**Carcinogens Guidance**

The following information is intended to provide general guidance on how to safely work with a specific class of chemical or hazard. This information is generic in nature. It addresses the use and handling of substances by hazard class only.

A carcinogen commonly describes any agent that can initiate or speed the development of malignant or potentially malignant tumors, malignant neoplastic proliferation of cells, or cells that possess such material.

**Securing of gas cylinders**

Not applicable

**Decontamination**

* **Personnel:** Wash hands and arms with soap and water immediately after handling carcinogens.
* **Area:** Decontamination procedures vary depending on the material being handled. The toxicity of some materials can be neutralized with other reagents. All surfaces should be wiped with the appropriate cleaning agent following dispensing or handling. Waste materials generated should be treated as a hazardous waste.
* **Equipment:** Decontaminate vacuum pumps or other contaminated equipment (glassware) before removing them from the designated area.

**Designated area**

The room sign for the laboratory must contain a Designated Areas Within identifier.

All locations within the laboratory where carcinogens are handled should be demarcated with designated area caution tape and/or posted with designated area caution signs. This includes all fume hoods and bench tops where the carcinogens are handled.

Where feasible, carcinogens should be manipulated over plastic-backed disposable paper work surfaces. These disposable work surfaces minimize work area contamination and simplify clean up.

**Emergency procedure**

Emergency procedures which address response actions to fires, explosions, spills, injury to staff, should be developed by each laboratory. The procedures should address as a minimum the following:

* **Who to contact:** (Public Safety, Principal investigator/course director of the laboratory including evening phone number, and Office of Environmental Health and Safety).
* The location of all safety equipment (showers, eye wash, fire extinguishers, etc.).
* The method used to alert personnel in nearby areas of potential hazards.
* Special first aid treatment required by the type of carcinogens handled in the laboratory.

**Fume hood**

Manipulation of carcinogens should be carried out in a fume hood. If the use of a fume hood proves impractical refer to the section on special ventilation.

All areas where carcinogens are stored or manipulated must be labeled as a designated area.

**Glove (dry) box**

Certain carcinogens must be handled in a glove box rather than a fume hood. The Principal Investigator/course director is responsible to determine if this is required. EHS is available to provide guidance.

**Hazard assessment**

Hazard assessment should focus on proper use and handling techniques, education of laboratory workers concerning the health risks posed by carcinogens, and the demarcation of designated areas.

**Protective apparel**

Lab coats, closed toed shoes and long sleeved clothing should be worn when handling carcinogens. Additional protective clothing should be worn if the possibility of skin contact is likely.

The Principal Investigator/Course Director is responsible to the select the appropriate PPE.

The Office of Environmental Health and Safety is available to provide guidance.

**Eye protection**

Eye protection in the form of safety glasses must be worn at all times when handling carcinogens. Ordinary (street) prescription glasses do not provide adequate protection. (Contrary to popular opinion these glasses cannot pass the rigorous test for industrial safety glasses.) Adequate safety glasses must meet the requirements of the Practice for Occupational and Educational Eye and Face Protection (ANSI/ISEA Z87.1-2010) and must be equipped with side shields. Safety glasses with side shields do not provide adequate protection from splashes; therefore, when the potential for splash hazard exists other eye protection and/or face protection must be worn.

**Gloves**

Gloves should be worn when handling carcinogens. Disposable nitrile gloves provide adequate protection against accidental hand contact with small quantities of most laboratory chemicals.

The Principal Investigator/Course Director is responsible to the select the appropriate chemical resistant glove when direct or prolonged contact with hazardous chemicals is anticipated.

The Office of Environmental Health and Safety is available to provide guidance.

**Safety shielding**

Safety shielding is required any time there is a risk of explosion, splash hazard or a highly exothermic reaction. All manipulations of carcinogens which pose this risk should occur in a fume hood with the sash in the lowest feasible position. Portable shields, which provide protection to all laboratory occupants, are acceptable.

The Principal Investigator/Course Director is responsible to the select the appropriate shielding.

The Office of Environmental Health and Safety is available to provide guidance.

**Eyewash**

Where the eyes or body of any person may be exposed to carcinogens, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use. Bottle type eyewash stations are not acceptable.

**Safety shower**

A safety or drench shower should be available in a nearby location where the carcinogens are used.

**Signs and labels**

* **Doorways:** The room sign must contain a Designated Area Within Caution where carcinogens, reproductive hazards, and/or acutely toxic chemicals are stored or used.
* **Containers:** All containers of carcinogens must be clearly labeled with the correct chemical name, and CAS #. Handwritten labels are acceptable; chemical formulas and structural formulas are not acceptable. Chemical containers must be dated upon receipt as well as when opened.

**Special storage**

Carcinogens must be stored in a designated area.

**Special ventilation**

Manipulation of carcinogens outside of a fume hood may require special ventilation controls in order to minimize exposure to the material. Fume hoods provide the best protection against exposure to carcinogens in the laboratory and are the preferred ventilation control device. When possible, handle carcinogens in a fume hood. If the use of a fume hood proves impractical, attempt to work in a glove box or on an isolated area on the bench top.

If available, consider using a Biological Safety Cabinet. The biological safety cabinet is designed to remove particulates (the carcinogen) before the air is discharged into the environment. Carcinogens that are volatile must not be used in a biological safety cabinet unless the cabinet is vented to the outdoors.

If your research does not permit the handling of carcinogens in a fume hood, biological safety cabinet, or glove box, you must contact the Office of Environmental Health Safety.

All areas where carcinogens are stored or manipulated must be labeled as a designated area.

**Spill response**

Anticipate spills by having the appropriate clean up equipment on hand. The appropriate clean up supplies can be determined by consulting the Safety Data Sheet. This should occur prior to the use of any carcinogen.

In the event of a spill alert personnel in the area that a spill has occurred. Do not attempt to handle a large spill of carcinogenic material. Vacate the laboratory immediately and call for assistance.

* Public Safety at 856-256-4911. This is a 24 hour service.
* Office of Environmental Health Safety, 856-256-5105 or EHS@Rowan.edu.

Remain on the scene, but at a safe distance, to receive and direct emergency personnel when they arrive.

**Vacuum protection**

Evacuated glassware can implode and eject flying glass, and splattered chemicals. Vacuum work involving carcinogens must be conducted in a fume hood, glove box or isolated in an acceptable manner.

Mechanical vacuum pumps must be protected using cold traps and, where appropriate, filtered to prevent particulate release. The exhaust for the pumps must be vented into an exhaust hood.

**Waste disposal**

All materials contaminated with carcinogens should be disposed of as hazardous waste. Wherever possible, attempt to design research in a manner that reduces the quantity of waste generated. Questions regarding waste pick up should be directed to the Office of Environmental Health and Safety at 856-256-5105 or EHS@Rowan.edu. This office can also assist you in minimizing waste generation.

A list of Suspected and Known Carcinogens is provided on the following pages, as a guide. This list is not inclusive.

## List of Select and Suspected Carcinogens

This list is provided as a guide and is not all inclusive. Carefully review safety data sheets before working with chemicals.

| **Chemical Name** | **CAS** |
| --- | --- |
| A-alpha-C (2-Amino-9H-pyrido{2,3-b]indole) | 26148685 |
| Acetaldehyde | 76070 |
| Acetamide | 60355 |
| Acetochlor | 34256821 |
| 2-Acetylaminofluorene | 53963 |
| Acifluorfen | 62476599 |
| Acrylamide | 79061 |
| Acrylonitrile | 107131 |
| Actinomycin D | 50760 |
| Adriamycin (Doxorubicin hydrochloride) | 23214928 |
| AF-2; [2-(2-furyl)-3-(5-nitro-2-furyl)]acrylamide | 3588537 |
| Aflatoxins | ---- |
| Alachlor | 15972608 |
| Aldrin | 309002 |
| Allyl chloride | 107051 |
| 2-Aminoanthraquinone | 117793 |
| p-Aminoazobenzene | 60093 |
| ortho-Aminoazotoluene | 97563 |
| 4-Aminobiphenyl (4-aminodiphenyl) | 92671 |
| 3-Amino-9-ethylcarbazole hydrochloride | 6109973 |
| 1-Amino-2-methylanthraquinone | 82280 |
| 2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole | 712685 |
| Amitrole | 61825 |
| Aniline | 62533 |
| ortho-Anisidine | 90040 |
| ortho-Anisidine hydrochloride | 134292 |
| Antimony oxide (Antimony trioxide) | 130964 |
| Aramite | 140578 |
| Arsenic (inorganic arsenic compounds) | --- |
| Asbestos | 1332214 |
| Auramine | 492808 |
| Azaserine | 115026 |
| Azathioprine | 446866 |
| Azacitidine | 320672 |
| Azobenzene | 103333 |
| Benz[a]anthracene | 56553 |
| Benzene | 71432 |
| Benzidine [and its salts] | 92875 |
| Benzo [b] fluoranthene | 205992 |
| Benzo [j] fluoranthene | 205823 |
| Benzo [k] fluoranthene | 207089 |
| Benzofuran | 271896 |
| Benzo [a] pyrene | 50328 |
| Benzotrichloride | 98077 |
| Benzyl chloride | 100447 |
| Benzyl violet 4B | 1694093 |
| Beryllium and beryllium compounds | --- |
| Betel quid with tobacco | --- |
| Bis(2-chloroethyl)ether | 111444 |
| N,N,-Bis(2-chloroethyl)-2-naphthylamine (Chlornapazine) | 494031 |
| Bischloroethyl nitrosourea (BCNU) (Carmustine) | 154938 |
| Bis (chloromethyl) ether | 542881 |
| Bitumens, extracts of steam-refined and air-refined | --- |
| Bracken fern | --- |
| Bromodichloromethane | 75274 |
| Bromoform | 75252 |
| 1,3-Butadiene | 106990 |
| 1,4-Butanediol dimethanesulfonate (Busulfan) | 55981 |
| Butylated hydroxyanisole | 25013165 |
| vbeta-Butyrolactone | 3068880 |
| Cadmium and cadmium compounds | --- |
| Captafol | 2425061 |
| Captan | 133062 |
| Carbon tetrachloride | 56235 |
| Carbon-black extracts | --- |
| Ceramic fibers | --- |
| Chlorambucil | 305033 |
| Chloramphenicol | 56757 |
| Chlordane | 57749 |
| Chlordecone (Kepone) | 143500 |
| Chlordimeform | 115286 |
| Chlorendic acid | 115286 |
| Chlorinated paraffins | 108171262 |
| Chlorodibromethane | 124481 |
| Chloroethane (Ethyl chloride) | 75003 |
| 1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea | 13010474 |
| 1-(2-Chloroethyl)-3-(4-methylcyclohexyl)-1-nitrosourea (Methyl-CCNU) | 13909096 |
| Chloroform | 67663 |
| Chloromethyl methyl ether | 107302 |
| 3-Chloro-2-methylpropene | 563473 |
| 4-Chloro-ortho-phenylenediamine | 95830 |
| p-Chloro-o-toluidine | 95692 |
| Chlorothalonil | 1897456 |
| Chlorozotocin | 54749905 |
| Chromium (hexavalent) | --- |
| Chrysene | 18019 |
| C. I. Acid Red 114 | 6459945 |
| C. I. Basic Red 9 monohydrochloride | 569619 |
| Ciclosporin (Cyclosporin A; Cyclosporine) | 59865133;79217600 |
| Cinnamyl anthranilate | 87296 |
| Cisplatin | 15663271 |
| Citrus Red No. 2 | 6358538 |
| Cobalt metal powder | 7440484 |
| Cobalt [II] oxide | 1307966 |
| Conjugated estrogens | --- |
| Creosotes | --- |
| para-Cresidine | 120718 |
| Cupferron | 135206 |
| Cycasin | 14901087 |
| Cyclophosphamide (anhydrous) | 50180 |
| Cyclophosphamide (hydrated) | 6055192 |
| D&C Orange No. 17 | 46831 |
| D&C Red No. 8 | 2092560 |
| D&C Red No. 9 | 5160021 |
| D&C Red No. 19 | 81889 |
| Dacarbazine | 4342034 |
| Daminozide | 1596845 |
| Dantron (Chrysazin; 1,8-Dihydroxyanthraquinone) | 117102 |
| Daunomycin | 20830813 |
| DDD (Dichlorodiphenyldichloroethane) | 72548 |
| DDE (Dichlorodiphenyldichloroethylene) | 72559 |
| DDT (Dichlorodiphenyltrichloroethane) | 50293 |
| DDVP (Dichlorvos) | 62737 |
| N,N'-Diacetylbenzidine | 613354 |
| 2,4-Diaminoanisole | 615054 |
| 2,4-Diaminoanisole sulfate | 39156417 |
| 4,4'-Diaminodiphenyl ether (4,4'-Oxydianiline) | 101804 |
| 2,4-Diaminotoluene | 95807 |
| Diaminotoluene (mixed) | --- |
| Dibenz[a,h]acridine | 226368 |
| Dibenz[a,j]acridine | 224420 |
| Dibenz[a,h]anthracene | 53703 |
| 7H-Dibenzo[c,g]carbazole | 194592 |
| Dibenzo[a,e]pyrene | 192654 |
| Dibenzo[a,h]pyrene | 189640 |
| Dibenzo[a,i]pyrene | 189559 |
| Dibenzo[a,l]pyrene | 191300 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 96128 |
| p-Dichlorobenzene | 106467 |
| 3,3'-Dichlorobenzidine | 91941 |
| 1,4-Dichloro-2-butene | 764410 |
| 3,3'-Dichloro-4,4'-diaminodiphenyl ether | 28434868 |
| 1,1-Dichloroethane | 75343 |
| Dichloromethane (Methylene chloride) | 75092 |
| 1,2-Dichloropropane | 78875 |
| 1,3-Dichloropropene | 542756 |
| Dieldrin | 60571 |
| Dienestrol | 84173 |
| Diepoxybutane | 1464535 |
| Diesel engine exhaust | --- |
| Di(2-ethylhexyl)phthalate | 117817 |
| 1,2-Diethylhydrazine | 1615801 |
| Diethyl sulfate | 64675 |
| Diethylstilbestrol | 56531 |
| Diglycidyl resorcinol ether (DGRE) | 101906 |
| Dihydrosafrole | 94586 |
| 3,3'-Dimethoxybenzidine (ortho-Dianisidine) | 119904 |
| 3,3'-Dimethoxybenzidine dihydrochloride (ortho-Dianisidine dihydrochloride) | 20325400 |
| Dimethylcarbamoyl chloride | 79447 |
| 1,1-Dimethylhydrazine (UDMH) | 57147 |
| 1,2-Dimethylhydrazine | 540738 |
| Dimethylvinylchloride | 513371 |
| 1,6-Dinitropyrene | 42397648 |
| 1,8-Dinitropyrene | 42397659 |
| 2,4-Dinitrotoluene | 121142 |
| 1,4-Dioxane | 123911 |
| Diphenylhydantoin (Phenytoin) | 57410 |
| Diphenylhydantoin (Phenytoin), sodium salt | 630933 |
| Direct Black 38 (technical grade) | 1937377 |
| Direct Blue 6 (technical grade) | 2602462 |
| Direct Brown 95 (technical grade) | 16071866 |
| Disperse Blue 1 | 2475458 |
| Epichlorohydrin | 106898 |
| Erionite | 12510428 |
| Estradiol 17β | 50282 |
| Estrone | 53167 |
| Ethinylestradiol | 57636 |
| Ethyl acrylate | 140885 |
| Ethyl methanesulfonate | 62500 |
| Ethyl-4-4'-dichlorobenzilate | 510156 |
| Ethylene dibromide | 106934 |
| Ethylene dichloride (1,2-Dichloroethane) | 107062 |
| Ethylene oxide | 75218 |
| Ethylene thiourea | 96457 |
| Ethyleneimine | 151564 |
| Folpet | 133073 |
| Formaldehyde | 50000 |
| 2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole | 3570750 |
| Furazolidone | 67458 |
| Furmecyclox | 60568050 |
| Glu-P-1 (2-Amino-6-methyldipyrido[1,2-a:3',2'- d]imidazole) | 67730114 |
| Glycidaldehyde | 765344 |
| Glycidol | 556525 |
| Griseofulvin | 126078 |
| Gyromitrin (Acetaldehyde methylformylhydrazone) | 16568028 |
| HC Blue 1 | 2784943 |
| Heptachlor | 76448 |
| Heptachlor epoxide | 1024573 |
| Hexachlorobenzene | 118741 |
| Hexachlorocyclohexane (technical grade) | --- |
| Hexachlorodibenzodioxin | 34465468 |
| Hexachloroethane | 67721 |
| Hexamethylphosphoramide | 680319 |
| Hydrazine | 302012 |
| Hydrazine sulfate | 10034932 |
| Hydrazobenzene (1,2-Diphenylhydrazine) | 122667 |
| Indeno [1,2,3-cd]pyrene | 193395 |
| IQ (2-Amino-3-methylimidazp[4,5-f]quinoline) | 76180966 |
| Iron dextran complex | 9004664 |
| Isosafrole | 120581 |
| Lactofen | 77501634 |
| Lasiocarpine | 303344 |
| Lead acetate | 301042 |
| Lead phosphate | 7446277 |
| Lead subacetate | 1335326 |
| Lindane | --- |
| Mancozeb | 8018017 |
| Maneb | 12427382 |
| Me-A-alpha-C (2-Amino-3-methyl-9H-pyrido[2,3-b]indole) | 68005837 |
| Medroxyprogesterone acetate | 71589 |
| Melphalan | 148823 |
| Merphalan | 531760 |
| Mestranol | 72333 |
| 8-Methoxypsoralen with ultraviolet A therapy | 298817 |
| 5-Methoxypsoralen with ultraviolet A therapy | 484208 |
| 2-Methylaziridine (Propyleneimine) | 75558 |
| Methylazoxymethanol | 590965 |
| Methylazoxymethanol acetate | 592621 |
| 3-Methylcholanthrene | 56495 |
| 5-Methylchrysene | 3697243 |
| 4,4'-Methylene bis(2-chloroaniline) | 101144 |
| 4,4'-Methylene bis(N,N-dimethyl)benzenamine | 101611 |
| 4,4'-Methylene bis(2-methylaniline) | 838880 |
| 4,4'-Methylenedianiline | 01779 |
| 4,4'-Methylenedianiline dihydrochloride | 13552448 |
| Methylhydrazine and its salts | 13552448 |
| Methyl iodide | 74884 |
| Methyl methanesulfonate | 66273 |
| 2-Methyl-1-nitroanthraquinone | 129157 |
| N-Methyl-N'-nitro-N-nitrosoguanidine | 70257 |
| N-Methylolacrylamide | 924425 |
| Methylthiouracil | 56042 |
| Metiram | 9005422 |
| Metronidazole | 443481 |
| Michler's ketone | 90948 |
| Mirex | 2385855 |
| Mitomycin C | 50077 |
| Monocrotaline | 315220 |
| 5-(Morpholinomethyl)-3-[(5-nitro-furfurylidene)-amino]-2 -oxalolidinone | 139913 |
| Mustard Gas | 505602 |
| Nafenopin | 3771195 |
| 1-Naphthylamine | 124327 |
| 2-Naphthylamine | 91598 |
| Nickel and certain nickel compounds | --- |
| Nickel carbonyl | 13463393 |
| Nickel subsulfide | 12035722 |
| Niridazole | 61474 |
| Nitrilotriacetric acid | 139139 |
| Nitrilotriacetric acid, trisodium salt monohydrate | 18662538 |
| 5-Nitroacenaphthene | 602879 |
| 5-Nitro-o-anisidine | 99592 |
| 4-Nitrobiphenyl | 93933 |
| 6-Nitrochrysene | 7496028 |
| Nitrofen (technical grade) | 1836755 |
| 2-Nitrofluorene | 607578 |
| Nitrofurazone | 59870 |
| 1-[5-Nitrofurfurylidene)-amino]-2-imidazolidinone | 555840 |
| N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide | 531828 |
| Nitrogen mustard (Mechlorethamine) | 51752 |
| Nitrogen mustard hydrochloride (Mechlorethamine hydrochloride) | 55867 |
| Nitrogen mustard N-oxide | 126852 |
| Nitrogen mustard N-oxide hydrochloride | 302705 |
| 2-Nitropropane | 79469 |
| 1-Nitropyrene | 5522430 |
| 4-Nitropyrene | 57835924 |
| N-Nitrosodi-n-butylamine | 924163 |
| N-Nitrosodiethanolamine | 1116547 |
| N-Nitrosodiethylamine | 55185 |
| N-Nitrosodimethylamine | 62759 |
| p-Nitrosodiphenylamine | 156105 |
| N-Nitrosodiphenylamine | 86306 |
| N-Nitrosodi-n-propylamine | 621647 |
| N-Nitroso-N-ethylurea | 759739 |
| 3-(N-Nitrosomethylamino)propionitrile | 60153493 |
| 4-(N-Nitrosomethylamino)-1-(3-pyridyl)1-butanone | 64091914 |
| N-Nitrosomethylethylamine | 10595956 |
| N-Nitroso-N-methylurea | 684935 |
| N-Nitroso-N-methylurethane | 615532 |
| N-Nitrosomethylvinylamine | 4549400 |
| N-Nitrosomorpholine | 59892 |
| N-Nitrosonornicotine | 16543558 |
| N-Nitrosopiperidine | 100754 |
| N-Nitrosopyrrolidine | 930552 |
| N-Nitrososarcosine | 13256229 |
| Norethisterone (Norethindrone) | 68224 |
| Ochratoxin A | 303479 |
| Oxadiazon | 19666309 |
| Oxymetholone | 434071 |
| Panfuran S | --- |
| Pentachlorophenol | 87865 |
| Phenacetin | 62442 |
| Phenazopyridine | 94780 |
| Phenazopyridine hydrochloride | 136403 |
| Phenesterin | 3546109 |
| Phenobarbital | 50066 |
| Phenoxybenzamine | 59961 |
| Phenoxybenzamine hydrochloride | 63923 |
| Phenyl glycidyl ether | 22601 |
| Phenylhydrazine and its salts | --- |
| o-Phenylphenate, sodium | 132274 |
| Polybrominated biphenyls | --- |
| Polychlorinated biphenyls | --- |
| Polygeenan | 53973981 |
| Ponceau MX | 3761533 |
| Ponceau 3R | 3564098 |
| Potassium bromate | 7758012 |
| Procarbazine | 671169 |
| Procarbazine hydrochloride | 366701 |
| Progesterone | 57830 |
| 1,3-Propane sultone | 1120714 |
| beta-Propiolactone | 57578 |
| Propylene oxide | 75569 |
| Propylthiouracil | 51525 |
| Reserpine | 50555 |
| Saccharin | 81072 |
| Saccharin, sodium | 128449 |
| Safrole | 94597 |
| Selenium sulfide | 7446346 |
| Silica, crystalline | --- |
| Streptozotocin | 18883664 |
| Styrene oxide | 96093 |
| Sulfallate | 95067 |
| Talc� containing asbestiform fibers | --- |
| Testosterone and its esters | 58220 |
| 2,3,7,8-Tetrachlorodibenzo-para-dioxin (TCDD) | 1746016 |
| 1,1,2,2-Tetrachloroethane | 79345 |
| Tetrachloroethylene (Perchloroethylene) | 127184 |
| p-a, a, a-Tetrachlorotoluene | 5216251 |
| Tetranitromethane | 509148 |
| Thioacetamide | 62555 |
| 4,4� - Thiodianiline | 139651 |
| Thiourea | 62566 |
| Thorium dioxide | 1314201 |
| Toluene diisocyanate | 26471625 |
| ortho-Toluidine | 95534 |
| ortho-Toluidine hydrochloride | 636215 |
| para-Toluidine | 106490 |
| Toxaphene (Polychorinated camphenes) | 8001352 |
| Trasulfan | 299752 |
| Trichlormethine (Trimustine hydrochloride) | 817094 |
| 2,4,6-Trichlorophenol | 88062 |
| Triphenyltin hydroxide | 76879 |
| Trichloroethylene | 79016 |
| Tris (aziridinyl)-para-benzoquinone (Triaziquone) | 68768 |
| Tris (1-aziridinyl) phosphine sulfide (Thiotepa) | 52244 |
| Tris (2-chloroethyl) phosphate | 115968 |
| Tris (2,3-dibromopropyl) phosphate | 126727 |
| Trp-P-1 (Tryptophan-P-1) | 62450060 |
| Trp-P-2 (Tryptophan-P-2) | 62450071 |
| Trypan blue (commercial grade) | 72571 |
| Uracil mustard | 66751 |
| Urethane (Ethyl carbamate) | 51796 |
| Vinyl bromide | 593602 |
| Vinyl chloride | 75014 |
| 4-Vinyl-1-cyclohexene diepoxide (Vinyl cyclohexene dioxide) | 106876 |
| Vinyl trichloride (1,1,2-Trichloroethane) | 79005 |
| 2,6-Xylidine (2,6-Dimethylaniline) | 87627 |
| Zineb | 12122677 |