

## Azodye Metabolites

Following new legislation, azodye colours are no longer permitted for use in Germany if they produce one of the following metabolites, often found due to a degradation of one or more azo-groups. All products listed are accompanied by a Certificate of Analysis for neat compounds, or a Gravimetric Certificate for standard solutions. Solvent "AL" is acetonitrile, "CY" is cyclohexane, "EA" is ethyl acetate, "IO" is iso-octane, "ME" is methanol.

Description	CAS	Formula	MW	Cat.No.	Conc.	Unit	Price
4-Aminobiphenyl	92-67-1	C <sub>12</sub> H <sub>11</sub> N	169.23	C 10173040 L 10173040CY	certified 10 ng/μl	0.1 g 10 ml	CC DC
4-Aminobiphenyl D9		C <sub>12</sub> H <sub>2</sub> ND <sub>9</sub>	178.23	XA10173041AC	100 ng/μl	1 ml	LE
4-Amino-2',3-dimethylazobenzene	97-56-3	C <sub>14</sub> H <sub>15</sub> N <sub>3</sub>	225.3	C 10202000 XA10202000CY	certified 100 ng/μl	0.25 g 1 ml	CE CH
2-Aminonaphthalene	91-59-8	C <sub>10</sub> H <sub>9</sub> N	143.19	C 10206355 L 10206355AL L 10206355ME	certified 10 ng/μl	10 mg 10 ml 10 ml	CH DC DC
2-Amino-3-nitrotoluene (2-Methyl-6-nitroaniline)	570-24-1	C <sub>7</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>	152.15	C 10207400	certified	0.25 g	CA
2-Amino-4-nitrotoluene (2-Methyl-5-nitroaniline)	99-55-8	C <sub>7</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>	152.15	C 10207500 L 10207500AL	certified 10 ng/μl	0.25 g 10 ml	CA CE
2-Amino-5-nitrotoluene (2-Methyl-4-nitroaniline)	99-52-5	C <sub>7</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>	152.15	C 10207600 L 10207600AL	certified 10 ng/μl	0.25 g 10 ml	CA CE
2-Amino-6-nitrotoluene (2-Methyl-3-nitroaniline)	603-83-8	C <sub>7</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>	152.15	C 10207700 L 10207700AL	certified 10 ng/μl	0.25 g 10 ml	CA CE
3-Amino-2-nitrotoluene (3-Methyl-2-nitroaniline)	601-87-6	C <sub>7</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>	152.15	L 10207800AL	10 ng/μl	10 ml	EC
3-Amino-4-nitrotoluene (5-Methyl-2-nitroaniline)	578-46-1	C <sub>7</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>	152.15	C 10207900 L 10207900AL	certified 10 ng/μl	0.1 g 10 ml	CA CE
4-Amino-2-nitrotoluene (4-Methyl-3-nitroaniline)	119-32-4	C <sub>7</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>	152.15	C 10208200 L 10208200AL	certified 10 ng/μl	0.25 g 10 ml	CA CE
4-Amino-3-nitrotoluene (4-Methyl-2-nitroaniline)	89-62-3	C <sub>7</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>	152.15	C 10208300 L 10208300AL	certified 10 ng/μl	0.25 g 10 ml	CA CE
4-Aminophenylether (4,4'-Oxydianiline)	101-80-4	C <sub>12</sub> H <sub>12</sub> N <sub>2</sub> O	200.24	C 10215000 L 10215000AL	certified 10 ng/μl	0.25 g 10 ml	CA CE
4-Aminophenylthioether (4,4'-Thiodianiline)	139-65-1	C <sub>12</sub> H <sub>12</sub> N <sub>2</sub> S	216.31	C 10215500 L 10215500AL	certified 10 ng/μl	0.25 g 10 ml	CC DC
Aniline	62-53-3	C <sub>6</sub> H <sub>7</sub> N	93.13	C 10262500 L 10262500CY XA10262500CY	certified 10 ng/μl 100 ng/μl	0.25 g 10 ml 1 ml	BH CE CE
4,4'-Benzidine	92-87-5	C <sub>12</sub> H <sub>12</sub> N <sub>2</sub>	184.24	C 10536000 L 10536000AL XA10536000AL	certified 10 ng/μl 100 ng/μl	0.1 g 10 ml 1 ml	EA DC DC
Bis-(4-aminophenyl)-methane (4,4'-Methylenedianiline)	101-77-9	C <sub>13</sub> H <sub>14</sub> N <sub>2</sub>	198.27	C 10648000 L 10648000ME	certified 10 ng/μl	0.25 g 10 ml	CA CE
Bis-(4-dimethylaminophenyl)methane	101-61-1	C <sub>17</sub> H <sub>22</sub> N <sub>2</sub>	254.38	C 10651900	certified	0.25 g	CA
4-Chloroaniline	106-47-8	C <sub>6</sub> H <sub>6</sub> ClN	127.57	C 11352000 XA11352000AL	certified 100 ng/μl	0.5 g 1 ml	CA CE
4-Chloro-2-methylaniline	95-69-2	C <sub>7</sub> H <sub>8</sub> ClN	141.60	C 11430000 L 11430000CY XA11430000ME	certified 10 ng/μl 100 ng/μl	0.25 g 10 ml 1 ml	BH CE CE
4,4'-Diamino-3,3'-dimethyldiphenyl methane	838-88-0	C <sub>15</sub> H <sub>18</sub> N <sub>2</sub>	226.32	C 12194800	certified	0.1 g	EF
2,4-Diaminotoluene (4-Methyl-m-phenylenediamine)	95-80-7	C <sub>7</sub> H <sub>10</sub> N <sub>2</sub>	122.17	C 12197600 L 12197600AL	certified 10 ng/μl	0.25 g 10 ml	BH CA
3,3'-Dichlorobenzidine	91-94-1	C <sub>12</sub> H <sub>10</sub> Cl <sub>2</sub> N <sub>2</sub>	253.1	C 12377900 L 12377900AL LA12377900AL	certified 10 ng/μl 10 ng/μl	0.1 g 10 ml 1 ml	CH DC DC
3,3'-Dimethoxybenzidine (o-Dianisidine)	119-90-4	C <sub>14</sub> H <sub>16</sub> N <sub>2</sub> O <sub>2</sub>	244.30	C 12721000 XA12721000AL	certified 100 ng/μl	0.1 g 1 ml	CH KE
3,3'-Dimethylbenzidine (o-Tolidine)	119-93-7	C <sub>14</sub> H <sub>16</sub> N <sub>2</sub>	212.30	C 12726000 Y 12726000AL	certified 1000 ng/μl	0.1 g 10 ml	CA GD
2-Methoxy-5-methylaniline	120-71-8	C <sub>8</sub> H <sub>11</sub> NO	137.18	C 15081000 L 15081000EA	certified 10 ng/μl	0.25 g 10 ml	CA CE
4-Methoxy-1,3-phenylene diamine	615-05-4	C <sub>7</sub> H <sub>10</sub> N <sub>2</sub> O	138.17	C 15081900 L 15081900AL	certified 10 ng/μl	0.1 g 10 ml	DH CH

Description	CAS	Formula	MW	Cat.No.	Conc.	Unit	Price
4,4'-Methylene-bis(2-chloroaniline)	101-14-4	C <sub>13</sub> H <sub>12</sub> Cl <sub>2</sub> N <sub>2</sub>	267.2	C 15087500	certified	0.1 g	CC
				L 15087500AL	10 ng/μl	10 ml	CH
				XA15087500AL	100 ng/μl	1 ml	CH
o-Toluidine	95-53-4	C <sub>7</sub> H <sub>9</sub> N	107.16	C 17594800	certified	0.25 g	BH
				L 17594800CY	10 ng/μl	10 ml	CA
				XA17594800CY	100 ng/μl	1 ml	CA
2,4,5-Trimethylaniline	137-17-7	C <sub>9</sub> H <sub>13</sub> N	135	C 17878000	certified	10 mg	CH
				LA17878000AL	10 ng/μl	1 ml	CH

**Azodyes-Mix 1**

4-Aminobiphenyl  
4-Amino-2',3-dimethylazobenzene (o-Aminoazotoluene)  
4-Aminophenylether (4,4'-Oxydianiline)  
4-Aminophenylthioether (4,4'-Thiodianiline)  
4,4'-Benzidine  
Bis-(4-aminophenyl)-methane (4,4'-Diaminodiphenylmethane)  
4-Chloroaniline (p-Chloroaniline)  
4-Chloro-2-methylaniline (4-Chloro-o-toluidine)  
2,4-Diaminotoluene (2,4-Toluylendiamine)  
3,3'-Dichlorobenzidine  
3,3'-Dimethoxybenzidine (o-Dianisidine)  
3,3'-Dimethylbenzidine (o-Tolidine)  
4,4'-Diamino-3,3'-dimethyldiphenyl methane  
2-Methoxy-5-methylaniline (p-Kresidine)  
4-Methoxy-1,3-phenylenediamine (2,4-Diaminoanisole)  
4,4'-Methylene-bis(2-chloroaniline)  
2-Methyl-5-nitroaniline (2-Amino-4-nitrotoluene)  
2-Naphthylamine  
o-Toluidine  
2,4,5-Trimethylaniline

10ng/μl each of 20 components in acetonitrile

L 18007900AL 10ml CDA  
LA18007900AL 1ml FK

**Internal Standard:****3,3',5,5'-Tetramethylbenzidine**

LA17413000AL 1ml CH

**Azodyes-Mix 3**

4-Aminobiphenyl  
4-Amino-2',3-dimethylazobenzene (o-Aminoazotoluene)  
4-Aminophenylether (4,4'-Oxydianiline)  
4-Aminophenylthioether (4,4'-Thiodianiline)  
2-Anisidine  
4,4'-Benzidine  
Bis-(4-aminophenyl)-methane (4,4'-Diaminodiphenylmethane)  
4-Chloroaniline (p-Chloroaniline)  
4-Chloro-2-methylaniline (4-Chloro-o-toluidine)  
2,4-Diaminotoluene (2,4-Toluylendiamine)  
3,3'-Dichlorobenzidine  
3,3'-Dimethoxybenzidine (o-Dianisidine)  
3,3'-Dimethylbenzidine (o-Tolidine)  
4,4'-Diamino-3,3'-dimethyldiphenyl methane  
2-Methoxy-5-methylaniline (p-Kresidine)  
4-Methoxy-1,3-phenylenediamine (2,4-Diaminoanisole)  
4,4'-Methylene-bis(2-chloroaniline)  
2-Methyl-5-nitroaniline (2-Amino-4-nitrotoluene)  
2-Naphthylamine (2-Aminonaphthaline)  
o-Toluidine  
2,4,5-Trimethylaniline

10ng/μl each of 21 components in acetonitrile

L 18017800AL 10ml CKA  
LA18017800AL 1ml GD

**Azodyes-Mix 6**

4-Aminobiphenyl  
2-Aminonaphthalene  
4-Aminoazobenzene  
4-Amino-2',3-dimethylazobenzene (o-Aminoazotoluene)  
2-Amino-4-nitrotoluene (2-Methyl-5-nitroaniline)  
4-Aminophenylether (4,4'-Oxydianiline)  
4-Aminophenylthioether (4,4'-Thiodianiline)  
2-Anisidine  
4,4'-Benzidine  
Bis-(4-aminophenyl)-methane (4,4'-Diaminodiphenylmethane)  
4-Chloroaniline (p-Chloroaniline)  
4-Chloro-2-methylaniline (4-Chloro-o-toluidine)  
4,4'-Diamino-3,3'-dimethyldiphenyl methane  
2,4-Diaminotoluene (2,4-Toluylendiamine)  
3,3'-Dichlorobenzidine  
3,3'-Dimethoxybenzidine (o-Dianisidine)  
2,4-Dimethylaniline  
2,6-Dimethylaniline  
3,3'-Dimethylbenzidine (o-Tolidine)  
2-Methoxy-5-methylaniline (p-Kresidine)  
4-Methoxy-1,3-phenylenediamine (2,4-Diaminoanisole)  
4,4'-Methylene-bis(2-chloroaniline)  
o-Toluidine  
2,4,5-Trimethylaniline

10ng/μl each of 24 components in acetonitrile

LA18037600AL 1ml LE  
L 18037600AL 10ml DDA

**Azodyes-Mix 9**

4-Aminobiphenyl  
2-Aminonaphthalene  
4-Amino-2',3-dimethylazobenzene (o-Aminoazotoluene)  
2-Amino-4-nitrotoluene (2-Methyl-5-nitroaniline)  
4-Aminophenylether (4,4'-Oxydianiline)  
4-Aminophenylthioether (4,4'-Thiodianiline)  
2-Anisidine  
4,4'-Benzidine  
Bis-(4-aminophenyl)-methane (4,4'-Diaminodiphenylmethane)  
4-Chloroaniline (p-Chloroaniline)  
4-Chloro-2-methylaniline (4-Chloro-o-toluidine)  
4,4'-Diamino-3,3'-dimethyldiphenyl methane  
2,4-Diaminotoluene (2,4-Toluylendiamine)  
3,3'-Dichlorobenzidine  
3,3'-Dimethoxybenzidine (o-Dianisidine)  
2,4-Dimethylaniline  
2,6-Dimethylaniline  
3,3'-Dimethylbenzidine (o-Tolidine)  
2-Methoxy-5-methylaniline (p-Kresidine)  
4-Methoxy-1,3-phenylenediamine (2,4-Diaminoanisole)  
4,4'-Methylene-bis(2-chloroaniline)  
o-Toluidine  
2,4,5-Trimethylaniline  
(23 components)

10ng/μl each component in acetonitrile

L 18046600AL 10ml CKA  
100ng/μl each component in acetonitrile  
XA18046600AL 1ml CDA

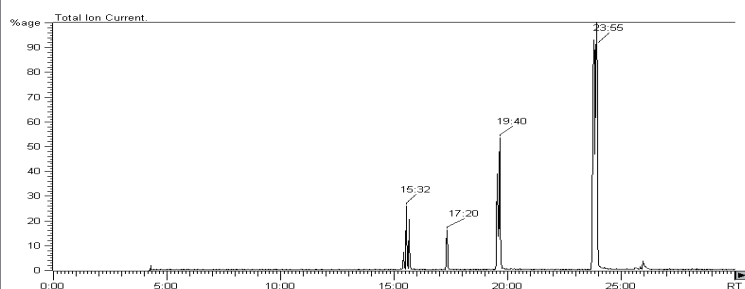
**Azodyes-Mix 16**

4-Aminoazobenzene  
 4-Aminobiphenyl  
 4-Amino-2',3'-dimethylazobenzene  
 2-Aminonaphthalene  
 2-Amino-4-nitrotoluene (2-Methyl-5-nitroaniline)  
 4-Aminophenylether (4,4'-Oxydianiline)  
 4-Aminophenylthioether (4,4'-Thiodianiline)  
 2-Anisidine  
 4,4'-Benzidine  
 Bis-(4-aminophenyl)-methane (4,4'-Methylenedianiline)  
 4-Chloroaniline  
 4-Chloro-2-methylaniline  
 4,4'-Diamino-3,3'-dimethyldiphenyl methane  
 2,4-Diaminotoluene (4-Methyl-m-phenylenediamine)  
 3,3'-Dichlorobenzidine  
 3,3'-Dimethoxybenzidine (o-Dianisidine)  
 3,3'-Dimethylbenzidine (o-Tolidine)  
 2-Methoxy-5-methylaniline  
 4-Methoxy-1,3-phenylene diamine  
 4,4'-Methylene-bis(2-chloroaniline)  
 o-Toluidine  
 2,4,5-Trimethylaniline  
 (22 components)

10ng/µl each component in acetonitrile  
 XA18085600AL 1ml BEK

**Chloroparaffins**

Chlorinated paraffins (CPs) have been produced since 1930 and have found many applications, such as polymer additives, lubricants, paints, and flame retardants (1., 2.) The chemical stability and physical properties of the CPs makes them suitable substitutes for PCBs (2.) Because of their high distribution tendency CPs are detected in a wide variety of environmental samples, particularly in biological material (3., 4.) Toxicological studies with these mixtures revealed that short chain congeners (C10-C13) show the highest activities (5., 6.) The use of single congeners with different levels of chlorination as reference standards is essential (5., 6.) Recently, pure single C10 congeners have been synthesised for the first time by the research groups of Dr.M.Coelhan and Prof.Dr.H.Parlar. We are pleased to be able to offer these standards to you.



HRGC-MS/ECNI full scan chromatogram of the chloroparaffin C10-congener mix.  
 (GC: HP5890 II, column DB-5, 30m x 0.25mm, 0.25m, carrier gas He, flow 1.15ml/min, slit 1:10, injector, 240C, transfer line 250C, temperature program 90C/10min; MS Finnigan 8200, reactant gas methane, ion source pressure 2.5105, ionization energy 150eV)

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