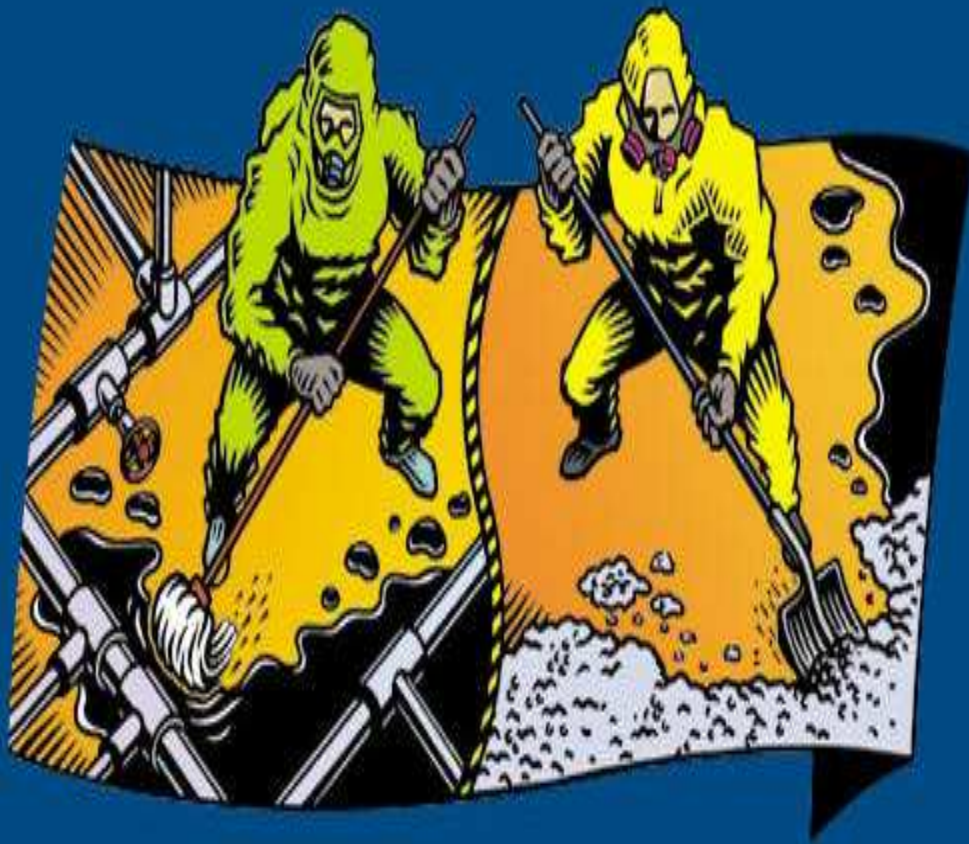


Tychem®

UNMATCHED DEFENSE AGAINST HAZARDOUS CHEMICALS

2003 Permeation Guide for Selected Tychem Fabrics

Effective January 2003



 **Lakeland**


Tychem

Permeation Guide for Selected DuPont™ Tychem® Fabrics

Fabrics Included:

- Tychem® QC
- Tychem® SL
- Tychem® F
- Tychem® 7500
- Tychem® BR
- Tychem® TK

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How to Use these Permeation Data Tables

1. Locate the desired chemical in the **Chemical Index**.

The **Chemical Index** is presented in two ways:

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

For each chemical, the following information is listed.

- Chemical name
- Chemical subclass number(s)
- CAS number
- Chemical name used in data table if name listed is a synonym

2. Locate the subclass(es) of the chemical in the permeation data tables.
3. Find the chemical name under its sub-class(es) and read across to find the permeation test results for the chemical.
4. For chemicals not tested, the chemical subclass number is provided so users may view test results for tested chemicals in that subclass. Prediction of chemical resistance of a material from data on other chemicals has not been successful. However, when data is unavailable, information on related chemicals within a sub-class may at least rank alternative chemical protective materials as to their probable chemical resistance.

Caution:

This information is based upon technical data that DuPont believes to be reliable. It is subject to revision as additional knowledge and experience are gained. DuPont makes no guarantee of results and assumes no obligation or liability in connection with this information.

It is the user's responsibility to determine the level of toxicity and the proper personal protective equipment needed. 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.

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. Please contact the garment manufacturer for specific data. If fabric becomes torn, abraded or punctured, end user should discontinue use of garment to avoid potential exposure to chemical.

SINCE CONDITIONS OF USE ARE OUTSIDE OUR CONTROL, WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE AND ASSUME NO LIABILITY IN CONNECTION WITH ANY USE OF THIS INFORMATION

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

Warning:

- Tychem® fabrics should not be used around heat, flames, sparks, or potentially explosive environments.
 - Tychem® fabrics should have slip resistant or antislip materials on the outer surface of boots, shoe covers or other garment surfaces where slipping could occur.
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Tyvek® and Tychem® are registered trademarks of E. I. du Pont de Nemours and Company.

Independent Testing

All permeation tests are conducted for DuPont by independent accredited testing laboratories. Except for the chemical warfare agents, all results are based on ASTM F739, "Test Method for Resistance of Protective Clothing Materials to Permeation by Liquids or Gases under Continuous Contact. Chemical warfare agents are tested using MIL-STD282.

All tests were conducted at room temperature unless otherwise noted. Copies of individual reports are available by calling 1-800-645-9291.

What is Permeation?

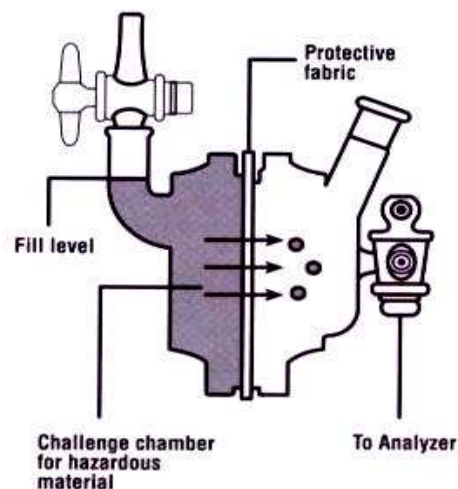
Permeation is a difficult concept to grasp because it can't be seen and does not require a hole in the barrier. It occurs when a chemical is absorbed until it saturates the barrier and then desorbs, or diffuses, from the opposite surface.

You may have experienced permeation firsthand if you stepped in gasoline at a filling station. If you noticed the odor of gasoline in your car as you drove away you experienced two of the three steps involved in permeation - absorption and desorption. The soles of your shoes absorbed some gasoline, then you smelled it as it desorbed from the bottom surface of your shoe. If you had stood in the gasoline long enough, the sole of your shoe would have become saturated with gasoline and the vapors would have started to desorb inside your shoe.

When it comes to hazardous liquids, vapors or gases, permeation testing is required.

How Permeation Tests Are Conducted

Permeation tests are conducted following the 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 protective clothing fabric and is detected on the inside surface of the fabric, it is said to have permeated the fabric.



ASTM F739 Test Cell

Definitions of Terms for ASTM F739

Permeation rate:

The rate at which the challenge chemical permeates the fabric. In these tables, the permeation rate reflects the steady state rate when chemical contact is continuous and all forces affecting permeation have reached equilibrium.

Minimum Detectable Permeation Rate (MDPR):

The minimum permeation rate that can be detected during a permeation test. MDPR is a function of the sensitivity of the analytical measurement technique, the volume into which the permeant is collected, and sampling time. Minimum detectable permeation rates as low as 0.001 $\mu\text{g}/\text{cm}^2/\text{minute}$ are possible for many chemicals.

Actual breakthrough time:

The time between initial contact of the chemical with the outside surface of the fabric and the detection of permeation.

An actual breakthrough time of >480 does not mean there was no breakthrough. It means that permeation was not detected. Permeation may have occurred, but at a rate less than the minimum detectable permeation rate (MDPR).

Standardized breakthrough time:

The time at which permeation rate reaches 0.1 $\mu\text{g}/\text{cm}^2/\text{min}$.

Standardized breakthrough times are used in this table. They are used for fabric comparison because they eliminate test sensitivity issues.

A standardized breakthrough time of >480 minutes does not mean there was not permeation; it means that the rate of permeation did not exceed 0.1 $\mu\text{g}/\text{cm}^2/\text{min}$ during the 8-hour test. When the permeation exceeds 0.1 $\mu\text{g}/\text{cm}^2/\text{min}$ in the first 10 minutes of testing, DuPont chooses to report the breakthrough time as immediate.

Results of permeation tests are variable. The results reported here are averages of three or more separate tests. Users should not be misled in assuming these breakthrough times and permeation rates are exact. This variability should be taken into account in material selection. (See ASTM F739.)

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

CAS: Chemical Abstract System

N/A: Not applicable

Permeation Guide for Selected DuPont™ Tychem® Fabrics
CHEMICAL CLASS & SUBCLASS LISTING*

100 Carboxylic acids

- 102 Aliphatic and Alicyclic, Unsubstituted
- 103 Aliphatic and Alicyclic, Substituted
- 104 Aliphatic and Alicyclic, Polybasic

110 Acid Halides, Carboxylic

- 111 Aliphatic and Alicyclic
- 112 Aromatic
- 113 Chloroformates

120 Aldehydes

- 121 Aliphatic and Alicyclic
- 122 Aromatic

130 Amides

- 132 Aliphatic and Alicyclic
- 135 Acrylamides

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

160 Anhydrides

- 161 Aliphatic and Alicyclic

210 Isocyanates

- 211 Aliphatic and Alicyclic
- 212 Aromatic

220 Carboxylic Esters

- 222 Acetates
- 223 Acrylates and Methacrylates
- 224 Aliphatic, Others
- 225 Lactones
- 226 Benzoates and Phthalates

230 Non-Carboxylic Esters

- 233 Carbamates and Others

240 Ethers

- 241 Aliphatic and Alicyclic
- 245 Glycol Ethers

260 Halogen Compounds

- 261 Aliphatic and Alicyclic
- 263 Aromatic
- 264 Vinylic
- 265 Alylic
- 266 Benzylic

270 Heterocyclic Compounds

- 271 Nitrogen, Pyridines
- 274 Nitrogen, Others
- 275 Oxygen, Epoxides
- 277 Oxygen, Furans
- 278 Oxygen, Others

280 Hydrazines

290 Hydrocarbons

- 291 Aliphatic and Alicyclic, Saturated
- 292 Aromatic
- 293 Aromatic Polynuclear
- 294 Aliphatic and Alicyclic, Unsaturated
- 296 Polyenes

300 Peroxides

310 Hydroxylic Compounds

- 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
- 316 Aromatic, Phenols
- 318 Aromatic, Others

330 Elements

340 Inorganic Salts (Solutions)

345 Inorganic Cyano Compounds

350 Inorganic Gases and Vapors

360 Inorganic Acid Halides

365 Inorganic Acid Oxides

370 Inorganic Acids

380 Inorganic Bases

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 (Solutions)

590 Miscellaneous (Not classified)

595 Chemical Warfare Agents

*Partial list based on ASTM F1186. A complete copy of ASTM F1186 may be purchased from ASTM.

CHEMICAL INDEX - Alphabetical Listing - Chemical Names and Synonyms

The Permeation Data Table shows test results for certain tested (**T**) chemicals in associated subclasses as defined in ASTM F1186. For chemicals not tested (**nt**), the chemical subclass number is provided so users may view test results for tested chemicals in that subclass. Prediction of chemical resistance of a material from data on other chemicals has not been successful. However, when data is unavailable, information on related chemicals within a sub-class may at least rank alternative chemical protective materials as to their probable chemical resistance.

| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|---------------------------|---------------------------------|-------------|-----------|-----------|---------|
| Acetaldehyde | | 75-07-0 | 120 | 121 | T |
| Acetamide | | 60-35-5 | 130 | 132 | nt |
| Acetic acid | | 64-19-7 | 100 | 102 | T |
| Acetic anhydride | | 108-24-7 | 160 | 161 | T |
| Acetone | | 67-64-1 | 390 | 391 | T |
| Acetone cyanohydrin | | 75-86-5 | 310 / 430 | 313 / 431 | T |
| Acetonitrile | | 75-05-8 | 430 | 431 | T |
| Acetophenone | | 98-86-2 | 390 | 392 | nt |
| Acetoxyethane | Ethyl acetate | 141-78-6 | 220 | 222 | T |
| Acetyl bromide | | 506-96-7 | 110 | 111 | T |
| Acetyl chloride | | 75-36-5 | 110 | 111 | T |
| Acetylene dichloride | trans-1,2-Dichloroethylene | 156-60-5 | 260 | 261 | T |
| Acridine | | 260-94-6 | 290 | 293 | nt |
| Acrolein | | 107-02-8 | 120 | 121 | T |
| Acrylamide | | 79-06-1 | 130 | 135 | T |
| Acrylic acid | | 79-10-7 | 100 | 102 | T |
| Acrylic acid butyl ester | n-Butyl acrylate | 141-32-2 | 220 | 223 | T |
| Acrylic acid ethyl ester | Ethyl acrylate | 140-88-5 | 220 | 223 | T |
| Acrylic acid methyl ester | Methyl acrylate | 96-33-3 | 220 | 223 | T |
| Acrylonitrile | | 107-13-1 | 430 | 431 | T |
| Adipic acid | | 124-04-9 | 100 | 104 | nt |
| Adiponitrile | | 111-69-3 | 430 | 431 | T |
| AFFF | | 191681-14-8 | 590 | 590 | nt |
| Allyl alcohol | | 107-18-6 | 310 | 311 | T |
| Allylamine | | 107-11-9 | 140 | 141 | nt |
| Allyl bromide | | 106-95-6 | 260 | 265 | nt |
| Allyl chloride | | 107-05-1 | 260 | 265 | T |
| Allyl glycidyl ether | | 106-92-3 | 270 | 275 | nt |
| Aluminum chloride | | 7446-70-0 | 360 | 360 | nt |
| Aluminum fluoride | | 7784-18-1 | 360 | 360 | nt |
| Aluminum hydroxide | | 21645-51-2 | 380 | 380 | nt |
| Aluminum nitrate | | 13473-90-0 | 340 | 340 | nt |
| Aluminum phosphate | | 7784-30-7 | 340 | 340 | nt |
| Aluminum sulfate | | 10043-01-3 | 340 | 340 | nt |
| Aluminum sulfate hydrate | | 17927-65-0 | 340 | 340 | nt |
| Aminobutane | sec-Butylamine | 13952-84-6 | 140 | 141 | nt |
| 2-Aminoethanol | Ethanolamine | 141-43-5 | 140 / 310 | 141 / 311 | T |
| 2-Aminopropane | Isopropylamine | 75-31-0 | 140 | 141 | T |
| 2-Aminopyridine | | 504-29-0 | 270 | 271 | T |
| Ammonia gas | | 7664-41-7 | 350 | 350 | T |
| Ammonia liquid | | 7664-41-7 | 350 / 380 | 350 / 380 | T |
| Ammonia solution | Ammonium hydroxide | 1336-21-6 | 380 | 380 | T |

CHEMICAL INDEX - Alphabetical Listing - Chemical Names and Synonyms

| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|--------------------------------|---------------------------------|------------|-----------|-----------|---------|
| Ammonium acetate | | 631-61-8 | 340 | 340 | nt |
| Ammonium chloride | | 12125-02-9 | 340 | 340 | nt |
| Ammonium fluoride | | 12125-01-8 | 340 | 340 | T |
| Ammonium hydroxide | | 1336-21-6 | 380 | 380 | T |
| Ammonium sulfate | | 7783-20-2 | 340 | 340 | nt |
| Ammonium sulfide | | 12135-76-1 | 340 | 340 | nt |
| n-Amyl acetate | | 628-63-7 | 220 | 222 | T |
| Iso-amyl alcohol | Isoamyl alcohol | 123-51-3 | 310 | 312 | T |
| Aniline | | 62-53-3 | 140 | 145 | T |
| Anisoyl chloride | | 100-07-2 | 110 / 240 | 112 / 243 | nt |
| Anthracene | | 120-12-7 | 290 | 293 | T |
| Antimony pentachloride | | 7647-18-9 | 360 | 360 | T |
| Antimony pentafluoride | | 7783-70-2 | 360 | 360 | nt |
| Antimony trichloride | | 10025-91-9 | 340 | 340 | nt |
| Arsenic acid | | 7778-39-4 | 370 | 370 | nt |
| Arsenic pentoxide | | 1303-28-2 | 365 | 365 | nt |
| Arsenic trichloride | | 7784-34-1 | 340 | 340 | nt |
| Arsenic trioxide | | 1327-53-3 | 365 | 365 | nt |
| Arsine | | 7784-42-1 | 350 | 350 | T |
| Azinphos | Azinphos ethyl | 2642-71-9 | 460 | 462 | nt |
| Azinphos ethyl | | 2642-71-9 | 460 | 462 | nt |
| Barium cyanide | | 542-62-1 | 345 | 345 | nt |
| Benzaldehyde | | 100-52-7 | 120 | 122 | nt |
| 1,2-Benzanthracene | | 56-55-3 | 290 | 293 | nt |
| Benzene | | 71-43-2 | 290 | 292 | T |
| 1,3-Benzenediol | | 108-46-3 | 310 | 316 | nt |
| Benzene hexachloride | Lindane | 58-89-9 | 260 | 261 | T |
| Benzene sulfonyl chloride | | 98-09-9 | 500 | 505 | T |
| Benzenethiol | Phenyl mercaptan | 108-98-5 | 500 | 501 | T |
| Benzidine | | 92-87-5 | 140 | 145 / 149 | T |
| Benzonitrile | | 100-47-0 | 430 | 432 | T |
| Benzophenanthrene | | 129-00-0 | 290 | 293 | nt |
| 1,2-Benzophenanthrene | | 218-01-9 | 290 | 293 | nt |
| Benzo[a]pyrene | | 50-32-8 | 290 | 292 / 293 | T |
| Benzotrichloride | | 98-07-7 | 260 | 263 | nt |
| Benzoyl chloride | | 98-88-4 | 110 | 112 | T |
| Benzyl acetate | | 140-11-4 | 220 | 222 | nt |
| Benzyl alcohol | | 100-51-6 | 310 | 312 | T |
| Benzyl benzoate | | 120-51-4 | 220 | 226 | nt |
| Benzyl bromide | | 100-39-0 | 260 | 266 | nt |
| Benzyl chloride | | 100-44-7 | 260 | 266 | T |
| Benzyl chloroformate | | 501-53-1 | 110 | 113 | nt |
| Beta-Chloroprene | 2-Chloro-1,3-butadiene | 126-99-8 | 260 | 264 | nt |
| 4,4'-bis (Aminophenyl) methane | 4,4'-Methylene dianiline | 101-77-9 | 140 | 145 / 149 | T |
| Bis (2-chloroethyl) sulfide | Sulfur mustard | 505-60-2 | 500 / 595 | 502 / 595 | T |
| Bis(chloromethyl) ether | | 542-88-1 | 240 / 260 | 241 / 261 | nt |
| Bis(chloromethyl) ketone | 1,3 Dichloroacetone | 534-07-6 | 260 / 390 | 261 / 391 | T |
| Bis(2-ethylhexyl) phthalate | Di (2-ethylhexyl) phthalate | 117-81-7 | 220 | 226 | T |

CHEMICAL INDEX - Alphabetical Listing - Chemical Names and Synonyms

| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|------------------------------------|---------------------------------|-------------|-----------|-----------|---------|
| Bisphenol A | | 80-05-7 | 310 | 316 | nt |
| Bisphenol-A diglycidyl ether | | 1675-54-3 | 270 | 275 | T |
| Bis(tributyltin)oxide | | 56-35-9 | 470 | 470 | nt |
| Black Liquor | | 308074-23-9 | 590 | 590 | T |
| Bladex® | | 21725-46-2 | 270 / 430 | 274 / 431 | nt |
| Borane pyridine complex | | 110-51-0 | 590 | 590 | nt |
| Boric acid | | 10043-35-3 | 370 | 370 | nt |
| Boron trichloride | | 10294-34-5 | 350 / 360 | 350 / 360 | T |
| Boron trifluoride | | 7637-07-2 | 350 / 360 | 350 / 360 | T |
| Boron trifluoride diethyl etherate | Boron trifluoride etherate | 109-63-7 | 590 | 590 | T |
| Boron trifluoride etherate | | 109-63-7 | 590 | 590 | T |
| Bromine | | 7726-95-6 | 330 | 330 | T |
| Bromine cyanide | Cyanogen bromide | 506-68-3 | 345 / 350 | 345 / 350 | nt |
| Bromine pentafluoride | | 7789-30-2 | 360 | 360 | nt |
| Bromoacetonitrile | | 590-17-0 | 430 | 431 | nt |
| Bromobenzene | | 108-86-1 | 260 | 263 | nt |
| Bromochloromethane | | 74-97-5 | 260 | 261 | nt |
| 2-Bromoethanol | | 540-51-2 | 260 / 310 | 261 / 315 | nt |
| 4-Bromofluorobenzene | | 460-00-4 | 260 | 263 | T |
| Bromomethane | Methyl bromide | 74-83-9 | 260 | 261 | T |
| 1-Bromo propane | | 106-94-5 | 310 | 315 | nt |
| 1-Bromo-2-propanol | | 19686-73-8 | 260 / 310 | 261 / 315 | nt |
| 3-Bromo-1-propanol | | 627-18-9 | 260 / 310 | 261 / 315 | nt |
| 1,3-Butadiene | | 106-99-0 | 290 | 296 | T |
| 1,4-Butanediol | | 110-63-4 | 310 | 314 | nt |
| 1,4-Butanediol diglycidyl ether | | 2425-79-8 | 270 | 275 | nt |
| n-Butane | | 106-97-8 | 290 | 291 | nt |
| 1,4-Butanesultone | | 1633-83-6 | 500 | 503 | nt |
| n-Butanethiol | | 109-79-5 | 500 | 501 | nt |
| 1-Butanol | n-Butanol | 71-36-3 | 310 | 311 | T |
| n-Butanol | | 71-36-3 | 310 | 311 | T |
| 2-Butanone | Methyl ethyl ketone | 78-93-3 | 390 | 391 | T |
| 2-Butanone peroxide | | 1338-23-4 | 300 | 300 | nt |
| Butene | | 106-98-9 | 290 | 294 | nt |
| 2-Butoxyethanol | Butyl Cellosolve® | 111-76-2 | 240 | 245 | T |
| 2-Butoxyethyl acetate | | 112-07-2 | 240 | 245 | nt |
| n-Butyl acetate | | 123-86-4 | 220 | 222 | T |
| n-Butyl acrylate | | 141-32-2 | 220 | 223 | T |
| n-Butyl alcohol | n-Butanol | 71-36-3 | 310 | 311 | T |
| sec-Butyl alcohol | | 78-92-2 | 310 | 312 | nt |
| tert-Butyl alcohol | | 75-65-0 | 310 | 313 | nt |
| n-Butylamine | | 109-73-9 | 140 | 141 | T |
| sec-Butylamine | | 13952-84-6 | 140 | 141 | nt |
| tert-Butylamine | | 75-64-9 | 140 | 141 | T |
| n-Butyl benzoate | | 136-60-7 | 220 | 226 | nt |
| Butyl benzyl phthalate | | 85-68-7 | 220 | 226 | nt |
| n-Butyl Carbitol® | | 112-34-5 | 240 | 245 | nt |
| 4-tert-Butyl catechol | | 98-29-3 | 310 | 316 | nt |

CHEMICAL INDEX - Alphabetical Listing - Chemical Names and Synonyms

| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|---------------------------|---------------------------------------|------------|-----------|-----------|---------|
| Butyl Cellosolve® acetate | | 112-07-2 | 240 | 245 | nt |
| n-Butyl chloride | | 109-69-3 | 260 | 261 | nt |
| 1,3-Butylene glycol | | 107-88-0 | 310 | 314 | nt |
| 1,2-Butylene oxide | | 106-88-7 | 270 | 275 | nt |
| n-Butyl ether | | 142-96-1 | 240 | 241 | T |
| Butyl glycol | Butyl Cellosolve® | 111-76-2 | 240 | 245 | T |
| n-Butyl mercaptan | | 109-79-5 | 500 | 501 | nt |
| tert-Butyl mercaptan | | 75-66-1 | 500 | 501 | nt |
| tert-Butyl methyl ether | Methyl tert-butyl ether | 1634-04-4 | 240 | 241 | T |
| o-sec-Butylphenol | | 89-72-5 | 310 | 316 | nt |
| p-tert-Butylphenol | | 98-54-4 | 310 | 316 | nt |
| n-Butyl phthalate | | 84-74-2 | 220 | 226 | nt |
| Butyl Cellosolve® | | 111-76-2 | 240 | 245 | T |
| n-Butyraldehyde | | 123-72-8 | 120 | 121 | T |
| n-Butyric acid | | 107-92-6 | 100 | 102 | T |
| Butyrolactone, gamma- | | 96-48-0 | 220 | 225 | nt |
| Cadaverine | | 462-94-2 | 140 | 148 | nt |
| Cadmium fluoroborate | | 14486-19-2 | 360 | 360 | nt |
| Calcia | | 1305-78-8 | 380 | 380 | nt |
| Calcium bisulfate | | 13780-03-5 | 340 | 340 | nt |
| Calcium carbonate | | 1317-65-3 | 340 | 340 | nt |
| Calcium chloride | | 10043-52-4 | 340 | 340 | nt |
| Calcium cyanide | | 592-01-8 | 345 | 345 | nt |
| Calcium fluoride | | 7789-75-5 | 340 | 340 | nt |
| Calcium hydroxide | | 1305-62-0 | 380 | 380 | nt |
| Calcium oxide | | 1305-78-8 | 380 | 380 | nt |
| Carbitol® | Ethylene diglycol monoethyl ether | 111-90-0 | 240 | 245 | T |
| Carbolic acid | Phenol | 108-95-2 | 310 | 316 | T |
| Carbon disulfide | | 75-15-0 | 500 | 502 | T |
| Carbon hexachloride | | 67-72-1 | 260 | 261 | nt |
| Carbon monoxide | | 630-08-0 | 350 | 350 | T |
| Carbon tetrabromide | | 558-13-4 | 260 | 261 | nt |
| Carbon tetrachloride | | 56-23-5 | 260 | 261 | T |
| Carbonyl chloride | Phosgene | 75-44-5 | 350 | 350 | T |
| Caustic soda | Sodium hydroxide | 1310-73-2 | 380 | 380 | T |
| Cellosolve® | Ethyl Cellosolve® | 110-80-5 | 240 | 245 | T |
| Cellosolve® acetate | Ethyl Cellosolve® acetate | 111-15-9 | 240 | 245 | T |
| CFC 11 | | 75-69-4 | 260 | 261 | nt |
| CFC 113 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 260 | 261 | T |
| Chemidize 727 ND | | mixture | 590 | 590 | T |
| Chlordane | | 57-74-9 | 260 | 261 | T |
| Chlorine | | 7782-50-5 | 330 / 350 | 330 / 350 | T |
| Chlorine cyanide | | 506-77-4 | 345 | 345 | nt |
| Chlorine dioxide | | 10049-04-4 | 350 | 350 | T |
| Chlorine oxide | Chlorine dioxide | 10049-04-4 | 350 | 350 | T |
| Chlorine sulfide | Sulfur dichloride | 10545-99-0 | 500 | 502 | T |
| Chlorine trifluoride | | 7790-91-2 | 350 | 350 | T |
| 2-Chloroacetaldehyde | | 107-20-0 | 120 / 260 | 121 / 261 | nt |

CHEMICAL INDEX - Alphabetical Listing - Chemical Names and Synonyms

| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|---|---------------------------------|------------|-----------|-----------|---------|
| Chloroacetic acid | | 79-11-8 | 100 | 103 | T |
| Chloroacetone | | 78-95-5 | 390 | 391 | T |
| Chloroacetonitrile | | 107-14-2 | 260 / 430 | 261 / 431 | nt |
| Chloroacetophenone | | 532-27-4 | 260 / 390 | 261 / 392 | nt |
| Chloroacetyl chloride | | 79-04-9 | 110 | 111 | T |
| Chloroacrylonitrile | | 920-37-6 | 260 / 430 | 264 / 431 | nt |
| 4-Chloroaniline | p-Chloroaniline | 106-47-8 | 140 | 145 | T |
| o-Chloroaniline | | 95-51-2 | 140 | 145 | nt |
| p-Chloroaniline | | 106-47-8 | 140 | 145 | T |
| Chlorobenzene | | 108-90-7 | 260 | 263 | T |
| 4-Benzotrichloride | | 5216-25-1 | 260 | 263 | nt |
| 4-Chlorobenzotrifluoride | | 98-56-6 | 260 | 263 | nt |
| 2-Chloro-1,3-butadiene | | 126-99-8 | 260 | 264 | nt |
| 4-Chloro-m-cresol | | 59-50-7 | 260 / 310 | 263 / 316 | nt |
| Chlorodecane mixed isomers | | 28519-06-4 | 260 | 261 | nt |
| Chlorododecane | | 112-52-7 | 260 | 261 | nt |
| 2-Chloroethanol | | 107-07-3 | 260 / 310 | 261 / 315 | T |
| 2-(2-Chloroethenyl) arsenous dichloride | Lewisite | 541-25-3 | 470 / 595 | 470 / 595 | T |
| 2-Chloroethyl ether | Dichloroethyl ether | 111-44-4 | 240 / 260 | 241 / 261 | T |
| 2-Chloroethyl vinyl ether | | 110-75-8 | 240 / 260 | 241 / 261 | nt |
| Chloroform | | 67-66-3 | 260 | 261 | T |
| Chloromethane | Methyl chloride | 74-87-3 | 260 | 261 | T |
| Chloromethyl methyl ether | | 107-30-2 | 240 | 241 | T |
| 3-Chloro-2-methylpropene | | 563-47-3 | 260 | 265 | nt |
| 2-Chlorophenol | | 95-57-8 | 260 / 310 | 263 / 316 | nt |
| 3-Chlorophenol | | 108-43-0 | 260 / 310 | 263 / 316 | nt |
| 4-Chlorophenol | | 106-48-9 | 260 / 310 | 263 / 316 | T |
| o-Chlorophenol | | 95-57-8 | 260 / 310 | 263 / 316 | nt |
| p-Chlorophenol | 4-Chlorophenol | 106-48-9 | 260 / 310 | 263 / 316 | T |
| Chlorophenol, mixture of 2-, 3-, 4- | | mixture | 260 / 310 | 263 / 316 | nt |
| Chloropicrin | | 76-06-2 | 260 | 261 | nt |
| Chloroprene | 2-Chloro-1,3-butadiene | 126-99-8 | 260 | 264 | nt |
| 1-Chloropropane | | 540-54-5 | 260 | 261 | nt |
| 1-Chloro-2-propanol | | 127-00-4 | 260 / 310 | 261 / 315 | nt |
| 3-Chloro-1-propanol | | 627-30-5 | 260 / 310 | 261 / 315 | nt |
| 3-Chloropropene | Allyl chloride | 107-05-1 | 260 | 265 | T |
| 3-Chloropropanitrile | | 542-76-7 | 260 / 430 | 261 / 431 | nt |
| Chloropyrifos | | 2921-88-2 | 460 | 462 | T |
| Chlorosulfonic acid | | 7790-94-5 | 370 / 500 | 370 / 504 | T |
| a-Chlorotoluene | Benzyl chloride | 100-44-7 | 260 | 266 | T |
| o-Chlorotoluene | | 95-49-8 | 260 | 263 | T |
| 2-Chlorovinylarsine dichloride | Lewisite | 541-25-3 | 470 / 595 | 470 / 595 | T |
| Chromic acetate | | 1066-30-4 | 550 | 550 | nt |
| Chromic acid | | 1333-82-0 | 370 | 370 | T |
| Chromic anhydride | Chromic acid | 1333-82-0 | 370 | 370 | T |
| Chromic sulfate | | 10101-53-8 | 340 | 340 | nt |
| Chromium oxide | Chromic acid | 1333-82-0 | 370 | 370 | T |
| Chrysene | | 218-01-9 | 290 | 293 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|--|---------------------------------|------------|-----------|-----------|---------|
| Citric acid | | 77-92-9 | 100 | 104 | nt |
| Coal naphtha | Benzene | 71-43-2 | 290 | 292 | T |
| Copper cyanide | | 544-92-3 | 345 | 345 | nt |
| Creosote | | 8001-58-9 | 310 | 316 | T |
| Cresol, mixed isomers | | 1319-77-3 | 310 | 316 | T |
| m-Cresol | | 108-39-4 | 310 | 316 | nt |
| m-Cresol 55%, p-Cresol 30%, Phenol 15% | | mixture | 310 | 316 | T |
| o-Cresol | | 95-48-7 | 310 | 316 | T |
| trans-Crotonaldehyde | | 123-73-9 | 120 | 121 | T |
| Crude oil | | 8002-05-9 | 290 / 590 | 294 / 590 | T |
| Cumene | | 98-82-8 | 290 | 292 | T |
| Cumene peroxide | | 80-43-3 | 300 | 300 | nt |
| Cupric sulfate | | 7758-98-7 | 340 | 340 | nt |
| Cuprous cyanide | | 544-92-3 | 345 | 345 | nt |
| Cyanamide | | 420-04-2 | 345 | 345 | nt |
| Cyanex® | | mixture | 460 | 461 | nt |
| Cyanide | Hydrogen cyanide | 74-90-8 | 345 / 370 | 345 / 370 | T |
| Cyanizine | | 21725-46-2 | 270 / 430 | 274 / 431 | nt |
| Cyanoacetic acid | | 372-09-8 | 100 | 103 | nt |
| Cyanogen | | 460-19-5 | 345 | 345 | nt |
| Cyanogenamide | | 420-04-2 | 345 | 345 | nt |
| Cyanogen bromide | | 506-68-3 | 345 / 350 | 345 / 350 | nt |
| Cyanogen bromide 30% | | mixture | 345 / 350 | 345 / 350 | nt |
| Cyanogen chloride | | 506-77-4 | 345 | 345 | nt |
| Cyanuric chloride | | 108-77-0 | 260 / 270 | 263 / 274 | T |
| Cyclohexane | | 110-82-7 | 290 | 291 | T |
| Cyclohexanol | | 108-93-0 | 310 | 312 | nt |
| Cyclohexanone | | 108-94-1 | 390 | 391 | T |
| Cyclohexylamine | | 108-91-8 | 140 | 141 | nt |
| Cyclohexyl isocyanate | | 3173-53-3 | 210 | 211 | T |
| Cyclonol | | 116-02-9 | 310 | 312 | nt |
| Cyclooctadiene | | 1552-12-1 | 290 | 296 | nt |
| Cyclopentane | | 287-92-3 | 290 | 291 | nt |
| p-Cymene | | 25155-15-1 | 290 | 292 | nt |
| Decahydronaphthalene | | 91-17-8 | 290 | 291 | nt |
| n-Decanal | | 112-31-2 | 120 | 121 | nt |
| Decane | | 124-18-5 | 290 | 291 | nt |
| Decontaminating agent DS-2 | | mixture | 590 | 590 | nt |
| n-Decyl aldehyde | | 112-31-2 | 120 | 121 | nt |
| Diallylamine | | 124-02-7 | 140 | 142 | nt |
| p,p'-Diaminodiphenyl methane | 4,4'-Methylene dianiline | 101-77-9 | 140 | 145 / 149 | T |
| Di-n-amylamine | | 2050-92-2 | 140 | 142 | nt |
| Diazinon | | 333-41-5 | 460 | 462 | T |
| Diborane | | 19287-45-7 | 350 | 350 | T |
| 1,4-Dibromobutane | | 110-52-1 | 260 | 261 | nt |
| 1,2-Dibromo-3-chloropropane | | 96-12-8 | 260 | 261 | nt |
| 1,2-Dibromoethane | Ethylene dibromide | 106-93-4 | 260 | 261 | T |
| Dibromomethane | | 74-95-3 | 260 | 261 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|-------------------------------------|---------------------------------|------------|-----------|-----------|---------|
| Di-n-butylamine | | 111-92-2 | 140 | 142 | nt |
| Dibutyl ether | n-Butyl ether | 142-96-1 | 240 | 241 | T |
| Dibutylphenol | | 26746-38-3 | 310 | 316 | nt |
| Dibutyl phthalate | | 84-74-2 | 220 | 226 | nt |
| Dichloroacetic acid | | 79-43-6 | 100 | 103 | nt |
| 1,3-Dichloroacetone | | 534-07-6 | 260 / 390 | 261 / 391 | T |
| Dichloroacetyl chloride | | 79-36-7 | 110 | 111 | T |
| Dichloroacetylene | trans-1,2-Dichloroethylene | 156-60-5 | 260 | 264 | T |
| 3,4-Dichloroaniline | | 95-76-1 | 140 / 260 | 145 / 263 | T |
| 1,2-Dichlorobenzene | | 95-50-1 | 260 | 263 | nt |
| 3,3'-Dichlorobenzidine | | 91-94-1 | 140 / 260 | 149 / 263 | nt |
| 1,4-Dichloro-2-butene | | 110-57-6 | 260 | 264 | nt |
| trans-1,4-Dichloro-2-butene | | 764-41-0 | 260 | 264 | T |
| 1,1-Dichloroethane | | 75-34-3 | 260 | 261 | nt |
| 1,2-Dichloroethane | | 107-06-2 | 260 | 261 | T |
| 1,2-Dichloroethene | 1,2-Dichloroethylene | 540-59-0 | 260 | 264 | nt |
| 1,1-Dichloroethylene | Vinylidene chloride | 75-35-4 | 260 | 264 | T |
| 1,2-Dichloroethylene | | 540-59-0 | 260 | 264 | nt |
| Dichloroethylene, all isomers | | 25323-30-2 | 260 | 264 | nt |
| trans-1,2-Dichloroethylene | | 156-60-5 | 260 | 261 | T |
| Dichloroethyl ether | | 111-44-4 | 240 / 260 | 241 / 261 | T |
| Dichloroisopropyl ether | | 108-60-1 | 240 / 260 | 241 / 261 | nt |
| 2,3-Dichloro-6-isopropyl-S-triazine | | 30894-74-7 | 270 | 274 | T |
| Dichloromethane | | 75-09-2 | 260 | 261 | T |
| sym-Dichloromethyl ether | | 542-88-1 | 240 / 260 | 241 / 261 | nt |
| 2,4-Dichlorophenol | | 120-83-2 | 260 / 310 | 263 / 316 | nt |
| 1,2-Dichloropropane | Propylene dichloride | 78-87-5 | 260 | 261 | T |
| 1,3-Dichloro-2-propanone | 1,3 Dichloroacetone | 534-07-6 | 260 / 390 | 261 / 391 | T |
| 1,3-Dichloropropene | | 542-75-6 | 260 | 261 | T |
| 2,3-Dichloropropene | | 78-88-6 | 260 | 261 | T |
| Dichlorosilane | | 4109-96-0 | 480 | 480 | T |
| Dichlorosulfane | Sulfur dichloride | 10545-99-0 | 500 | 502 | T |
| 1,1-Dichlorotetrafluoroethane | | 374-07-2 | 260 | 261 | T |
| Dichlorotriazine 20%, Toluene 80% | | mixture | 260 | 263 | nt |
| Diesel fuel | | 68334-30-5 | 290 | 291 | T |
| Diesel automotive test fuel | | mixture | 290 | 291 | T |
| Diethanolamine | | 111-42-2 | 140 | 142 | nt |
| Diethylamine | | 109-89-7 | 140 | 142 | T |
| Diethylaniline crude | | 91-66-7 | 140 | 146 | T |
| Diethyl arsine | | 692-42-2 | 470 | 470 | nt |
| Diethyl carbonate | | 105-58-8 | 230 | 233 | nt |
| 2,2'-Diethyldihexylamine | | 106-20-7 | 140 | 142 | nt |
| 1,4-Diethylenediamine | | 110-85-0 | 270 | 274 | nt |
| Diethylene dioxide | 1,4-Dioxane | 123-91-1 | 270 | 278 | T |
| Diethylene glycol | | 111-46-6 | 310 | 314 | nt |
| Diethylene glycol monomethyl ether | | 111-77-3 | 240 | 245 | nt |
| Diethylenetriamine | | 111-40-0 | 140 | 148 | T |
| N,N-Diethylethanolamine | | 100-37-8 | 140 | 143 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|------------------------------------|---------------------------------|------------|-----------|-----------|---------|
| Diethyl ether | Ethyl ether | 60-29-7 | 240 | 241 | T |
| Di (2-ethylhexyl) phthalate | | 117-81-7 | 220 | 226 | T |
| Diethylhydrazine | | 1615-80-1 | 280 | 280 | nt |
| Diethyl phthalate | | 84-66-2 | 220 | 226 | nt |
| Diethyl sulfate | | 64-67-5 | 500 | 507 | T |
| Diethyl-m-toluidine crude | | 91-67-8 | 140 | 145 | T |
| Dihydrogen Oxide | | 7732-18-5 | 590 | 590 | nt |
| Diisobutylamine | | 111-92-2 | 140 | 142 | nt |
| Diisobutyl ketone | | 108-83-8 | 390 | 391 | nt |
| Diisobutyl phthalate | | 84-69-5 | 220 | 226 | nt |
| 1,6-Diisocyanatohexane | 1,6-Hexamethylene diisocyanate | 822-06-0 | 210 | 211 | T |
| Diisopropylamine | | 108-18-9 | 140 | 142 | nt |
| Dimethoxane | | 828-00-2 | 270 | 278 | nt |
| N,N-Dimethylacetamide | | 127-19-5 | 130 | 132 | T |
| Dimethylamine | | 124-40-3 | 140 | 142 | T |
| 2-Dimethyl aminoethanol | | 108-01-0 | 140 | 143 | nt |
| 3-Dimethyl aminopropylamine | | 109-55-7 | 140 | 148 | nt |
| N,N-Dimethylaniline | | 121-69-7 | 140 | 146 | T |
| 1,3-Dimethyl butylamine | | 108-09-8 | 140 | 143 | nt |
| Dimethyldichlorosilane | | 75-78-5 | 480 | 480 | T |
| Dimethyl disulfide | | 624-92-0 | 500 | 502 | nt |
| Dimethylene oxide | Ethylene oxide | 75-21-8 | 270 | 275 | T |
| Dimethyl ether | | 115-10-6 | 240 | 241 | T |
| N,N-Dimethylformamide | | 68-12-2 | 130 | 132 | T |
| 1,1-Dimethylhydrazine | | 57-14-7 | 280 | 280 | T |
| Dimethyl maleate | | 624-48-6 | 220 | 224 | T |
| Dimethylmorpholine | | 141-91-3 | 140 | 142 | nt |
| Dimethyl nitrosamine | | 62-75-9 | 450 | 450 | T |
| 2,4-Dimethylphenol | | 105-67-9 | 310 | 316 | nt |
| Dimethylphenylamine | | 1300-73-8 | 140 | 145 | nt |
| Dimethyl phthalate | | 131-11-3 | 220 | 226 | nt |
| Dimethyl sulfate | | 77-78-1 | 500 | 507 | T |
| Dimethyl sulfide | | 75-18-3 | 500 | 502 | T |
| Dimethyl sulfoxide | | 67-68-5 | 500 | 503 | T |
| Dimethyl terephthalate | | 120-61-6 | 220 | 226 | nt |
| Dimethylvinyl chloride | | 513-37-1 | 260 | 264 | nt |
| Dinitro-o-cresol | | 534-52-1 | 310 / 440 | 316 / 442 | T |
| Dinitrophenol | | 25550-58-7 | 310 / 440 | 316 / 442 | nt |
| Di-n-octyl phthalate | | 117-84-0 | 220 | 226 | nt |
| 1,4-Dioxane | | 123-91-1 | 270 | 278 | T |
| Dioxin | | 1746-01-6 | 260 | 263 | nt |
| 1,3-Dioxolane | | 646-06-0 | 240 | 241 | nt |
| Dipentene | | 138-86-3 | 290 | 296 | nt |
| Dipentyl amine | | 2050-92-2 | 140 | 142 | nt |
| Diphenylamine | | 122-39-4 | 140 | 146 | nt |
| 4,4'-Diphenyl methane diisocyanate | | 101-68-8 | 210 | 212 | T |
| n-Dipropylamine | | 142-84-7 | 140 | 142 | nt |
| Disodium sulfite | | 7757-83-7 | 340 | 340 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|--|-----------------------------------|------------|-----------|-----------|---------|
| Disulfur dichloride | | 10025-67-9 | 500 | 502 | T |
| Divinyl benzene | | 1321-74-0 | 290 | 292 | nt |
| DMAC | N,N-Dimethylacetamide | 127-19-5 | 130 | 132 | T |
| DMF | N,N-Dimethylformamide | 68-12-2 | 130 | 132 | T |
| DMSO | Dimethyl sulfoxide | 67-68-5 | 500 | 503 | T |
| tert-Dodecanethiol | | 25103-58-6 | 500 | 501 | nt |
| Dodecyl benzene sulfonate | | 25155-30-0 | 500 | 507 | nt |
| tert-Dodecyl mercaptan | | 25103-58-6 | 500 | 501 | nt |
| Dowtherm A | | 8004-13-5 | 590 | 590 | nt |
| DuPont Activators with hexamethylenediisocyanate | | mixture | 210 / 590 | 211 / 590 | T |
| Epibromohydrin | | 3132-64-7 | 270 | 275 | nt |
| Epichlorohydrin | | 106-89-8 | 260 / 270 | 261 / 275 | T |
| 1,2-Epoxybutane | | 106-88-7 | 270 | 275 | nt |
| 1,2-Epoxyethane | Ethylene oxide | 75-21-8 | 270 | 275 | T |
| Epoxypropane | 1,2-Propylene oxide | 75-56-9 | 270 | 275 | T |
| 1,2-Epoxy-3-(tolyoxy)propane | | 26447-14-3 | 270 | 275 | nt |
| Epoxytrichloropropane | | 67664-94-2 | 270 | 275 | nt |
| Epsom salts | | 7487-88-9 | 340 | 340 | nt |
| Ethanal | Acetaldehyde | 75-07-0 | 120 | 121 | T |
| Ethanol | | 64-17-5 | 310 | 311 | nt |
| Ethanolamine | | 141-43-5 | 140 / 310 | 141 / 311 | T |
| 2-Ethoxyethanol | Ethyl Cellosolve® | 110-80-5 | 240 | 245 | T |
| 2-(2-Ethoxyethoxy)ethanol | Ethylene diglycol monoethyl ether | 111-90-0 | 240 | 245 | T |
| 2-Ethoxyethyl acetate | Ethyl Cellosolve® acetate | 111-15-9 | 240 | 245 | T |
| Ethyl acetate | | 141-78-6 | 220 | 222 | T |
| Ethyl acetoacetate | | 141-97-9 | 220 | 222 | nt |
| Ethyl acrylate | | 140-88-5 | 220 | 223 | T |
| Ethyl alcohol | Ethanol | 64-17-5 | 310 | 311 | nt |
| Ethylamine | | 75-04-7 | 140 | 141 | T |
| Ethyl benzene | | 100-41-4 | 290 | 290 | T |
| Ethyl benzene 80%, 4,6-Dinitro-o-cresol 20% | | mixture | 590 | 590 | T |
| Ethyl benzene hydroperoxide | | 3071-32-7 | 300 | 300 | nt |
| Ethyl benzoate | | 93-89-0 | 220 | 226 | nt |
| 2-Ethylbutylamine | | 617-79-8 | 140 | 141 | nt |
| Ethyl carbamate | | 51-79-6 | 230 | 233 | nt |
| Ethyl Carbitol® | Ethylene diglycol monoethyl ether | 111-90-0 | 240 | 245 | T |
| Ethyl Cellosolve® | | 110-80-5 | 240 | 245 | T |
| Ethyl Cellosolve® acetate | | 111-15-9 | 240 | 245 | T |
| Ethyl chloride | | 75-00-3 | 260 | 261 | T |
| Ethyl cyanide | | 107-12-0 | 345 | 345 | nt |
| Ethylene | | 74-85-1 | 290 | 294 | nt |
| Ethylenediamine | | 107-15-3 | 140 | 148 | T |
| Ethylene dibromide | | 106-93-4 | 260 | 261 | T |
| Ethylene dichloride | 1,2-Dichloroethane | 107-06-2 | 260 | 261 | T |
| Ethylene diglycol monoethyl ether | | 111-90-0 | 240 | 245 | T |
| Ethylene glycol | | 107-21-1 | 310 | 314 | T |
| Ethylene glycol acrylate | Hydroxyethyl acrylate | 818-61-1 | 220 | 223 | nt |
| Ethylene glycol diacetate | | 111-55-7 | 220 | 222 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|----------------------------------|---------------------------------|------------|-----------|-----------|---------|
| Ethylene glycol monoacetate | | 542-59-6 | 220 | 222 | nt |
| Ethylene glycol monomethyl ether | Methyl Cellosolve® acetate | 110-49-6 | 240 | 245 | T |
| Ethylene glycol monopropyl ether | | 2807-30-9 | 240 | 245 | nt |
| Ethyleneimine | | 151-56-4 | 270 | 274 | T |
| Ethylene oxide gas | | 75-21-8 | 270 | 275 | T |
| Ethylene oxide liquid | | 75-21-8 | 270 | 275 | T |
| Ethylene oxide, 10% in HCFC 124 | | mixture | 270 | 274 | T |
| Ethylenylbenzene | Styrene | 100-42-5 | 290 | 292 | T |
| Ethyl ether | | 60-29-7 | 240 | 241 | T |
| Ethyl fluoroacetate | | 459-72-3 | 220 | 222 | nt |
| Ethyl hexaldehyde | | 123-05-7 | 120 | 121 | nt |
| 2-Ethylhexanoic acid | | 149-57-5 | 100 | 102 | nt |
| 2-Ethylhexanol | | 104-76-7 | 310 | 311 | nt |
| 2-Ethylhexyl acrylate | | 103-11-7 | 220 | 223 | nt |
| 2-Ethylhexylamine | | 104-75-6 | 140 | 141 | nt |
| Ethyl iodide | | 75-03-6 | 260 | 261 | nt |
| Ethyl mercaptan | | 75-08-1 | 500 | 501 | nt |
| Ethyl methacrylate | | 97-63-2 | 220 | 223 | nt |
| Ethyl methanesulfonate | | 62-50-0 | 500 | 507 | nt |
| Ethyl parathion | | 56-38-2 | 460 | 462 | T |
| Ethylphenol | | 90-00-6 | 310 | 316 | nt |
| 2-Ethyltoluene | | 611-14-3 | 290 | 292 | nt |
| Ethyl vinyl ether | | 109-92-2 | 240 / 260 | 246 / 261 | nt |
| Ferric chloride | | 7705-08-0 | 340 | 340 | nt |
| Ferric fluoride | | 7783-50-8 | 340 | 340 | nt |
| Ferrous chloride | | 7758-94-3 | 340 | 340 | nt |
| Fluorene | | 86-73-7 | 290 | 293 | nt |
| Fluorine | | 7782-41-4 | 350 | 350 | T |
| Fluoroacetamide | | 640-19-7 | 130 | 132 | nt |
| Fluorobenzene | | 462-06-6 | 260 | 263 | T |
| Fluoroboric acid | | 16872-11-0 | 370 | 370 | T |
| Fluorosilicic acid | | 16961-83-4 | 370 | 370 | T |
| Fluorosulfonic acid | | 7789-21-1 | 370 | 370 | T |
| Fluorosulfuric acid | Fluorosulfonic acid | 7789-21-1 | 370 | 370 | T |
| Fluosilicic acid | Fluosilicic acid | 16961-83-4 | 370 | 370 | T |
| Formaldehyde | | 50-00-0 | 120 | 121 | T |
| Formalin | | 50-00-0 | 120 | 121 | T |
| Formamide | | 75-12-7 | 130 | 132 | nt |
| Formic acid | | 64-18-6 | 100 | 102 | T |
| Fuel oil | | mixture | 290 | 291 | T |
| Fuel Oil #2 | Diesel fuel | 68334-30-5 | 290 | 291 | T |
| Fuming sulfuric acid | Oleum | 8014-95-7 | 370 | 370 | T |
| 2-Furaldehyde | | 98-01-1 | 120 / 270 | 122 / 277 | T |
| Furan | | 110-00-9 | 270 | 277 | nt |
| 2-Furancarbal | 2-Furaldehyde | 98-01-1 | 120 / 270 | 122 / 277 | T |
| 2-Furancarboraldehyde | 2-Furaldehyde | 98-01-1 | 120 / 270 | 122 / 277 | T |
| Furfural | 2-Furaldehyde | 98-01-1 | 120 / 270 | 122 / 277 | T |
| Furfuryl alcohol | | 98-00-0 | 310 | 318 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|---|---------------------------------|------------|-----------|-----------|---------|
| 2-Furyl methanol | | 98-00-0 | 310 | 318 | nt |
| GA | Tabun | 77-81-6 | 460 / 595 | 462 / 595 | T |
| gamma-Butyrolactone | Butyrolactone | 96-48-0 | 220 | 225 | nt |
| Gasoline | | 86290-81-5 | 290 | 291 / 292 | T |
| GB | Sarin | 107-44-8 | 460 / 595 | 462 / 595 | T |
| GD | Soman | 96-64-0 | 460 / 595 | 462 / 595 | T |
| Glade Intech 200 | | unk | 590 | 590 | T |
| Glutaraldehyde | | 111-30-8 | 120 | 121 | T |
| Glycerine | | 56-81-5 | 310 | 314 | nt |
| Glycerol | Glycerine | 56-81-5 | 310 | 314 | nt |
| Glycidaldehyde | | 765-34-4 | 270 | 275 | nt |
| Glycolic acid, sat. sol.in water | | 79-14-1 | 100 | 103 | T |
| Glycol monobutyl ether | Butyl Cellosolve® | 111-76-2 | 240 | 245 | T |
| Glycol monoethyl ether acetate | Ethyl Cellosolve® acetate | 111-15-9 | 240 | 245 | T |
| Grain alcohol | Ethanol | 64-17-5 | 310 | 311 | nt |
| Green liquor | | 68131-30-6 | 590 | 590 | T |
| Guthion ethyl | Azinphos ethyl | 2642-71-9 | 460 | 462 | T |
| Halothane | | 151-67-7 | 260 | 261 | nt |
| HD | Sulfur mustard | 505-60-2 | 500 / 595 | 502 / 595 | T |
| Heating oil | Diesel fuel | 68334-30-5 | 290 | 291 | T |
| n-Heptane | | 142-82-5 | 290 | 291 | nt |
| Hexachlorobenzene | | 118-74-1 | 260 | 263 | nt |
| Hexachlorobutadiene | | 87-68-3 | 260 | 264 | nt |
| Hexachlorocyclopentadiene | | 77-47-4 | 260 | 264 | nt |
| Hexachloroethane | | 67-72-1 | 260 | 261 | nt |
| 1,1,1,3,3,3-Hexachloropropane | | 3607-78-1 | 260 | 264 | T |
| Hexachloropropene | | 1888-71-7 | 260 | 264 | nt |
| Hexafluoroethane | | 76-16-4 | 260 | 261 | T |
| Hexafluoroisobutylene | | 382-10-5 | 260 | 261 | T |
| Hexaldehyde | | 66-25-1 | 120 | 121 | nt |
| Hexamethyldisilazane | | 999-97-3 | 140 / 480 | 142 / 480 | T |
| Hexamethylene diamine | | 124-09-4 | 140 | 148 | T |
| Hexamethylene diisocyanate | | 822-06-0 | 210 | 211 | T |
| Hexamethylene diisocyanate in DuPont Activators | | mixture | 590 | 590 | T |
| Hexamethylenetriamine | | 100-97-0 | 270 | 274 | nt |
| Hexamine | | 100-97-0 | 270 | 274 | nt |
| 1-Hexanal | | 66-25-1 | 120 | 121 | nt |
| n-Hexane | | 110-54-3 | 290 | 291 | T |
| 1-Hexene | | 592-41-6 | 290 | 294 | nt |
| Hexyl alcohol | | 111-27-3 | 310 | 311 | nt |
| HF | Hydrogen fluoride | 7664-39-3 | 350 | 350 | T |
| HMDI | 1,6-Hexamethylenediisocyanate | 822-06-0 | 210 | 211 | T |
| Hydrazine | | 302-01-2 | 280 | 280 | T |
| Hydrazine hydrate | | 10217-52-4 | 280 | 280 | T |
| Hydrazobenzene | | 122-66-7 | 280 | 280 | nt |
| Hydriodic acid | | 10034-85-2 | 370 | 370 | T |
| Hydriodic ether | | 75-03-6 | 260 | 261 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|-----------------------------|---------------------------------|------------|-----------|-----------|---------|
| Hydrobromic acid | | 10035-10-6 | 370 | 370 | nt |
| Hydrochloric acid | | 7647-01-0 | 370 | 370 | T |
| Hydrocyanic acid | Hydrogen cyanide liquid | 74-90-8 | 345 / 370 | 345 / 370 | T |
| Hydrofluoric acid | | 7664-39-3 | 370 | 370 | T |
| Hydrofluorosilicic acid | Fluorosilicic acid | 16961-83-4 | 370 | 370 | T |
| Hydrogen bromide | | 10035-10-6 | 350 / 370 | 350 / 370 | T |
| Hydrogen chloride gas | | 7647-01-0 | 350 | 350 | T |
| Hydrogen cyanide gas | | 74-90-8 | 345 / 350 | 345 / 350 | T |
| Hydrogen cyanide liquid | | 74-90-8 | 345 / 370 | 345 / 370 | T |
| Hydrogen fluoride gas | | 7664-39-3 | 350 | 350 | T |
| Hydrogen fluoride liquid | | 7664-39-3 | 350 / 370 | 350 / 370 | T |
| Hydrogen peroxide | | 7722-84-1 | 300 | 300 | T |
| Hydrogen selenide | | 7783-07-5 | 350 | 350 | T |
| Hydrogen sulfide | | 7783-06-4 | 350 / 500 | 350 / 502 | T |
| Hydroquinone | | 123-31-9 | 310 | 316 | nt |
| Hydrosilicofluoric acid | Fluorosilicic acid | 1696-83-4 | 370 | 370 | T |
| Hydroxybenzene | Phenol | 108-95-2 | 310 | 316 | T |
| Hydroxyethyl acrylate | | 818-61-1 | 220 | 223 | nt |
| Hydroxylamine sulfate | | 10039-54-0 | 500 | 507 | nt |
| Hypophosphorus acid | | 6303-21-5 | 370 | 370 | nt |
| Iodine | | 7553-56-2 | 330 | 330 | T |
| Iodine, molten | | 7553-56-2 | 330 | 330 | nt |
| Iodomethane | Methyl iodide | 74-88-4 | 260 | 261 | T |
| Isoamyl alcohol | | 123-51-3 | 310 | 312 | T |
| Isobutane | | 75-28-5 | 290 | 291 | nt |
| Isobutanol | | 78-83-1 | 310 | 311 | nt |
| Isobutyl acrylate | | 106-63-8 | 220 | 223 | nt |
| Isobutyl alcohol | Isobutanol | 78-83-1 | 310 | 311 | nt |
| Isobutylamine | | 78-81-9 | 140 | 141 | nt |
| Isobutylbenzene | | 538-93-2 | 290 | 292 | nt |
| Isobutyl nitrite | | 542-56-3 | 430 | 431 | nt |
| Isobutyraldehyde | | 78-84-2 | 120 | 121 | nt |
| Isoctaldehyde | | 63885-09-6 | 120 | 121 | nt |
| Isocyanuric chloride | | 87-90-1 | 270 | 274 | nt |
| Isooctane | | 592-27-8 | 290 | 291 | nt |
| Isopentane | | 78-78-4 | 290 | 291 | nt |
| Isopentyl alcohol | Isoamyl alcohol | 123-51-3 | 310 | 311 | T |
| Isophorone | | 78-59-1 | 390 | 391 | nt |
| Isophorone diisocyanate | | 4098-71-9 | 210 | 211 | nt |
| Isoprene | | 78-79-5 | 290 | 296 | nt |
| Isopropanol | | 67-63-0 | 310 | 312 | T |
| Isopropyl acetate | | 108-21-4 | 220 | 222 | nt |
| Isopropyl alcohol | Isopropanol | 67-63-0 | 310 | 312 | T |
| Isopropylamine | | 75-31-0 | 140 | 141 | T |
| Isopropyl benzene | Cumene | 98-82-8 | 290 | 292 | T |
| Isopropyl chloride | | 75-29-6 | 260 | 261 | nt |
| Isopropyl ether | | 108-20-3 | 240 | 241 | nt |
| 4,4'-Isopropylidinediphenol | | 80-05-7 | 310 | 316 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|----------------------------------|--|------------|-----------|-----------|---------|
| Isopropyl methacrylate | | 4655-34-9 | 220 | 223 | nt |
| Isopropyl methanefluorophosphate | Sarin | 107-44-8 | 460 / 595 | 462 / 595 | T |
| Isovaleraldehyde | | 590-86-3 | 120 | 121 | nt |
| Jet A fuel | | 8008-20-6 | 290 | 291 | T |
| JP-4 jet fuel | | mixture | 290 | 291 | T |
| JP-8 jet fuel | | 8008-20-6 | 290 | 291 | T |
| Kerosene | | 8008-20-6 | 290 | 291 | T |
| L | Lewisite | 541-25-3 | 470 / 595 | 470 / 595 | T |
| Lactic acid | | 50-21-5 | 100 | 103 | nt |
| Lannate® LV | Methomyl | 16752-77-5 | 230 | 233 | T |
| Lauric acid | | 143-07-7 | 100 | 102 | nt |
| Lead fluoroborate | | 13814-96-5 | 340 | 340 | nt |
| Lead sulfate | | 7446-14-2 | 340 | 340 | nt |
| Lewisite (L) Chemical Agent | | 541-25-3 | 470 / 595 | 470 / 595 | T |
| Ligroine | VM&P naphtha | 8032-32-4 | 290 | 291 | T |
| Lime hydrate | | 1305-62-0 | 380 | 380 | nt |
| d-Limonene | | 5989-27-5 | 290 | 296 | T |
| Lindane | | 58-89-9 | 260 | 261 | T |
| Linoleic acid | | 60-33-3 | 100 | 102 | nt |
| Lithium chloride | | 7447-41-8 | 340 | 340 | T |
| Lithium chromate | | 14307-35-8 | 340 | 340 | nt |
| Lithium hydroxide | | 1310-65-2 | 380 | 380 | T |
| Lupranate® | Polymethylene polyphenylpolyisocyanate | 9106-87-9 | 210 | 212 | T |
| Magnesium sulfate | | 7487-88-9 | 340 | 340 | nt |
| Malathion | | 121-75-5 | 460 | 462 | T |
| Maleic acid | | 110-16-7 | 100 | 104 | nt |
| Maleic anhydride | | 108-31-6 | 160 | 161 | nt |
| Malic acid | | 6915-15-7 | 100 | 104 | nt |
| MDA | 4,4'-Methylene dianiline | 101-77-9 | 140 | 145 / 149 | T |
| MEK | Methyl ethyl ketone | 78-93-3 | 390 | 391 | T |
| p-Mentha-1,8-diene | d-Limonene | 5989-27-5 | 290 | 296 | T |
| Mercaptoacetic acid | Thioglycolic acid | 68-11-1 | 100 / 500 | 103 / 501 | T |
| Mercuric chloride | | 7487-94-7 | 340 | 340 | T |
| Mercuric cyanide | | 592-04-1 | 345 | 345 | nt |
| Mercury | | 7439-97-6 | 330 | 330 | T |
| Mesityl oxide | | 141-79-7 | 390 | 391 | nt |
| Methacrylamide | | 79-39-0 | 130 | 135 | nt |
| Methacrylic acid | | 79-41-4 | 100 | 102 | T |
| Methacrylonitrile | | 126-98-7 | 430 | 431 | nt |
| Methane | | 74-82-8 | 290 | 291 | nt |
| Methanesulfonic acid | | 75-75-2 | 500 | 504 | T |
| Methanethiol | Methyl mercaptan | 74-93-1 | 500 | 501 | T |
| Methanoic acid | Formic acid | 64-18-6 | 100 | 102 | T |
| Methanol | | 67-56-1 | 310 | 311 | T |
| Methomyl | | 16752-77-5 | 230 | 233 | T |
| 2-Methoxyethanol | Methyl Cellosolve® | 109-86-4 | 240 | 245 | T |
| 2-Methoxyethyl acetate | Methyl Cellosolve® acetate | 110-49-6 | 240 | 245 | T |
| 1-Methoxy-2-propanol | | 107-98-2 | 240 | 245 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|--------------------------------------|---------------------------------|------------|-----------|-----------|---------|
| Methyl acetate | | 79-20-9 | 220 | 222 | nt |
| Methyl acrylate | | 96-33-3 | 220 | 223 | T |
| Methylacrylic acid | | 777-77-7 | 300 | 300 | nt |
| 2-Methylacetonitrile | Acetone cyanohydrin | 75-86-5 | 310 / 430 | 313 / 431 | T |
| Methyl alcohol | Methanol | 67-56-1 | 310 | 311 | T |
| Methylamine | | 74-89-5 | 140 | 141 | T |
| Methyl aminopropylamine | | 6291-84-5 | 140 | 148 | nt |
| 2-Methylaniline | o-Toluidine | 95-53-4 | 140 | 145 | T |
| N-Methylaniline | | 100-61-8 | 140 | 146 | nt |
| 2-Methylbenzenethiol | | 137-06-4 | 500 | 501 | nt |
| Methyl bromide | | 74-83-9 | 260 | 261 | T |
| Methyl tert-butyl ether | | 1634-04-4 | 240 | 241 | T |
| Methyl n-butyl ketone | | 591-78-6 | 390 | 391 | nt |
| Methyl carbitol | | 111-77-3 | 240 | 245 | nt |
| Methyl Cellosolve® | | 109-86-4 | 240 | 245 | T |
| Methyl Cellosolve® acetate | | 110-49-6 | 240 | 245 | T |
| Methyl chloride | | 74-87-3 | 260 | 261 | T |
| Methyl chloroacetate | | 96-34-4 | 220 | 222 | nt |
| Methyl chloroform | 1,1,1-Trichloroethane | 71-55-6 | 260 | 261 | T |
| Methyl chloroformate | | 79-22-1 | 110 | 113 | T |
| Methylene bis (cyclohexylisocyanate) | | 5124-30-1 | 210 | 211 | nt |
| 4,4'-Methylene bis (o-chloroaniline) | | 101-14-4 | 140 | 149 | T |
| Methylene bromide | | 74-95-3 | 260 | 261 | nt |
| Methylene chloride | Dichloromethane | 75-09-2 | 260 | 261 | T |
| 4,4'-Methylene dianiline | | 101-77-9 | 140 | 145 / 149 | T |
| N-Methylethanolamine | | 109-83-1 | 140 | 142 | nt |
| Methyl ether | Dimethyl ether | 115-10-6 | 240 | 241 | T |
| Methyl ethyl ketone | | 78-93-3 | 390 | 391 | T |
| Methyl ethyl ketone B393peroxide | | 1338-23-4 | 300 | 300 | nt |
| Methyl ethyl ketoxime | | 96-29-7 | 590 | 590 | T |
| Methyl ethyl pyridine | | 104-90-5 | 270 | 271 | nt |
| Methyl fluoride | | 593-53-3 | 260 | 261 | T |
| Methyl formate | | 107-31-3 | 220 | 221 | nt |
| 2-Methylglutaronitrile | | 4553-62-2 | 430 | 431 | T |
| Methylhydrazine | | 60-34-4 | 280 | 280 | T |
| Methyl iodide | | 74-88-4 | 260 | 261 | T |
| Methyl isobutyl carbinol | | 108-11-2 | 310 | 312 | nt |
| Methyl isobutyl ketone | | 108-10-1 | 390 | 391 | T |
| Methyl isocyanate | | 624-83-9 | 210 | 211 | T |
| Methyl mercaptan | | 74-93-1 | 500 | 501 | T |
| N-Methyl methacrylamide | | 3887-02-3 | 130 | 135 | nt |
| Methyl methacrylate | | 80-62-6 | 220 | 223 | T |
| Methyl parathion | | 298-00-0 | 460 | 462 | nt |
| 2-Methyl-1,5-pentanedinitrile | Methylglutaronitrile | 4553-62-2 | 430 | 431 | T |
| 4-Methyl-2-pentanone | Methyl isobutyl ketone | 108-10-1 | 390 | 391 | T |
| 2-Methyl-1,3-propanediol | | 2163-42-0 | 310 | 314 | nt |
| 2-Methyl-2-propanethiol | | 75-66-1 | 500 | 501 | nt |
| 2-Methyl-1-propanol | Isobutanol | 78-83-1 | 310 | 311 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|-------------------------|---------------------------------|------------|-----------|-----------|---------|
| 2-Methylpropenoic acid | Methacrylic acid | 79-41-4 | 100 | 102 | T |
| 2-Methyl pyridine | 2-Picoline | 109-06-8 | 270 | 271 | T |
| n-Methyl-2-pyrrolidone | | 872-50-4 | 130 | 132 | T |
| Methyl salicylate | | 119-36-8 | 220 | 226 | T |
| Methylstyrene | | 25013-15-4 | 290 | 292 | nt |
| Methyl sulfate | | 75-93-4 | 500 | 507 | nt |
| Methyl sulfide | Dimethyl sulfide | 75-18-3 | 500 | 502 | T |
| Methyl sulfoxide | Dimethyl sulfoxide | 67-68-5 | 500 | 503 | T |
| Methyl trichlorosilane | | 75-79-6 | 480 | 480 | T |
| Methyltriglycol | | 112-35-6 | 240 | 245 | nt |
| Mineral oil | | 8012-95-1 | 290 | 291 | T |
| Mineral spirits | | 64475-85-0 | 290 | 291 | T |
| Monoethanolamine | Ethanolamine | 141-43-5 | 140 / 310 | 141 / 311 | T |
| Monomethylamine | Methylamine | 74-89-5 | 140 | 141 | T |
| Monomethylhydrazine | Methylhydrazine | 60-34-4 | 280 | 280 | T |
| Morpholine | | 110-91-8 | 140 | 142 | T |
| MTBE | Methyl-tert-butyl ether | 1634-04-4 | 240 | 241 | T |
| Muriatic acid | Hydrochloric acid | 7647-01-0 | 370 | 370 | T |
| Mustard gas | Sulfur mustard | 505-60-2 | 500 / 595 | 502 / 595 | T |
| Naphtha | | 8030-30-6 | 290 | 291 | T |
| Naphthalene | | 91-20-3 | 290 | 293 | T |
| Naphthylamine | | 134-32-7 | 140 | 145 | nt |
| Nerve gas | Sarin | 107-44-8 | 460 / 595 | 462 / 595 | T |
| Nickel carbonyl | | 13463-39-3 | 470 | 470 | T |
| Nickel chloride | | 7718-54-9 | 340 | 340 | nt |
| Nickel cyanide | | 557-19-7 | 345 | 345 | nt |
| Nicotine | | 54-11-5 | 270 | 271 | T |
| Nitric acid | | 7697-37-2 | 370 | 370 | T |
| Nitric acid, red fuming | | 52583-42-3 | 370 | 370 | T |
| Nitric oxide | | 10102-43-9 | 350 | 350 | T |
| Nitrobenzene | | 98-95-3 | 440 | 441 | T |
| o-Nitrochlorobenzene | | 88-73-3 | 260 / 440 | 263 / 442 | T |
| p-Nitrochlorobenzene | | 100-00-5 | 260 / 440 | 263 / 442 | T |
| Nitroethane | | 79-24-3 | 440 | 441 | nt |
| Nitrogen dioxide | | 10102-44-0 | 350 | 350 | T |
| Nitrogen tetroxide | | 10544-72-6 | 350 | 350 | T |
| Nitrogen trifluoride | | 7783-54-2 | 350 | 350 | T |
| Nitroglycerine | | 55-63-0 | 440 | 442 | nt |
| Nitromethane | | 75-52-5 | 440 | 441 | T |
| 2-Nitrophenol | | 88-75-5 | 310 / 440 | 316 / 442 | T |
| 1-Nitropropane | | 108-03-2 | 440 | 441 | nt |
| 2-Nitropropane | | 79-46-9 | 440 | 441 | T |
| Nitrosyl chloride | | 2696-92-6 | 350 | 350 | nt |
| Nitrotoluene, mixture | | 1321-12-6 | 440 | 442 | nt |
| m-Nitrotoluene | | 99-08-1 | 440 | 442 | nt |
| o-Nitrotoluene | | 88-72-2 | 440 | 442 | T |
| p-Nitrotoluene | | 99-99-0 | 440 | 442 | T |
| Nitrous oxide | | 10024-97-2 | 350 | 350 | T |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|---|---------------------------------|-------------|-------|-----------|---------|
| Nonylamine | | 112-20-9 | 140 | 141 | nt |
| n-Nonyl phenol | | 25154-52-3 | 310 | 316 | nt |
| n-Octane | | 111-65-9 | 290 | 291 | T |
| Octanoic acid | | 124-07-2 | 100 | 102 | nt |
| 1-Octanol | | 111-87-5 | 310 | 311 | nt |
| n-Octanol | | 111-87-5 | 310 | 311 | nt |
| n-Octylamine | | 111-86-4 | 140 | 141 | nt |
| Oleic acid | | 112-80-1 | 100 | 102 | nt |
| Oleum | | 8014-95-7 | 370 | 370 | T |
| Organo-Tin Paint | | mixture | 470 | 470 | nt |
| Orthoarsenic acid | | 1303-28-2 | 365 | 365 | nt |
| Otto Fuel II | | 106602-80-6 | 590 | 590 | nt |
| Oxalic acid | | 144-62-7 | 100 | 104 | T |
| Oxalic acid dihydrate | | 6153-56-6 | 100 | 104 | nt |
| Oxamyl | | 23135-22-0 | 130 | 137 | nt |
| Oxybismethane | Dimethyl ether | 115-10-6 | 240 | 241 | T |
| 4,4'-Oxydianiline | | 101-80-4 | 140 | 149 | nt |
| Palmitic acid | | 57-10-3 | 100 | 102 | nt |
| Parabromofluorobenzene | 4-Bromofluorobenzene | 460-00-4 | 260 | 263 | T |
| Parachlorobenzotrichloride | 4-Benzotrichloride | 5216-25-1 | 260 | 263 | nt |
| Parachlorobenzotrifluoride | 4-Clorobenzotrifluoride | 98-56-6 | 260 | 263 | nt |
| Paraformaldehyde | | 30525-89-4 | 120 | 121 | nt |
| Paraldehyde | | 123-63-7 | 120 | 121 | nt |
| Paraphenylene diisocyanate (PPDI) crude | | 104-49-4 | 210 | 212 | T |
| Parathion | Ethyl parathion | 56-38-2 | 460 | 462 | T |
| PCB | | 11097-69-1 | 260 | 263 | T |
| Pentachloroethane | | 76-01-7 | 260 | 261 | nt |
| Pentachlorophenol | | 87-86-5 | 310 | 316 | T |
| 1,3-Pentadiene | | 504-60-9 | 290 | 296 | nt |
| 1,5-Pentanediamine | | 462-94-2 | 140 | 148 | nt |
| 2-Pentanol | | 6032-29-7 | 310 | 312 | nt |
| n-Pentanol | | 71-41-0 | 310 | 311 | nt |
| 2-Pentenitrile | | 25899-50-7 | 430 | 431 | nt |
| cis-2-Pentenitrile | | 13284-42-9 | 430 | 431 | T |
| 3-Pentenitrile | | 4635-87-4 | 430 | 431 | T |
| Perchloric acid | | 7601-90-3 | 370 | 370 | T |
| Perchloroethylene | 1,1,2,2-Tetrachloroethylene | 127-18-4 | 260 | 264 | T |
| Perclene | 1,1,2,2-Tetrachloroethylene | 127-18-4 | 260 | 261 | T |
| Peroxyacetic acid | | 79-21-0 | 300 | 300 | nt |
| Petroleum distillate | JP-8 jet fuel | 94114-58-6 | 290 | 291 | T |
| Petroleum ether | VM&P Naphtha | 8030-32-4 | 290 | 291 | T |
| Petroleum spirits | Mineral spirits | 64475-85-0 | 290 | 291 | T |
| Phenanthrene | | 85-01-8 | 290 | 293 | nt |
| Phenanthrin | | 85-01-8 | 290 | 293 | nt |
| Phenol | | 108-95-2 | 310 | 316 | T |
| Phenyl bromide | | 108-86-1 | 260 | 263 | nt |
| m-Phenylenediamine | | 108-45-2 | 140 | 149 | nt |
| Phenethyl alcohol | | 60-12-8 | 310 | 318 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|--|---------------------------------|------------|-----------|-----------|---------|
| a-Phenylethyl alcohol | | 98-85-1 | 310 | 318 | T |
| Phenylethylene | Styrene | 100-42-5 | 290 | 292 | T |
| Phenyl glycidyl ether | | 122-60-1 | 270 | 275 | T |
| Phenyl hydrazine | | 100-63-0 | 280 | 280 | nt |
| Phenyl hydroxide | Phenol | 108-95-2 | 310 | 316 | T |
| Phenyl isocyanate | | 103-71-9 | 210 | 212 | nt |
| Phenyl mercaptan | | 108-98-5 | 500 | 501 | T |
| Phenyl trichlorosilane | Trichlorophenylsilane | 98-13-5 | 480 | 480 | T |
| Phosgene | | 75-44-5 | 350 | 350 | T |
| Phosphine | | 7803-51-2 | 350 | 350 | T |
| Phosphoric acid | | 7664-38-2 | 370 | 370 | T |
| Phosphoric anhydride | | 1314-56-3 | 370 | 370 | nt |
| Phosphorus oxychloride | | 10025-87-3 | 360 | 360 | T |
| Phosphorus pentoxide | | 1314-56-3 | 370 | 370 | nt |
| Phosphorus trichloride | | 7719-12-2 | 360 | 360 | T |
| Phosphoryl chloride | Phosphorus oxychloride | 10025-87-3 | 360 | 360 | T |
| 2-Picoline | | 109-06-8 | 270 | 271 | T |
| 3-Picoline | | 108-99-6 | 270 | 271 | T |
| alpha-Picoline | 2-Picoline | 109-06-8 | 270 | 271 | T |
| Picric acid | | 88-89-1 | 310 / 440 | 316 / 440 | nt |
| Piperazine | | 110-85-0 | 270 | 274 | nt |
| Piperidine | | 110-89-4 | 270 | 274 | nt |
| Polychlorinated biphenyls | PCB | 11097-69-1 | 260 | 263 | T |
| Polymethylene polyphenylpolyisocyanate | | 9106-87-9 | 210 | 212 | T |
| Potash | Potassium carbonate | 584-08-7 | 340 | 340 | nt |
| Potassium acetate | | 127-08-2 | 340 | 340 | T |
| Potassium binoxalate | Potassium acetate | 127-08-2 | 340 | 340 | T |
| Potassium carbonate | | 584-08-7 | 340 | 340 | nt |
| Potassium chloride | | 3811-04-9 | 340 | 340 | nt |
| Potassium chromate | | 7789-00-6 | 340 | 340 | T |
| Potassium cyanide | | 151-50-8 | 345 | 345 | T |
| Potassium fluoride | | 7789-23-3 | 340 | 340 | nt |
| Potassium hydroxide | | 1310-58-3 | 380 | 380 | T |
| Potassium oxalate | | 583-52-8 | 340 | 340 | nt |
| Potassium permanganate | | 7722-64-7 | 340 | 340 | T |
| Potassium persulfate | | 7727-21-1 | 340 | 340 | nt |
| PPDI | Paraphenylene diisocyanate | 104-49-4 | 210 | 212 | T |
| Propane | | 74-98-6 | 290 | 291 | nt |
| n-Propanol | | 71-23-8 | 310 | 311 | nt |
| Propanoyl chloride | | 79-03-8 | 110 | 111 | nt |
| 2-Propenamide | Acrylamide | 79-06-1 | 130 | 135 | T |
| 2-Propenoic acid | Acrylic acid | 79-10-7 | 100 | 102 | T |
| Propionaldehyde | | 123-38-6 | 120 | 121 | nt |
| Propionic acid | | 79-09-4 | 100 | 102 | nt |
| Propionic anhydride | | 123-62-6 | 160 | 161 | nt |
| Propionyl chloride | | 79-03-8 | 110 | 111 | nt |
| 2-Propoxyethanol | | 2807-30-9 | 240 | 245 | nt |
| Propyl acetate | | 109-60-4 | 220 | 222 | nt |

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| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|-----------------------------------|---------------------------------|------------|-----------|-----------|---------|
| n-Propyl alcohol | n-Propanol | 71-23-8 | 310 | 311 | nt |
| n-Propylamine | | 107-10-8 | 140 | 141 | nt |
| Propyl Cellosolve® | | 2807-30-9 | 240 | 245 | T |
| Propyl chloride | | 540-54-5 | 260 | 261 | nt |
| Propylene chloride | Propylene dichloride | 78-87-5 | 260 | 261 | T |
| Propylene diamine | | 78-90-0 | 140 | 148 | nt |
| Propylene dichloride | | 78-87-5 | 260 | 261 | T |
| Propylene glycol | | 57-55-6 | 310 | 314 | nt |
| Propyleneimine | | 75-55-8 | 270 | 274 | nt |
| 1,2-Propylene oxide | | 75-56-9 | 270 | 275 | T |
| Propyl methacrylate | | 2210-28-8 | 220 | 223 | nt |
| Prussic acid | Hydrogen cyanide liquid | 74-90-8 | 345 / 470 | 345 / 470 | T |
| Pyrene | | 129-00-0 | 290 | 293 | nt |
| Pyridine | | 110-86-1 | 270 | 271 | T |
| Pyromucic aldehyde | 2-Furaldehyde | 98-01-1 | 120 / 270 | 122 / 277 | T |
| Pyrrole | | 109-97-7 | 270 | 274 | nt |
| Pyrrolidine | | 123-75-1 | 270 | 274 | T |
| Quick silver | Mercury | 7439-97-6 | 330 | 330 | T |
| Quinoline | | 91-22-5 | 270 | 274 | nt |
| Red fuming nitric acid | Nitric acid, red fuming | 7697-37-2 | 370 | 370 | T |
| Resorcinol | | 108-46-3 | 310 | 316 | nt |
| Sarin | | 107-44-8 | 460 / 595 | 462 / 595 | T |
| Selenious acid | | 7783-00-8 | 370 | 370 | nt |
| Silane | | 7803-62-5 | 480 | 480 | T |
| Silicon tetrachloride | | 10026-04-7 | 360 / 480 | 360 / 480 | T |
| Silicon tetrahydride | Silane | 7803-62-5 | 480 | 480 | T |
| Skydrol® | | 95660-51-8 | 460 | 462 | nt |
| Sodium-t-amylate / t-amyl alcohol | | mixture | 590 | 590 | T |
| Sodium arsenite | | 15120-17-9 | 340 | 340 | nt |
| Sodium bicarbonate | | 144-55-8 | 340 | 340 | nt |
| Sodium bisulfite | | 7631-90-5 | 340 | 340 | nt |
| Sodium carbonate | | 497-19-8 | 340 | 340 | nt |
| Sodium chloride | | 7647-14-5 | 340 | 340 | nt |
| Sodium cyanide | | 143-33-9 | 345 | 345 | T |
| Sodium dichromate | | 10588-01-9 | 340 | 340 | nt |
| Sodium fluoride | | 7681-49-4 | 340 | 340 | T |
| Sodium hydrosulfide | | 16721-80-5 | 340 | 340 | nt |
| Sodium hydroxide | | 1310-73-2 | 380 | 380 | T |
| Sodium hypochlorite | | 7681-52-9 | 340 | 340 | T |
| Sodium methylate | | 124-41-4 | 550 | 550 | T |
| Sodium persulfate | | 7775-27-1 | 340 | 340 | nt |
| Sodium phosphate | | 7601-54-9 | 340 | 340 | nt |
| Sodium sulfate | | 7757-82-6 | 340 | 340 | nt |
| Sodium sulfide | | 1313-82-2 | 340 | 340 | nt |
| Sodium sulfite | | 7757-83-7 | 340 | 340 | nt |
| Soman (GD) | | 96-64-0 | 460 / 595 | 462 / 595 | T |
| Stearic acid | | 57-11-4 | 100 | 102 | nt |
| Stoddard solvent | | 8052-41-3 | 290 | 291 | T |

CHEMICAL INDEX - Alphabetical Listing - Chemical Names and Synonyms

| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|--------------------------------------|---------------------------------|------------|-----------|-----------|---------|
| Styrene | | 100-42-5 | 290 | 292 | T |
| Sulfinyl chloride | Thionyl chloride | 7719-09-7 | 360 | 360 | T |
| Sulfonyl chloride | Sulfuryl chloride | 7791-25-5 | 350 / 360 | 350 / 360 | T |
| Sulfur chloride | Sulfur dichloride | 10545-99-0 | 500 | 502 | T |
| Sulfur dichloride | | 10545-99-0 | 500 | 502 | T |
| Sulfur dioxide | | 7446-09-5 | 350 / 365 | 350 / 365 | T |
| Sulfur hexafluoride | | 2551-62-4 | 350 / 500 | 350 / 509 | T |
| Sulfuric acid | | 7664-93-9 | 370 | 370 | T |
| Sulfuric acid, fuming | Oleum | 8014-95-7 | 370 | 370 | T |
| Sulfur monochloride | Disulfur dichloride | 10025-67-9 | 500 | 502 | T |
| Sulfur mustard (HD) chemical agent | | 505-60-2 | 500 / 595 | 502 / 595 | T |
| Sulfurous acid | | 7782-99-2 | 370 | 370 | nt |
| Sulfurous anhydride | Sulfur dioxide | 7446-09-5 | 350 / 365 | 350 / 365 | T |
| Sulfurous chloride | Thionyl chloride | 7719-09-7 | 360 | 360 | T |
| Sulfurous oxide | Sulfur dioxide | 7446-09-5 | 350 / 365 | 350 / 365 | T |
| Sulfurous oxychloride | Thionyl chloride | 7719-09-7 | 360 | 360 | T |
| Sulfur oxide | Sulfur dioxide | 7446-09-5 | 350 / 365 | 350 / 365 | T |
| Sulfur trioxide | | 7446-11-9 | 365 | 365 | T |
| Sulfuryl chloride | | 7791-25-5 | 350 / 360 | 350 / 360 | T |
| Tabun | | 77-81-6 | 460 / 595 | 462 / 595 | T |
| Tannic acid | | 1401-55-4 | 310 | 316 | nt |
| TDI | Toluene-1,3-diisocyanate | 26471-62-5 | 210 | 212 | T |
| Terephthalic acid methyl ester | | 120-61-6 | 220 | 226 | nt |
| 1,1,2,2-Tetrabromoethane | | 79-27-6 | 260 | 261 | T |
| 2,2', 6,6'-Tetrachlorobisphenol A | | 79-95-8 | 260 / 310 | 263 / 316 | T |
| 1,1,1,2-Tetrachloroethane | | 630-20-6 | 260 | 261 | nt |
| 1,1,2,2-Tetrachloroethane | | 79-34-5 | 260 | 261 | T |
| 1,1,2,2-Tetrachloroethylene | | 127-18-4 | 260 | 264 | T |
| Tetraethoxysilane | | 78-10-4 | 480 | 480 | T |
| Tetraethylene pentamine | | 112-57-2 | 140 | 148 | nt |
| Tetraethyl lead | | 78-00-2 | 470 | 470 | T |
| 1,1,1,2-Tetrafluoroethane | | 811-97-2 | 260 | 261 | T |
| Tetrafluoroethylene | | 116-14-3 | 260 | 264 | nt |
| Tetrafluoromethane | | 75-73-0 | 260 | 261 | T |
| Tetrahydrofuran | | 109-99-9 | 240 | 241 | T |
| Tetralone | | 529-34-0 | 290 | 292 | nt |
| N,N,N,N'-Tetramethyl-ethylenediamine | | 110-18-9 | 140 | 148 | nt |
| Tetramethyltin in n-pentane | | Mixture | 590 | 590 | T |
| 1,1'-Thiobis (2-chloroethane) | Sulfur mustard | 505-60-2 | 500 / 595 | 502 / 595 | T |
| Thioglycolic acid | | 68-11-1 | 100 / 500 | 103 / 501 | T |
| Thionyl chloride | | 7719-09-7 | 360 | 360 | T |
| Thiophenol | Phenyl mercaptan | 108-98-5 | 500 | 501 | T |
| Thiopropene | Dimethyl sulfide | 75-18-3 | 500 | 502 | T |
| Thioxamyl | Oxamyl | 23135-22-0 | 130 | 137 | nt |
| Titanium chloride | Titanium tetrachloride | 7550-45-0 | 360 | 360 | T |
| Titanium dioxide | | 13463-67-7 | 380 | 380 | nt |
| Titanium tetrachloride | | 7550-45-0 | 360 | 360 | T |
| TNT | | 118-96-7 | 440 | 442 | nt |

CHEMICAL INDEX - Alphabetical Listing - Chemical Names and Synonyms

| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|---------------------------------------|---------------------------------|------------|-----------|-----------|---------|
| Toluene | | 108-88-3 | 290 | 292 | T |
| Toluene 80%, Dichlorotriazine 20% | | mixture | 260 | 263 | nt |
| Toluene-1,3-diisocyanate | | 26471-62-5 | 210 | 212 | T |
| Toluene-2,4-diisocyanate | | 584-84-9 | 210 | 212 | T |
| p-Toluenesulfonic acid monohydrate | | 6192-52-5 | 500 | 504 | nt |
| o-Toluenethiol | | 137-06-4 | 500 | 501 | nt |
| m-Toluidine | | 108-44-1 | 140 | 145 | T |
| o-Toluidine | | 95-53-4 | 140 | 145 | T |
| Tolyl glycidyl ether | | 26447-14-3 | 270 | 275 | nt |
| 2-Tolyl mercaptan | | 137-06-4 | 500 | 501 | nt |
| Triallylamine | | 102-70-5 | 140 | 143 | nt |
| Tribromomethane | | 75-25-2 | 260 | 261 | nt |
| Tribromophenol | | 118-79-6 | 310 | 316 | nt |
| Tributylamine | | 102-82-9 | 140 | 143 | nt |
| Tributyltin oxide | | 56-35-9 | 470 | 470 | nt |
| Trichloroacetaldehyde | | 75-87-6 | 120 | 121 | nt |
| Trichloroacetic acid | | 76-03-9 | 100 | 103 | T |
| 1,1,1-Trichloroacetone | Trichloroacetic acid | 76-03-9 | 100 | 103 | T |
| 1,1,3-Trichloroacetone | | 921-03-9 | 260 / 390 | 261 / 391 | T |
| Trichloroacetonitrile | | 545-06-2 | 430 | 431 | nt |
| 1,2,4-Trichlorobenzene | | 120-82-1 | 260 | 263 | T |
| 1,1,1-Trichloroethane | | 71-55-6 | 260 | 261 | T |
| 1,1,2-Trichloroethane | | 79-00-5 | 260 | 261 | T |
| 2,2,2-Trichloroethanol | | 115-20-8 | 310 | 315 | T |
| Trichloroethylene | | 79-01-6 | 260 | 264 | T |
| Trichlorofluoromethane | | 75-69-4 | 260 | 261 | nt |
| Trichloroisocyanuric acid | | 87-90-1 | 270 | 274 | nt |
| Trichloromethane | Chloroform | 67-66-3 | 260 | 261 | T |
| Trichloromethanethiol | | 75-70-7 | 500 | 501 | nt |
| Trichloromethyl benzene | Benzotrichloride | 98-07-7 | 260 | 263 | nt |
| Trichloromethyl silane | Methyl trichlorosilane | 75-79-6 | 480 | 480 | T |
| Trichlorophenylsilane | | 98-13-5 | 480 | 480 | T |
| 1,2,3-Trichloropropane | | 96-18-4 | 260 | 261 | nt |
| 1,1,3-Trichloro-2-propanone | 1,1,3-Trichloroacetone | 921-03-9 | 260 | 261 | T |
| Trichlorosilane | | 10025-78-2 | 480 | 480 | T |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | 76-13-1 | 260 | 261 | T |
| Trichlorovinylsilane | | 75-94-5 | 480 | 480 | T |
| Triclene | Trichloroethylene | 79-01-6 | 260 | 264 | T |
| Tricresyl phosphate | Tritolyl phosphate | 1330-78-5 | 460 | 462 | nt |
| Triethanolamine | | 102-71-6 | 140 | 143 | nt |
| Triethoxysilane | | 998-30-1 | 480 | 480 | T |
| Triethyl aluminum | | 97-93-8 | 470 | 470 | nt |
| Triethylamine | | 121-44-8 | 140 | 143 | T |
| Triethylenetetramine | | 112-24-3 | 140 | 149 | nt |
| Trifluoroacetic acid | | 76-05-1 | 100 | 103 | T |
| Trifluoroacetyl chloride | | 354-32-5 | 110 | 111 | T |
| 2,2,2-Trifluoroethanol | | 75-89-8 | 310 | 315 | T |
| Trifluoromethane | | 75-46-7 | 260 | 261 | T |

CHEMICAL INDEX - Alphabetical Listing - Chemical Names and Synonyms

| Chemical Name | Name in Data Table (if Synonym) | CAS Number | Class | Sub Class | T or nt |
|--------------------------------|---------------------------------|------------|-----------|-----------|---------|
| Trifluoromethane sulfonic acid | | 1493-13-6 | 500 | 504 | T |
| Trimethylamine gas | | 75-50-3 | 140 | 143 | T |
| 1,2,4-Trimethylbenzene | | 95-63-6 | 290 | 292 | nt |
| 1,2,3-Trimethylbenzene | | 526-73-8 | 290 | 292 | nt |
| Trimethylcyclohexane | | 98-55-5 | 290 | 291 | nt |
| 3,5,5-Trimethyl cyclohexanol | | 116-02-9 | 310 | 312 | nt |
| 2,2,4-Trimethylpentane | | 540-84-1 | 140 | 142 | nt |
| Trimethyl phosphate | | 512-56-1 | 460 | 462 | T |
| Trimethyl phosphite | | 121-45-9 | 460 | 462 | T |
| 2,4,6-Trinitrophenol | | 88-89-1 | 310 / 440 | 316 / 440 | nt |
| 2,4,6-Trinitrotoluene | | 118-96-7 | 440 | 442 | nt |
| Trioctyl phosphate | | 25103-12-2 | 460 | 462 | nt |
| Triphenyl phosphite | | 101-02-0 | 460 | 462 | nt |
| Tripropylamine | | 102-69-2 | 140 | 146 | nt |
| Tritolyl phosphate | | 1330-78-5 | 460 | 462 | nt |
| Tungsten hexafluoride | | 7783-82-6 | 350 | 350 | T |
| Turpentine | | 8006-64-2 | 290 | 294 | nt |
| Vinyl acetate | | 108-05-4 | 220 | 222 | T |
| Vinylbenzene | Styrene | 100-42-5 | 290 | 292 | T |
| Vinyl bromide | | 593-60-2 | 260 | 264 | nt |
| Vinyl chloride | | 75-01-4 | 260 | 264 | T |
| 4-Vinyl-1-cyclohexene | | 100-40-3 | 290 | 294 | nt |
| Vinyl fluoride | | 75-02-5 | 260 | 264 | nt |
| Vinylidene chloride | | 75-35-4 | 260 | 264 | T |
| Vinylmagnesium chloride | | 3536-96-7 | 470 | 470 | T |
| 4-Vinyl pyridine | | 100-43-6 | 270 | 271 | T |
| N-Vinylpyrrolidone | | 88-12-0 | 130 | 132 | nt |
| Vinyl trichlorosilane | Trichlorovinylsilane | 75-94-5 | 480 | 480 | T |
| VM and P naphtha | | 8032-32-4 | 290 | 291 | T |
| VX Nerve Agent | | 50782-69-9 | 460 / 595 | 462 / 595 | T |
| Vydate | Oxamyl | 23135-22-0 | 130 | 137 | nt |
| Water | | 7732-18-5 | 590 | 590 | nt |
| White liquor | | 68131-33-9 | 590 | 590 | T |
| Wood alcohol | Methanol | 67-56-1 | 310 | 311 | T |
| Wood ether | Dimethyl ether | 115-10-6 | 240 | 241 | T |
| o-Xylene | | 95-47-6 | 290 | 292 | nt |
| Xylene, mixed isomers | | 1330-20-7 | 290 | 292 | T |
| Xylenol | | 1300-71-6 | 310 | 316 | nt |
| Xylidine | | 1300-73-8 | 140 | 145 | nt |
| Yperite | Sulfur mustard | 505-60-2 | 500 / 595 | 502 / 595 | T |
| Zinc chromate | | 13530-65-9 | 340 | 340 | nt |
| Zinc cyanide | | 557-21-1 | 345 | 345 | nt |

Chemical Index by Chemical Abstract System (CAS) Number

The Permeation Data Table shows test results for certain tested (**T**) chemicals in associated subclasses as defined in ASTM F1186. For chemicals not tested (**nt**), the chemical subclass number is provided so users may view test results for tested chemicals in that subclass. Prediction of chemical resistance of a material from data on other chemicals has not been successful. However, when data is unavailable, information on related chemicals within a sub-class may at least rank alternative chemical protective materials as to their probable chemical resistance.

| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|------------------------|-----------|-----------|---------|
| 50-00-0 | Formaldehyde | 120 | 121 | T |
| 50-21-5 | Lactic acid | 100 | 103 | nt |
| 50-32-8 | Benzo[a]pyrene | 290 | 292 / 293 | T |
| 51-79-6 | Ethyl carbamate | 230 | 233 | nt |
| 54-11-5 | Nicotine | 270 | 271 | T |
| 55-63-0 | Nitroglycerine | 440 | 442 | nt |
| 56-23-5 | Carbon tetrachloride | 260 | 261 | T |
| 56-35-9 | Bis(tributyltin)oxide | 470 | 470 | nt |
| 56-38-2 | Ethyl parathion | 460 | 462 | T |
| 56-55-3 | 1,2-Benzanthracene | 290 | 293 | nt |
| 56-81-5 | Glycerine | 310 | 314 | nt |
| 57-10-3 | Palmitic acid | 100 | 102 | nt |
| 57-11-4 | Stearic acid | 100 | 102 | nt |
| 57-14-7 | 1,1-Dimethylhydrazine | 280 | 280 | T |
| 57-55-6 | Propylene glycol | 310 | 314 | nt |
| 57-74-9 | Chlordane | 260 | 261 | T |
| 58-89-9 | Lindane | 260 | 261 | T |
| 59-50-7 | 4-Chloro-m-cresol | 260 / 310 | 263 / 316 | nt |
| 60-12-8 | Phenethyl alcohol | 310 | 318 | nt |
| 60-29-7 | Ethyl ether | 240 | 241 | T |
| 60-33-3 | Linoleic acid | 100 | 102 | nt |
| 60-34-4 | Methylhydrazine | 280 | 280 | T |
| 60-35-5 | Acetamide | 130 | 132 | nt |
| 62-50-0 | Ethyl methanesulfonate | 500 | 507 | nt |
| 62-53-3 | Aniline | 140 | 145 | T |
| 62-75-9 | Dimethyl nitrosamine | 450 | 450 | T |
| 64-17-5 | Ethanol | 310 | 311 | nt |
| 64-18-6 | Formic acid | 100 | 102 | T |
| 64-19-7 | Acetic acid | 100 | 102 | T |
| 64-67-5 | Diethyl sulfate | 500 | 507 | T |
| 66-25-1 | 1-Hexanal | 120 | 121 | nt |
| 67-56-1 | Methanol | 310 | 311 | T |
| 67-63-0 | Isopropanol | 310 | 312 | T |
| 67-64-1 | Acetone | 390 | 391 | T |
| 67-66-3 | Chloroform | 260 | 261 | T |
| 67-68-5 | Dimethyl sulfoxide | 500 | 503 | T |
| 67-72-1 | Carbon hexachloride | 260 | 261 | nt |
| 68-11-1 | Thioglycolic acid | 100 / 500 | 103 / 501 | T |
| 68-12-2 | N,N-Dimethylformamide | 130 | 132 | T |
| 71-23-8 | n-Propanol | 310 | 311 | nt |
| 71-36-3 | n-Butanol | 310 | 311 | T |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|-------------------------|-----------|-----------|---------|
| 71-41-0 | n-Pentanol | 310 | 311 | nt |
| 71-43-2 | Benzene | 290 | 292 | T |
| 71-55-6 | 1,1,1-Trichloroethane | 260 | 261 | T |
| 74-82-8 | Methane | 290 | 291 | nt |
| 74-83-9 | Methyl bromide | 260 | 261 | T |
| 74-85-1 | Ethylene | 290 | 294 | nt |
| 74-87-3 | Methyl chloride | 260 | 261 | T |
| 74-88-4 | Methyl iodide | 260 | 261 | T |
| 74-89-5 | Methylamine | 140 | 141 | T |
| 74-90-8 | Hydrogen cyanide gas | 345 / 350 | 345 / 350 | T |
| 74-90-8 | Hydrogen cyanide liquid | 345 / 370 | 345 / 370 | T |
| 74-93-1 | Methyl mercaptan | 500 | 501 | T |
| 74-95-3 | Methylene bromide | 260 | 261 | nt |
| 74-97-5 | Bromochloromethane | 260 | 261 | nt |
| 74-98-6 | Propane | 290 | 291 | nt |
| 75-00-3 | Ethyl chloride | 260 | 261 | T |
| 75-01-4 | Vinyl chloride | 260 | 264 | T |
| 75-02-5 | Vinyl fluoride | 260 | 264 | nt |
| 75-03-6 | Ethyl iodide | 260 | 261 | nt |
| 75-04-7 | Ethylamine | 140 | 141 | T |
| 75-05-8 | Acetonitrile | 430 | 431 | T |
| 75-07-0 | Acetaldehyde | 120 | 121 | T |
| 75-08-1 | Ethyl mercaptan | 500 | 501 | nt |
| 75-09-2 | Dichloromethane | 260 | 261 | T |
| 75-12-7 | Formamide | 130 | 132 | nt |
| 75-15-0 | Carbon disulfide | 500 | 502 | T |
| 75-18-3 | Dimethyl sulfide | 500 | 502 | T |
| 75-21-8 | Ethylene oxide | 270 | 275 | T |
| 75-25-2 | Tribromomethane | 260 | 261 | nt |
| 75-28-5 | Isobutane | 290 | 291 | nt |
| 75-29-6 | Isopropyl chloride | 260 | 261 | nt |
| 75-31-0 | Isopropylamine | 140 | 141 | T |
| 75-34-3 | 1,1-Dichloroethane | 260 | 261 | nt |
| 75-35-4 | Vinylidene chloride | 260 | 264 | T |
| 75-36-5 | Acetyl chloride | 110 | 111 | T |
| 75-44-5 | Phosgene | 350 | 350 | T |
| 75-46-7 | Trifluoromethane | 260 | 261 | T |
| 75-50-3 | Trimethylamine gas | 140 | 143 | T |
| 75-52-5 | Nitromethane | 440 | 441 | T |
| 75-55-8 | Propyleneimine | 270 | 274 | nt |
| 75-56-9 | 1,2-Propylene oxide | 270 | 275 | T |
| 75-64-9 | tert-Butylamine | 140 | 141 | T |
| 75-65-0 | tert-Butyl alcohol | 310 | 313 | nt |
| 75-66-1 | t-Butyl mercaptan | 500 | 501 | nt |
| 75-66-1 | 2-Methyl-2-propanethiol | 500 | 501 | nt |
| 75-69-4 | Trichlorofluoromethane | 260 | 261 | nt |

Chemical Index by Chemical Abstract System (CAS) Number

| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|---------------------------------------|-----------|-----------|---------|
| 75-70-7 | Trichloromethanethiol | 500 | 501 | nt |
| 75-73-0 | Tetrafluoromethane | 260 | 261 | T |
| 75-75-2 | Methanesulfonic acid | 500 | 504 | T |
| 75-78-5 | Dimethyldichlorosilane | 480 | 480 | T |
| 75-79-6 | Methyl trichlorosilane | 480 | 480 | T |
| 75-86-5 | Acetone cyanohydrin | 310 / 430 | 313 / 431 | T |
| 75-87-6 | Trichloroacetaldehyde | 120 | 121 | nt |
| 75-89-8 | 2,2,2-Trifluoroethanol | 310 | 315 | T |
| 75-93-4 | Methyl sulfate | 500 | 507 | nt |
| 75-94-5 | Trichlorovinylsilane | 480 | 480 | T |
| 76-01-7 | Pentachloroethane | 260 | 261 | nt |
| 76-03-9 | Trichloroacetic acid | 100 | 103 | T |
| 76-05-1 | Trifluoroacetic acid | 100 | 103 | T |
| 76-06-2 | Chloropicrin | 260 | 261 | nt |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 260 | 261 | T |
| 76-16-4 | Hexafluoroethane | 260 | 261 | T |
| 77-47-4 | Hexachlorocyclopentadiene | 260 | 264 | nt |
| 77-78-1 | Dimethyl sulfate | 500 | 507 | T |
| 77-81-6 | Tabun | 460 / 595 | 462 / 595 | T |
| 77-92-9 | Citric acid | 100 | 104 | nt |
| 78-00-2 | Tetraethyl lead | 470 | 470 | T |
| 78-10-4 | Tetraethoxysilane | 480 | 480 | T |
| 78-59-1 | Isophorone | 390 | 391 | nt |
| 78-78-4 | Isopentane | 290 | 291 | nt |
| 78-79-5 | Isoprene | 290 | 296 | nt |
| 78-81-9 | Isobutylamine | 140 | 141 | nt |
| 78-83-1 | Isobutanol | 310 | 311 | nt |
| 78-84-2 | Isobutyraldehyde | 120 | 121 | nt |
| 78-87-5 | Propylene dichloride | 260 | 261 | T |
| 78-88-6 | 2,3-Dichloropropene | 260 | 261 | T |
| 78-90-0 | Propylene diamine | 140 | 148 | nt |
| 78-92-2 | sec-Butyl alcohol | 310 | 312 | nt |
| 78-93-3 | Methyl ethyl ketone | 390 | 391 | T |
| 78-95-5 | Chloroacetone | 390 | 391 | T |
| 79-00-5 | 1,1,2-Trichloroethane | 260 | 261 | T |
| 79-01-6 | Trichloroethylene | 260 | 264 | T |
| 79-03-8 | Propanoyl chloride | 110 | 111 | nt |
| 79-04-9 | Chloroacetyl chloride | 110 | 111 | T |
| 79-06-1 | Acrylamide | 130 | 135 | T |
| 79-09-4 | Propionic acid | 100 | 102 | nt |
| 79-10-7 | Acrylic acid | 100 | 102 | T |
| 79-11-8 | Chloroacetic acid | 100 | 103 | T |
| 79-14-1 | Glycolic acid | 100 | 103 | T |
| 79-20-9 | Methyl acetate | 220 | 222 | nt |
| 79-21-0 | Peroxyacetic acid | 300 | 300 | nt |
| 79-22-1 | Methyl chloroformate | 110 | 113 | T |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|-----------------------------------|-----------|-----------|---------|
| 79-24-3 | Nitroethane | 440 | 441 | nt |
| 79-27-6 | 1,1,2,2-Tetrabromoethane | 260 | 261 | nt |
| 79-34-5 | 1,1,1,2-Tetrachloroethane | 260 | 261 | T |
| 79-36-7 | Dichloroacetyl chloride | 110 | 111 | T |
| 79-39-0 | Methacrylamide | 130 | 135 | nt |
| 79-41-4 | Methacrylic acid | 100 | 102 | T |
| 79-43-6 | Dichloroacetic acid | 100 | 103 | nt |
| 79-46-9 | 2-Nitropropane | 440 | 441 | T |
| 79-95-8 | 2,2', 6,6'-Tetrachlorobisphenol A | 260 / 310 | 263 / 316 | T |
| 80-05-7 | 4,4'-Isopropylidene diphenol | 310 | 316 | nt |
| 80-43-3 | Cumene peroxide | 300 | 300 | nt |
| 80-62-6 | Methyl methacrylate | 220 | 223 | nt |
| 84-66-2 | Diethyl phthalate | 220 | 226 | nt |
| 84-69-5 | Diisobutyl phthalate | 220 | 226 | nt |
| 84-74-2 | n-Butyl phthalate | 220 | 226 | nt |
| 85-01-8 | Phenanthrene | 290 | 293 | nt |
| 85-68-7 | Butyl benzyl phthalate | 220 | 226 | nt |
| 86-73-7 | Fluorene | 290 | 293 | nt |
| 87-68-3 | Hexachlorobutadiene | 260 | 264 | T |
| 87-86-5 | Pentachlorophenol | 310 | 316 | T |
| 87-90-1 | Trichloroisocyanuric acid | 270 | 274 | nt |
| 88-12-0 | N-Vinylpyrrolidone | 130 | 132 | nt |
| 88-72-2 | o-Nitrotoluene | 440 | 442 | T |
| 88-73-3 | o-Nitrochlorobenzene | 260 / 440 | 263 / 442 | T |
| 88-75-5 | 2-Nitrophenol | 310 / 440 | 316 / 442 | T |
| 88-89-1 | 2,4,6-Trinitrophenol | 310 / 440 | 316 / 440 | nt |
| 89-72-5 | o-sec-Butylphenol | 310 | 316 | nt |
| 90-00-6 | Ethylphenol | 310 | 316 | nt |
| 91-17-8 | Decahydronaphthalene | 290 | 291 | nt |
| 91-20-3 | Naphthalene | 290 | 293 | T |
| 91-22-5 | Quinoline | 270 | 274 | nt |
| 91-66-7 | Diethylaniline crude | 140 | 146 | T |
| 91-67-8 | Diethyl-m-toluidine crude | 140 | 145 | T |
| 91-94-1 | 3,3'-Dichlorobenzidine | 140 / 260 | 149 / 263 | nt |
| 92-87-5 | Benzidine | 140 | 145 / 149 | T |
| 93-89-0 | Ethyl benzoate | 220 | 226 | nt |
| 95-47-6 | o-Xylene | 290 | 292 | nt |
| 95-48-7 | o-Cresol | 310 | 316 | T |
| 95-49-8 | o-Chlorotoluene | 260 | 263 | T |
| 95-50-1 | 1,2-Dichlorobenzene | 260 | 263 | nt |
| 95-51-2 | o-Chloroaniline | 140 | 145 | nt |
| 95-53-4 | o-Toluidine | 140 | 145 | T |
| 95-57-8 | o-Chlorophenol | 260 / 310 | 263 / 316 | nt |
| 95-63-6 | 1,2,4-Trimethylbenzene | 290 | 292 | nt |
| 95-76-1 | 3,4-Dichloroaniline | 140 / 260 | 145 / 263 | T |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 260 | 261 | nt |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|--------------------------------------|-----------|-----------|---------|
| 96-18-4 | 1,2,3-Trichloropropane | 260 | 261 | nt |
| 96-29-7 | Methyl ethyl ketoxime | 590 | 590 | T |
| 96-33-3 | Methyl acrylate | 220 | 223 | T |
| 96-34-4 | Methyl chloroacetate | 220 | 222 | nt |
| 96-48-0 | gamma-Butyrolactone | 220 | 225 | nt |
| 96-64-0 | Soman (GD) Chemical Agent | 460 / 595 | 462 / 595 | T |
| 97-63-2 | Ethyl methacrylate | 220 | 223 | T |
| 97-93-8 | Triethylaluminum | 470 | 470 | nt |
| 98-00-0 | 2-Furyl methanol | 310 | 318 | nt |
| 98-01-1 | 2-Furaldehyde | 120 / 270 | 122 / 277 | T |
| 98-07-7 | Benzotrichloride | 260 | 263 | nt |
| 98-09-9 | Benzene sulfonyl chloride | 500 | 505 | T |
| 98-13-5 | Trichlorophenylsilane | 480 | 480 | T |
| 98-29-3 | 4-tert-Butyl catechol | 310 | 316 | nt |
| 98-54-4 | p-tert-Butylphenol | 310 | 316 | nt |
| 98-55-5 | Trimethylcyclohexane | 290 | 291 | nt |
| 98-56-6 | 4-Chlorobenzotrifluoride | 260 | 263 | nt |
| 98-82-8 | Cumene | 290 | 292 | T |
| 98-85-1 | a-Phenylethyl alcohol | 310 | 318 | T |
| 98-86-2 | Acetophenone | 390 | 392 | nt |
| 98-88-4 | Benzoyl chloride | 110 | 112 | T |
| 98-95-3 | Nitrobenzene | 440 | 441 | T |
| 99-08-1 | m-Nitrotoluene | 440 | 442 | nt |
| 99-99-0 | p-Nitrotoluene | 440 | 442 | T |
| 100-00-5 | p-Nitrochlorobenzene | 260 / 440 | 263 / 442 | T |
| 100-07-2 | Anisoyl chloride | 110 / 240 | 112 / 243 | nt |
| 100-37-8 | N,N-Diethylethanolamine | 140 | 143 | nt |
| 100-39-0 | Benzyl bromide | 260 | 266 | nt |
| 100-40-3 | 4-Vinyl-1-cyclohexene | 290 | 294 | nt |
| 100-41-4 | Ethyl benzene | 290 | 290 | T |
| 100-42-5 | Styrene | 290 | 292 | T |
| 100-43-6 | 4-Vinyl pyridine | 270 | 271 | T |
| 100-44-7 | Benzyl chloride | 260 | 266 | T |
| 100-47-0 | Benzonitrile | 430 | 432 | T |
| 100-51-6 | Benzyl alcohol | 310 | 312 | T |
| 100-52-7 | Benzaldehyde | 120 | 122 | nt |
| 100-61-8 | N-Methylaniline | 140 | 146 | nt |
| 100-63-0 | Phenyl hydrazine | 280 | 280 | nt |
| 100-97-0 | Hexamethylenetriamine | 270 | 274 | nt |
| 101-02-0 | Triphenyl phosphite | 460 | 462 | nt |
| 101-14-4 | 4,4'-Methylene bis (o-chloroaniline) | 140 | 149 | T |
| 101-68-8 | 4,4'-Diphenyl methane diisocyanate | 210 | 212 | T |
| 101-77-9 | 4,4'-Methylene dianiline | 140 | 145 / 149 | T |
| 101-80-4 | 4,4'-Oxydianiline | 140 | 149 | nt |
| 102-69-2 | Tripropylamine | 140 | 146 | nt |
| 102-70-5 | Triallylamine | 140 | 143 | nt |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|----------------------------|-----------|-----------|---------|
| 102-71-6 | Triethanolamine | 140 | 143 | nt |
| 102-82-9 | Tributylamine | 140 | 143 | nt |
| 103-11-7 | 2-Ethylhexyl acrylate | 220 | 223 | nt |
| 103-71-9 | Phenyl isocyanate | 210 | 212 | T |
| 104-49-4 | Paraphenylene diisocyanate | 210 | 212 | T |
| 104-75-6 | 2-Ethylhexylamine | 140 | 141 | nt |
| 104-76-7 | 2-Ethylhexanol | 310 | 311 | nt |
| 104-90-5 | Methyl ethyl pyridine | 270 | 271 | nt |
| 105-58-8 | Diethyl carbonate | 230 | 233 | nt |
| 105-67-9 | 2,4-Dimethylphenol | 310 | 316 | nt |
| 106-20-7 | 2,2'-Diethyldihexylamine | 140 | 142 | nt |
| 106-47-8 | p-Chloroaniline | 140 | 145 | T |
| 106-48-9 | 4-Chlorophenol | 260 / 310 | 263 / 316 | T |
| 106-63-8 | Isobutyl acrylate | 220 | 223 | nt |
| 106-88-7 | 1,2-Butylene oxide | 270 | 275 | T |
| 106-89-8 | Epichlorohydrin | 260 / 270 | 261 / 275 | T |
| 106-92-3 | Allyl glycidyl ether | 270 | 275 | nt |
| 106-93-4 | Ethylene dibromide | 260 | 261 | T |
| 106-94-5 | 1-Bromo propane | 310 | 315 | nt |
| 106-95-6 | Allyl bromide | 260 | 265 | nt |
| 106-97-8 | n-Butane | 290 | 291 | nt |
| 106-98-9 | Butene | 290 | 294 | nt |
| 106-99-0 | 1,3-Butadiene | 290 | 296 | T |
| 107-02-8 | Acrolein | 120 | 121 | T |
| 107-05-1 | Allyl chloride | 260 | 265 | T |
| 107-06-2 | 1,2-Dichloroethane | 260 | 261 | T |
| 107-07-3 | 2-Chloroethanol | 260 / 310 | 261 / 315 | T |
| 107-10-8 | n-Propylamine | 140 | 141 | nt |
| 107-11-9 | Allylamine | 140 | 141 | nt |
| 107-12-0 | Ethyl cyanide | 345 | 345 | nt |
| 107-13-1 | Acrylonitrile | 430 | 431 | T |
| 107-14-2 | Chloroacetonitrile | 260 / 430 | 261 / 431 | nt |
| 107-15-3 | Ethylenediamine | 140 | 148 | T |
| 107-18-6 | Allyl alcohol | 310 | 311 | T |
| 107-20-0 | 2-Chloroacetaldehyde | 120 / 260 | 121 / 261 | nt |
| 107-21-1 | Ethylene glycol | 310 | 314 | T |
| 107-30-2 | Chloromethyl methyl ether | 240 | 241 | T |
| 107-31-3 | Methyl formate | 220 | 221 | nt |
| 107-44-8 | Sarin | 460 / 595 | 462 / 595 | T |
| 107-88-0 | 1,3-Butylene glycol | 310 | 314 | nt |
| 107-92-6 | n-Butyric acid | 100 | 102 | T |
| 107-98-2 | 1-Methoxy-2-propanol | 240 | 245 | nt |
| 108-01-0 | 2-Dimethyl aminoethanol | 140 | 143 | nt |
| 108-03-2 | 1-Nitropropane | 440 | 441 | nt |
| 108-05-4 | Vinyl acetate | 220 | 222 | T |
| 108-09-8 | 1,3-Dimethyl butylamine | 140 | 143 | nt |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|--------------------------------------|-----------|-----------|---------|
| 108-10-1 | Methyl isobutyl ketone | 390 | 391 | T |
| 108-11-2 | Methyl isobutyl carbinol | 310 | 312 | nt |
| 108-18-9 | Diisopropylamine | 140 | 142 | nt |
| 108-20-3 | Isopropyl ether | 240 | 241 | nt |
| 108-21-4 | Isopropyl acetate | 220 | 222 | nt |
| 108-24-7 | Acetic anhydride | 160 | 161 | T |
| 108-31-6 | Maleic anhydride | 160 | 161 | nt |
| 108-39-4 | m-Cresol | 310 | 316 | nt |
| 108-43-0 | 3-Chlorophenol | 260 / 310 | 263 / 316 | nt |
| 108-44-1 | m-Toluidine | 140 | 145 | T |
| 108-45-2 | m-Phenylenediamine | 140 | 149 | nt |
| 108-46-3 | 1,3-Benzenediol | 310 | 316 | nt |
| 108-60-1 | Dichloroisopropyl ether | 240 / 260 | 241 / 261 | nt |
| 108-77-0 | Cyanuric chloride | 260 / 270 | 263 / 274 | T |
| 108-83-8 | Diisobutyl ketone | 390 | 391 | nt |
| 108-86-1 | Phenyl bromide | 260 | 263 | nt |
| 108-88-3 | Toluene | 290 | 292 | T |
| 108-90-7 | Chlorobenzene | 260 | 263 | T |
| 108-91-8 | Cyclohexylamine | 140 | 141 | nt |
| 108-93-0 | Cyclohexanol | 310 | 312 | nt |
| 108-94-1 | Cyclohexanone | 390 | 391 | T |
| 108-95-2 | Phenol | 310 | 316 | T |
| 108-98-5 | Phenyl mercaptan | 500 | 501 | T |
| 108-99-6 | 3-Picoline | 270 | 271 | T |
| 109-06-8 | 2-Picoline | 270 | 271 | T |
| 109-55-7 | 3-Dimethyl aminopropylamine | 140 | 148 | nt |
| 109-60-4 | Propyl acetate | 220 | 222 | nt |
| 109-63-7 | Boron trifluoride etherate | 590 | 590 | T |
| 109-69-3 | n-Butyl chloride | 260 | 261 | nt |
| 109-73-9 | n-Butylamine | 140 | 141 | T |
| 109-79-5 | n-Butyl mercaptan | 500 | 501 | nt |
| 109-83-1 | N-Methylethanolamine | 140 | 142 | nt |
| 109-86-4 | Methyl Cellosolve® | 240 | 245 | T |
| 109-89-7 | Diethylamine | 140 | 142 | T |
| 109-92-2 | Ethyl vinyl ether | 240 / 260 | 246 / 261 | nt |
| 109-97-7 | Pyrrole | 270 | 274 | nt |
| 109-99-9 | Tetrahydrofuran | 240 | 241 | T |
| 110-00-9 | Furan | 270 | 277 | nt |
| 110-16-7 | Maleic acid | 100 | 104 | nt |
| 110-18-9 | N,N,N,N'-Tetramethyl ethylenediamine | 140 | 148 | nt |
| 110-49-6 | Methyl Cellosolve® acetate | 240 | 245 | T |
| 110-51-0 | Borane pyridine complex | 590 | 590 | nt |
| 110-52-1 | 1,4-Dibromobutane | 260 | 261 | nt |
| 110-54-3 | n-Hexane | 290 | 291 | T |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 260 | 264 | T |
| 110-63-4 | 1,4-Butanediol | 310 | 314 | nt |

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|------------|------------------------------------|-----------|-----------|---------|
| 110-75-8 | 2-Chloroethyl vinyl ether | 240 / 260 | 241 / 261 | nt |
| 110-80-5 | Ethyl Cellosolve® | 240 | 245 | T |
| 110-82-7 | Cyclohexane | 290 | 291 | T |
| 110-85-0 | 1,4-Diethylenediamine | 270 | 274 | nt |
| 110-86-1 | Pyridine | 270 | 271 | T |
| 110-89-4 | Piperidine | 270 | 274 | nt |
| 110-91-8 | Morpholine | 140 | 142 | T |
| 111-15-9 | Ethyl Cellosolve® acetate | 240 | 245 | T |
| 111-27-3 | Hexyl alcohol | 310 | 311 | nt |
| 111-30-8 | Glutaraldehyde | 120 | 121 | T |
| 111-40-0 | Diethylenetriamine | 140 | 148 | T |
| 111-42-2 | Diethanolamine | 140 | 142 | nt |
| 111-44-4 | Dichloroethyl ether | 240 / 260 | 241 / 261 | T |
| 111-46-6 | Diethylene glycol | 310 | 314 | nt |
| 111-55-7 | Ethylene glycol diacetate | 220 | 222 | nt |
| 111-65-9 | n-Octane | 290 | 291 | T |
| 111-69-3 | Adiponitrile | 430 | 431 | T |
| 111-76-2 | Butyl Cellosolve® | 240 | 245 | T |
| 111-77-3 | Diethylene glycol monomethyl ether | 240 | 245 | nt |
| 111-86-4 | n-Octylamine | 140 | 141 | nt |
| 111-87-5 | n-Octanol | 310 | 311 | nt |
| 111-90-0 | Ethylene diglycol monoethyl ether | 240 | 245 | T |
| 111-92-2 | Di-n-butylamine | 140 | 142 | nt |
| 112-07-2 | Butyl Cellosolve® acetate | 240 | 245 | nt |
| 112-20-9 | Nonylamine | 140 | 141 | nt |
| 112-24-3 | Triethylenetetramine | 140 | 149 | nt |
| 112-31-2 | n-Decyl aldehyde | 120 | 121 | nt |
| 112-34-5 | n-Butyl Carbitol® | 240 | 245 | nt |
| 112-35-6 | Methyltriglycol | 240 | 245 | nt |
| 112-52-7 | Chlorododecane | 260 | 261 | nt |
| 112-57-2 | Tetraethylene pentamine | 140 | 148 | nt |
| 112-80-1 | Oleic acid | 100 | 102 | nt |
| 115-10-6 | Dimethyl ether | 240 | 241 | T |
| 115-20-8 | 2,2,2-Trichloroethanol | 310 | 315 | T |
| 116-02-9 | 3,5,5-Trimethyl cyclohexanol | 310 | 312 | nt |
| 116-14-3 | Tetrafluoroethylene | 260 | 264 | nt |
| 117-81-7 | Di (2-ethylhexyl) phthalate | 220 | 226 | T |
| 117-84-0 | Di-n-octyl phthalate | 220 | 226 | nt |
| 118-74-1 | Hexachlorobenzene | 260 | 263 | nt |
| 118-79-6 | Tribromophenol | 310 | 316 | nt |
| 118-96-7 | 2,4,6-Trinitrotoluene | 440 | 442 | nt |
| 119-36-8 | Methyl salicylate | 220 | 226 | T |
| 120-12-7 | Anthracene | 290 | 293 | T |
| 120-51-4 | Benzyl benzoate | 220 | 226 | nt |
| 120-61-6 | Dimethyl terephthalate | 220 | 226 | nt |
| 120-82-1 | 1,2,4-Trichlorobenzene | 260 | 263 | T |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|-----------------------------|-----------|-----------|---------|
| 120-83-2 | 2,4-Dichlorophenol | 260 / 310 | 263 / 316 | nt |
| 121-44-8 | Triethylamine | 140 | 143 | T |
| 121-45-9 | Trimethyl phosphite | 460 | 462 | T |
| 121-69-7 | N,N-Dimethylaniline | 140 | 146 | T |
| 121-75-5 | Malathion | 460 | 462 | T |
| 122-39-4 | Diphenylamine | 140 | 146 | nt |
| 122-60-1 | Phenyl glycidyl ether | 270 | 275 | T |
| 122-66-7 | Hydrazobenzene | 280 | 280 | nt |
| 123-05-7 | Ethyl hexaldehyde | 120 | 121 | nt |
| 123-31-9 | Hydroquinone | 310 | 316 | nt |
| 123-38-6 | Propionaldehyde | 120 | 121 | nt |
| 123-51-3 | Isoamyl alcohol | 310 | 312 | T |
| 123-62-6 | Propionic anhydride | 160 | 161 | nt |
| 123-63-7 | Paraldehyde | 120 | 121 | nt |
| 123-72-8 | n-Butyraldehyde | 120 | 121 | T |
| 123-73-9 | trans-Crotonaldehyde | 120 | 121 | nt |
| 123-75-1 | Pyrrolidine | 270 | 274 | T |
| 123-86-4 | n-Butyl acetate | 220 | 222 | T |
| 123-91-1 | 1,4-Dioxane | 270 | 278 | T |
| 124-02-7 | Diallylamine | 140 | 142 | nt |
| 124-04-9 | Adipic acid | 100 | 104 | nt |
| 124-07-2 | Octanoic acid | 100 | 102 | nt |
| 124-09-4 | Hexamethylene diamine | 140 | 148 | T |
| 124-18-5 | Decane | 290 | 291 | nt |
| 124-40-3 | Dimethylamine | 140 | 142 | T |
| 124-41-4 | Sodium methylate | 550 | 550 | T |
| 126-98-7 | Methacrylonitrile | 430 | 431 | nt |
| 126-99-8 | 2-Chloro-1,3-butadiene | 260 | 264 | nt |
| 127-00-4 | 1-Chloro-2-propanol | 260 / 310 | 261 / 315 | nt |
| 127-08-2 | Potassium acetate | 340 | 340 | T |
| 127-18-4 | 1,1,2,2-Tetrachloroethylene | 260 | 264 | T |
| 127-19-5 | N,N-Dimethylacetamide | 130 | 132 | T |
| 129-00-0 | Benzophenanthrene | 290 | 293 | nt |
| 131-11-3 | Dimethyl phthalate | 220 | 226 | nt |
| 134-32-7 | Naphthylamine | 140 | 145 | nt |
| 136-60-7 | n-Butyl benzoate | 220 | 226 | nt |
| 137-06-4 | 2-Tolyl mercaptan | 500 | 501 | nt |
| 138-86-3 | Dipentene | 290 | 296 | nt |
| 140-11-4 | Benzyl acetate | 220 | 222 | nt |
| 140-88-5 | Ethyl acrylate | 220 | 223 | T |
| 141-32-2 | n-Butyl acrylate | 220 | 223 | T |
| 141-43-5 | Ethanolamine | 140 / 310 | 141 / 311 | T |
| 141-78-6 | Ethyl acetate | 220 | 222 | T |
| 141-79-7 | Mesityl oxide | 390 | 391 | nt |
| 141-91-3 | Dimethylmorpholine | 140 | 142 | nt |
| 141-97-9 | Ethyl acetoacetate | 220 | 222 | nt |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|------------------------------------|-----------|-----------|---------|
| 142-82-5 | n-Heptane | 290 | 291 | nt |
| 142-84-7 | n-Dipropylamine | 140 | 142 | nt |
| 142-96-1 | n-Butyl ether | 240 | 241 | T |
| 143-07-7 | Lauric acid | 100 | 102 | nt |
| 143-33-9 | Sodium cyanide | 345 | 345 | T |
| 144-55-8 | Sodium bicarbonate | 340 | 340 | nt |
| 144-62-7 | Oxalic acid | 100 | 104 | T |
| 149-57-5 | 2-Ethylhexanoic acid | 100 | 102 | nt |
| 151-50-8 | Potassium cyanide | 345 | 345 | T |
| 151-56-4 | Ethyleneimine | 270 | 274 | T |
| 151-67-7 | Halothane | 260 | 261 | nt |
| 156-60-5 | trans-1,2-dichloroethylene | 260 | 261 | T |
| 218-01-9 | 1,2-Benzophenanthrene | 290 | 293 | nt |
| 260-94-6 | Acridine | 290 | 293 | nt |
| 287-92-3 | Cyclopentane | 290 | 291 | nt |
| 298-00-0 | Methyl parathion | 460 | 462 | nt |
| 302-01-2 | Hydrazine | 280 | 280 | T |
| 333-41-5 | Diazinon | 460 | 462 | T |
| 354-32-5 | Trifluoroacetyl chloride | 110 | 111 | T |
| 372-09-8 | Cyanoacetic acid | 100 | 103 | nt |
| 374-07-2 | 1,1-Dichloro tetrafluoroethane | 260 | 261 | T |
| 382-10-5 | Hexafluoroisobutylene | 260 | 261 | T |
| 420-04-2 | Cyanamide | 345 | 345 | nt |
| 459-72-3 | Ethyl fluoroacetate | 220 | 222 | nt |
| 460-00-4 | 4-Bromofluorobenzene | 260 | 263 | T |
| 460-19-5 | Cyanogen | 345 | 345 | nt |
| 462-06-6 | Fluorobenzene | 260 | 263 | T |
| 462-94-2 | 1,5-Pentanediamine | 140 | 148 | nt |
| 497-19-8 | Sodium carbonate | 340 | 340 | nt |
| 501-53-1 | Benzyl chloroformate | 110 | 113 | nt |
| 504-29-0 | 2-Aminopyridine | 270 | 271 | T |
| 504-60-9 | 1,3-Pentadiene | 290 | 296 | nt |
| 505-60-2 | Sulfur mustard (HD) chemical agent | 500 / 595 | 502 / 595 | T |
| 506-68-3 | Cyanogen bromide | 345 / 350 | 345 / 350 | nt |
| 506-77-4 | Chlorine cyanide | 345 | 345 | nt |
| 506-96-7 | Acetyl bromide | 110 | 111 | T |
| 512-56-1 | Trimethyl phosphate | 460 | 462 | T |
| 513-37-1 | Dimethylvinyl chloride | 260 | 264 | nt |
| 526-73-8 | 1,2,3-Trimethylbenzene | 290 | 292 | nt |
| 529-34-0 | Tetralone | 290 | 292 | nt |
| 532-27-4 | Chloroacetophenone | 260 / 390 | 261 / 392 | nt |
| 534-07-6 | 1,3-Dichloroacetone | 260 / 390 | 261 / 391 | T |
| 534-52-1 | Dinitro-o-cresol | 310 / 440 | 316 / 442 | T |
| 538-93-2 | Isobutylbenzene | 290 | 292 | nt |
| 540-51-2 | 2-Bromoethanol | 260 / 310 | 261 / 315 | nt |
| 540-54-5 | 1-Chloropropane | 260 | 261 | nt |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|-----------------------------|-----------|-----------|---------|
| 540-59-0 | 1,2-Dichloroethylene | 260 | 264 | nt |
| 540-84-1 | 2,2,4-Trimethylpentane | 140 | 142 | nt |
| 541-25-3 | Lewisite (L) Chemical Agent | 470 / 595 | 470 / 595 | T |
| 542-56-3 | Isobutyl nitrite | 430 | 431 | nt |
| 542-59-6 | Ethylene glycol monoacetate | 220 | 222 | nt |
| 542-62-1 | Barium cyanide | 345 | 345 | nt |
| 542-75-6 | 1,3-Dichloropropene | 260 | 261 | T |
| 542-76-7 | 3-Chloropropionitrile | 260 / 430 | 261 / 431 | nt |
| 542-88-1 | Bis(chloromethyl) ether | 240 / 260 | 241 / 261 | nt |
| 544-92-3 | Cuprous cyanide | 345 | 345 | nt |
| 545-06-2 | Trichloroacetonitrile | 430 | 431 | nt |
| 557-19-7 | Nickel cyanide | 345 | 345 | nt |
| 557-21-1 | Zinc cyanide | 345 | 345 | nt |
| 558-13-4 | Carbon tetrabromide | 260 | 261 | nt |
| 563-47-3 | 3-Chloro-2-methylpropene | 260 | 265 | nt |
| 583-52-8 | Potassium oxalate | 340 | 340 | nt |
| 584-08-7 | Potassium carbonate | 340 | 340 | nt |
| 584-84-9 | Toluene-2,4-diisocyanate | 210 | 212 | T |
| 590-17-0 | Bromoacetonitrile | 430 | 431 | nt |
| 590-86-3 | Isovaleraldehyde | 120 | 121 | nt |
| 591-78-6 | Methyl n-butyl ketone | 390 | 391 | nt |
| 592-01-8 | Calcium cyanide | 345 | 345 | nt |
| 592-04-1 | Mercuric cyanide | 345 | 345 | nt |
| 592-27-8 | Isooctane | 290 | 291 | nt |
| 592-41-6 | 1-Hexene | 290 | 294 | nt |
| 593-53-3 | Methyl fluoride | 260 | 261 | T |
| 593-60-2 | Vinyl bromide | 260 | 264 | nt |
| 611-14-3 | 2-Ethyltoluene | 290 | 292 | nt |
| 617-79-8 | 2-Ethylbutylamine | 140 | 141 | nt |
| 624-48-6 | Dimethyl maleate | 220 | 224 | T |
| 624-83-9 | Methyl isocyanate | 210 | 211 | T |
| 624-92-0 | Dimethyl disulfide | 500 | 502 | nt |
| 627-18-9 | 3-Bromo-1-propanol | 260 / 310 | 261 / 315 | nt |
| 627-30-5 | 3-Chloro-1-propanol | 260 / 310 | 261 / 315 | nt |
| 628-63-7 | n-Amyl acetate | 220 | 222 | T |
| 630-08-0 | Carbon monoxide | 350 | 350 | T |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 260 | 261 | nt |
| 631-61-8 | Ammonium acetate | 340 | 340 | nt |
| 640-19-7 | Fluoroacetamide | 130 | 132 | nt |
| 646-06-0 | 1,3-Dioxolane | 240 | 241 | nt |
| 692-42-2 | Diethyl arsine | 470 | 470 | nt |
| 764-41-0 | 1,4-Dichloro-2-butene | 260 | 264 | T |
| 765-34-4 | Glycidaldehyde | 270 | 275 | nt |
| 777-77-7 | Methylacrylic acid | 300 | 300 | nt |
| 811-97-2 | 1,1,1,2-Tetrafluoroethane | 260 | 261 | T |
| 818-61-1 | Hydroxyethylacrylate | 220 | 223 | nt |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|----------------------------------|-----------|-----------|---------|
| 822-06-0 | Hexamethylene diisocyanate | 210 | 211 | T |
| 828-00-2 | Dimethoxane | 270 | 278 | nt |
| 872-50-4 | n-Methyl-2-pyrrolidone | 130 | 132 | T |
| 920-37-6 | Chloroacrylonitrile | 260 / 430 | 264 / 431 | nt |
| 921-03-9 | 1,1,3-Trichloroacetone | 260 / 390 | 261 / 391 | T |
| 998-30-1 | Triethoxysilane | 480 | 480 | nt |
| 999-97-3 | Hexamethyldisilazane | 140 / 480 | 142 / 480 | T |
| 1066-30-4 | Chromic acetate | 550 | 550 | nt |
| 1300-71-6 | Xylenol | 310 | 316 | nt |
| 1300-73-8 | Xylidine | 140 | 145 | nt |
| 1303-28-2 | Arsenic pentoxide | 365 | 365 | nt |
| 1305-62-0 | Calcium hydroxide | 380 | 380 | nt |
| 1305-78-8 | Calcium oxide | 380 | 380 | nt |
| 1310-58-3 | Potassium hydroxide | 380 | 380 | T |
| 1310-65-2 | Lithium hydroxide | 380 | 380 | T |
| 1310-73-2 | Sodium hydroxide | 380 | 380 | T |
| 1313-82-2 | Sodium sulfide | 340 | 340 | nt |
| 1314-56-3 | Phosphoric anhydride | 370 | 370 | nt |
| 1317-65-3 | Calcium carbonate | 340 | 340 | nt |
| 1319-77-3 | Cresol, mixed isomers | 310 | 316 | T |
| 1321-12-6 | Nitrotoluene, mixture | 440 | 442 | nt |
| 1321-74-0 | Divinyl benzene | 290 | 292 | nt |
| 1327-53-3 | Arsenic trioxide | 365 | 365 | nt |
| 1330-20-7 | Xylene, mixed isomers | 290 | 292 | T |
| 1330-78-5 | Tritolyl phosphate | 460 | 462 | nt |
| 1333-82-0 | Chromic acid | 370 | 370 | T |
| 1336-21-6 | Ammonium hydroxide | 380 | 380 | T |
| 1338-23-4 | 2-Butanone peroxide | 300 | 300 | nt |
| 1401-55-4 | Tannic acid | 310 | 316 | nt |
| 1493-13-6 | Trifluoromethane sulfonic acid | 500 | 504 | T |
| 1552-12-1 | Cyclooctadiene | 290 | 296 | nt |
| 1615-80-1 | Diethylhydrazine | 280 | 280 | nt |
| 1633-83-6 | 1,4-Butanesultone | 500 | 503 | nt |
| 1634-04-4 | Methyl t-butyl ether | 240 | 241 | T |
| 1675-54-3 | Bisphenol-A diglycidyl ether | 270 | 275 | T |
| 1746-01-6 | Dioxin | 260 | 263 | nt |
| 1888-71-7 | Hexachloropropene | 260 | 264 | nt |
| 2050-92-2 | Di-n-amylamine | 140 | 142 | nt |
| 2163-42-0 | 2-Methyl-1,3-propanediol | 310 | 314 | nt |
| 2210-28-8 | Propyl methacrylate | 220 | 223 | nt |
| 2425-79-8 | 1,4-Butanediol diglycidyl ether | 270 | 275 | nt |
| 2551-62-4 | Sulfur hexafluoride | 350 / 500 | 350 / 509 | T |
| 2642-71-9 | Azinphos ethyl | 460 | 462 | nt |
| 2696-92-6 | Nitrosyl chloride | 350 | 350 | nt |
| 2807-30-9 | Ethylene glycol monopropyl ether | 240 | 245 | nt |
| 2921-88-2 | Chlorpyrifos | 460 | 462 | T |

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Chemical Index by Chemical Abstract System (CAS) Number

| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|-------------------------------------|-----------|-----------|---------|
| 3071-32-7 | Ethyl benzene hydroperoxide | 300 | 300 | nt |
| 3132-64-7 | Epibromohydrin | 270 | 275 | nt |
| 3173-53-3 | Cyclohexyl isocyanate | 210 | 211 | T |
| 3536-96-7 | Vinylmagnesium chloride, 16.5% | 470 | 470 | T |
| 3607-78-1 | 1,1,1-3,3,3-Hexachloropropane | 260 | 264 | T |
| 3811-04-9 | Potassium chloride | 340 | 340 | nt |
| 3887-02-3 | N-Methyl methacrylamide | 130 | 135 | nt |
| 4098-71-9 | Isophorone diisocyanate | 210 | 211 | nt |
| 4109-96-0 | Dichlorosilane | 480 | 480 | T |
| 4553-62-2 | 2-Methylglutaronitrile | 430 | 431 | T |
| 4635-87-4 | 3-Pentenenitrile | 430 | 431 | T |
| 4655-34-9 | Isopropyl methacrylate | 220 | 223 | nt |
| 5124-30-1 | Methylene bis(cyclohexylisocyanate) | 210 | 211 | nt |
| 5216-25-1 | 4-Chlorobenzotrichloride | 260 | 263 | nt |
| 5989-27-5 | d-Limonene | 290 | 296 | T |
| 6032-29-7 | 2-Pentanol | 310 | 312 | nt |
| 6153-56-6 | Oxalic acid dihydrate | 100 | 104 | T |
| 6192-52-5 | p-Toluene sulfonic acid monohydrate | 500 | 504 | nt |
| 6291-84-5 | Methyl aminopropylamine | 140 | 148 | nt |
| 6303-21-5 | Hypophosphorus acid | 370 | 370 | nt |
| 6915-15-7 | Malic acid | 100 | 104 | nt |
| 7439-97-6 | Mercury | 330 | 330 | T |
| 7446-09-5 | Sulfur dioxide | 350 / 365 | 350 / 365 | T |
| 7446-11-9 | Sulfur trioxide | 365 | 365 | T |
| 7446-14-2 | Lead sulfate | 340 | 340 | nt |
| 7446-70-0 | Aluminum chloride | 360 | 360 | nt |
| 7447-41-8 | Lithium chloride | 340 | 340 | T |
| 7487-88-9 | Magnesium sulfate | 340 | 340 | nt |
| 7487-94-7 | Mercuric chloride | 340 | 340 | T |
| 7550-45-0 | Titanium tetrachloride | 360 | 360 | T |
| 7553-56-2 | Iodine | 330 | 330 | T |
| 7601-54-9 | Sodium phosphate | 340 | 340 | nt |
| 7601-90-3 | Perchloric acid | 370 | 370 | T |
| 7631-90-5 | Sodium bisulfite | 340 | 340 | nt |
| 7637-07-2 | Boron trifluoride | 350 / 360 | 350 / 360 | T |
| 7647-01-0 | Hydrochloric acid | 370 | 370 | T |
| 7647-01-0 | Hydrogen chloride gas | 350 | 350 | T |
| 7647-14-5 | Sodium chloride | 340 | 340 | nt |
| 7647-18-9 | Antimony pentachloride | 360 | 360 | T |
| 7664-38-2 | Phosphoric acid | 370 | 370 | T |
| 7664-39-3 | Hydrofluoric acid | 370 | 370 | T |
| 7664-39-3 | Hydrogen fluoride gas | 350 | 350 | T |
| 7664-39-3 | Hydrogen fluoride liquid | 350 / 370 | 350 / 370 | T |
| 7664-41-7 | Ammonia gas | 350 | 350 | T |
| 7664-41-7 | Ammonia liquid | 350 / 380 | 350 / 380 | T |
| 7664-93-9 | Sulfuric acid | 370 | 370 | T |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|------------------------|-----------|-----------|---------|
| 7681-49-4 | Sodium fluoride | 340 | 340 | T |
| 7681-52-9 | Sodium hypochlorite | 340 | 340 | T |
| 7697-37-2 | Nitric acid | 370 | 370 | T |
| 7705-08-0 | Ferric chloride | 340 | 340 | nt |
| 7718-54-9 | Nickel chloride | 340 | 340 | nt |
| 7719-09-7 | Thionyl chloride | 360 | 360 | T |
| 7719-12-2 | Phosphorus trichloride | 360 | 360 | T |
| 7722-64-7 | Potassium permanganate | 340 | 340 | T |
| 7722-84-1 | Hydrogen peroxide | 300 | 300 | T |
| 7726-95-6 | Bromine | 330 | 330 | T |
| 7727-21-1 | Potassium persulfate | 340 | 340 | nt |
| 7732-18-5 | Water | 590 | 590 | nt |
| 7757-82-6 | Sodium sulfate | 340 | 340 | nt |
| 7757-83-7 | Disodium sulfite | 340 | 340 | nt |
| 7758-94-3 | Ferrous chloride | 340 | 340 | nt |
| 7758-98-7 | Cupric sulfate | 340 | 340 | nt |
| 7775-27-1 | Sodium persulfate | 340 | 340 | nt |
| 7778-39-4 | Arsenic acid | 370 | 370 | nt |
| 7782-41-4 | Fluorine | 350 | 350 | T |
| 7782-50-5 | Chlorine | 330 / 350 | 330 / 350 | T |
| 7782-99-2 | Sulfurous acid | 370 | 370 | nt |
| 7783-00-8 | Selenious acid | 370 | 370 | nt |
| 7783-06-4 | Hydrogen sulfide | 350 / 500 | 350 / 502 | T |
| 7783-07-5 | Hydrogen selenide | 350 | 350 | T |
| 7783-20-2 | Ammonium sulfate | 340 | 340 | nt |
| 7783-50-8 | Ferric fluoride | 340 | 340 | nt |
| 7783-54-2 | Nitrogen trifluoride | 350 | 350 | T |
| 7783-70-2 | Antimony pentafluoride | 360 | 360 | nt |
| 7783-82-6 | Tungsten hexafluoride | 350 | 350 | T |
| 7784-18-1 | Aluminum fluoride | 360 | 360 | nt |
| 7784-30-7 | Aluminum phosphate | 340 | 340 | nt |
| 7784-34-1 | Arsenic trichloride | 340 | 340 | nt |
| 7784-42-1 | Arsine | 350 | 350 | T |
| 7789-00-6 | Potassium chromate | 340 | 340 | T |
| 7789-21-1 | Fluorosulfonic acid | 370 | 370 | T |
| 7789-23-3 | Potassium fluoride | 340 | 340 | nt |
| 7789-30-2 | Bromine pentafluoride | 360 | 360 | nt |
| 7789-75-5 | Calcium fluoride | 340 | 340 | nt |
| 7790-91-2 | Chlorine trifluoride | 350 | 350 | T |
| 7790-94-5 | Chlorosulfonic acid | 370 / 500 | 370 / 504 | T |
| 7791-25-5 | Sulfuryl chloride | 350 / 360 | 350 / 360 | T |
| 7803-51-2 | Phosphine | 350 | 350 | T |
| 7803-57-8 | Hydrazine hydrate | 280 | 280 | T |
| 7803-62-5 | Silane | 480 | 480 | T |
| 8001-58-9 | Creosote | 310 | 316 | T |
| 8002-05-9 | Crude oil | 290 / 590 | 294 / 590 | T |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|------------|--|-----------|-----------|---------|
| 8004-13-5 | Dowtherm Heat Transfer Fluid | 590 | 590 | nt |
| 8006-64-2 | Turpentine | 290 | 294 | nt |
| 8008-20-6 | Kerosene | 290 | 291 | T |
| 8008-20-6 | JP-8 | 290 | 291 | T |
| 8008-20-6 | Jet A fuel | 290 | 291 | T |
| 8012-95-1 | Mineral oil | 290 | 291 | T |
| 8014-95-7 | Oleum | 370 | 370 | T |
| 8030-30-6 | Naphtha | 290 | 291 | nt |
| 8030-32-4 | VM and P naphtha | 290 | 291 | T |
| 8032-32-4 | Mineral oil | 290 | 291 | T |
| 8052-41-3 | Stoddard solvent | 290 | 291 | T |
| 9106-87-9 | Polymethylene polyphenylpolyisocyanate | 210 | 212 | T |
| 10024-97-2 | Nitrous oxide | 350 | 350 | T |
| 10025-67-9 | Disulfur dichloride | 500 | 502 | T |
| 10025-78-2 | Trichlorosilane | 480 | 480 | T |
| 10025-87-3 | Phosphorus oxychloride | 360 | 360 | T |
| 10025-91-9 | Antimony trichloride | 340 | 340 | nt |
| 10026-04-7 | Silicon tetrachloride | 360 / 480 | 360 / 480 | T |
| 10034-85-2 | Hydriodic acid | 370 | 370 | T |
| 10035-10-6 | Hydrobromic acid | 370 | 370 | nt |
| 10039-54-0 | Hydroxylamine sulfate | 500 | 507 | nt |
| 10043-01-3 | Aluminum sulfate | 340 | 340 | nt |
| 10043-35-3 | Boric acid | 370 | 370 | nt |
| 10043-52-4 | Calcium chloride | 340 | 340 | nt |
| 10049-04-4 | Chlorine dioxide | 350 | 350 | T |
| 10101-53-8 | Chromic sulfate | 340 | 340 | nt |
| 10102-43-9 | Nitric oxide | 350 | 350 | T |
| 10102-44-0 | Nitrogen dioxide | 350 | 350 | T |
| 10217-52-4 | Hydrazine hydrate | 280 | 280 | T |
| 10294-34-5 | Boron trichloride | 350 / 360 | 350 / 360 | T |
| 10544-72-6 | Nitrogen tetroxide | 350 | 350 | T |
| 10545-99-0 | Sulfur dichloride | 500 | 502 | T |
| 10588-01-9 | Sodium dichromate | 340 | 340 | nt |
| 11097-69-1 | PCB | 260 | 263 | T |
| 12125-01-8 | Ammonium fluoride | 340 | 340 | T |
| 12125-02-9 | Ammonium chloride | 340 | 340 | T |
| 12135-76-1 | Ammonium sulfide | 340 | 340 | nt |
| 13284-42-9 | 2-Pentenenitrile | 430 | 431 | nt |
| 13463-39-3 | Nickel carbonyl | 470 | 470 | T |
| 13463-67-7 | Titanium dioxide | 380 | 380 | nt |
| 13473-90-0 | Aluminum nitrate | 340 | 340 | nt |
| 13530-65-9 | Zinc chromate | 340 | 340 | nt |
| 13780-03-5 | Calcium bisulfate | 340 | 340 | nt |
| 13814-96-5 | Lead fluoroborate | 340 | 340 | nt |
| 13952-84-6 | sec-Butylamine | 140 | 141 | nt |
| 14307-35-8 | Lithium chromate | 340 | 340 | nt |

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| CAS Number | Index Name | Class | Sub-Class | T or nt |
|-------------|--|-----------|-----------|---------|
| 14486-19-2 | Cadmium fluoroborate | 360 | 360 | nt |
| 15120-17-9 | Sodium arsenite | 340 | 340 | nt |
| 16721-80-5 | Sodium hydrosulfide | 340 | 340 | nt |
| 16752-77-5 | Methomyl | 230 | 233 | T |
| 16872-11-0 | Fluoroboric acid | 370 | 370 | T |
| 16961-83-4 | Fluorosilicic acid | 370 | 370 | T |
| 19287-45-7 | Diborane | 350 | 350 | T |
| 19686-73-8 | 1-Bromo-2-propanol | 260 / 310 | 261 / 315 | nt |
| 21645-51-2 | Aluminum hydroxide | 380 | 380 | nt |
| 23135-22-0 | Oxamyl | 130 | 137 | nt |
| 25013-15-4 | Methylstyrene | 290 | 292 | nt |
| 25103-12-2 | Trioctyl phosphate | 460 | 462 | nt |
| 25103-58-6 | tert-Dodecyl mercaptan | 500 | 501 | nt |
| 25154-52-3 | n-Nonyl phenol | 310 | 316 | nt |
| 25155-15-1 | p-Cymene | 290 | 292 | nt |
| 25155-30-0 | Dodecyl benzene sulfonate | 500 | 507 | nt |
| 25323-30-2 | Dichloroethylene, all isomers | 260 | 264 | nt |
| 25550-58-7 | Dinitrophenol | 310 / 440 | 316 / 442 | nt |
| 25899-50-7 | cis-2-Pentenenitrile | 430 | 431 | T |
| 26447-14-3 | 1,2-Epoxy-3-(tolxyoxy)propane | 270 | 275 | nt |
| 26471-62-5 | Toluene-1,3-diisocyanate | 210 | 212 | T |
| 26746-38-3 | Dibutylphenol | 310 | 316 | nt |
| 28519-06-4 | Chlorodecane mixed isomers | 260 | 261 | nt |
| 30525-89-4 | Paraformaldehyde | 120 | 121 | nt |
| 30894-74-7 | 2,3-Dichloro-6-isopropyl-S-triazine | 270 | 274 | T |
| 50782-69-9 | VX Nerve Agent | 460 / 595 | 462 / 595 | T |
| 52583-42-3 | Nitric acid, red fuming | 370 | 370 | T |
| 57292-32-7 | Aluminum sulfate hydrate | 340 | 340 | nt |
| 63885-09-6 | Isocetaldehyde | 120 | 121 | nt |
| 64475-85-0 | Mineral spirits | 290 | 291 | T |
| 67664-94-2 | Epoxytrichloropropane | 270 | 275 | nt |
| 68131-30-6 | Green liquor | 590 | 590 | T |
| 68131-33-9 | White liquor | 590 | 590 | T |
| 68334-30-5 | Diesel fuel | 290 | 291 | T |
| 86290-81-5 | Gasoline | 290 | 291 / 292 | T |
| 95660-51-8 | Skydrol® | 460 | 462 | nt |
| 106602-80-6 | Otto Fuel II | 590 | 590 | nt |
| 191681-14-8 | AFFF | 590 | 590 | nt |
| 308074-23-9 | Black Liquor | 590 | 590 | T |
| mixture | Chemidize 727 ND | 590 | 590 | T |
| mixture | Cyanex® | 460 | 461 | nt |
| mixture | Cyanogen bromide 30% in bromic acid | 345 / 350 | 345 / 350 | nt |
| mixture | m-Cresol 55%, p-Cresol 30%, Phenol 15% | 310 | 316 | T |
| mixture | Decontaminating agent DS-2 | 590 | 590 | nt |
| mixture | Dichlorotoluene | 290 | 263 | T |
| mixture | Diesel test fuel | 290 | 291 | T |

Chemical Index by Chemical Abstract System (CAS) Number

| CAS Number | Index Name | Class | Sub-Class | T or nt |
|-------------------|---|--------------|------------------|----------------|
| mixture | DuPont Activators with hexamethylene diisocyanate | 210 / 590 | 211 / 590 | T |
| mixture | Ethyl benzene 80%, 4,6-Dinitro-o-cresol 20% | 590 | 590 | T |
| mixture | Ethylene oxide, 10% in HCFC 124 | 270 | 274 | T |
| mixture | Fuel oil | 290 | 291 | T |
| mixture | Glade Intech 200 | 590 | 590 | T |
| mixture | Hexamethylene diisocyanate in DuPont Activators | 590 | 590 | T |
| mixture | JP-4 jet fuel | 290 | 291 | T |
| mixture | Organo-Tin Paint | 470 | 470 | nt |
| mixture | Sodium-t-amylate / t-amyl alcohol | 590 | 590 | T |
| mixture | Tetramethyltin in n-pentane | 590 | 590 | T |

Chemical Warfare Agents

| Permeation test results are shown as follows: | | | | > = greater than | | | | |
|--|----------------|------------|----------|------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|
| Average Breakthrough Time (minutes) | | | | < = less than | | | | |
| Minimum Detectable Permeation Rate (µg/cm ² /min) | | | | nt = not tested | | | | |
| Agent | Common Name | CAS Number | Protocol | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
| GA | Tabun | 77-81-6 | DN5 | nt | nt | nt | >720 8 X 10 ⁻⁷ | >720 8 X 10 ⁻⁷ |
| | | | DN6 | nt | >720 2 X 10 ⁻⁶ | >720 2 X 10 ⁻⁶ | nt | >720 4 X 10 ⁻⁷ |
| GB | Sarin | 107-44-8 | DN5 | 360 1 X 10 ⁻⁵ | nt | nt | >720 4.2 X 10 ⁻⁷ | >720 4.2 X 10 ⁻⁷ |
| | | | DN6 | nt | >720 2 X 10 ⁻⁶ | >720 2 X 10 ⁻⁶ | >720 4 X 10 ⁻⁴ | >720 1 X 10 ⁻⁶ |
| GD | Soman | 99-64-0 | DN5 | nt | nt | nt | >720 4.2 X 10 ⁻⁷ | >720 2.1 X 10 ⁻⁷ |
| | | | DN6 | nt | >720 2 X 10 ⁻⁶ | >720 2 X 10 ⁻⁶ | nt | >720 4 X 10 ⁻⁷ |
| HD | Sulfur Mustard | 505-60-2 | DN3 | 180 0.002 | nt | nt | >720 4.2 X 10 ⁻⁷ | >720 0.00021 |
| | | | DN4 | nt | >720 <0.002 | >720 <0.002 | >720 8 X 10 ⁻⁴ | >720 8 X 10 ⁻⁴ |
| L | Lewisite | 541-25-3 | DN3 | >360 8 X 10 ⁻⁴ | nt | nt | >720 2.5 X 10 ⁻⁵ | >720 0.0000125 |
| | | | DN4 | nt | 360 0.006 | 360 0.006 | 120 7 X 10 ⁻⁵ | >720 8 X 10 ⁻⁴ |
| VX | VX Nerve Agent | 50782-69-9 | DN5 | >720 5 X 10 ⁻⁷ | nt | nt | >720 4.2 X 10 ⁻⁷ | >720 2.1 X 10 ⁻⁷ |
| | | | DN6 | nt | >720 2 X 10 ⁻⁶ | >720 2 X 10 ⁻⁶ | >720 8 X 10 ⁻⁷ | >720 8 X 10 ⁻⁷ |

Fabric Test Protocols.

All tests performed in triplicate for DuPont Personal Protection by an independent accredited laboratory at 22° C, 50% R.H.

Protocol DN3 - MIL-STD-282, Method T-209 (HD) or modified for Lewisite, for 12 hours at 10 g/m².

Protocol DN4 - MIL-STD-282, Method T-209 (HD) or modified for Lewisite, for 12 hours at 100 g/m² (total coverage).

Protocol DN5 - MIL-STD-282, Method T-208 (GB) or modified for GA, GD, and VX, for 12 hours at 10 g/m².

Protocol DN6 - MIL-STD-282, Method T-208 (GB) or modified for GA, GD, and VX, for 12 hours at 100 g/m² (total coverage).

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Permeation Data Table for Selected Tychem® Fabrics

| Permeation test results are listed as follows: | | Symbols and Abbreviations used in data table: | | | | | | | | |
|---|-----------|--|----------|-------|------------|------------|--------------|-----------|---------------------------|------------|
| Average Standardized Breakthrough Time (minutes) | | > = more than < = less than imm. = immediate (less than 10 minutes) | | | | | | | | |
| Average Steady-State Permeation Rate (µg/cm ² /min.) | | nm = not measured nd = not detected S = Solid L = Liquid G = Gas | | | | | | | | |
| | | * Actual breakthrough time; standardized data not available. | | | | | | | | |
| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
| 100 Carboxylic acids | | | | | | | | | | |
| 102 Aliphatic and Alicyclic, Unsubstituted | | | | | | | | | | |
| | | Acetic acid | 64-19-7 | L | imm. | >480 | | >480 | 339 | >480 |
| | | | | | 3 | <0.1 | | 0.08 | 1.3 | <0.1 |
| | | Acrylic acid | 79-10-7 | L | imm. | >480 | | >480 | 270 | >480 |
| | | | | | 5.4 | <0.001 | | <0.001 | 1.6 | <0.06 |
| | | Formic acid | 64-18-6 | L | imm. | >480 | | 260 | >480 | >480 |
| | | | | | 0.33 | <0.1 | | 0.24 | <0.01 | <0.01 |
| | | Methacrylic acid | 79-41-4 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.01 | <0.01 |
| 103 Aliphatic and Alicyclic, Substituted | | | | | | | | | | |
| | | Chloroacetic acid | 79-11-8 | L | | | | >480 | >480 | >480 |
| | | | | | | | | <0.1 | <0.1 | <0.1 |
| | | Chloroacetic acid, 75%-80% | 79-11-8 | L | 370 | >480 | | | >480 | >480 |
| | | | | | 1 | <0.1 | | | <0.01 | <0.01 |
| | | Glycolic acid, sat. sol. in water | 79-14-1 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.1 | <0.1 |
| | | Thioglycolic acid | 68-11-1 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.1 | <0.1 |
| | | Trichloroacetic acid | 76-03-9 | L | | | | >480 | | |
| | | | | | | | | <0.1 | | |
| | | Trifluoroacetic acid | 76-05-1 | L | | >480 | | >480 | | |
| | | | | | | <0.1 | | <0.01 | | |
| 104 Aliphatic and Alicyclic, Polybasic | | | | | | | | | | |
| | | Oxalic acid, 10.5% | 144-62-7 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.1 | <0.1 |
| 110 Acid Halides, Carboxylic | | | | | | | | | | |
| 111 Aliphatic and Alicyclic | | | | | | | | | | |
| | | Acetyl chloride | 75-36-5 | L | | 37* | | | 181 | >480 |
| | | | | | | 1.1 | | | 2 | <0.05 |
| | | Chloroacetyl chloride | 79-04-9 | L | | 120 | | | 160 | 160 |
| | | | | | | 15.6 | | | 23.2 | 23.2 |
| | | Dichloroacetyl chloride | 79-36-7 | L | | | | | 100 | >480 |
| | | | | | | | | | 20.5 | <0.01 |
| 112 Aromatic | | | | | | | | | | |
| | | Benzoyl chloride | 98-88-4 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.05 | <0.05 |
| 113 Chloroformates | | | | | | | | | | |
| | | Methyl chloroformate | 79-22-1 | L | | | | | >480 | >480 |
| | | | | | | | | | 0.011 | 0.011 |
| 120 Aldehydes | | | | | | | | | | |
| 121 Aliphatic and Alicyclic | | | | | | | | | | |
| | | Acetaldehyde | 75-07-0 | L | | | 109 | 109 | >480 | >480 |
| | | | | | | | 0.56 | 0.56 | <0.01 | <0.01 |
| | | Acrolein | 107-02-8 | L | | 60 | | 63 | >480 | >480 |
| | | | | | | 4.1 | | 0.41 | <0.02 | <0.02 |
| | | Acrolein, 59% | 107-02-8 | L | | imm. | | | >480 | >480 |
| | | | | | | 5.3 | | | <0.1 | <0.1 |
| | | n-Butyraldehyde | 123-72-8 | L | imm. | 50 | | | >480 | >480 |
| | | | | | 22 | 6.1 | | | <0.007 | <0.007 |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK | | |
|--|-----------|---|----------|--------------|---------------|---------------|----------------|----------------|---------------------------|----------------|----------------|--------------|
| | | trans-Crotonaldehyde | 123-73-9 | L | | 38 0.77 | | | >480 <0.006 | >480 <0.006 | | |
| | | Formaldehyde gas, 100 ppm | 50-00-0 | G | | | | | >480 <0.01 | >480 <0.01 | | |
| | | Formalin (Formaldehyde 37%) | 50-00-0 | L | imm. 0.31 | >480 <0.1 | | >480 <0.001 | >480 <0.09 | >480 <0.09 | | |
| | | Formalin, 10% | 50-00-0 | L | >480 0.003 | | | | | | | |
| | | Gluteraldehyde, 5% aqueous sol. | 111-30-8 | L | >480 <0.02 | >480 <0.04 | | | >480 <0.1 | >480 <0.1 | | |
| | | Gluteraldehyde, 50% | 111-30-8 | L | | >480 <0.1 | | | >480 <0.1 | >480 <0.1 | | |
| | | 122 Aromatic | | | | | | | | | | |
| | | 2-Furaldehyde | 98-01-1 | L | | 245* 0.2 | | >480 0.01 | >480 <0.01 | >480 <0.01 | | |
| 130 Amides | | | | | | | | | | | | |
| 132 Aliphatic and Alicyclic | | | | | | | | | | | | |
| | | N,N-Dimethylacetamide | 127-19-5 | L | | 64* 2.04 | | | >480 <0.006 | >480 <0.006 | | |
| | | N,N-Dimethylformamide | 68-12-2 | L | imm. 0.72 | 95 0.11 | >480 <0.001 | >480 <0.01 | >480 <0.001 | >480 <0.01 | | |
| | | n-Methyl-2-pyrrolidone | 872-50-4 | L | | >480 <0.06 | >480 <0.001 | >480 <0.001 | >480 <0.01 | >480 <0.01 | | |
| | | 135 Acrylamides | | | | | | | | | | |
| | | Acrylamide, 50% in water | 79-06-1 | L | | >480 <0.01 | >480 <0.01 | >480 <0.01 | >480 <0.1 | >480 <0.1 | | |
| 140 Amines | | | | | | | | | | | | |
| 141 Aliphatic and Alicyclic, Primary | | | | | | | | | | | | |
| | | n-Butylamine | 109-73-9 | L | | | | | >480 <0.01 | >480 <0.01 | | |
| | | tert-Butylamine | 75-64-9 | L | | | | | >480 <0.03 | >480 <0.03 | | |
| | | Ethanolamine | 141-43-5 | L | | | | >480 <0.001 | >480 <0.1 | >480 <0.1 | | |
| | | Ethylamine (15° C) | 75-04-7 | L | | | | | 361 1.49 | >480 <0.02 | | |
| | | Isopropylamine | 75-31-0 | L | | | | | >480 <0.01 | >480 <0.01 | | |
| | | Methylamine | 74-89-5 | G | | | | | 105 40 | >480 <0.06 | | |
| | | Methylamine, 40% sol. | 74-89-5 | L | | | | | 261 1.8 | 261 1.8 | | |
| | | Methylamine, 50% | 74-89-5 | L | | | | | 232 2.2 | 232 2.2 | | |
| | | 142 Aliphatic and Alicyclic, Secondary | | | | | | | | | | |
| | | | | Diethylamine | 109-89-7 | L | imm. 64 | 12 >50 | >480 <0.001 | >480 <0.001 | >480 <0.001 | >480 <0.1 |
| Dimethylamine | 124-40-3 | | | G | | | | | | >480 <0.05 | | |
| Hexamethyldisilazane | 999-97-3 | | | L | | >480 <0.03 | | | >480 <0.02 | >480 <0.02 | | |
| Morpholine | 110-91-8 | | | L | | 153 1.38 | | | >480 <0.1 | >480 <0.1 | | |
| 143 Aliphatic and Alicyclic, Tertiary | | | | | | | | | | | | |
| | | Triethylamine | 121-44-8 | L | | >480* <2 | | | >480 <0.1 | >480 <0.1 | | |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|---|-----------|---|----------|-------|-------------|----------------|--------------|----------------|---------------------------|----------------|
| | | Trimethylamine gas | 75-50-3 | G | | | | | | >480 <0.1 |
| 145 Aromatic, Primary | | | | | | | | | | |
| | | Aniline | 62-53-3 | L | imm. 2.1 | >480 0.09 | 29 65.5 | >480 <0.05 | >480 <0.1 | >480 <0.1 |
| | | Benzidine, 25% in Methanol | 92-87-5 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Benzidine, 75% in Methanol | 92-87-5 | L | | | | | | >480 <0.1 |
| | | 4-Chloroaniline | 106-47-8 | S | | | | | >480 <0.09 | >480 <0.09 |
| | | 4-Chloroaniline (70° C) | 106-47-8 | L | | imm. 90 | | 344 9.4 | 344 9.4 | 344 9.4 |
| | | 3,4-Dichloroaniline | 95-76-1 | S | | | | | >480 <0.001 | >480 <0.001 |
| | | 3,4- Dichloroaniline (70°C) | 95-76-1 | L | | imm. 17 | | | 284 2.4 | 284 2.4 |
| | | Diethyl-m-toluidine crude | 91-67-8 | L | | >480 <0.1 | | | | |
| | | 4,4'-Methylene dianiline | 101-77-9 | L | | | | | | >480 <0.1 |
| | | 4,4'-Methylene dianiline,15% sol'n. in MEK | 101-77-9 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | m-Toluidine | 108-44-1 | L | | >480 <0.001 | | | | |
| | | o-Toluidine | 95-53-4 | L | imm. 1 | 255* 0.36 | | >480 <0.001 | >480 <0.001 | >480 <0.001 |
| 146 Aromatic, Secondary and Tertiary | | | | | | | | | | |
| | | Diethylaniline crude | 91-66-7 | L | | >480 <0.1 | | | | |
| | | N,N-Dimethylaniline | 121-69-7 | L | | | | | >480 <0.013 | >480 <0.013 |
| 148 Aliphatic and Alicyclic Polyamines | | | | | | | | | | |
| | | Diethylenetriamine | 111-40-0 | L | | | | | >480 <0.01 | >480 <0.1 |
| | | Ethylenediamine | 107-15-3 | L | 201* 2.9 | >480 <0.01 | | >480 <0.001 | | |
| | | 1,6-Hexamethylenediamine (45° C) | 124-09-4 | L | | | | | >480 <0.01 | >480 <0.01 |
| 149 Aromatic Polyamines | | | | | | | | | | |
| | | Benzidine, 25% in Methanol | 92-87-5 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Benzidine, 75% in Methanol | 92-87-5 | L | | | | | | >480 <0.1 |
| | | 4,4'-Methylene bis (o-chloroaniline), sat. sol. in methanol | 101-14-4 | L | | >480 <0.1 | | | >480 <0.1 | >480 <0.1 |
| | | 4,4'-Methylene dianiline | 101-77-9 | L | | | | | | >480 <0.1 |
| | | 4,4'-Methylene dianiline,15% sol'n. in MEK | 101-77-9 | L | | | | | >480 <0.1 | >480 <0.1 |
| 160 Anhydrides | | | | | | | | | | |
| 161 Aliphatic and Alicyclic | | | | | | | | | | |
| | | Acetic anhydride | 108-24-7 | L | | >480 <0.1 | | | >480 <0.001 | >480 <0.001 |

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| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|--|-----------|--|------------|-------|----------------|----------------|----------------|----------------|---------------------------|----------------|
| 210 Isocyanates | | | | | | | | | | |
| 211 Aliphatic and Alicyclic | | | | | | | | | | |
| | | Cyclohexyl isocyanate | 3173-53-3 | L | | >480 <0.1 | | | | |
| | | Hexamethylene diisocyanate | 822-06-0 | L | >480 <0.024 | >480 <0.001 | | >480 <0.07 | >480 <0.01 | >480 <0.01 |
| | | Hexamethylene diisocyanate in DuPont Activator 193S | mixture | L | >480 <0.1 | | | | | |
| | | Hexamethylene diisocyanate in DuPont Activator 4505S | mixture | L | >480 <0.01 | | | | | |
| | | Hexamethylene diisocyanate in DuPont Activator 4507S | mixture | L | >480 <0.1 | | | | | |
| | | Methyl isocyanate | 624-83-9 | L | | imm. 99 | | imm. 0.42 | >480 <0.013 | >480 <0.013 |
| 212 Aromatic | | | | | | | | | | |
| | | 4,4'-Diphenyl methane diisocyanate | 101-68-8 | S | | | | | >480 <0.07 | >480 <0.07 |
| | | Paraphenylene diisocyanate (PPDI) crude | 104-49-4 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | Polymethylene polyphenylpolyisocyanate | 9016-87-9 | L | | >480 <0.01 | | >480* <0.65 | >480 <0.1 | >480 <0.1 |
| | | Toluene-1,3-diisocyanate | 26471-62-5 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Toluene-2,4-diisocyanate | 584-84-9 | L | imm. 42 | >480 <0.05 | | >480 0.037 | >480* <0.5 | >480* <0.5 |
| 220 Carboxylic Esters | | | | | | | | | | |
| 222 Aetates | | | | | | | | | | |
| | | n-Amyl acetate | 628-63-7 | L | | | | >480 0.07 | >480 <0.003 | >480 <0.003 |
| | | n-Butyl acetate | 123-86-4 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Ethyl acetate | 141-78-6 | L | imm. 13 | 14 0.54 | >480 <0.001 | >480 <0.001 | >480 <0.001 | >480 <0.06 |
| | | Vinyl acetate | 108-05-4 | L | | 82 1.45 | | imm. 0.8 | >480 <0.01 | >480 <0.01 |
| 223 Acrylates and Methacrylates | | | | | | | | | | |
| | | n-Butyl acrylate | 141-32-2 | L | | | | | 51 18.4 | >480 <0.02 |
| | | Ethyl acrylate | 140-88-5 | L | | | | | 14 91 | >480 <0.02 |
| | | Methyl acrylate | 96-33-3 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Methyl methacrylate | 80-62-6 | L | | 33 18.1 | | 70 1.55 | >480 <0.02 | >480 <0.02 |
| 224 Aliphatic, Others | | | | | | | | | | |
| | | Dimethylmaleate | 624-48-6 | L | | >480 <0.1 | | | | |
| 226 Benzoates and Phthalates | | | | | | | | | | |
| | | Di (2-ethylhexyl) phthalate | 117-81-7 | L | | | >480 <0.1 | >480 <0.1 | >480 <0.07 | >480 <0.07 |
| | | Methyl salicylate | 119-36-8 | L | imm. 0.5 | >480 <0.01 | | | | |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|------------------------------------|-----------|-----------------------------------|------------|-------|-------------|----------------|----------------|----------------|---------------------------|----------------|
| 230 Non-Carboxylic Esters | | | | | | | | | | |
| 233 Carbamates and Others | | | | | | | | | | |
| | | Methomyl, 29% | 16752-77-5 | L | | | | | >480 <0.1 | >480 <0.1 |
| 240 Ethers | | | | | | | | | | |
| 241 Aliphatic and Alicyclic | | | | | | | | | | |
| | | n-Butyl ether | 142-96-1 | L | | | | 196 0.2 | >480 0.001 | >480 0.001 |
| | | Chloromethyl methyl ether | 107-30-2 | L | | | | 46 0.7 | >480 0.03 | >480 0.03 |
| | | Dichloroethyl ether | 111-44-4 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Dimethyl ether | 115-10-6 | G | | | | | | >480 <0.07 |
| | | Ethyl ether | 60-29-7 | L | | imm.* 1.6 | | | >480 <0.001 | >480 <0.001 |
| | | Methyl tert-butyl ether | 1634-04-4 | L | | >480 <0.1 | >480 <0.01 | >480 <0.01 | >480 <0.007 | >480 <0.007 |
| | | Tetrahydrofuran | 109-99-9 | L | imm. 183 | imm. >50 | 314 0.19 | 464 0.12 | >480 <0.001 | >480 <0.04 |
| 245 Glycol Ethers | | | | | | | | | | |
| | | Butyl Cellosolve® | 111-76-2 | L | | >480 <0.003 | | | | |
| | | Ethyl Cellosolve® | 110-80-5 | L | | >480 <0.007 | | | >480 <0.008 | >480 <0.008 |
| | | Ethyl Cellosolve® acetate | 111-15-9 | L | | 39* 1.8 | >480 0.03 | >480 0.03 | >480 <0.002 | >480 <0.002 |
| | | Ethylene diglycol monoethyl ether | 111-90-0 | L | | >480 <0.07 | | | | |
| | | Methyl Cellosolve® | 109-86-4 | L | | 89 5.77 | >480 <0.001 | >480 0.002 | >480 <0.01 | >480 <0.01 |
| | | Methyl Cellosolve® acetate | 110-49-6 | L | | 260* 1.1 | | | >480 <0.01 | >480 <0.01 |
| 260 Halogen Compounds | | | | | | | | | | |
| 261 Aliphatic and Alicyclic | | | | | | | | | | |
| | | Carbon tetrachloride | 56-23-5 | L | | | | 11 0.57 | >480 <0.015 | >480 <0.015 |
| | | Chlordane | 57-74-9 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | 2-Chloroethanol | 107-07-3 | L | imm. 3.1 | | | >480 <0.001 | >480 <0.008 | >480 <0.008 |
| | | Chloroform | 67-66-3 | L | imm. 350 | imm. 201 | | imm. 10 | >480 <0.004 | >480 <0.004 |
| | | 1,3-Dichloroacetone (40° C) | 534-07-6 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | 1,2-Dichloroethane | 107-06-2 | L | | imm. 2 | | | >480 <0.002 | >480 <0.002 |
| | | Dichloroethyl ether | 111-44-4 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Dichloromethane | 75-09-2 | L | imm. >50 | imm. >50 | imm. 11 | imm. 8 | 432 0.06 | >480 <0.03 |
| | | 1,3-Dichloropropene | 542-75-6 | L | | imm. 127 | | 25 1.6 | | |
| | | 2,3-Dichloropropene | 78-88-6 | L | | | | | >480 <0.008 | >480 <0.008 |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK | | |
|-------|-----------|---------------------------------------|----------|---------------------------------------|--------------|----------------|----------------|---------------|---------------------------|----------------|----------------|----------------|
| | | | | | | | | | | | | |
| | | 1,1-Dichlorotetrafluoroethane | 374-07-2 | L | | >480 <0.1 | | | | | | |
| | | Ethyl chloride | 75-00-3 | L | | | | | | >480 <0.02 | | |
| | | Ethylene dibromide | 106-93-4 | L | | | | 288 0.52 | >480 <0.1 | >480 <0.1 | | |
| | | Ethylene oxide, 10% in HCFC 124 | mixture | G | | | | | | >480 <0.02 | | |
| | | Hexafluoroethane | 76-16-4 | G | | | >480 <0.02 | | | >480 <0.02 | | |
| | | Hexafluoroisobutylene | 382-10-5 | G | | | | | | >480 <0.01 | | |
| | | Lindane, sat. sol. in acetone | 58-89-9 | L | | | | | | >480 <0.06 | | |
| | | Lindane, sat. sol. in methanol | 58-89-9 | L | | | | | | >480 <0.1 | | |
| | | Methyl bromide | 74-83-9 | G | | | >480 <0.1 | | | >480 <0.01 | | |
| | | Methyl chloride | 74-87-3 | G | imm. 0.23 | >480 <0.006 | >480 <0.001 | >480 0.004 | >480 <0.001 | >480 <0.02 | | |
| | | Methyl chloride (-70° C) | 74-87-3 | L | | | | | | >180 <0.05 | | |
| | | Methyl fluoride | 593-53-3 | G | | | | | | >480 <0.02 | | |
| | | Methyl iodide | 74-88-4 | L | | imm. 342 | | | | >480 <0.01 | | |
| | | Propylene dichloride | 78-87-5 | L | | 73 3.2 | | | | >480 <0.01 | | |
| | | 1,1,2,2-Tetrachloroethane | 79-34-5 | L | | 75* 12 | | | | >480 0.0005 | | |
| | | 1,1,1,2-Tetrafluoroethane | 811-97-2 | L | | >480 <0.1 | | | | | | |
| | | Tetrafluoromethane | 75-73-0 | G | | | | | | >480 <0.018 | | |
| | | 1,1,3-Trichloroacetone | 921-03-9 | L | | | | | >480 <0.05 | | | |
| | | 1,1,1-Trichloroethane | 71-55-6 | L | | | | | | >480 <0.004 | | |
| | | 1,1,2-Trichloroethane | 79-00-5 | L | | | | | | >480 <0.01 | | |
| | | 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | G | | | | | | >480 <0.01 | | |
| | | Trifluoroacetic acid | 76-05-1 | L | | >480 <0.1 | | | >480 <0.01 | | | |
| | | Trifluoromethane | 75-46-7 | G | | | | | | >480 <0.014 | | |
| | | 263 Aromatic | | | | | | | | | | |
| | | | | 4-Bromofluorobenzene | 460-00-4 | L | | | | | >480 <0.001 | >480 <0.001 |
| | | | | Chlorobenzene | 108-90-7 | L | | 36 14.1 | | 70 0.43 | >480 <0.001 | >480 <0.001 |
| | | | | 4-Chlorophenol, sat. sol. in methanol | 106-48-9 | L | | | | | | >480 <0.013 |
| | | | | o-Chlorotoluene | 95-49-8 | L | | 26* 26 | | | | >480 <0.001 |
| | | | | | | | | | | | | |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK | | |
|-------------------------------|-----------|-------------------------------------|------------|-----------------------------|--------------|--------------|----------------|----------------|---------------------------|----------------|----------------|--|
| | | Cyanuric chloride 20%, Toluene 80% | Mixture | L | | | | | >480 <0.1 | >480 <0.1 | | |
| | | 3,4-Dichloroaniline | 95-76-1 | S | | | | | >480 <0.001 | >480 <0.001 | | |
| | | 3,4-Dichloroaniline (70°C) | 95-76-1 | L | | imm. 17 | | | | 284 2.4 | 284 2.4 | |
| | | Fluorobenzene | 462-06-6 | L | | imm. >500 | | | imm high | >480 <0.1 | >480 <0.1 | |
| | | o-Nitrochlorobenzene | 88-73-3 | S | | 15 4.1 | 237 0.61 | | | | | |
| | | o-Nitrochlorobenzene (35° C) | 88-73-3 | L | | | 80 2.4 | | | | | |
| | | p-Nitrochlorobenzene | 100-00-5 | S | | imm. 2.3 | 476 0.11 | | | | | |
| | | p-Nitrochlorobenzene (85° C) | 100-00-5 | L | | | 321 1.5 | | | | | |
| | | PCB 1254 | 11097-69-1 | L | | 55 >3.6 | >480* <0.2 | | | | | |
| | | PCB gas condensate | mixture | L | | | 401 0.36 | >480 <0.001 | >480 <0.001 | | | |
| | | PCB in transformer oil | mixture | L | | | | | >480 <0.001 | | | |
| | | PCB 50%, Mineral oil 50% | mixture | L | | | >480* nd | | | | | |
| | | PCB 1%, Mineral spirits 99% | mixture | L | | | >480* nd | | | | | |
| | | PCB 4%, TCB 6%, Mineral spirits 90% | mixture | L | | | 60* 0.04 | | | | | |
| | | 2,2',6,6' Tetrachlorobisphenol A | 79-95-8 | S | | | | | >480 <0.1 | | | |
| | | PCB 50%, Trichlorobenzene 50% | mixture | L | | | >480 <0.1 | | | >480 <0.001 | >480 <0.001 | |
| | | 1,2,4-Trichlorobenzene | 120-82-1 | L | | imm. 8.4 | 113 1.2 | | >480 <0.001 | >480 <0.01 | >480 <0.01 | |
| | | 264 Vinylic | | | | | | | | | | |
| | | | | trans-1,4-Dichloro-2-butene | 110-57-6 | L | 75* 246 | | | | | |
| | | | | 1,4- Dichloro-2-butene, 85% | 764-41-0 | L | | | | | | |
| trans-1,2-Dichloroethylene | 156-60-5 | | | L | | imm. 306 | | | | | | |
| 1,3- Hexachlorobutadiene | 87-68-3 | | | L | | | | | >480 <0.01 | >480 <0.01 | | |
| 1,1,1-3,3,3-Hexachloropropane | 3607-78-1 | | | L | | >480 <0.1 | | | | | | |
| 1,1,1,2,2-Tetrachloroethylene | 127-18-4 | | | L | imm. high | imm. 5.7 | >480 <0.001 | >480 <0.022 | >480 <0.001 | >480 <0.01 | | |
| Trichloroethylene | 79-01-6 | | | L | | imm. >35 | | | | >480 <0.1 | >480 <0.1 | |
| Vinyl chloride | 75-01-4 | | | G | | >480 <0.1 | >480 <0.001 | >480 0.02 | >480 <0.001 | >480 <0.01 | | |
| Vinylidene chloride | 75-35-4 | | | L | | | | | | >480 <0.01 | >480 <0.01 | |
| 265 Allylic | | | | | | | | | | | | |
| | | Allyl chloride | 107-05-1 | L | | imm. 18.5 | | imm. <0.1 | >480 <0.06 | >480 <0.06 | | |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|-----------------------------------|-----------|---|------------|-------|-------------|----------------|---------------|---------------|---------------------------|----------------|
| 266 Benzylic | | | | | | | | | | |
| | | Benzyl chloride | 100-44-7 | L | | | | | >480 <0.01 | >480 <0.01 |
| 270 Heterocyclic Compounds | | | | | | | | | | |
| 271 Nitrogen, Pyridines | | | | | | | | | | |
| | | 2-Aminopyridine | 504-29-0 | L | | 321 112 | | | | |
| | | Nicotine | 54-11-5 | L | | >480 <0.035 | >480 <0.1 | | >480 <0.1 | >480 <0.1 |
| | | 2-Picoline | 109-06-8 | L | | | | | 46 48 | >480 <0.02 |
| | | 3-Picoline | 108-99-6 | L | | | | | 11 22 | >480 <0.01 |
| | | Pyridine | 110-86-1 | L | | 17 34 | | | >480 <0.01 | >480 <0.01 |
| | | 4-Vinylpyridine | 100-43-6 | L | | 64 7.3 | | | | |
| 274 Nitrogen, Others | | | | | | | | | | |
| | | 2,4-Dichloro-6-isopropyl-S-triazine 22%, Toluene 78% | mixture | L | | | | | >480 <0.1 | >480 <0.1 |
| | | Ethyleneimine | 151-56-4 | L | | | | | 59 0.56 | >480 <0.01 |
| | | Pyrrolidine | 123-75-1 | L | | | | | 413 9.2 | 413 9.2 |
| 275 Oxygen, Epoxides | | | | | | | | | | |
| | | Bisphenol-A diglycidyl ether | 1675-54-3 | L | | >480 <0.01 | | | >480 <0.01 | >480 <0.01 |
| | | Epichlorohydrin | 106-89-8 | L | | 57* >50 | | 372 0.51 | >480 <0.014 | >480 <0.014 |
| | | Ethylene oxide, 10% in HCFC 124 | mixture | G | | | | | | >480 <0.02 |
| | | Ethylene oxide gas | 75-21-8 | G | imm. 167 | imm. 8.4 | 75 2.7 | 65 1.4 | >480 <0.01 | >480 <0.1 |
| | | Ethylene oxide liquid (0° C) | 75-21-8 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Ethylene oxide liquid (-70° C) | 75-21-8 | L | | | | | | >180 <0.02 |
| | | Phenyl glycidyl ether | 122-60-1 | L | | >480 <0.1 | | | | |
| | | 1,2-Propylene oxide | 75-56-9 | L | | | | 14 1.02 | >480 <0.002 | >480 <0.002 |
| 277 Oxygen, Furans | | | | | | | | | | |
| | | 2-Furaldehyde | 98-01-1 | L | | 245* 0.2 | | >480 0.01 | >480 <0.01 | >480 <0.01 |
| 278 Oxygen, Others | | | | | | | | | | |
| | | 1,4-Dioxane | 123-91-1 | L | | | >480 0.001 | >480 0.001 | >480 <0.05 | >480 <0.05 |
| 280 Hydrazines | | | | | | | | | | |
| | | 1,1-Dimethylhydrazine | 57-14-7 | L | | 12* 6 | | | >480* <5.0 | >480* <5.0 |
| | | Hydrazine | 302-01-2 | L | | 437 0.2 | | 283 1.6 | >480 <0.05 | >480 <0.05 |
| | | Hydrazine hydrate, 50% | 10217-52-4 | L | | | | | | >480 <0.06 |
| | | Hydrazine hydrate, 85% | 10217-52-4 | L | | | | | 440 0.06 | 440 0.06 |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|---|-----------|----------------------------------|------------|-------|--------------|---------------|----------------|----------------|---------------------------|----------------|
| | | Methylhydrazine | 60-34-4 | L | | | | | >480 <0.01 | >480 <0.01 |
| 290 Hydrocarbons | | | | | | | | | | |
| 291 Aliphatic and Alicyclic, Saturated | | | | | | | | | | |
| | | Cyclohexane | 110-82-7 | L | | | | >480 0.04 | >480 <0.003 | >480 <0.003 |
| | | Diesel fuel | 68334-30-5 | L | | 48 0.5 | | >480 <0.001 | >480 <0.03 | >480 <0.03 |
| | | Diesel automotive test fuel | mixture | L | imm. 1.8 | >480 <0.01 | | | | |
| | | Fuel oil | mixture | L | imm. 1.8 | >480 <0.01 | | | | |
| | | Gasoline, leaded | 86290-81-5 | L | | | | 30 0.32 | >480* nd | >480* nd |
| | | Gasoline, Unleaded | 86290-81-5 | L | | imm. 4.8 | >480 <0.001 | >480 <0.001 | >480 <0.001 | >480 <0.001 |
| | | n-Hexane | 110-54-3 | L | imm. high | 10 0.28 | >480 <0.001 | >480 <0.001 | >480 <0.001 | >480 <0.01 |
| | | JP-4 jet fuel | Mixture | L | | 18 24 | | | >480 <0.002 | >480 <0.002 |
| | | Jet A fuel | 8008-20-6 | L | | 58 0.59 | >480 <0.1 | | >480 <0.1 | >480 <0.1 |
| | | JP-8 jet fuel | 8008-20-6 | L | | 58 0.59 | >480 <0.1 | | >480 <0.1 | >480 <0.1 |
| | | Kerosene | 8008-20-6 | L | | 58 0.59 | >480 <0.1 | | >480 <0.1 | >480 <0.1 |
| | | Mineral oil | 8012-95-1 | L | | >480 <0.08 | | | | |
| | | Mineral spirits | 64475-85-0 | L | imm. nm | >480* nd | | | >480 <0.01 | >480 <0.01 |
| | | n-Octane | 111-65-9 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Stoddard solvent | 8052-41-3 | L | | | | | >480 <0.001 | >480 <0.001 |
| | | VM&P Naphtha | 8032-32-4 | L | | 18 1.3 | | | >480 <0.006 | >480 <0.006 |
| 292 Aromatic | | | | | | | | | | |
| | | Benzene | 71-43-2 | L | | 36 11.3 | >480 0.001 | >480 <0.05 | >480 <0.001 | >480 <0.001 |
| | | Benzo[a]pyrene | 50-32-8 | S | | >480* <0.8 | | | | |
| | | Cumene | 98-82-8 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Ethyl benzene | 100-41-4 | L | | | | | >480 <0.001 | >480 <0.001 |
| | | Styrene | 100-42-5 | L | | 12 75 | >480 0.001 | >480 <0.04 | >480 <0.001 | >480 <0.001 |
| | | Toluene | 108-88-3 | L | imm. 503 | imm. 39 | >480 <0.001 | >480 0.003 | >480 <0.001 | >480 <0.02 |
| | | Xylene, mixed isomers | 1330-20-7 | L | | | | 291 0.12 | >480 <0.004 | >480 <0.004 |
| 293 Aromatic Polynuclear | | | | | | | | | | |
| | | Anthracene, sat. sol. in toluene | 120-12-7 | L | | | >480 <.01 | >480 <0.01 | | |
| | | Benzo[a]pyrene | 50-32-8 | S | | >480* <0.8 | | | | |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|---|-----------|---------------------------------------|-----------|-------|---------------|----------------|----------------|----------------|---------------------------|----------------|
| | | Naphthalene | 91-20-3 | S | | | | >480 <0.001 | | |
| | | Naphthalene, sat. sol. in toluene | 91-20-3 | L | | | >480 <0.1 | | | |
| 294 Aliphatic and Alicyclic, Unsaturated | | | | | | | | | | |
| | | Crude oil | 8002-05-9 | L | imm. 3.3 | >480 <0.01 | | | >480 <0.04 | >480 <0.04 |
| 296 Polyenes | | | | | | | | | | |
| | | 1,3-Butadiene | 106-99-0 | G | imm. 12 | >480 <0.02 | >480 <0.001 | >480 0.07 | >480 <0.001 | >480 <0.07 |
| | | 1,3-Butadiene (0° C) | 106-99-0 | L | | | | | | >180 <0.01 |
| | | d-Limonene | 5989-27-5 | L | | | | | >480 <0.001 | >480 <0.001 |
| 300 Peroxides | | | | | | | | | | |
| | | Hydrogen peroxide, 30% | 7722-84-1 | L | >480 <0.1 | >480 <0.1 | | | | >480 <0.04 |
| | | Hydrogen peroxide, 70% | 7722-84-1 | L | >480 <0.01 | | | | >480 <0.01 | >480 <0.01 |
| 310 Hydroxylic Compounds | | | | | | | | | | |
| 311 Aliphatic and Alicyclic, Primary | | | | | | | | | | |
| | | Allyl alcohol | 107-18-6 | L | | | | >480 0.04 | >480 <0.1 | >480 <0.1 |
| | | n-Butanol | 71-36-3 | L | imm. 1.6 | >480 <0.001 | | | >480 <0.002 | >480 <0.002 |
| | | Ethanolamine | 141-43-5 | L | | | | >480 <0.001 | >480 <0.1 | >480 <0.1 |
| | | Methanol | 67-56-1 | L | imm. 2.2 | >480 <0.1 | 65 1.07 | 77 0.26 | 157 0.81 | >480 <0.1 |
| | | Methyl Cellosolve® | 109-86-4 | L | | 89 5.77 | >480 <0.001 | >480 0.002 | >480 <0.01 | >480 <0.01 |
| 312 Aliphatic and Alicyclic, Secondary | | | | | | | | | | |
| | | Benzyl alcohol | 100-51-6 | L | | >480 <0.1 | | | | |
| | | Isoamyl alcohol | 123-51-3 | L | | >480 <0.1 | | | | |
| | | Isopropanol | 67-63-0 | L | | | | >480 <0.001 | | |
| 313 Aliphatic and Alicyclic, Tertiary | | | | | | | | | | |
| | | Acetone cyanohydrin | 75-86-5 | L | | | | | >480 <0.01 | >480 <0.01 |
| 314 Aliphatic and Alicyclic, Polyols | | | | | | | | | | |
| | | Ethylene glycol | 107-21-1 | L | >480 <0.1 | >480* <0.33 | | >480 <0.001 | >480 <0.02 | >480 <0.02 |
| 315 Aliphatic and Alicyclic, Substituted | | | | | | | | | | |
| | | 2-Chloroethanol | 107-07-3 | L | imm. 3.1 | | | >480 <0.001 | >480 <0.008 | >480 <0.008 |
| | | 2,2,2-Trichloroethanol | 115-20-8 | L | | 19* 13.2 | | | >480 <0.01 | >480 <0.01 |
| | | 2,2,2-Trifluoroethanol | 75-89-8 | L | imm. high | | | | >480 <0.001 | >480 <0.001 |
| 316 Aromatic, Phenols | | | | | | | | | | |
| | | 4-Chlorophenol, sat. sol. in methanol | 106-48-9 | L | | | | | >480 <0.013 | >480 <0.013 |
| | | Creosote | 8001-58-9 | L | | | | >480 <0.001 | | |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK | | |
|--|-----------|---|-----------|------------------------|--------------|----------------|---------------|---------------|---------------------------|----------------|---------------|---------------|
| | | m-Cresol 55%, p-Cresol 30%, Phenol 15% | mixture | L | | | | | >480 <0.09 | >480 <0.09 | | |
| | | Cresol, mixed isomers | 1319-77-3 | L | 40* 0.4 | 69 8 | | | >480 <0.01 | >480 <0.01 | | |
| | | o-Cresol | 95-48-7 | L | 37 0.43 | >480 0.17 | | 180 2.7 | | | | |
| | | 4,6-Dinitro-o-cresol, sat. sol. in methanol | 534-52-1 | L | | | | | >480 <0.013 | >480 <0.013 | | |
| | | 2-Nitrophenol (70° C) | 88-75-5 | L | | imm. 4.53 | | | 208 0.17 | 208 0.17 | | |
| | | Pentachlorophenol, sat. sol. in methanol | 87-86-5 | L | | | | | >480 <0.013 | >480 <0.013 | | |
| | | Phenol | 108-95-2 | L | | | | | >480 <0.03 | >480 <0.07 | | |
| | | Phenol, 85%-90% | 108-95-2 | L | imm. 0.4 | >480 <0.1 | | 238 4 | | >480 <0.07 | | |
| | | Phenol, 88% (45° C) | 108-95-2 | L | | 303 0.91 | | | 135 2.26 | 150 2.8 | | |
| | | 2,2',6,6' Tetrachlorobisphenol A | 79-95-8 | S | | | | >480 <0.1 | | | | |
| | | 318 Aromatic, Others | | | | | | | | | | |
| | | | | a-Phenethyl alcohol | 98-85-1 | L | | >480 <0.1 | | | | |
| | | 330 Elements | | | | | | | | | | |
| | | | | Bromine | 7726-95-6 | L | imm. high | | | imm. 105 | imm. >50 | 15 25 |
| Bromine, 10 gm/m ² exposure | 7726-95-6 | | | L | | | | | | >480 <0.1 | | |
| Bromine, sat. vapor | 7726-95-6 | | | G | | | | | | 40 >0.6 | | |
| Chlorine, 20 ppm | 7782-50-5 | | | G | >480* nd | >480* nd | | | | | | |
| Chlorine gas | 7782-50-5 | | | G | imm. >50 | >480 <0.1 | >480 <0.01 | >480* 0.2 | >480 <0.01 | >480 <0.02 | | |
| Chlorine liquid (-70° C) | 7782-50-5 | | | L | | | | | | >480 <0.01 | | |
| Iodine | 7553-56-2 | | | S | 440* 30 | >480* <70 | | | | | | |
| Mercury | 7439-97-6 | | | L | | >480 <0.1 | | >480 <0.04 | >480 <0.001 | >480 <0.001 | | |
| 340 Inorganic Salts (Solutions) | | | | | | | | | | | | |
| | | | | Ammonium fluoride, 40% | 12125-01-8 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Lithium chloride, 20% | 7447-41-8 | L | >480 <0.1 | | | | | | | |
| | | Mercuric chloride, sat. sol. in water | 7487-94-7 | L | | >480* <0.28 | | >480 <0.1 | >480* <0.28 | >480* <0.28 | | |
| | | Potassium acetate, sat. sol. in water | 127-08-2 | L | | >480* <0.51 | | | >480* <0.49 | >480* <0.49 | | |
| | | Potassium chromate, sat. sol.in water | 7789-00-6 | L | | >480* <0.51 | | >480 <0.1 | >480* <0.51 | >480* <0.51 | | |
| | | Potassium permanganate | 7722-64-7 | L | >480 <0.1 | | | | | | | |
| | | Sodium fluoride, sat. sol.in water | 7681-49-4 | L | | >480* <0.28 | | | | | | |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|---------------------------------------|-----------|------------------------------------|------------|-------|--------------|--------------|---------------|--------------|---------------------------|----------------|
| | | Sodium hypochlorite, 13% | 7681-52-9 | L | | >480 <0.1 | | | | |
| | | Sodium hypochlorite, 17% | 7681-52-9 | L | >480 <0.1 | >480 <0.1 | | | | |
| | | Sodium hypochlorite, 30% chlorine | 7681-52-9 | L | | | | >480 <0.1 | | |
| | | Sodium hypochlorite, 5.25% | 7681-52-9 | L | >480 <0.1 | >480 <0.1 | | | | |
| 345 Inorganic Cyano Compounds | | | | | | | | | | |
| | | Hydrogen cyanide gas | 74-90-8 | G | | | | | >480 <0.02 | >480 <0.01 |
| | | Hydrogen cyanide liquid | 74-90-8 | L | 60* 0.11 | | | | 105 1.7 | >480 <0.01 |
| | | Potassium cyanide, 10% | 151-50-8 | L | >480 <0.1 | | | | | |
| | | Sodium cyanide | 143-33-9 | L | | | | | >480* <0.33 | >480* <0.33 |
| | | Sodium cyanide, 45% | 143-33-9 | L | | | | >480 <0.1 | | |
| | | Sodium cyanide, sat. sol. in water | 143-33-9 | L | | >480 <0.1 | | | | |
| 350 Inorganic Gases and Vapors | | | | | | | | | | |
| | | Ammonia gas | 7664-41-7 | G | imm. 3.1 | 32 0.15 | 125 0.5 | 79 0.76 | 46 0.62 | >480 <0.1 |
| | | Ammonia liquid | 7664-41-7 | L | | >480 <0.1 | | | | >480 <0.1 |
| | | Arsine | 7784-42-1 | G | | | | | >480 <0.01 | >480 <0.01 |
| | | Boron trichloride | 10294-34-5 | G | | | | | >480 <0.02 | >480 <0.02 |
| | | Boron trifluoride | 7637-07-2 | G | | | | | >480 <0.1 | >480 <0.1 |
| | | Carbon monoxide | 630-08-0 | G | | | | | 330 0.1 | 330 0.1 |
| | | Chlorine, 20 ppm | 7782-50-5 | G | >480* nd | >480* nd | | | | |
| | | Chlorine dioxide, 150 ppm | 10049-04-4 | G | | | | | >480 <0.01 | >480 <0.01 |
| | | Chlorine dioxide, 1000 ppm | 10049-04-4 | G | | | | | >480 <0.01 | >480 <0.01 |
| | | Chlorine gas | 7782-50-5 | G | imm. >50 | >480 <0.1 | >480 <0.01 | >480* 0.2 | >480 <0.01 | >480 <0.01 |
| | | Chlorine liquid (-70° C) | 7782-50-5 | L | | | | | | >480 <0.01 |
| | | Chlorine trifluoride | 7790-91-2 | G | | | | | 45 96 | 45 96 |
| | | Diborane, 10% | 19287-45-7 | G | | | | | >480 <0.005 | >480 <0.005 |
| | | Fluorine | 7782-41-4 | G | | | | | | >480 <0.002 |
| | | Hydrogen bromide | 10035-10-6 | G | | | | | >480 <0.1 | >480 <0.1 |
| | | Hydrogen chloride gas | 7647-01-0 | G | imm. 9.3 | >480 <0.1 | 195 0.33 | >480 <0.1 | >480 <0.1 | >480 <0.1 |
| | | Hydrogen chloride liquid (-90° C) | 7647-01-0 | L | | | | | | >180 <0.1 |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK | | |
|-------|-----------|-----------------------------------|------------|------------------------|-------------|----------------|--------------|--------------|---------------------------|----------------|----------------|---------------|
| | | Hydrogen cyanide gas | 74-90-8 | G | | | | | >480 <.022 | >480 <0.01 | | |
| | | Hydrogen fluoride gas | 7664-39-3 | G | imm. 6 | 35 3 | | imm. high | 135 6.7 | >480 <0.1 | | |
| | | Hydrogen fluoride liquid (0°C) | 7664-39-3 | L | | | | | | 290 1.3 | | |
| | | Hydrogen fluoride liquid (4°C) | 7664-39-3 | L | | | | | | 290 1.3 | | |
| | | Hydrogen selenide | 7783-07-5 | G | | | | | | >480 <0.01 | >480 <0.01 | |
| | | Hydrogen sulfide | 7783-06-4 | G | | | | | | >480 <0.01 | >480 <0.01 | |
| | | Nitric oxide | 10102-43-9 | G | | | | | | | >480 <0.04 | |
| | | Nitrogen dioxide | 10102-44-0 | G | | >480 <0.001 | | | 14 >0.2 | | | |
| | | Nitrogen tetroxide | 10544-72-6 | G | | | | | | 90 >1.1 | 90 >1.1 | |
| | | Nitrogen tetroxide (0° C) | 10544-72-6 | L | | | | | | >480 0.001 | >480 0.001 | |
| | | Nitrogen tetroxide (21° C) | 10544-72-6 | L | | | | | | | 450 0.2 | |
| | | Nitrogen trifluoride | 7783-54-2 | G | | | | | | >480 <0.014 | >480 <0.014 | |
| | | Nitrous oxide | 10024-97-2 | G | | | | | | >480 <0.018 | >480 <0.018 | |
| | | Phosgene | 75-44-5 | G | | | | | >480 <0.02 | >480 <0.1 | >480 <0.1 | |
| | | Phosphine | 7803-51-2 | G | | | | | imm. >0.11 | >480 <0.01 | >480 <0.01 | |
| | | Sulfur dioxide | 7446-09-5 | G | imm. >29 | >480 <0.1 | | | 38* 2 | >480 <0.01 | >480 <0.01 | |
| | | Sulfur hexafluoride | 2551-62-4 | G | | | | | | >480 <0.015 | >480 <0.015 | |
| | | Sulfuryl chloride | 7791-25-5 | L | | | | | | >480 <0.1 | >480 <0.1 | |
| | | Tungsten hexafluoride | 7783-82-6 | G | | | | | | >480 <0.026 | >480 <0.026 | |
| | | 360 Inorganic Acid Halides | | | | | | | | | | |
| | | | | Antimony pentachloride | 7647-18-9 | L | | >480 <0.1 | | 15 10 | | |
| | | | | Boron trichloride | 10294-34-5 | G | | | | | >480 <0.02 | >480 <0.02 |
| | | | | Boron trifluoride | 7637-07-2 | G | | | | | >480 <0.1 | >480 <0.1 |
| | | | | Phosphorus oxychloride | 10025-87-3 | L | | | | >480 <0.01 | >480 <0.1 | >480 <0.1 |
| | | | | Phosphorus trichloride | 7719-12-2 | L | | 20 28 | | >480 0.003 | >480 <0.1 | >480 <0.1 |
| | | | | Silicon tetrachloride | 10026-04-7 | L | | 80 7.8 | | | >480 <0.1 | >480 <0.1 |
| | | | | Sulfuryl chloride | 7791-25-5 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | | | Thionyl chloride | 7719-09-7 | L | | | | | 35 2500 | 90 63.6 |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|----------------------------------|-----------|------------------------------------|------------|-------|--------------|---------------|---------------|----------------|---------------------------|----------------|
| | | Titanium tetrachloride | 7550-45-0 | L | | 15 73 | >480 <0.1 | | >480 <0.1 | >480 <0.1 |
| 365 Inorganic Acid Oxides | | | | | | | | | | |
| | | Sulfur dioxide | 7446-09-5 | G | imm. >29 | >480 <0.1 | | 38* 2 | >480 <0.01 | >480 <0.01 |
| | | Sulfur trioxide | 7446-11-9 | L | | | | | 90 696 | 90 696 |
| 370 Inorganic Acids | | | | | | | | | | |
| | | Chlorosulfonic acid | 7790-94-5 | L | | >480 <0.1 | | | 180 98 | >480 <0.1 |
| | | Chromic acid, 60-62% | 1333-82-0 | L | >480 <0.1 | >480 <0.1 | | | | |
| | | Fluoroboric acid, 48-50% | 16872-11-0 | L | | >480 <0.1 | | | | |
| | | Fluorosilicic acid | 16961-83-4 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | Fluorosulfonic acid | 7789-21-1 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | Hydriodic acid, 47% | 10034-85-2 | L | | >480 <0.1 | | | | |
| | | Hydriodic acid, 57% | 10034-85-2 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | Hydrochloric acid, 37% | 7647-01-0 | L | 86 1.1 | >480 <0.1 | >480 <0.1 | >480 <0.1 | >480 <0.02 | >480 <0.02 |
| | | Hydrofluoric acid, 48%-51% | 7664-39-3 | L | >480 0.08 | >480 <0.1 | | >480 <0.1 | >480 <0.02 | >480 <0.02 |
| | | Hydrofluoric acid, 70% | 7664-39-3 | L | | imm. 0.6 | | 39 1.2 | | >480 <0.1 |
| | | Hydrofluoric acid, 92% (90°C) | 7664-39-3 | L | | | | | 67* 2.8 | 67* 2.8 |
| | | Hydrogen bromide | 10035-10-6 | G | | | | | >480 <0.1 | >480 <0.1 |
| | | Hydrogen cyanide liquid | 74-90-8 | L | 60* 0.11 | | | | 105 1.7 | >480 <0.01 |
| | | Hydrogen fluoride liquid (0°C) | 7664-39-3 | L | | | | | | 290 1.3 |
| | | Hydrogen fluoride liquid (4°C) | 7664-39-3 | L | | | | | | 290 1.3 |
| | | Nitric acid, 70% | 7697-37-2 | L | 410* 0.7 | >480 <0.1 | >480 <.013 | >480 <0.001 | >480 <0.1 | >480 <0.1 |
| | | Nitric acid, 90% | 7697-37-2 | L | | | | | >480 <0.033 | >480 <0.033 |
| | | Nitric acid, red fuming | 52583-42-3 | L | | | | 14 >50 | | 390 3.6 |
| | | Oleum, 103% | 8014-95-7 | L | | | | | | >480 <0.1 |
| | | Oleum, 27-33% free SO ₃ | 8014-95-7 | L | | 450 0.005 | | | | |
| | | Oleum, 40% free SO ₃ | 8014-95-7 | L | 398 0.2 | >480 <0.04 | | | >480 <0.04 | >480 <0.04 |
| | | Oleum, 65% free SO ₃ | 8014-95-7 | L | | | | | | >480 <0.1 |
| | | Perchloric acid, 70% | 7601-90-3 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | Phosphoric acid, 85% | 7664-38-2 | L | | >480 <0.1 | | >480 <0.1 | >480 <0.1 | >480 <0.1 |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|------------------------------------|-----------|--------------------------------------|------------|-------|--------------|--------------|--------------|----------------|---------------------------|----------------|
| | | Sulfuric acid | 7664-93-9 | L | >480 <0.1 | >480 <0.1 | >480 <0.1 | >480 <0.1 | >480 <0.1 | >480 <0.1 |
| 380 Inorganic Bases | | | | | | | | | | |
| | | Ammonia liquid | 7664-41-7 | L | | >480 <0.1 | | | | >480 <0.1 |
| | | Ammonium hydroxide, 28%-30% | 1336-21-6 | L | imm. 62 | >480 <0.1 | | >480 <0.1 | 160 4.7 | >480 <0.1 |
| | | Lithium hydroxide, 20% | 1310-65-2 | L | >480 <0.1 | | | | | |
| | | Potassium hydroxide | 1310-58-3 | L | | | | | >480 <0.008 | >480 <0.008 |
| | | Potassium hydroxide, 45% | 1310-58-3 | L | | | | | >480 <0.008 | >480 <0.008 |
| | | Sodium hydroxide, conc. | 1310-73-2 | S | | | | >480 <0.1 | | |
| | | Sodium hydroxide, 50% | 1310-73-2 | L | >480 <0.1 | >480 <0.1 | >480 <0.1 | >480 <0.1 | >480 <0.1 | >480 <0.1 |
| | | Sodium hydroxide, sat. sol. in water | 1310-73-2 | L | >480 <0.1 | >480 <0.1 | | | | |
| 390 Ketones | | | | | | | | | | |
| 391 Aliphatic and Alicyclic | | | | | | | | | | |
| | | Acetone | 67-64-1 | L | imm. 10 | 12 3.2 | 433 0.08 | >480 0.06 | >480 <0.001 | >480 <0.01 |
| | | Chloroacetone | 78-95-5 | L | | >480 0.08 | | | | |
| | | Cyclohexanone | 108-94-1 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | 1,3-Dichloroacetone (40° C) | 534-07-6 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | Methyl ethyl ketone | 78-93-3 | L | | 10 13 | | 71 0.37 | >480 <0.007 | >480 <0.007 |
| | | Methyl isobutyl ketone | 108-10-1 | L | | | | >480 <0.05 | >480 0.001 | >480 0.001 |
| | | 1,1,1-Trichloroacetone | 921-03-9 | L | | | | >480 <0.05 | | |
| 430 Nitriles | | | | | | | | | | |
| 431 Aliphatic and Alicyclic | | | | | | | | | | |
| | | Acetone cyanohydrin | 75-86-5 | L | | | | | >480 <0.01 | >480 <0.01 |
| | | Acetonitrile | 75-05-8 | L | imm. 16 | 12 2.8 | 14 180 | 157 0.19 | >480 <0.003 | >480 <0.1 |
| | | Acrylonitrile | 107-13-1 | L | imm. 10.6 | 50 1.2 | | 12 0.57 | >480 <0.001 | >480 <0.001 |
| | | Adiponitrile | 111-69-3 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | 2-Methylglutaronitrile, 87% | 4553-62-2 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | cis-2-Pentenenitrile, 70% | 25899-50-7 | L | | | | | >480 <0.001 | >480 <0.001 |
| | | 3-Pentenenitrile | 4635-87-4 | L | | | | | >480 <0.001 | >480 <0.001 |
| 432 Aromatic | | | | | | | | | | |
| | | Benzonitrile | 100-47-0 | L | | | | >480 <0.001 | >480 <0.004 | >480 <0.004 |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|--|-----------|---|-----------|-------|--|------------|--------------|-----------|---------------------------|------------|
| 440 Nitro Compounds | | | | | | | | | | |
| 441 Unsubstituted | | | | | | | | | | |
| | | Nitrobenzene | 98-95-3 | L | imm. | 102 | >480 | >480 | >480 | >480 |
| | | | | | 18 | 2.3 | <0.001 | <0.001 | <0.01 | <0.01 |
| | | Nitromethane | 75-52-5 | L | | | | 229 | >480 | >480 |
| | | | | | | | | 0.97 | <0.005 | <0.005 |
| | | 2-Nitropropane | 79-46-9 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.01 | <0.01 |
| 442 Substituted | | | | | | | | | | |
| | | Dinitro-o-cresol, sat. sol. in methanol | 534-52-1 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.013 | <0.013 |
| | | o-Nitrochlorobenzene | 88-73-3 | S | 15 | 237 | | | | |
| | | | | | 4.1 | 0.61 | | | | |
| | | o-Nitrochlorobenzene (35° C) | 88-73-3 | L | | 80 | | | | |
| | | | | | | 2.4 | | | | |
| | | p-Nitrochlorobenzene | 100-00-5 | S | imm. | 476 | | | | |
| | | | | | 2.3 | 0.11 | | | | |
| | | p-Nitrochlorobenzene (85° C) | 100-00-5 | L | | 321 | | | | |
| | | | | | | 1.5 | | | | |
| | | 2-Nitrophenol (70° C) | 88-75-5 | L | | imm. | | | 208 | 208 |
| | | | | | | 4.53 | | | 0.17 | 0.17 |
| | | o-Nitrotoluene | 88-72-2 | L | | 317 | | | | |
| | | | | | | 0.41 | | | | |
| | | p-Nitrotoluene | 99-99-0 | S | imm. | 123 | | | | |
| | | | | | 14 | 2.2 | | | | |
| | | p-Nitrotoluene (60° C) | 99-99-0 | L | | imm. | | | | |
| | | | | | | 42 | | | | |
| 450 Nitroso Compounds | | | | | | | | | | |
| | | Dimethyl nitrosamine | 62-75-9 | L | | | | >480 | | |
| | | | | | | | | <0.001 | | |
| 460 Organo-Phosphorus Compounds | | | | | | | | | | |
| 462 Derivatives of Phosphorus-based acids | | | | | | | | | | |
| | | Diazinon, 25% | 333-41-5 | L | | | >480 | | | |
| | | | | | | | <0.1 | | | |
| | | Chlorpyrifos, 7% | 2921-88-2 | L | | | >480 | | | |
| | | | | | | | <0.1 | | | |
| | | Ethyl parathion | 56-38-2 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.01 | <0.01 |
| | | Malathion | 121-75-5 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.013 | <0.1 |
| | | Malathion, 50% in water | 121-75-5 | L | | | >480 | | | |
| | | | | | | | <0.1 | | | |
| | | Malathion, 50% in methanol | 121-75-5 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.1 | <0.1 |
| | | Sarin (GB) Chemical Agent | 107-44-8 | L | See "Chemical Warfare Agents" Data Table . | | | | | |
| | | Soman (GD) chemical agent | 96-64-0 | L | See "Chemical Warfare Agents" Data Table . | | | | | |
| | | Tabun | 77-81-6 | L | See "Chemical Warfare Agents" Data Table . | | | | | |
| | | Tetraethyl lead | 78-00-2 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.07 | <0.07 |
| | | Trimethyl phosphate | 512-56-1 | L | | | | | >480 | >480 |
| | | | | | | | | | <0.1 | <0.1 |
| | | Trimethyl phosphite | 121-45-9 | L | | 10 | | | >480 | >480 |
| | | | | | | 0.5 | | | <0.1 | <0.1 |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|--------------------------------------|-----------|------------------------------------|------------|-------|--|---------------|---------------|--------------|---------------------------|----------------|
| | | Vinylmagnesium chloride, 16.5% | 3536-96-7 | L | | | | | >480 | >480 |
| | | VX Nerve agent | 50782-69-9 | L | See "Chemical Warfare Agents" Data Table . | | | | | |
| 470 Organo-Metallic Compounds | | | | | | | | | | |
| | | Lewisite (L) Chemical Agent | 541-25-3 | L | See "Chemical Warfare Agents" Data Table . | | | | | |
| | | Nickel carbonyl | 13463-39-3 | L | | | | | | >480 <0.04 |
| 480 Organo-Silicon Compounds | | | | | | | | | | |
| | | Dichlorosilane | 4109-96-0 | G | | | | | >480 <0.1 | >480 <0.1 |
| | | Dimethyldichlorosilane | 75-78-5 | L | | >480 <0.1 | | | | >480 <0.1 |
| | | Hexamethyldisilazane | 999-97-3 | L | | >480 <0.03 | | | >480 <0.02 | >480 <0.02 |
| | | Methyl trichlorosilane | 75-79-6 | L | | | | | >480 <0.1 | >480 <0.1 |
| | | Silane | 7803-62-5 | G | | | | | >480 <0.1 | >480 <0.1 |
| | | Silicon tetrachloride | 10026-04-7 | L | | 80 7.8 | | | >480 <0.1 | >480 <0.1 |
| | | Tetraethoxysilane | 78-10-4 | L | | | | | >480 <0.014 | >480 <0.014 |
| | | Trichlorophenylsilane | 98-13-5 | L | | >480 <0.1 | | | | >480 <0.1 |
| | | Trichlorosilane | 10025-78-2 | L | | 30 59 | | | >480 <0.022 | >480 <0.022 |
| | | Trichlorovinylsilane | 75-94-5 | L | | 75 3.6 | | | | |
| 500 Sulfur Compounds | | | | | | | | | | |
| 501 Thiols | | | | | | | | | | |
| | | Methyl mercaptan | 74-93-1 | G | | | >480 0.05 | >480 0.05 | >480 <0.001 | >480 <0.001 |
| | | Phenyl mercaptan | 108-98-5 | L | | 19 3.6 | | | >480 <0.02 | >480 <0.02 |
| | | Thioglycolic acid | 68-11-1 | L | | | | | >480 <0.1 | >480 <0.1 |
| 502 Sulfides and Disulfides | | | | | | | | | | |
| | | Carbon disulfide | 75-15-0 | L | imm. high | imm. >50 | >480 0.07 | >480 0.05 | >480 <0.001 | >480 <0.02 |
| | | Dimethyl sulfide | 75-18-3 | L | | | | 26 0.58 | | |
| | | Disulfur dichloride | 10025-67-9 | L | | | >480 <0.01 | | >480 <0.01 | >480 <0.01 |
| | | Hydrogen sulfide | 7783-06-4 | G | | | | | >480 <0.01 | >480 <0.01 |
| | | Sulfur dichloride, 80% | 10545-99-0 | L | | | | | 70 6 | >480 <0.1 |
| | | Sulfur dichloride, 99% | 10545-99-0 | L | | | | | | 440 0.3 |
| | | Sulfur mustard (HD) chemical agent | 505-60-2 | L | See "Chemical Warfare Agents" Data Table . | | | | | |
| 503 Sulfones and Sulfoxides | | | | | | | | | | |
| | | Dimethyl sulfoxide | 67-68-5 | L | | | | 36 1.9 | >480 0.003 | >480 0.003 |

Permeation Data Table for Selected Tychem® Fabrics

| Class | Sub-Class | Chemical Name | CAS | Phase | Tychem® QC | Tychem® SL | Tychem® 7500 | Tychem® F | Tychem® BR and Tychem® LV | Tychem® TK |
|---|-----------|--|-------------|-------|---------------|---------------|--------------|-----------|---------------------------|----------------|
| 504 Sulfonic Acids | | | | | | | | | | |
| | | Chlorosulfonic acid | 7790-94-5 | L | | >480 <0.1 | | | 180 98 | >480 <0.1 |
| | | Methanesulfonic acid | 75-75-2 | L | | >480 <0.1 | | | | |
| | | Trifluoromethane sulfonic acid | 1493-13-6 | L | | >480 <0.01 | | | >480 <0.01 | >480 <0.01 |
| 505 Sulfonyl Chlorides | | | | | | | | | | |
| | | Benzene sulfonyl chloride | 98-09-9 | L | | | | | >480 <0.1 | >480 <0.1 |
| 507 Sulfonates, Sulfates, and Sulfites | | | | | | | | | | |
| | | Diethyl sulfate | 64-67-5 | L | | | | | | >480 <0.1 |
| | | Dimethyl sulfate | 77-78-1 | L | | >480 <0.1 | | | >480 <0.001 | >480 <0.001 |
| 509 Other | | | | | | | | | | |
| | | Sulfur hexafluoride | 2551-62-4 | G | | | | | >480 <0.015 | >480 <0.015 |
| 550 Organic Salts (Solutions) | | | | | | | | | | |
| | | Sodium methylate, 50% in methanol | 124-41-4 | L | | | | | >480 <0.1 | >480 <0.1 |
| 590 Miscellaneous (Not classified) | | | | | | | | | | |
| | | Black Liquor | 308074-23-9 | L | >480 <0.1 | >480 <0.1 | | | >480 <0.1 | >480 <0.1 |
| | | Boron trifluoride etherate | 109-63-7 | L | | | | | | >480 <0.1 |
| | | Chemidize 727 ND | mixture | L | | >480 <0.06 | | | | |
| | | Crude oil | 8002-05-9 | L | imm. 3.3 | >480 <0.01 | | | >480 <0.04 | >480 <0.04 |
| | | 2,4-Dichloro-6-isopropyl-S-triazine 22%, Toluene 78% | mixture | L | | | | | >480 <0.1 | >480 <0.1 |
| | | DuPont Activator 193S | mixture | L | >480 <0.1 | | | | | |
| | | DuPont Activator 4505S | mixture | L | >480 <0.01 | | | | | |
| | | DuPont Activator 4507S | mixture | L | >480 <0.1 | | | | | |
| | | Ethyl benzene 80%, 4,6-Dinitro-o-cresol 20% | mixture | L | | 45* 18 | | | | |
| | | Gasohol | mixture | L | | >480 <0.1 | | | | |
| | | Glade Intech 200 | mixture | L | | >480 <0.1 | | | | |
| | | Green liquor | 68131-30-6 | L | >480 <0.1 | >480 <0.1 | | | >480 <0.1 | >480 <0.1 |
| | | Methyl ethyl ketoxime | 96-29-7 | L | | >480 <0.1 | | | >480 <0.1 | >480 <0.1 |
| | | t-Sodium-amylate / t-amyl alcohol | mixture | S | | | | | 120 4.9 | 120 4.9 |
| | | Tetramethyltin (0.5%) in n-pentane | mixture | L | | | | | >480 <0.006 | >480 <0.006 |
| | | White liquor | 68131-33-9 | L | >480 <0.1 | >480 <0.1 | | | >480 <0.1 | >480 <0.1 |
| 595 Chemical Warfare Agents | | | | | | | | | | |
| See "Chemical Warfare Agents" Data Table . | | | | | | | | | | |

NBC Safety