**Materials recommended for cutting/ etching on Trotec Rayjet Laser**

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| --- | --- | --- |
| Material | Abbreviation | Trade name |
| Acrylics |  |  |
| Poly(methyl methacrylate) | PMMA | Plexiglas®, Perspex® Altuglas®

|  |  |
| --- | --- |
|  | Acrylite® |

 |
| Plastics  |  |  |
| Polyamide | PA | Nylon® |
| Polyoxymethylene | POM | Delrin® |
| Polyester | PES | Thermolite®, Polarguard® |
| Polyethylene terephthalate | PET  | Mylar® |
| Polyimide | PI | Kapton® |
| Polystyrene | PS |  |
| Polymethyl-methacrylate | PMMA | Plexiglas® |
| Polycarbonate | PC | Lexan®, Makrolon® |
| Polypropylene | PP |  |
| Acrylonitrile butadiene styrene co-polymerisate | ABS |  |
| Polyethylene  | PE |  |
| Polyurethane  | PUR | Neopren® |
| Other Materials  |  |  |
| Glass (etching only)  |  |  |
| Natural & some synthetic Leather  |  |  |
| Metals (etching only) Including - Aluminium, Carbide, Coated metals, Cobalt, Gold, Silver, Steel, Chrome, Copper, Platinum, Tin, Brass, Zinc, Titanium & Eloxal.   |  |  |
| Paper & Cardboard |  |  |
| Rubbers |  |  |
| Natural and some synthetic rubbers, Microporous foam and Silicone Rubber |  |  |
| Natural stone - Granite Ceramic Marble Slate Pebble  |  |  |
| Textiles - Polyester, Lace, Fleece, Silk, Cotton, Felt, Aramid, Synthetic & technical textiles  |  |  |
| Wood and timber – Veneers , solid timbers, balsa and some MDF and Plywoods  |  |  |
|  |  |  |

<http://www.troteclaser.com/en-US/Materials/Pages/Material-Overview.aspx> on 9 May 2016.

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| **Active Carbon Absorption of Chemicals** 1.- Chemicals with **very high probability** of being adsorbed by active carbon:

|  |  |  |
| --- | --- | --- |
| 2,4-D | Deisopropyltatrazine | Linuron |
| Alachlor | Desethylatrazine | Malathion |
| Aldrin | Demeton-O | MCPA |
| Anthracene | Di-n-butylphthalate | Mecoprop |
| [Atrazine](http://www.lenntech.com/ro/atrazine.htm) | 1,2-Dichlorobenzene | Metazachlor |
| Azinphos-ethyl | 1,3-Dichlorobenzene | 2-Methyl benzenamine |
| Bentazone | 1,4-Dichlorobenzene | Methyl naphthalene |
| Biphenil | 2,4-Dichlorocresol | 2-Methylbutane |
| 2,2-Bipyridine | 2,5-Dichlorophenol | Monuron |
| Bis(2-Ethylhexyl)Phthalate | 3,6-Dichlorophenol | Napthalene |
| Bromacil | 2,4-Dichlorophenoxy | Nitrobenzene |
| Bromodichloromethane | Dieldrin | m-Nitrophenol |
| p-Bromophenol | Diethylphthalate | o-Nitrophenol |
| Butylbenzene | 2,4-Dinitrocresol | p-Nitrophenol |
| Calcium Hypochloryte | 2,4-Dinitrotoluene | Ozone |
| Carbofuran | 2,6-Dinitrotoluene | Parathion |
| Chlorine | Diuron | Pentachlorophenol |
| Chlorine dioxide | Endosulfan | Propazine |
| Chlorobenzene | Endrin | Simazine |
| 4-Chloro-2-nitrotoluene | Ethylbenzene | Terbutryn |
| 2-Chlorophenol | Hezachlorobenzene | Tetrachloroethylene |
| Chlorotoluene | Hezachlorobutadiene | Triclopyr |
| Chrysene | Hexane | 1,3,5-Trimethylbenzene |
| m-Cresol | Isodrin | m-Xylene |
| Cyanazine | Isooctane | o-Xylene |
| Cyclohexane | Isoproturon | p-Xylene |
| DDT | Lindane | 2,4-Xylenol |

2.- Chemicals with **high probability** of being adsorbed by active carbon:

|  |  |  |
| --- | --- | --- |
| Aniline | Dibromo-3-chloropropane | 1-Pentanol |
| Benzene | Dibromochloromethane | Phenol |
| Benzyl alcohol | 1,1-Dichloroethylene | Phenylalanine |
| Benzoic acid | cis-1,2- Dichloroethylene | o-Phthalic acid |
| Bis(2-chloroethyl) ether | trans-1,2- Dichloroethylene | Styrene |
| Bromodichloromethane | 1,2-Dichloropropane | 1,1,2,2-Tetrachloroethane |
| Bromoform | Ethylene | Toluene |
| Carbon tetrachloride | Hydroquinone | 1,1,1-Trichloroethane |
| 1-Chloropropane | Methyl Isobutyl Ketone | Trichloroethylene |
| Chlorotoluron | 4-Methylbenzenamine | Vinyl acetate |

3.- Chemicals with **moderate probability** of being adsorbed by active carbon\*:

|  |  |  |
| --- | --- | --- |
| Acetic acid | Dimethoate | Methionine |
| Acrylamide | Ethyl acetate | Methyl-tert-butyl ether |
| Chloroethane | Ethyl ether | Methyl ethyl ketone |
| Chloroform | Freon 11 | Pyridine |
| 1,1-Dichloroethane | Freon 113 | 1,1,2-Trichloroethane |
| 1,2-Dichloroethane | Freon 12 | Vinyl chloride |
| 1,3-Dichloropropene | Glyphosate |  |
| Dikegulac | Imazypur |  |

\*(For this chemicals active carbon is only effective in certain cases).4.- Chemicals for which adsorption with active carbon is **unlikely to be effective**. However it may be viable in certain cases such as for low flow or concentrations:

|  |  |
| --- | --- |
| Acetone | Methylene chloride |
| Acetonitrile | 1-Propanol |
| Acrylonitrile | Propionitrile |
| Dimethylformaldehyde | Propylene |
| 1,4-Dioxane | Tetrahydrofuran |
| Isopropyl alcohol | Urea |
| Methyl chloride |  |

Factors that influence the performance of active carbon in air:* Type of compound to be removed: In general compounds with a high molecular weight, lower vapor pressure/higher boiling point and high refractive index are better adsorbed.
* Concentration: The higher the concentration, the higher the carbon consumption.
* Temperature: The lower the temperature, the better the adsorption capacity.
* Pressure: The higher the pressure, the better the adsorption capacity.
* Humidity: The lower the humidity, the better the adsorption capacity.

If you want to know if a certain chemical can be effectively removed from air by active carbon, please [contact us](http://www.lenntech.com/feedback_uk.htm).[More information about the Regeneration of Active Carbon](http://www.lenntech.com/activecarbon-regeneration.htm) |

1) source: Wastewater Engineering; Metcalf & Eddy; third edition; 1991; page 317 |

Read more: <http://www.lenntech.com/library/adsorption/adsorption.htm#ixzz4880i9cJh>