

| Class | EN374-3:2003 Permeation breakthrough times | | | | | | |
|-------|--|-------------------|-------------------|-------------------|-----------------|-----------------|-----------------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Time | <10 | 10-30 | 30-60 | 60-120 | 120-240 | 240-480 | >480 |
| Usage | Not recommended | Splash protection | Medium protection | Medium protection | High protection | High protection | High protection |

| Top Selling Laboratory Chemicals | CAS number | Type | Scientific Applications | REACH Symbol | Toxicology | Breakthrough Time (minutes) | | |
|--|------------|----------------------|--|--|---|-----------------------------|--------------------|-----------------|
| | | | | | | GREEN NITRILE | STERLING * Nitrile | PURPLE NITRILE* |
| Acetic Acid, concentration 10% | 64-19-7 | Organic Acid | Chemical synthesis. | | Strongly corrosive and causes serious burns. Very harmful if swallowed. Lachrymator. | >480 | >480 | >480 |
| Acetone, concentration 99.8% | 67-64-1 | Ketone | Solvent for Laboratory Cleaning, Jones Oxidation, SN2 reactions. | | Irritant. Permanent eye damage. Skin irritation. Long-term exposure may cause liver damage. | <2 | <2 | <2 |
| Acetonitrile, concentration 99.9% | 75-05-08 | Nitrile | Chemical synthesis, Liquid Chromatography, DNA analysis. | | Harmful if inhaled, swallowed or absorbed through the skin. Skin irritant. Serious damage to the eyes. Teratogen. | | <2 | <2 |
| Acrylamide, concentration 40% | 79-06-1 | Amide | Electrophoresis, DNA analysis. | | Toxic. Carcinogen, Teratogen. Genetic damage. Readily absorbed through skin. Inhalation may be fatal. CNS damage. | >480 | >480 | >480 |
| 1-Butanol, concentration 99% | 71-36-3 | Alcohol | Chemical extraction, Liquid Chromatography. | | Harmful if swallowed. May cause serious eye damage. Irritant. Narcotic. CNS depressant. | 8 | 32 | 50 |
| Citric Acid (monohydrate), concentration 30% | 77-92-9 | Organic Acid | Passivate high-purity process piping in biotech and pharma industry. | | Severe eye irritant. Skin and respiratory irritant. Prolonged exposure may cause allergic reaction in some individuals. | | >480 | >480 |
| Cyclohexane, concentration 99.7% | 110-82-7 | Solvent | Solvent, Analysis, Calibration of Differential scanning calorimetry. | | Harmful if swallowed, inhaled, skin contact. Respiratory, eye and skin irritant. Frequent exposure may cause dermatitis. | | | >480 |
| Dichloromethane, concentration 99% | 75-09-2 | Chloro-Hydrocarbon | Solvent for organic compounds, plastic welding adhesive. | | Carcinogen, Mutagen, Reproductive damage, Asphyxiant. CNS depression. Eye and skin irritant. | | | <2 |
| Diethylether, concentration 99.9% | 60-29-7 | Ether | Solvent, Liquid-Liquid Extraction. | | Harmful by ingestion, inhalation or skin contact. Inebriation or coma. Allergic reaction. Skin, eye and respiratory irritant. | | <2 | |
| Dimethyl Sulphoxide, concentration 99% | 67-68-5 | Solvent | Polymerised Chain Reaction, Organic Synthesis, Extractant in biochemistry. | Not hazardous according to Directive 67/548/EC | Not hazardous according to Directive 67/548/EC | | | 32 |
| Ethanol, concentration 70% | 64-17-5 | Alcohol | General purpose solvent. | | Causes skin and eye irritation. Nausea, vomiting and inebriation; chronic use can cause serious liver damage. | 16 | 33 | 42 |
| Ethanol, concentration 98% | 64-17-5 | Alcohol | General purpose solvent. | | Causes skin and eye irritation. Nausea, vomiting and inebriation; chronic use can cause serious liver damage. | 6 | | 20 |
| Ethidium bromide, concentration 1% | 1239-45-8 | Intercalating Agent | Flourescent Tag for Electrophoresis. | | Mutagen. Harmful if swallowed or inhaled. Skin, eye and respiratory irritant. | >480 | >480 | >480 |
| Formaldehyde, concentration 37% | 50-00-0 | Aldehyde | Chemical synthesis. | | Very toxic. Carcinogen, Genetic damage. Destructive of mucous membranes, upper respiratory tract, eyes and skin. | >480 | >480 | >480 |
| Glutaraldehyde, concentration 50% | 111-30-8 | Aldehyde | Biochemical synthesis, creation of Toxoid Vaccines. | | May be fatal if inhaled. Destructive of mucous membranes. Severe eye and skin irritant. | | >480 | >480 |
| Hydrochloric Acid, concentration 30% | 7647-01-0 | Inorganic acid | Chemical synthesis, pH regulation, ion exchange. | | Extremely corrosive. Inhalation of vapour can cause serious injury. Ingestion fatal. Severe damage to skin and eyes. | 210 | 413 | >480 |
| Hydrochloric Acid, concentration 37% | 7647-01-0 | Inorganic acid | Chemical synthesis, pH regulation, ion exchange. | | Extremely corrosive. Inhalation of vapour can cause serious injury. Ingestion fatal. Severe damage to skin and eyes. | 43 | 88 | 173 |
| Hydrofluoric Acid, concentration 40% | 7664-39-3 | Inorganic acid | Remove Oxide impurities from steel, silicon wafers. Chemical synthesis. | | Extremely toxic. May be fatal if inhaled, ingested, or through skin contact. Systemic poison. Causes severe burns. Possible mutagen. Reaction may be delayed. Any contact with this material, even minor. | | 6 | 15 |
| Hydrogen peroxide, concentration 30% | 7722-84-1 | Oxidizing Agent | Disinfectant, Antiseptic, Oxidizer. | | Toxic. Can cause serious burns. Eye contact can cause blindness. Harmful by inhalation, ingestion and skin contact. | 16 | >480 | >480 |
| Isopropanol, concentration 70% | 67-63-0 | Alcohol | Solvent, Disinfectant, Cleaning electronic devices. | | May be harmful by inhalation, ingestion or skin absorption. May act as an irritant. | | >480 | >480 |
| Isopropanol, concentration 99.5% | 67-63-0 | Alcohol | Solvent, Disinfectant, Cleaning electronic devices. | | May be harmful by inhalation, ingestion or skin absorption. May act as an irritant. | 11 | 50 | 54 |
| Methanol, concentration 99% | 67-56-1 | Alcohol | Solvent, Electrophoresis. | | Reproductive damage. Ingestion fatal. Eye, kidney, heart and liver damage. Irritant. Narcotic. | <2 | 5 | 7 |
| Nitric Acid, concentration 50% | 7697-37-2 | Inorganic acid | Chemical synthesis, strong oxidizing agent. | | May be fatal if inhaled. Extremely corrosive. Contact with skin or eyes causes burns and permanent damage. | 11 | 13 | 60 |
| Nitric Acid, concentration 70% | 7697-37-2 | Inorganic acid | Chemical synthesis, strong oxidizing agent. | | May be fatal if inhaled. Extremely corrosive. Contact with skin or eyes causes burns and permanent damage. | <2 | <2 | 9 |
| Sodium Hydroxide, concentration 40% | 1310-73-2 | Base | pH regulation, organic synthesis. | | Very corrosive. Causes severe burns, permanent eye damage. Very harmful by ingestion, inhalation or skin contact. | >480 | >480 | >480 |
| Sodium Hydroxide, concentration 50% | 1310-73-2 | Base | pH regulation, organic synthesis. | | Very corrosive. Causes severe burns, permanent eye damage. Very harmful by ingestion, inhalation or skin contact. | >480 | >480 | >480 |
| Sulphuric Acid, concentration 50% | 7664-93-9 | Inorganic acid | Dehydrating agent, many industrial applications. | | Poison - harmful if swallowed. Toxic if inhaled. Skin or eye contact will lead to severe irritation or burns. | >480 | >480 | >480 |
| Sulphuric Acid, concentration 95% | 7664-93-9 | Inorganic acid | Dehydrating agent, many industrial applications. | | Poison - harmful if swallowed. Toxic if inhaled. Skin or eye contact will lead to severe irritation or burns. | <2 | 10 | 15 |
| Toluene, concentration 99.9% | 108-88-3 | Aromatic Hydrocarbon | Solvent, Fullerene indicator, Carbon Nanotubes, Hemoglobin extraction. | | Harmful if inhaled or swallowed. May cause drowsiness, lung damage, risk of to unborn child. Serious irritant. Teratogen. | <2 | <2 | <2 |
| Xylene, concentration 99% | 1330-20-7 | Aromatic Hydrocarbon | Solvent, cleaning agent for steel and for silicon wafers and chips, dry ice baths. | | Harmful if swallowed or inhaled. Eye, skin and respiratory irritant. May act as a narcotic. | <2 | <2 | <2 |