	Sulfuric acid diethyl ester	500	507
77-78-1	Sulfuric acid dimethyl ester	Sulfuric acid dimethyl ester	500	507

CAS Number	Chemical Name	Synonym	Class	Sub-Class
8014-95-7	Sulfuric acid fuming	Sulfuric acid fuming	370	370
10545-99-0	Sulphur dichloride	Sulphur dichloride	500	502
mix	t-Sodium-amylate / t-amyl alcohol		590	590
77-81-6	Tabun (GA), FINABEL 0.7.C		460	462
77-81-6	Tabun (GA), MIL-STD-282		460	462
75-91-2	Tert-Butyl Hydroperoxide	Tert-Butyl Hydroperoxide	300	300
75-91-2	Tert-Butyl Hydroperoxide	Tert-Butyl Hydroperoxide	300	302
13463-39-3	Tetracarbonylnickel	Tetracarbonylnickel	470	470
79-95-8	Tetrachloro bisphenol-A, 2,2',6,6'-		310	316
79-95-8	Tetrachloro bisphenol-A, 2,2',6,6'-		260	263
79-34-5	Tetrachloro ethane, 1,1,2,2,-		260	261
127-18-4	Tetrachloro ethylene, 1,1,2,2-	Ethylene tetrachloride	260	264
56-23-5	Tetrachloro methane	Tetrachloro methane	260	261
78-10-4	Tetraethoxysilane		480	480
77-98-5	Tetraethyl ammonium hydroxide		550	550
77-98-5	Tetraethyl ammonium hydroxide		150	150
78-00-2	Tetraethyl lead		470	470
112-57-2	Tetraethylene pentamine		140	148
112-57-2	Tetraethylene pentamine		140	141
811-97-2	Tetrafluoroethane, 1,1,1,2-	Norflurane	260	261
75-73-0	Tetrafluoromethane	Carbon tetrafluoride	260	261
109-99-9	Tetrahydrofuran		270	277
75-59-2	Tetramethyl ammonium hydroxide		550	550
594-27-4	Tetramethyl tin		470	470
110-18-9	Tetramethylene diamine (TMEDA)		140	148
288-47-1	Thiazol, 1,3-		270	274
68-11-1	Thioglycolic acid	Mercapto acetic acid	500	501
68-11-1	Thioglycolic acid	Mercapto acetic acid	100	103
7719-09-7	Thionyl chloride		360	360
52-24-4	Thiotepta		990	991
1118-46-3	Tin chloride, mono-n-butyl	Butyl stannium trichloride	470	470
1461-22-9	Tin chloride, tri-n-butyl		470	470
7550-45-0	Titan(IV) chloride	Titan(IV) chloride	360	360
7550-45-0	Titanium tetrachloride	Titan(IV) chloride	360	360
108-88-3	Toluene	Methyl benzol	290	292
26471-62-5	Toluene diisocyanate, 1,3-		210	212
584-84-9	Toluene diisocyanate, 2,4-		210	212
108-44-1	Tolidine, m-		140	145
95-53-4	Toluidine, o-	Methyl aniline, o-	140	145
102-82-9	Tributyl amine		140	148
102-82-9	Tributyl amine		140	143
75-94-5	Trichlor vinylsilane		480	480
76-13-1	Trichloro 1,2,2-trifluoroethane, 1,1,2-		260	261
108-77-0	Trichloro 1,3,5-triazine, 2,4,6-	Trichloro 1,3,5-triazine, 2,4,6-	260	263
108-77-0	Trichloro 1,3,5-triazine, 2,4,6-	Trichloro 1,3,5-triazine, 2,4,6-	270	274

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CAS Number	Chemical Name	Synonym	Class	Sub-Class
76-03-9	Trichloro acetic acid		100	103
921-03-9	Trichloro acetone, 1,1,3-		260	261
921-03-9	Trichloro acetone, 1,1,3-		390	391
120-82-1	Trichloro benzene, 1,2,4-		260	263
71-55-6	Trichloro ethane, 1,1,1-	Methyl chloroform::Methyl trichloromethane	260	261
79-00-5	Trichloro ethane, 1,1,2-	Ethane trichloride	260	261
115-20-8	Trichloro ethanol, 2,2,2-		310	315
79-01-6	Trichloro ethylene	Ethylene trichloride	260	264
67-66-3	Trichloro methane	Trichloro methane	260	261
98-13-5	Trichloro phenylsilane	Phenyl trichlorosilane	480	480
10025-78-2	Trichloro silane		480	480
102-71-6	Triethanolamine		140	143
97-93-8	Triethyl aluminum		470	470
121-44-8	Triethyl amine	Diethyl ethanamine, N,N-	140	143
78-40-0	Triethyl Phosphate		460	462
112-24-3	Triethylentetramine		140	141
112-24-3	Triethylentetramine		140	148
98-08-8	Trifluoromethylbenzene		260	263
382-10-5	Trifluoro 2-(trifluoromethyl)propene, 3,3,3-	Trifluoro 2-(trifluoromethyl)propene, 3,3,3-	260	261
76-05-1	Trifluoro acetic acid		260	261
76-05-1	Trifluoro acetic acid		100	103
75-89-8	Trifluoro ethanol, 2,2,2-		310	315
75-46-7	Trifluoro methane		260	261
1493-13-6	Trifluoro methansulfonic acid		500	504
75-50-3	Trimethyl amine		140	143
75-64-9	Trimethyl aminomethane	Amino 2-methylpropane, 2-::Trimethyl aminomethane	140	143
512-56-1	Trimethyl phosphate		460	462
121-45-9	Trimethyl phosphite		460	462
102-69-2	Tripropyl amine		140	143
7783-82-6	Tungsten hexafluoride		350	350
8006-64-2	Turpentine		290	296
8006-64-2	Turpentine		290	294
83016-70-0	Urethane Catalyst Alkanol		240	245
7632-51-1	Vanadium tetrachloride		360	360
2068-78-2	Vincristine sulfate		990	991
71486-22-1	Vinorelbine		990	991
108-05-4	Vinyl acetate	Acetic acid ethenyl ester	220	222
100-42-5	Vinyl benzol	Phenethylene::Vinyl benzol	290	292
107-18-6	Vinyl carbinol	Hydroxy propene::Propen 1-ol, 2-::Vinyl carbinol	310	311
75-01-4	Vinyl chloride	Chloro ethene	260	264
107-13-1	Vinyl cyanide	Cyanoethylene::Propenenitrile, 2-::Propenoic acid nitrile::Vinyl cyanide	430	431
106-99-0	Vinyl ethylene	Vinyl ethylene	290	296
3536-96-7	Vinyl magnesium chloride		470	470
100-43-6	Vinyl pyridine, 4-		270	271
88-12-0	Vinyl Pyrrolidinone		270	274

CAS Number	Chemical Name	Synonym	Class	Sub-Class
75-35-4	Vinylidene chloride	Dichloro ethylene, 1,1-	260	264
8030-30-6	VM & P Naphtha		290	291
50782-69-9	VX Nerve Agent, FINABEL 0.7.C		460	462
50782-69-9	VX Nerve Agent, MIL-STD-282		460	462
mix	White Liquor		590	590
mix	White spirit		290	291
1330-20-7	Xylene, mixed isomers		290	292
95-47-6	Xylene, o-		290	292
95-68-1	Xyldidine, 2,4-		140	145

APPENDIX
CHEMICAL INDEX - Chemical Abstract System (CAS) Number - Chemical Names and Synonyms

CAS Number	Chemical Name	Synonym	Class	Sub-Class
50-00-0	Formaldehyde	Formalin	120	121
50-00-0	Formalin	Formalin	120	121
50-00-0	Formalin		120	121
50-07-7	Mitomycin		990	991
50-18-0	Cyclo phosphamide		990	991
50-21-5	Lactic Acid		100	103
51-21-8	Fluorouracil, 5-		990	991
52-24-4	Thiotepa		990	991
54-11-5	Nicotine		270	271
56-23-5	Carbon tetrachloride	Tetrachloro methane	260	261
56-23-5	Tetrachloro methane	Tetrachloro methane	260	261
56-38-2	Ethyl parathion		460	462
56-81-5	Glycerine	Glycerine::Propane -1,2,3-triol	310	314
56-81-5	Glycerol	Glycerine::Propane -1,2,3-triol	310	314
56-81-5	Propane -1,2,3-triol	Glycerine::Propane -1,2,3-triol	310	314
57-14-7	Dimethyl hydrazine, N,N-		280	280
57-55-6	Propylene Glycol		310	314
57-74-9	Chlordane		260	261
58-89-9	Hexachloro cyclohexane, 1,2,3,4,5,6-	Hexachloro cyclohexane, 1,2,3,4,5,6-	260	261
58-89-9	Lindane	Hexachloro cyclohexane, 1,2,3,4,5,6-	260	261
59-05-2	Methotrexate		990	991
60-12-8	Phenethyl alcohol, 2-		310	318
60-24-2	Hydroxy 1-ethanethiol, 2-	Hydroxy 1-ethanethiol, 2-	500	501
60-24-2	Hydroxy 1-ethanethiol, 2-	Hydroxy 1-ethanethiol, 2-	310	311
60-24-2	Mercapto ethanol	Hydroxy 1-ethanethiol, 2-	500	501
60-24-2	Mercapto ethanol	Hydroxy 1-ethanethiol, 2-	310	311
60-29-7	Diethyl ether	Diethyl ether	240	241
60-29-7	Ethyl ether	Diethyl ether	240	241
60-34-4	Methyl hydrazine		280	280
62-53-3	Amino benzene	Amino benzene::Benzenamine::Phenyl amine	140	145
62-53-3	Aniline	Amino benzene::Benzenamine::Phenyl amine	140	145
62-53-3	Benzenamine	Amino benzene::Benzenamine::Phenyl amine	140	145
62-53-3	Phenyl amine	Amino benzene::Benzenamine::Phenyl amine	140	145
62-75-9	Dimethyl nitrosamine	Methyl N-nitrosomethanamine, N-	450	450
62-75-9	Methyl N-nitrosomethanamine, N-	Methyl N-nitrosomethanamine, N-	450	450
64-17-5	Ethanol	Ethyl alcohol::Spiritus	310	311
64-17-5	Ethyl alcohol	Ethyl alcohol::Spiritus	310	311
64-17-5	Spiritus	Ethyl alcohol::Spiritus	310	311
64-18-6	Formic acid		100	102
64-19-7	Acetic acid		100	102
64-67-5	Diethyl sulfate	Sulfuric acid diethyl ester	500	507
64-67-5	Sulfuric acid diethyl ester	Sulfuric acid diethyl ester	500	507
67-56-1	Methanol		310	311
67-63-0	Isopropanol	Isopropanol::Isopropyl alcohol	310	312
67-63-0	Isopropyl alcohol	Isopropanol::Isopropyl alcohol	310	312

CAS Number	Chemical Name	Synonym	Class	Sub-Class
67-63-0	Propan -2-ol	Isopropanol::Isopropyl alcohol	310	312
67-64-1	Acetone	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
67-64-1	Dimethyl ketal	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
67-64-1	Dimethyl ketone	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
67-64-1	Ketone propane	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
67-64-1	Methyl acetyl	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
67-64-1	Methyl ketone	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
67-64-1	Propan -2-one	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
67-64-1	Pyroacetic ether	Dimethyl ketal::Dimethyl ketone::Ketone propane::Methyl acetyl::Methyl ketone::Propan -2-one::Pyroacetic ether	390	391
67-66-3	Chloro form	Trichloro methane	260	261
67-66-3	Trichloro methane	Trichloro methane	260	261
67-68-5	Dimethyl sulfoxide		500	503
68-11-1	Mercapto acetic acid	Mercapto acetic acid	100	103
68-11-1	Mercapto acetic acid	Mercapto acetic acid	500	501
68-11-1	Thioglycolic acid	Mercapto acetic acid	500	501
68-11-1	Thioglycolic acid	Mercapto acetic acid	100	103
68-12-2	Dimethyl formamide, N,N-		130	132
71-23-8	Propan -1-ol	Propanol, 1-::Propanol, n-::Propyl alcohol	310	311
71-23-8	Propanol, 1-	Propanol, 1-::Propanol, n-::Propyl alcohol	310	311
71-23-8	Propanol, n-	Propanol, 1-::Propanol, n-::Propyl alcohol	310	311
71-23-8	Propyl alcohol	Propanol, 1-::Propanol, n-::Propyl alcohol	310	311
71-36-3	Butanol, 1-	Butanol, n-::Butyl alcohol, n-	310	311
71-36-3	Butanol, n-	Butanol, n-::Butyl alcohol, n-	310	311
71-41-0	Amyl alcohol	Amyl alcohol	310	311
71-41-0	Pentanol, 1-	Amyl alcohol	310	311
71-43-2	Benzene		290	292
71-55-6	Methyl chloroform	Methyl chloroform::Methyl trichloromethane	260	261
71-55-6	Methyl trichloromethane	Methyl chloroform::Methyl trichloromethane	260	261
71-55-6	Trichloro ethane, 1,1,1-	Methyl chloroform::Methyl trichloromethane	260	261
74-83-9	Bromo methane	Bromo methane	260	261
74-83-9	Methyl bromide	Bromo methane	260	261
74-87-3	Methyl chloride		260	261
74-88-4	Iodomethane	Iodomethane	260	261
74-88-4	Methyl iodide	Iodomethane	260	261
74-89-5	Methyl amine		140	141
74-90-8	Hydrogen cyanide		340	345
74-90-8	Hydrogen cyanide		370	370

74-90-8	Hydrogen cyanide		350	350
74-93-1	Methanethiol	Methanethiol	380	380
74-93-1	Methanethiol	Methanethiol	350	350
74-93-1	Methanethiol	Methanethiol	500	501
74-93-1	Methyl mercaptan	Methanethiol	500	501
74-93-1	Methyl mercaptan	Methanethiol	350	350
74-93-1	Methyl mercaptan	Methanethiol	380	380

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CHEMICAL INDEX - Chemical Abstract System (CAS) Number - Chemical Names and Synonyms

CAS Number	Chemical Name	Synonym	Class	Sub-Class
74-95-3	Methylene bromide		260	261
74-98-6	Propane		290	291
75-00-3	Ethyl chloride		260	261
75-01-4	Chloro ethene	Chloro ethene	260	264
75-01-4	Vinyl chloride	Chloro ethene	260	264
75-04-7	Ethyl amine		140	141
75-05-8	Acetonitrile	Cyanomethane::Ethane nitrile::Ethyl nitrile::Methyl cyanide	430	431
75-05-8	Cyanomethane	Cyanomethane::Ethane nitrile::Ethyl nitrile::Methyl cyanide	430	431
75-05-8	Ethane nitrile	Cyanomethane::Ethane nitrile::Ethyl nitrile::Methyl cyanide	430	431
75-05-8	Ethyl nitrile	Cyanomethane::Ethane nitrile::Ethyl nitrile::Methyl cyanide	430	431
75-05-8	Methyl cyanide	Cyanomethane::Ethane nitrile::Ethyl nitrile::Methyl cyanide	430	431
75-07-0	Acetaldehyde		120	121
75-08-1	Ethane thiol	Ethane thiol	500	501
75-08-1	Ethyl mercaptan	Ethane thiol	500	501
75-09-2	Dichloro methane	Methylene chloride	260	261
75-09-2	Methylene chloride	Methylene chloride	260	261
75-15-0	Carbon disulfide		500	502
75-18-3	Dimethyl sulfide		500	502
75-21-8	Epoxy ethane	Epoxy ethane	270	275
75-21-8	Ethylene oxide	Epoxy ethane	270	275
75-25-2	Bromoform		260	261
75-31-0	Amino propane, 2-	Amino propane, 2-	140	141
75-31-0	Isopropyl amine	Amino propane, 2-	140	141
75-35-4	Dichloro ethylene, 1,1-	Dichloro ethylene, 1,1-	260	264
75-35-4	Vinylidene chloride	Dichloro ethylene, 1,1-	260	264
75-36-5	Acetic chloride	Acetic chloride::Ethanoyl chloride	110	111
75-36-5	Acetyl chloride	Acetic chloride::Ethanoyl chloride	110	111
75-36-5	Ethanoyl chloride	Acetic chloride::Ethanoyl chloride	110	111
75-44-5	Phosgene		350	350
75-46-7	Trifluoro methane		260	261
75-50-3	Trimethyl amine		140	143
75-52-5	Nitro methane		440	441
75-55-8	Propylene imine		270	274
75-56-9	Epoxy propane, 1,2-	Epoxy propane, 1,2-	270	275
75-56-9	Propylene oxide, 1,2-	Epoxy propane, 1,2-	270	275
75-59-2	Tetramethyl ammonium hydroxide		550	550
75-64-9	Amino 2-methylpropane, 2-	Amino 2-methylpropane, 2-::Trimethyl aminomethane	140	143
75-64-9	Butyl amine, tert-	Amino 2-methylpropane, 2-::Trimethyl aminomethane	140	143
75-64-9	Trimethyl aminomethane	Amino 2-methylpropane, 2-::Trimethyl aminomethane	140	143
75-65-0	Butanol, tert-	Methyl propan-2-ol, 2-	310	313
75-65-0	Methyl propan-2-ol, 2-	Methyl propan-2-ol, 2-	310	313
75-73-0	Carbon tetrafluoride	Carbon tetrafluoride	260	261
75-73-0	Tetrafluoromethane	Carbon tetrafluoride	260	261
75-75-2	Methanesulphonic acid		500	504
75-78-5	Dimethyl dichlorosilane		480	480

CAS Number	Chemical Name	Synonym	Class	Sub-Class
75-79-6	Methyl trichlorosilane		480	480
75-85-4	2-Methyl-2-Butanol	2-Methyl-2-Butanol::Amyl alcohol, tert-	310	313
75-85-4	Amyl alcohol, tert-	2-Methyl-2-Butanol::Amyl alcohol, tert-	310	313
75-85-4	Pentanol, tert-	2-Methyl-2-Butanol::Amyl alcohol, tert-	310	313
75-86-5	Acetone cyanohydrin	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	310	313
75-86-5	Acetone cyanohydrin	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	430	431
75-86-5	Cyanopropan-2-ol, 2-	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	310	313
75-86-5	Cyanopropan-2-ol, 2-	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	430	431
75-86-5	Hydroxy 2-methylpropionitrile, 2-	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	310	313
75-86-5	Hydroxy 2-methylpropionitrile, 2-	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	430	431
75-86-5	Hydroxy isobutyronitrile	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	310	313
75-86-5	Hydroxy isobutyronitrile	Cyanopropan-2-ol, 2-::Hydroxy 2-methylpropionitrile, 2-::Hydroxy isobutyronitrile	430	431
75-89-8	Trifluoro ethanol, 2,2,2-		310	315
75-91-2	Tert-Butyl Hydroperoxide	Tert-Butyl Hydroperoxide	300	302
75-91-2	Tert-Butyl Hydroperoxide	Tert-Butyl Hydroperoxide	300	300
75-94-5	Trichlor vinylsilane		480	480
76-03-9	Trichloro acetic acid		100	103
76-05-1	Trifluoro acetic acid		260	261
76-05-1	Trifluoro acetic acid		100	103
76-06-2	Chlor trinitromethan	Chloro picrin::Nitro chlormethan	260	261
76-06-2	Chloro picrin	Chloro picrin::Nitro chlormethan	260	261
76-06-2	Nitro chlormethan	Chloro picrin::Nitro chlormethan	260	261
76-13-1	Trichloro 1,2,2-trifluoroethane, 1,1,2-		260	261
76-16-4	Hexafluoro ethane	Perfluoroethane	260	261
76-16-4	Perfluoroethane	Perfluoroethane	260	261
77-78-1	Dimethyl sulfate	Sulfuric acid dimethyl ester	500	507
77-78-1	Sulfuric acid dimethyl ester	Sulfuric acid dimethyl ester	500	507
77-81-6	Tabun (GA), FINABEL 0.7.C		460	462
77-81-6	Tabun (GA), MIL-STD-282		460	462
77-92-9	Citric acid	Hydroxy 1,2,3-propanetricarboxylic acid, 2-	100	104
77-92-9	Hydroxy 1,2,3-propanetricarboxylic acid, 2-	Hydroxy 1,2,3-propanetricarboxylic acid, 2-	100	104
77-98-5	Tetraethyl ammonium hydroxide		550	550
77-98-5	Tetraethyl ammonium hydroxide		150	150
78-00-2	Tetraethyl lead		470	470
78-10-4	Tetraethoxysilane		480	480
78-40-0	Triethyl Phosphate		460	462
78-83-1	Isobutanol		310	311
78-83-1	Isobutanol		310	312
78-87-5	Propylene dichloride		260	261

100% by weight permeation elements		200	201
78-88-6	Dichloro propene, 2,3-	260	261
78-93-3	Butanone	390	391
78-93-3	MEK	390	391
78-93-3	Methyl ethyl ketone	390	391
78-94-4	But-3-en-2-one	390	391
78-94-4	Methyl vinyl ketone	390	391

APPENDIX
CHEMICAL INDEX - Chemical Abstract System (CAS) Number - Chemical Names and Synonyms

CAS Number	Chemical Name	Synonym	Class	Sub-Class
78-95-5	Chloro acetone	Chloro propan-2-one, 1-	390	391
78-95-5	Chloro propan-2-one, 1-	Chloro propan-2-one, 1-	390	391
79-00-5	Ethane trichloride	Ethane trichloride	260	261
79-00-5	Trichloro ethane, 1,1,2-	Ethane trichloride	260	261
79-01-6	Ethylene trichloride	Ethylene trichloride	260	264
79-01-6	Trichloro ethylene	Ethylene trichloride	260	264
79-04-9	Chloro acetyl chloride		110	111
79-06-1	Acrylamide	Acrylicamide::Propenamide	130	135
79-06-1	Acrylamide	Acrylicamide::Propenamide	130	135
79-06-1	Propenamide	Acrylicamide::Propenamide	130	135
79-09-4	Propanoic acid		100	102
79-10-7	Acroleic acid	Acroleic acid::Ethylene carboxylic acid::Propene acid	100	102
79-10-7	Acrylic acid	Acroleic acid::Ethylene carboxylic acid::Propene acid	100	102
79-10-7	Ethylene carboxylic acid	Acroleic acid::Ethylene carboxylic acid::Propene acid	100	102
79-10-7	Propene acid	Acroleic acid::Ethylene carboxylic acid::Propene acid	100	102
79-11-8	Chloro acetic acid		100	103
79-14-1	Glycolic acid	Hydroxy acetic acid	100	103
79-14-1	Hydroxy acetic acid	Hydroxy acetic acid	100	103
79-20-9	Methyl Acetate		220	222
79-21-0	Peracetic Acid	Peracetic Acid	300	302
79-21-0	Peracetic Acid	Peracetic Acid	300	300
79-21-0	Peracetic Acid		100	102
79-21-0	Peracetic Acid		300	302
79-22-1	Methyl chloro formate		110	113
79-34-5	Tetrachloro ethane, 1,1,2,2,-		260	261
79-36-7	Dichloro acetyl chloride		110	111
79-41-4	Methacrylic acid	Methyl propenoic acid, 2-	100	102
79-41-4	Methyl propenoic acid, 2-	Methyl propenoic acid, 2-	100	102
79-46-9	Nitro propane, 2-		440	441
79-95-8	Tetrachloro bisphenol-A, 2,2',6,6'-		310	316
79-95-8	Tetrachloro bisphenol-A, 2,2',6,6'-		260	263
80-62-6	Methyl 2-methyl-2-propenoate	Methyl 2-methyl-2-propenoate	220	223
80-62-6	Methyl methacrylate	Methyl 2-methyl-2-propenoate	220	223
84-74-2	Dibutyl 1,2-benzenedicarboxylate	Dibutyl 1,2-benzenedicarboxylate	220	226
84-74-2	Dibutyl phthalate	Dibutyl 1,2-benzenedicarboxylate	220	226
87-68-3	Hexachloro butadiene		260	264
87-86-5	Pentachlorophenol		310	316
88-12-0	Vinyl Pyrrolidinone		270	274
88-72-2	Nitro tolulene, 2-		440	442
88-73-3	Chloro 2-nitrobenzene, 1-	Chloro 2-nitrobenzene, 1-	440	442
88-73-3	Chloro 2-nitrobenzene, 1-	Chloro 2-nitrobenzene, 1-	260	263
88-75-5	Hydroxy 2-nitrobenzene, 1-	Hydroxy 2-nitrobenzene, 1-	440	442
88-75-5	Hydroxy 2-nitrobenzene, 1-	Hydroxy 2-nitrobenzene, 1-	310	316
88-75-5	Nitro phenol, o-	Hydroxy 2-nitrobenzene, 1-	310	316
88-75-5	Nitro phenol, o-	Hydroxy 2-nitrobenzene, 1-	440	442

CAS Number	Chemical Name	Synonym	Class	Sub-Class
91-20-3	Naphthalene		290	293
91-66-7	Diethyl aniline crude		140	146
91-66-7	Diethyl aniline, N,N-		140	146
91-67-8	Diethyl m-toluidine, N,N-		140	145
92-67-1	Amino diphenyl, 4-		140	145
92-87-5	Benzidine	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	149
92-87-5	Benzidine	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	145
92-87-5	Biphenyl 4,4'-diamine, 1,1'-	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	145
92-87-5	Biphenyl 4,4'-diamine, 1,1'-	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	149
92-87-5	Diaminobiphenyl, 4,4'-	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	149
92-87-5	Diaminobiphenyl, 4,4'	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	145
92-87-5	Diaminodiphenyl, p-	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	145
92-87-5	Diaminodiphenyl, p-	Biphenyl 4,4'-diamine, 1,1'::Diaminobiphenyl, 4,4'::Diaminodiphenyl, p-	140	149
95-47-6	Xylene, o-		290	292
95-48-7	Cresol o-	Hydroxy toluene, o-	310	316
95-48-7	Hydroxy toluene, o-	Hydroxy toluene, o-	310	316
95-49-8	Chloro 1-methylbenzene, 2-	Chloro 1-methylbenzene, 2-	260	263
95-49-8	Chloro 1-methylbenzene, 2-	Chloro 1-methylbenzene, 2-	310	316
95-49-8	Chloro toluene, o-	Chloro 1-methylbenzene, 2-	310	316
95-49-8	Chloro toluene, o-	Chloro 1-methylbenzene, 2-	260	263
95-50-1	Dichlorobenzen, 1,2-		260	263
95-53-4	Methyl aniline, o-	Methyl aniline, o-	140	145
95-53-4	Toluidine, o-	Methyl aniline, o-	140	145
95-68-1	Xyldine, 2,4-		140	145
95-76-1	Amino 3,4-dichlorobenzene, 1-	Amino 3,4-dichlorobenzene, 1-	260	263
95-76-1	Amino 3,4-dichlorobenzene, 1-	Amino 3,4-dichlorobenzene, 1-	140	145
95-76-1	Dichloro aniline, 3,4-	Amino 3,4-dichlorobenzene, 1-	260	263
95-76-1	Dichloro aniline, 3,4-	Amino 3,4-dichlorobenzene, 1-	140	145
96-12-8	Bromo -3-chloropropane, 1,2-		260	261
96-24-2	Chloro 1,2-propanediol, 3-		310	314
96-29-7	Butanone oxime, 2-	Butanone oxime, 2-	150	150
96-29-7	Methyl ethyl ketoxime	Butanone oxime, 2-	150	150
96-33-3	Methyl acrylate		220	223
96-64-0	Soman (GD), FINABEL 0.7.C		460	462
96-64-0	Soman (GD), MIL-STD-282		460	462
97-93-8	Triethyl aluminum		470	470
97-95-0	Ethyl Butanol		310	312
98-01-1	Furaldehyde, 2-	Furaldehyde, 2-	270	277
98-01-1	Furfural	Furaldehyde, 2-	270	277
98-07-7	Benzo trichloride		260	263

SDS	Benzene chloride			
98-08-8	Trifluoromethylbenzene		260	263
98-09-9	Benzene sulfone chloride	Benzene sulfone chloride	500	505
98-09-9	Benzene sulfonyl chloride	Benzene sulfone chloride	500	505
98-13-5	Phenyl trichlorosilane	Phenyl trichlorosilane	480	480
98-13-5	Trichloro phenylsilane	Phenyl trichlorosilane	480	480

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CAS Number	Chemical Name	Synonym	Class	Sub-Class
98-51-1	P-Tert Butyl Toluene		290	292
98-56-6	Chloro benzotrifluoride, 4-		260	263
98-82-8	Cumene	Isopropyl benzene::Phenyl propane, 2-	290	292
98-82-8	Isopropyl benzene	Isopropyl benzene::Phenyl propane, 2-	290	292
98-82-8	Phenyl propane, 2-	Isopropyl benzene::Phenyl propane, 2-	290	292
98-85-1	Phenyl ethanol, 1-		310	318
98-88-4	Benzene carbonyl chloride	Benzene carbonyl chloride	110	112
98-88-4	Benzoyl chloride	Benzene carbonyl chloride	110	112
98-95-3	Nitro benzene		440	441
99-63-8	Isophthaloyldichloride		110	112
99-99-0	Nitro tolene, p-		440	442
100-00-5	Nitro chlorobenzene, p-		440	442
100-00-5	Nitro chlorobenzene, p-		260	263
100-41-4	Ethyl benzene	Phenyl ethane	290	292
100-41-4	Phenyl ethane	Phenyl ethane	290	292
100-42-5	Phenethylene	Phenethylene::Vinyl benzol	290	292
100-42-5	Styrene	Phenethylene::Vinyl benzol	290	292
100-42-5	Vinyl benzol	Phenethylene::Vinyl benzol	290	292
100-43-6	Vinyl pyridine, 4-		270	271
100-44-7	Benzyl chloride	Chloro toluene, alpha-	260	266
100-44-7	Chloro toluene, alpha-	Chloro toluene, alpha-	260	266
100-47-0	Benzo nitrile	Cyanobenzene::Phenyl cyanide	430	432
100-47-0	Cyanobenzene	Cyanobenzene::Phenyl cyanide	430	432
100-47-0	Phenyl cyanide	Cyanobenzene::Phenyl cyanide	430	432
100-51-6	Benzyl alcohol	Hydroxy toluene	310	312
100-51-6	Hydroxy tolune	Hydroxy toluene	310	312
100-52-7	Benzaldehyde	Benzaldehyde	120	122
101-14-4	Dichloro -4,4'-methylenedianiline, 2,2'	Dichloro -4,4'-methylenedianiline, 2,2'	140	149
101-14-4	Methylene bis(2-Chloroaniline), 4,4-	Dichloro -4,4'-methylenedianiline, 2,2'	140	149
101-68-8	Diphenyl methane diisocyanate, 4,4'-	Methylene diphenyl diisocyanate, 4,4'-	210	212
101-68-8	Methylene diphenyl diisocyanate, 4,4'-	Methylene diphenyl diisocyanate, 4,4'-	210	212
101-77-9	Diaminodiphenylmethane, 4,4'-	Diaminodiphenylmethane, 4,4'-	140	149
101-77-9	Diaminodiphenylmethane, 4,4'-	Diaminodiphenylmethane, 4,4'-	140	145
101-77-9	Methylene dianiline	Diaminodiphenylmethane, 4,4'-	140	145
101-77-9	Methylene dianiline	Diaminodiphenylmethane, 4,4'-	140	149
102-69-2	Tripropyl amine		140	143
102-71-6	Triethanolamine		140	143
102-82-9	Tributyl amine		140	148
102-82-9	Tributyl amine		140	143
103-67-3	Benzyl methylamine, N-	Methyl benzylamine, N-	140	146
103-67-3	Benzyl methylamine, N-	Methyl benzylamine, N-	290	292
103-67-3	Methyl benzylamine, N-	Methyl benzylamine, N-	140	146
103-67-3	Methyl benzylamine, N-	Methyl benzylamine, N-	290	292
104-49-4	Paraphenylenediphenylmethane (PPDI) crude		210	212
105-39-5	Chloroacetic ethylester		220	222

CAS Number	Chemical Name	Synonym	Class	Sub-Class
105-44-2	Methyl Isobutyl Ketoxime		150	150
106-46-7	Dichlorbenzen, 1,4-		260	263
106-47-8	Chloro aniline, p-	Chloro benzenamine, 4-	140	145
106-47-8	Chloro benzenamine, 4-	Chloro benzenamine, 4-	140	145
106-48-9	Chloro phenol, p-	Hydroxy chlorobenzene	310	316
106-48-9	Chloro phenol, p-	Hydroxy chlorobenzene	260	263
106-48-9	Hydroxy chlorobenzene	Hydroxy chlorobenzene	310	316
106-89-8	Chloro 2,3-epoxy propane, 1-	Chloro 2,3-epoxy propane, 1-	270	275
106-89-8	Chloro 2,3-epoxy propane, 1-	Chloro 2,3-epoxy propane, 1-	260	261
106-89-8	Epichlorohydrin	Chloro 2,3-epoxy propane, 1-	270	275
106-89-8	Epichlorohydrin	Chloro 2,3-epoxy propane, 1-	260	261
106-93-4	Dibromoethane, 1,2-	Dibromoethane, 1,2-	260	261
106-93-4	Ethylene dibromide	Dibromoethane, 1,2-	260	261
106-94-5	Propyl bromide, n-		260	261
106-99-0	Butadiene, 1,3-	Vinyl ethylene	290	296
106-99-0	Vinyl ethylene	Vinyl ethylene	290	296
107-02-8	Acrolein	Prop-2-en-1-al	120	121
107-02-8	Prop-2-en-1-al	Prop-2-en-1-al	120	121
107-05-1	Allyl chloride	Chlor allylene::Chlor prene, 3-	260	265
107-05-1	Chlor allylene	Chlor allylene::Chlor prene, 3-	260	265
107-05-1	Chlor prene, 3-	Chlor allylene::Chlor prene, 3-	260	265
107-06-2	Dichlorethane, 1,2-	Ethylene dichloride	260	261
107-06-2	Ethylene dichloride	Ethylene dichloride	260	261
107-07-3	Chloro ethanol, 2-	Ethylene chlorohydrin::Glycol chlorohydrin	260	261
107-07-3	Chloro ethanol, 2-	Ethylene chlorohydrin::Glycol chlorohydrin	310	315
107-07-3	Ethylene chlorohydrin	Ethylene chlorohydrin::Glycol chlorohydrin	310	315
107-07-3	Ethylene chlorohydrin	Ethylene chlorohydrin::Glycol chlorohydrin	260	261
107-07-3	Glycol chlorohydrin	Ethylene chlorohydrin::Glycol chlorohydrin	310	315
107-07-3	Glycol chlorohydrin	Ethylene chlorohydrin::Glycol chlorohydrin	260	261
107-10-8	Propyl amine, n-		140	141
107-13-1	Acrylonitrile	Cyanoethylene::Propenenitrile, 2-::Propenoic acid nitrile::Vinyl cyanide	430	431
107-13-1	Cyanoethylene	Cyanoethylene::Propenenitrile, 2-::Propenoic acid nitrile::Vinyl cyanide	430	431
107-13-1	Propenenitrile, 2-	Cyanoethylene::Propenenitrile, 2-::Propenoic acid nitrile::Vinyl cyanide	430	431
107-13-1	Propenoic acid nitrile	Cyanoethylene::Propenenitrile, 2-::Propenoic acid nitrile::Vinyl cyanide	430	431
107-13-1	Vinyl cyanide	Cyanoethylene::Propenenitrile, 2-::Propenoic acid nitrile::Vinyl cyanide	430	431
107-15-3	Diaminoethane, 1,2-	Diaminoethane, 1,2-	140	148
107-15-3	Ethylene diamine	Diaminoethane, 1,2-	140	148
107-18-6	Allyl alcohol	Hydroxy propene::Propen 1-ol, 2-::Vinyl carbinol	310	311
107-18-6	Hydroxy propene	Hydroxy propene::Propen 1-ol, 2-::Vinyl carbinol	310	311
107-18-6	Propen 1-ol, 2-	Hydroxy propene::Propen 1-ol, 2-::Vinyl carbinol	310	311

107-18-6	Vinyl carbinol	Hydroxy propene::Propen 1-ol, 2-::Vinyl carbinol	310	311
107-19-7	Prop-2-yn-1-ol	Prop-2-yn-1-ol	310	311
107-19-7	Propargyl alcohol	Prop-2-yn-1-ol	310	311
107-21-1	Ethane 1,2-diol	Ethane 1,2-diol::Glycol alcohol	310	314

APPENDIX
CHEMICAL INDEX - Chemical Abstract System (CAS) Number - Chemical Names and Synonyms

CAS Number	Chemical Name	Synonym	Class	Sub-Class
107-21-1	Ethylene glycol	Ethane 1,2-diol:Glycol alcohol	310	314
107-21-1	Glycol alcohol	Ethane 1,2-diol:Glycol alcohol	310	314
107-30-2	Chloro methyl methyl ether	Methoxy chloromethane	240	241
107-30-2	Methoxy chloromethane	Methoxy chloromethane	240	241
107-31-3	Methyl formate		220	221
107-44-8	Sarin (GB), MIL-STD-282		460	462
107-87-9	Methyl Propyl Ketone		390	391
107-92-6	Butyric Acid		100	102
108-05-4	Acetic acid ethenyl ester	Acetic acid ethenyl ester	220	222
108-05-4	Vinyl acetate	Acetic acid ethenyl ester	220	222
108-10-1	Hexone	Isobutyl methyl ketone::Methyl pentan-2-one, 4-	390	391
108-10-1	Isobutyl methyl ketone	Isobutyl methyl ketone::Methyl pentan-2-one, 4-	390	391
108-10-1	Methyl pentan-2-one, 4-	Isobutyl methyl ketone::Methyl pentan-2-one, 4-	390	391
108-21-4	Isopropyl Acetate		220	222
108-24-7	Acetic anhydride		160	161
108-31-6	Maleic anhydride		160	161
108-44-1	Toluidine, m-		140	145
108-59-8	Dimethylmalonate	Dimethylmalonate	220	224
108-59-8	Dimethylmalonate	Dimethylmalonate	220	220
108-77-0	Cyanide chloride	Trichloro 1,3,5-triazine, 2,4,6-	260	263
108-77-0	Cyanide chloride	Trichloro 1,3,5-triazine, 2,4,6-	270	274
108-77-0	Trichloro 1,3,5-triazine, 2,4,6-	Trichloro 1,3,5-triazine, 2,4,6-	260	263
108-77-0	Trichloro 1,3,5-triazine, 2,4,6-	Trichloro 1,3,5-triazine, 2,4,6-	270	274
108-83-8	Di Isobutyl Ketone	Dimethyl-4-Heptanone, 2,6-	390	391
108-83-8	Dimethyl-4-Heptanone, 2,6-	Dimethyl-4-Heptanone, 2,6-	390	391
108-88-3	Methyl benzol	Methyl benzol	290	292
108-88-3	Toluene	Methyl benzol	290	292
108-90-7	Chloro benzene	Phenyl chloride	260	263
108-90-7	Phenyl chloride	Phenyl chloride	260	263
108-93-0	Cyclohexanol	Hexalin	310	312
108-93-0	Hexalin	Hexalin	310	312
108-94-1	Cyclo hexanone	Hexanone::Pimelic ketone	390	391
108-94-1	Hexanone	Hexanone::Pimelic ketone	390	391
108-94-1	Pimelic ketone	Hexanone::Pimelic ketone	390	391
108-95-2	Phenol		310	316
108-98-5	Benzene thiol	Benzene thiol	500	501
108-98-5	Phenyl mercaptan	Benzene thiol	500	501
108-99-6	Methyl pyridine, 3-	Methyl pyridine, 3-	270	271
108-99-6	Picoline, 3-	Methyl pyridine, 3-	270	271
109-02-4	N-Methylmorpholine (NMM)		270	274
109-02-4	N-Methylmorpholine (NMM)		270	278
109-06-8	Methyl pyridine, 2-	Methyl pyridine, 2-	270	271
109-06-8	Picoline, 2-	Methyl pyridine, 2-	270	271
109-43-3	Dibutyl sebacate		220	224
109-52-4	Pentanoic acid		290	291

CAS Number	Chemical Name	Synonym	Class	Sub-Class
109-55-7	1,3-Propanediamine, N,N-Dimethyl		140	148
109-60-4	Propyl Acetate		220	222
109-61-5	Propylchloroformate		110	113
109-61-5	Propylchloroformate		220	221
109-61-5	Propylchloroformate		260	260
109-63-7	Boron fluoride ethyl ether	Boron fluoride ethyl ether::Boron trifluoride diethyl etherate	590	590
109-63-7	Boron trifluoride diethyl etherate	Boron fluoride ethyl ether::Boron trifluoride diethyl etherate	590	590
109-63-7	Boron trifluoride etherate	Boron fluoride ethyl ether::Boron trifluoride diethyl etherate	590	590
109-66-0	Pentane		290	291
109-73-9	Butyl amine		140	141
109-86-4	Ethylene glycol monomethyl ether	Ethylene glycol monomethyl ether	240	245
109-86-4	Ethylene glycol monomethyl ether	Ethylene glycol monomethyl ether	310	311
109-86-4	Methoxy ethanol, 2	Ethylene glycol monomethyl ether	240	245
109-86-4	Methoxy ethanol, 2	Ethylene glycol monomethyl ether	310	311
109-89-7	Diethyl amine	Ethyl ethanamine, N-	140	142
109-89-7	Ethyl ethanamine, N-	Ethyl ethanamine, N-	140	142
109-99-9	Tetrahydrofuran		270	277
110-00-9	Furan		270	277
110-18-9	Tetramethyleneethylene diamine (TMEDA)		140	148
110-49-6	Acetic acid 2 methoxy ethyl ester	Acetic acid 2 methoxy ethyl ester::Ethylene glycol monomethyl ether acetate	240	245
110-49-6	Ethylene glycol monomethyl ether acetate	Acetic acid 2 methoxy ethyl ester::Ethylene glycol monomethyl ether acetate	240	245
110-49-6	Methoxy ethylacetate, 2-	Acetic acid 2 methoxy ethyl ester::Ethylene glycol monomethyl ether acetate	240	245
110-54-3	Hexane, n-		290	291
110-80-5	Cellosolve acetate	Cellosolve acetate::Ethyl Cellosolve®::Ethylene glycol monoethyl ether	240	245
110-80-5	Ethoxy ethanol, 2-	Cellosolve acetate::Ethyl Cellosolve®::Ethylene glycol monoethyl ether	240	245
110-80-5	Ethyl Cellosolve®	Cellosolve acetate::Ethyl Cellosolve®::Ethylene glycol monoethyl ether	240	245
110-80-5	Ethylene glycol monoethyl ether	Cellosolve acetate::Ethyl Cellosolve®::Ethylene glycol monoethyl ether	240	245
110-82-7	Cyclo hexane		290	291
110-86-1	Pyridine		270	271
110-91-8	Diethylene imide oxide	Diethylene imide oxide	270	278
110-91-8	Diethylene imide oxide	Diethylene imide oxide	270	274
110-91-8	Morpholine	Diethylene imide oxide	270	278
110-91-8	Morpholine	Diethylene imide oxide	270	274
111-15-9	Acetic acid 2 ethoxy ethyl ester	Acetic acid 2 ethoxy ethyl ester::Ethyl glycol acetate::Ethylene glycol monoethyl ether acetate	240	245
111-15-9	Ethoxy ethylacetat	Acetic acid 2 ethoxy ethyl ester::Ethyl glycol acetate::Ethylene glycol monoethyl ether acetate	240	245
111-15-9	Ethyl glycol acetate	Acetic acid 2 ethoxy ethyl ester::Ethyl glycol acetate::Ethylene glycol monoethyl ether acetate	240	245
111-15-9	Ethylene glycol mono ethyl ether acetate	Acetic acid 2 ethoxy ethyl ester::Ethyl glycol acetate::Ethylene glycol monoethyl ether acetate	240	245

		ethyl ether acetate		
111-30-8	Glutaral	Glutaral::Pantanediol, 1,5-	120	121
111-30-8	Glutaraldehyde	Glutaral::Pantanediol, 1,5-	120	121
111-30-8	Pantanediol, 1,5-	Glutaral::Pantanediol, 1,5-	120	121
111-40-0	Diethylene triamine		140	148
111-41-1	Amino ethylethanolamine		140	142
111-41-1	Amino ethylethanolamine		310	311
111-41-1	Amino ethylethanolamine		140	148
111-42-2	Diethanolamine		140	142

APPENDIX
CHEMICAL INDEX - Chemical Abstract System (CAS) Number - Chemical Names and Synonyms

CAS Number	Chemical Name	Synonym	Class	Sub-Class
111-44-4	Dichloro ethyl ether		260	261
111-44-4	Dichloro ethyl ether		240	241
111-46-6	Diethylene Glycol		310	314
111-65-9	Octane, n-		290	291
111-69-3	Adipic acid dinitrile	Adipic acid dinitrile::Adipic acid nitrile::Adipyl dinitrile::Dicyanobutane, 1,4-	430	431
111-69-3	Adipic acid nitrile	Adipic acid dinitrile::Adipic acid nitrile::Adipyl dinitrile::Dicyanobutane, 1,4-	430	431
111-69-3	Adiponitrile	Adipic acid dinitrile::Adipic acid nitrile::Adipyl dinitrile::Dicyanobutane, 1,4-	430	431
111-69-3	Adipyl dinitrile	Adipic acid dinitrile::Adipic acid nitrile::Adipyl dinitrile::Dicyanobutane, 1,4-	430	431
111-69-3	Dicyanobutane, 1,4-	Adipic acid dinitrile::Adipic acid nitrile::Adipyl dinitrile::Dicyanobutane, 1,4-	430	431
111-76-2	Butoxy ethanol, 2-	Ethylene glycol monobutyl ether	240	245
111-76-2	Ethylene glycol monobutyl ether	Ethylene glycol monobutyl ether	240	245
111-77-3	Diethylene Glycol Monomethyl Ether		240	245
111-87-5	Octanol, n-		310	311
111-90-0	2-(2-Ethoxyethoxy) ethanol		240	245
112-07-2	Butyl Cellosolve Acetate		240	245
112-24-3	Triethylentetramine		140	141
112-24-3	Triethylentetramine		140	148
112-25-4	Ethylene Glycol Monohexyl Ether		240	245
112-34-5	2-(2-Butoxyethoxy) ethanol	Diethylene glycol monobutyl ether	240	245
112-34-5	2-(2-Butoxyethoxy) ethanol	Diethylene glycol monobutyl ether	310	311
112-34-5	Diethylene glycol monobutyl ether	Diethylene glycol monobutyl ether	240	245
112-34-5	Diethylene glycol monobutyl ether	Diethylene glycol monobutyl ether	310	311
112-35-6	Methoxytriglycerol		240	245
112-50-5	Ethoxytriglycerol		240	245
112-57-2	Tetraethylene pentamine		140	148
112-57-2	Tetraethylene pentamine		140	141
112-59-4	Hexyl Carbitol Solvent		240	245
112-80-1	Oleic Acid		100	102
115-10-6	Dimethyl ether		240	241
115-20-8	Trichloro ethanol, 2,2,2-		310	315
117-81-7	DEHP	DEHP	220	226
117-81-7	Diethyl hexyl phthalate	DEHP	220	226
119-36-8	Methyl salicylate		220	226
120-12-7	Anthracene	Anthracin	290	293
120-12-7	Anthracin	Anthracin	290	293
120-82-1	Trichloro benzene, 1,2,4-		260	263
121-44-8	Diethyl ethanamine, N,N-	Diethyl ethanamine, N,N-	140	143
121-44-8	Triethyl amine	Diethyl ethanamine, N,N-	140	143
121-45-9	Trimethyl phosphite		460	462
121-69-7	Dimethyl aniline, N,N-	Dimethyl phenylamine, N,N-	140	146
121-69-7	Dimethyl phenylamine, N,N-	Dimethyl phenylamine, N,N-	140	146
121-75-5	Malathion		460	462
122-60-1	Phenyl glycidyl ether		270	275
123-39-7	Methyl formamide, N-		130	132
123-42-2	Diacetone Alcohol		390	391

CAS Number	Chemical Name	Synonym	Class	Sub-Class
123-51-3	Isoamyl alcohol	Methyl butan-1-ol, 3-	310	312
123-51-3	Methyl butan-1-ol, 3-	Methyl butan-1-ol, 3-	310	312
123-72-8	Butanal, n-	Butyraldehyde, n-	120	121
123-72-8	Butyraldehyde, n-	Butyraldehyde, n-	120	121
123-73-9	Butenal, 2-	Butenal, 2-::Ethane diol dipropanoate, 1,2-::Methyl acrolein::Propylene aldehyde	120	121
123-73-9	Croton aldehyde	Butenal, 2-::Ethane diol dipropanoate, 1,2-::Methyl acrolein::Propylene aldehyde	120	121
123-73-9	Ethane diol dipropanoate, 1,2-	Butenal, 2-::Ethane diol dipropanoate, 1,2-::Methyl acrolein::Propylene aldehyde	120	121
123-73-9	Methyl acrolein	Butenal, 2-::Ethane diol dipropanoate, 1,2-::Methyl acrolein::Propylene aldehyde	120	121
123-73-9	Propylene aldehyde	Butenal, 2-::Ethane diol dipropanoate, 1,2-::Methyl acrolein::Propylene aldehyde	120	121
123-75-1	Azolidine	Azolidine	270	274
123-75-1	Pyrrolidine	Azolidine	270	274
123-86-4	Butyl acetate, n-		220	222
123-91-1	Dioxane, 1,4-		270	278
123-92-2	Iso Amyl Acetate		220	222
124-09-4	Hexamethylene diamine		140	148
124-40-3	Dimethyl amine		140	142
124-41-4	Sodium methylate		550	550
124-63-0	Methanesulfonyl chloride		500	505
126-73-8	Skydrol 500 B-4		460	462
127-08-2	Potassium acetate		340	340
127-09-3	Sodium acetate		550	550
127-18-4	Ethylene tetrachloride	Ethylene tetrachloride	260	264
127-18-4	Tetrachloro ethylene, 1,1,2,2-	Ethylene tetrachloride	260	264
127-19-5	Dimethyl acetamide, N,N-		130	132
140-29-4	Benzyl cyanide	Phenyl acetonitrile	430	432
140-29-4	Phenyl acetonitrile	Phenyl acetonitrile	430	432
140-31-8	Amino ethylpiperazine		140	141
140-31-8	Amino ethylpiperazine		140	148
140-31-8	Amino ethylpiperazine		270	274
140-88-5	Acrylic acid ethyl ester	Acrylic acid ethyl ester	220	223
140-88-5	Ethyl acrylate	Acrylic acid ethyl ester	220	223
141-32-2	Acrylic acid n-butyl ester	Acrylic acid n-butyl ester::Propenoic acid butyl ester, 2-	220	223
141-32-2	Butyl acrylate, n-	Acrylic acid n-butyl ester::Propenoic acid butyl ester, 2-	220	223
141-32-2	Propenoic acid butyl ester, 2-	Acrylic acid n-butyl ester::Propenoic acid butyl ester, 2-	220	223
141-43-5	Amino ethanol, 2-	Amino ethanol, 2-	140	141
141-43-5	Amino ethanol, 2-	Amino ethanol, 2-	310	311
141-43-5	Ethanol amine	Amino ethanol, 2-	140	141
141-43-5	Ethanol amine	Amino ethanol, 2-	310	311
141-78-6	Acetic acid ethyl ester	Acetic acid ethyl ester	220	222
141-78-6	Ethyl acetate	Acetic acid ethyl ester	220	222
142-82-5	Heptane		290	291
142-96-1	Butyl ether, n-		240	241
143-22-6	Butoxytriglycerol		240	245
143-33-9	Sodium cyanide		340	345
144-62-7	Ethane dioic acid	Ethane dioic acid	100	104

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CHEMICAL INDEX - Chemical Abstract System (CAS) Number - Chemical Names and Synonyms

CAS Number	Chemical Name	Synonym	Class	Sub-Class
144-62-7	Oxalic acid	Ethane dioic acid	100	104
149-57-5	Ethyl hexanoic acid		100	102
151-50-8	Potassium cyanide		340	345
151-56-4	Aziridine	Aziridine	270	274
151-56-4	Ethylene imine	Aziridine	270	274
154-93-8	Carmustine		990	991
288-47-1	Thiazol, 1,3-		270	274
302-01-2	Hydrazine		280	280
328-84-7	Benzene, Dichloro-4-Trifluoro		260	263
353-42-4	Boron trifluoride dimethyl etherate		590	590
382-10-5	Hexafluoro isobutylene	Trifluoro 2-(trifluoromethyl)propene, 3,3,3-	260	261
382-10-5	Trifluoro 2-(trifluoromethyl)propene, 3,3,3-	Trifluoro 2-(trifluoromethyl)propene, 3,3,3-	260	261
420-04-2	Cyanamide		130	132
460-00-4	Bromo 4-fluorobenzene, 1-	Bromo 4-fluorobenzene, 1-	260	263
460-00-4	Bromo fluorobenzene, 4-	Bromo 4-fluorobenzene, 1-	260	263
461-82-5	Anilin, 4-Trifluoromethoxy-		140	145
462-06-6	Fluorobenzene		260	263
501-53-1	Benzyl chloro formate		110	113
503-38-8	Diphosgene		110	113
503-38-8	Diphosgene		260	260
503-38-8	Diphosgene		220	221
504-29-0	Amino pyridine, 2-		270	271
505-60-2	Sulfur Mustard (HD), FINABEL 0.7.C		500	502
505-60-2	Sulfur Mustard (HD), MIL-STD-282		500	502
512-56-1	Trimethyl phosphate		460	462
534-07-6	Dichloro -2-propanone, 1,3-	Dichloro -2-propanone, 1,3-	390	391
534-07-6	Dichloro -2-propanone, 1,3-	Dichloro -2-propanone, 1,3-	260	261
534-07-6	Dichloro acetone, 1,3-	Dichloro -2-propanone, 1,3-	260	261
534-07-6	Dichloro acetone, 1,3-	Dichloro -2-propanone, 1,3-	390	391
534-52-1	Dinitro-o-cresol, 4,6-	Dinitro-o-cresol, 4,6-	310	316
534-52-1	Dinitro-o-cresol, 4,6-	Dinitro-o-cresol, 4,6-	440	442
534-52-1	Dinitrocresol	Dinitro-o-cresol, 4,6-	440	442
534-52-1	Dinitrocresol	Dinitro-o-cresol, 4,6-	310	316
541-25-3	Lewisite (L), FINABEL 0.7.C		470	470
541-25-3	Lewisite (L), MIL-STD-282		470	470
541-41-3	Ethylchloroformate		220	221
541-41-3	Ethylchloroformate		260	260
541-41-3	Ethylchloroformate		110	113
541-73-1	Dichlorbenzen, 1,3-		260	263
542-75-6	Dichloro propene, 1,3-		260	261
563-80-4	Methyl Isopropyl Ketone		390	391
584-08-7	Potassium carbonate		340	340
584-84-9	Toluene diisocyanate, 2,4-		210	212
592-34-7	Butylchloroformate		110	113
592-34-7	Butylchloroformate		260	260

CAS Number	Chemical Name	Synonym	Class	Sub-Class
592-34-7	Butylchloroformate		220	221
592-41-6	Hexene		290	294
593-53-3	Methyl fluoride		260	261
593-74-8	Dimethyl mercury in decane		470	470
594-27-4	Tetramethyl tin		470	470
594-45-6	Ethansulphonic acid		500	504
616-47-7	Methyl imidazole, 1-		270	274
624-48-6	Dimethyl maleate		220	224
624-49-7	Dimethyl fumarate		220	224
624-83-9	Methyl isocyanate		210	211
628-63-7	Acetic acid pentyl ester::Amyl ester acetic acid::Pentyl acetate		220	222
628-63-7	Amyl acetate, n-		220	222
628-63-7	Amyl ester acetic acid		220	222
628-63-7	Pentyl acetate		220	222
628-76-2	Dichloropentane		260	261
630-08-0	Carbon monoxide		350	350
755-95-3	Diiodo-1,1,2,2-tetrafluorobutane, 1,4-		260	261
756-79-6	Dimethyl Methyl Phosphonate		460	462
811-97-2	Norflurane		260	261
811-97-2	Tetrafluoroethane, 1,1,1,2-		260	261
814-68-6	Acryloyl Chloride		110	111
818-61-1	Ethylene glycol acrylate		220	223
822-06-0	Hexamethylene diisocyanate		210	211
872-50-4	Methyl 2-pyrrolidon, N-		130	132
920-37-6	Chloro acrylonitrile, 2-		260	264
920-37-6	Chloro acrylonitrile, 2-		430	431
921-03-9	Trichloro acetone, 1,1,3-		390	391
921-03-9	Trichloro acetone, 1,1,3-		260	261
927-68-4	Bromoethyl Acetate, 2-		220	222
927-68-4	Bromoethyl Acetate, 2-		260	261
999-97-3	Hexamethyl disilazane	Hexamethyl disilazane, 1,1,1,3,3,3-	480	480
999-97-3	Hexamethyl disilazane, 1,1,1,3,3,3-	Hexamethyl disilazane, 1,1,1,3,3,3-	480	480
1003-09-4	Brom thiophene, 2-		500	509
1118-46-3	Butyl stannium trichloride	Butyl stannium trichloride	470	470
1118-46-3	Tin chloride, mono-n-butyl	Butyl stannium trichloride	470	470
1310-58-3	Potassium hydroxide		380	380
1310-65-2	Lithium hydroxide		380	380
1310-73-2	Caustic soda		380	380
1310-73-2	Sodium hydroxide		380	380
1313-82-2	Disodium sulfide		340	340
1319-77-3	Cresols, mixed isomers	Cresylic acid::Methyl phenols	310	316
1319-77-3	Cresylic acid	Cresylic acid::Methyl phenols	310	316
1319-77-3	Methyl phenols	Cresylic acid::Methyl phenols	310	316
1321-74-0	Divinyl Benzene		290	292
1330-20-7	Xylene, mixed isomers		290	292

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CHEMICAL INDEX - Chemical Abstract System (CAS) Number - Chemical Names and Synonyms

CAS Number	Chemical Name	Synonym	Class	Sub-Class
1333-82-0	Chromic acid (CrO3)		370	370
1333-82-0	Chromic acid (H2SO4 x CrO3)		370	370
1336-21-6	Ammonium hydroxide	Caustic ammonia	380	380
1336-21-6	Caustic ammonia	Caustic ammonia	380	380
1338-23-4	Methyl Ethyl Ketone Peroxide	Methyl Ethyl Ketone Peroxide	300	300
1338-23-4	Methyl Ethyl Ketone Peroxide	Methyl Ethyl Ketone Peroxide	300	302
1341-49-7	Ammonium bifluoride	Ammonium hydrogendifluoride	350	350
1341-49-7	Ammonium bifluoride	Ammonium hydrogendifluoride	340	340
1341-49-7	Ammonium hydrogendifluoride	Ammonium hydrogendifluoride	350	350
1341-49-7	Ammonium hydrogendifluoride	Ammonium hydrogendifluoride	340	340
1461-22-9	Tin chloride, tri-n-butyl		470	470
1493-13-6	Trifluoro methansulfonic acid		500	504
1552-12-1	Cyclo octadiene		290	296
1569-01-3	Propoxypropanol		240	245
1634-04-4	Methoxy 2-methylpropane, 2-	Methoxy 2-methylpropane, 2-	240	241
1634-04-4	Methyl tert-butyl ether	Methoxy 2-methylpropane, 2-	240	241
1658-42-0	Methyl -2-pyridyl acetate		220	222
1675-54-3	Bis (4-(2,3-epoxypropoxy)phenyl)propane::Isopropylidenediphenol diglycidyl ether, 4,4'-	Bis (4-(2,3-epoxypropoxy)phenyl)propane::Isopropylidenediphenol diglycidyl ether, 4,4'-	270	275
1675-54-3	Bis phenol A diglycidyl ether	Bis (4-(2,3-epoxypropoxy)phenyl)propane::Isopropylidenediphenol diglycidyl ether, 4,4'-	270	275
1675-54-3	Isopropylidenediphenol diglycidyl ether, 4,4'-	Bis (4-(2,3-epoxypropoxy)phenyl)propane::Isopropylidenediphenol diglycidyl ether, 4,4'-	270	275
1717-00-6	Refrigerant 141B		260	261
1761-71-3	Methenyl Isocyclohexylamine, 4,4-		140	148
1885-14-9	Phenyl chlor formiate		220	221
2062-98-8	Perfluoro 2-propoxy propionyl fluoride		110	111
2062-98-8	Perfluoro 2-propoxy propionyl fluoride		240	241
2062-98-8	Perfluoro 2-propoxy propionyl fluoride		260	261
2068-78-2	Vincristine sulfate		990	991
2551-62-4	Sulfur hexafluoride		500	509
2551-62-4	Sulfur hexafluoride		350	350
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	270	274
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	390	390
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	390	391
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	500	509
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	500	500
2634-33-5	Benzisothiazol, 1,2-	Benzisothiazol, 1,2-	270	270
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	390	391
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	270	270
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	500	509
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	270	274
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	500	500
2682-20-4	2-Methyl-4-isothiazolin-3-one	2-Methyl-4-isothiazolin-3-one	390	390
2807-30-9	Propyl Cellosolve, n-		240	245
3173-53-3	Cyclo hexyl isocanyte		210	211
3536-96-7	Vinyl magnesium chloride		470	470
3778-73-2	Ifosfamide		990	991

CAS Number	Chemical Name	Synonym	Class	Sub-Class
4109-96-0	Dichloro silane		480	480
4553-62-2	Methyl 1,5-pentanedinitrite, 2-		430	431
4635-87-4	Pentene nitrile, 3-		430	431
5216-25-1	Chloro benzotrichloride, 4-		260	263
5329-14-6	Amido sulfonic acid	Amido sulfonic acid:Sulfamic acid	370	370
5329-14-6	Amido sulfonic acid	Amido sulfonic acid:Sulfamic acid	500	509
5329-14-6	Sulfamic acid	Amido sulfonic acid:Sulfamic acid	370	370
5329-14-6	Sulfamic acid	Amido sulfonic acid:Sulfamic acid	500	509
5329-14-6	Sulfamic acid	Amido sulfonic acid:Sulfamic acid	370	370
5329-14-6	Sulfamic acid	Amido sulfonic acid:Sulfamic acid	500	509
5394-63-8	Diketene Acetone		390	391
5394-63-8	Diketene Acetone		270	278
5989-27-5	Limonene d-	Methyl 4-isopropenyl-1-cyclohexene, 1-	290	296
5989-27-5	Methyl 4-isopropenyl-1-cyclohexene, 1-	Methyl 4-isopropenyl-1-cyclohexene, 1-	290	296
6092-54-2	Hexyl chloro formate, 2-		220	221
6303-21-5	Hypophosphorus acid	Phosphinic acid	370	370
6303-21-5	Phosphinic acid	Phosphinic acid	370	370
6834-92-0	Sodium silicate		340	340
6881-94-3	Diethylene Glycol Monopropyl Ether		240	245
7087-68-5	Diisopropylethylamine (DIPEA)		140	141
7439-97-6	Mercury		330	330
7446-09-5	Sulfur dioxide		350	350
7446-09-5	Sulfur dioxide		360	365
7446-11-9	Sulfur trioxide		360	365
7447-41-8	Lithium chloride		340	340
7452-59-7	Octyl chlor formate		110	113
7452-59-7	Octyl chlor formate		220	221
7487-94-7	Mercuric II chloride		340	340
7550-45-0	Titan(IV) chloride	Titan(IV) chloride	360	360
7550-45-0	Titanium tetrachloride	Titan(IV) chloride	360	360
7553-56-2	Iodine		330	330
7601-90-3	Perchloric acid		370	370
7631-90-5	Sodium bisulphite		500	507
7632-51-1	Vanadium tetrachloride		360	360
7637-07-2	Boron trifluoride		360	360
7637-07-2	Boron trifluoride		350	350
7647-01-0	Hydrochloric acid		370	370
7647-01-0	Hydrogen chloride		370	370
7647-01-0	Hydrogen chloride		350	350
7647-14-5	Sodium chloride		990	991
7647-18-9	Antimony pentachloride	Pentachloroantimony	360	360
7647-18-9	Pentachloroantimony	Pentachloroantimony	360	360
7664-38-2	Phosphoric acid		370	370
7664-39-3	Hydrofluoric acid		350	350
7664-39-3	Hydrofluoric acid		370	370

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CHEMICAL INDEX - Chemical Abstract System (CAS) Number - Chemical Names and Synonyms

CAS Number	Chemical Name	Synonym	Class	Sub-Class
7664-39-3	Hydrogen fluoride		370	370
7664-39-3	Hydrogen fluoride		350	350
7664-41-7	Ammonia		350	350
7664-41-7	Ammonia		380	380
7664-41-7	Ammonia	30081410	350	350
7664-41-7	Ammonia	30081410	380	380
7664-93-9	Sulfuric acid		370	370
7681-49-4	Sodium fluoride		340	340
7681-52-9	Sodium hypochlorite		340	340
7681-57-4	Sodium metabisulphite		340	340
7697-37-2	Nitric acid		370	370
7705-08-0	Ferric (III) chloride		340	340
7719-09-7	Thionyl chloride		360	360
7719-12-2	Phosphorus trichloride		360	360
7722-64-7	Potassium permanganate		340	340
7722-84-1	Hydrogen peroxide		300	301
7726-95-6	Bromine		330	330
7758-94-3	Ferric (II) chloride		340	340
7782-41-4	Fluorine		350	350
7782-50-5	Chlorine		350	350
7782-50-5	Chlorine		330	330
7783-06-4	Hydrogen sulfide		350	350
7783-06-4	Hydrogen sulfide		500	502
7783-07-5	Hydrogen selenide		350	350
7783-54-2	Nitrogen trifluoride		350	350
7783-82-6	Tungsten hexafluoride		350	350
7784-34-1	Arsenic (III) chloride	Arsenic trichloride	340	340
7784-34-1	Arsenic trichloride	Arsenic trichloride	340	340
7784-42-1	Arsine		350	350
7789-00-6	Potassium chromate		340	340
7789-21-1	Fluorosulfonic acid		370	370
7790-91-2	Chlorine trifluoride		350	350
7790-94-5	Chlorosulfonic acid		500	504
7790-94-5	Chlorosulfonic acid		370	370
7803-51-2	Phosphine		350	350
7803-62-5	Silane		480	480
8001-58-9	Creosote		310	316
8002-05-9	Crude oil, California	Mineral oil	290	294
8002-05-9	Crude oil, California	Mineral oil	290	291
8006-64-2	Turpentine		290	296
8006-64-2	Turpentine		290	294
8007-56-5	Aqua regia	Aqua regia	370	370
8007-56-5	Nitrohydrochloric Acid	Aqua regia	370	370
8008-20-6	Kerosene		290	291
8012-95-1	Mineral oil		290	291

CAS Number	Chemical Name	Synonym	Class	Sub-Class
8014-95-7	Oleum	Sulfuric acid fuming	370	370
8014-95-7	Sulfuric acid fuming	Sulfuric acid fuming	370	370
8030-30-6	VM & P Naphtha		290	291
8032-32-4	Naphtha		290	292
8052-41-3	Low boiling point naphtha - unspecified	Low boiling point naphtha - unspecified	290	291
8052-41-3	Stoddard solvent	Low boiling point naphtha - unspecified	290	291
9016-87-9	Poly(methylene polyphenyle isocyanate (p-MDI)		210	212
10024-97-2	Nitrous oxide		350	350
10025-67-9	Disulphur dichloride	Disulphur dichloride	500	502
10025-67-9	Sulfur monochloride	Disulphur dichloride	500	502
10025-78-2	Trichloro silane		480	480
10025-87-3	Phosphorus oxychloride		360	360
10026-04-7	Silicon tetrachloride		480	480
10026-04-7	Silicon tetrachloride		360	360
10034-85-2	Hydriodic acid		370	370
10035-10-6	Hydrobromic acid		370	370
10035-10-6	Hydrogen bromide		370	370
10035-10-6	Hydrogen bromide		350	350
10102-43-9	Nitric oxide		350	350
10102-44-0	Nitrogen Dioxide (liquid)	Nitrogen Dioxide (liquid)	350	350
10102-44-0	Nitrogen dioxide		350	350
10112-91-1	Calomel	Calomel	340	340
10112-91-1	Mercuric I chloride	Calomel	340	340
10217-52-4	Hydrazine hydrate		280	280
10294-34-5	Boron trichloride		350	350
10294-34-5	Boron trichloride		360	360
10544-72-6	Nitrogen tetroxide		350	350
10545-99-0	Chlorine sulfide	Sulphur dichloride	500	502
10545-99-0	Sulphur dichloride	Sulphur dichloride	500	502
11097-69-1	PCB 1254		260	263
12125-01-8	Ammonium fluoride		340	340
12125-02-9	Ammonium chloride		340	340
13284-42-9	Pentene nitrile, 2-		430	431
13360-57-1	Diamino sulfo chloride		260	261
13463-39-3	Nickel carbonyl	Tetracarbonylnickel	470	470
13463-39-3	Tetracarbonylnickel	Tetracarbonylnickel	470	470
13831-31-7	Acetoxyacetyl Chloride		110	111
15520-10-2	Dytek® A		140	148
15663-27-1	Cisplatin		990	991
16752-77-5	Methomyl		230	233
16872-11-0	Fluoroboric acid		370	370
16961-83-4	Fluorosilicic acid		370	370
19287-45-7	Diborane		350	350
24991-55-7	Polyethylene glycol dimethyl ether		240	245
25136-40-9	Doxorubicin HCl		990	991

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CAS Number	Chemical Name	Synonym	Class	Sub-Class
25340-17-4	Diethyl benzene		290	292
25899-50-7	Pentene nitrile, cis-2-		430	431
26471-62-5	Toluene diisocyanate, 1,3-		210	212
29911-27-1	Dipropylene Glycol Monopropyl Ether		240	245
29911-28-2	Butyl Dipropasol Solvent		240	245
29921-57-1	Isopropyl bromoacetate		260	260
29921-57-1	Isopropyl bromoacetate		220	222
29921-57-1	Isopropyl bromoacetate		110	110
30894-74-7	Dichloro-6-isopropyl-S-triazine, 2,4-		270	274
31218-83-3	Safrotin		460	462
33069-62-4	Paclitaxel (Hospira)		990	991
33419-42-0	Etoposide (Toposar®, Teva)		990	991
41575-94-4	Carboplatin		990	991
50782-69-9	VX Nerve Agent, FINABEL 0.7.C		460	462
50782-69-9	VX Nerve Agent, MIL-STD-282		460	462
50815-00-4	JP-4 Jet Fuel		290	291
52583-42-3	Nitric acid, red fuming		370	370
63121-00-6	Oxaliplatin		990	991
64475-85-0	Mineral spirit		290	291
68334-30-5	Diesel fuel		290	291
68476-30-2	Fuel-oil no 2		290	291
68956-56-9	Citrus Terpenes Mixture		140	148
71486-22-1	Vinorelbine		990	991
82410-32-0	Ganciclovir		990	991
83016-70-0	Urethane Catalyst Alkanol		240	245
86290-81-5	Gasoline, unleaded		290	291
94114-58-6	JP-8 Jet Fuel		290	291
94239-04-0	Pyridene, 2-fluoro-6-(trifluoromethyl)		270	271
95058-81-4	Gemcitabine		990	991
97697-37-4	Nitric/Hydrofluoric Pickling Solution		370	370
100286-90-6	Irinotecan		990	991
308066-70-8	Gasoline, unleaded E10 (87 Octane)		290	291
mix	Black Liquor		590	590
mix	Chemguard S-764P14A	Chemguard S-764P14A	590	590
mix	Chemidize 727 ND		590	590
mix	Dahlgren Decon solution	Dahlgren Decon solution	590	590
mix	Diesel Fuel Grade D-2		290	290
mix	Diesel automotive test fuel		290	291
mix	Dowtherm Heat Transfer Fluid	Dowtherm Heat Transfer Fluid	590	590
mix	DuPont Activator 193S		590	590
mix	DuPont Activator 4505S		590	590
mix	DuPont Activator 4507S		590	590
mix	Gasoline, leaded		290	291
mix	Green Liquor		590	590
mix	PCB		260	263

CAS Number	Chemical Name	Synonym	Class	Sub-Class
mix	PCB in transformer oil		260	263
mix	Skydrol 4D	Skydrol 4D	590	590
mix	Skydrol 5	Skydrol 5	590	590
mix	Skydrol PE-5	Skydrol PE-5	590	590
mix	Spectracide® (50% Malathion, 44% Aromatic Solvent)	Spectracide® (50% Malathion, 44% Aromatic Solvent)	590	590
mix	White Liquor		590	590
mix	White spirit		290	291
mix	m-Cresol 55%, p-Cresol 30%, Phenol 15%		310	316
mix	t-Sodium-amylate / t-amyl alcohol		590	590