

OXYGENATED SOLVENTS REGISTERED UNDER REACH - KEY DATA

| Substances | CAS # | REACH Registration # | CLP classification - Health Hazard only (Note 1) | Basis for Classification (Note 2) | Volatility Band ECETOC TRA Vapour Pressure Bands (VP at 20 deg C (kPa): High: >10 Medium: >0.5 - 10 Low: <= 0.5 Negligible: <0.00001 | Molecular Weight | Example National OELs (mg/m3) (Note 3) | | DNEL inhalation worker (mg/m3) n/a = not assigned | | | |
|--|------------|----------------------|--|--------------------------------------|--|------------------|--|-------------------------------------|---|-----------------------------------|---------------------------------|---------------------------------|
| | | | | | | | 8hr TWA | 15 min - STEL | Systemic effects Long term | Systemic effects Acute/Short term | Local effects Long term | Local Effects Acute/Short term |
| OSPA SOLVENTS | | | | | | | | | | | | |
| KETONES | | | | | | | | | | | | |
| 4-methylpentan-2-one (MIBK) | 108-10-1 | 01-2119473980-30 | Eye Irrit. 2 (H319); Acute Tox. 4 (H332); STOT SE 3 (H336) | Harmonised | 2.64 (Medium) | 100.16 | EU: 83 | EU: 208 | 83 | 208 | 83 | 208 |
| Butanone, Ethyl Methyl Ketone (MEK) | 78-93-3 | 01-2119457290-43 | Eye Irrit. 2 (H319); STOT SE 3 (H336) | Harmonised | 10 - 12 (High) | 72.11 | EU: 600 | EU: 900 | 600 | n/a | n/a | n/a |
| methyl isobutyl carbinol (MIBC) | 108-11-2 | 01-2119473979-13 | STOT SE 3 (H335) | Harmonised | 0.396 (Low) | 102.17 | n/a | n/a | 83 | 208 | 83 | 104 |
| Methyl Amyl Ketone | 110-43-0 | 01-2119902391-49 | Acute Tox. 4 (H302, H332); STOT SE 3 (H336) | Industry Recommendation | Low | 114.19 | EU: 238 | EU: 475 | 394.25 | 1516 | n/a | n/a |
| acetone | 67-64-1 | 01-2119471330-49 | Eye Irrit. 2 (H319); STOT SE 3 (H336) | Harmonised | 24 (High) | 58.08 | EU: 1210 | EU: n/a | 1216 | No inhalation hazard identified | No inhalation hazard identified | 2420 |
| ALCOHOLS | | | | | | | | | | | | |
| Isopropyl Alcohol (IPA) | 67-63-0 | 01-2119457558-25 | Eye Irrit. 2 (H319); STOT SE 3 (H336) | Harmonised | 4 - 6 (Medium) | 60.1 | D-AGS: 500 F: n/a UK: 999 | D-AGS: 1000 F: 980 UK: 1250 | 500 | n/a | n/a | n/a |
| n-butanol (n-BuOH) | 71-36-3 | 01-2119484630-38 | Skin Irrit. 2 (H315); Eye Dam. 1 (H318); Acute Tox. 4 (H302); STOT SE 3 (H335, H336) | Harmonised | <10 (Medium) | 74.12 | D-AGS: 310 F: n/a UK: n/a | D-AGS: 150 F: 150 UK: 154 | No inhalation hazard identified | No inhalation hazard identified | 310 | No inhalation hazard identified |
| Butan-2-ol (SBA) | 78-92-2 | 01-2119475146-36 | Skin Irrit. 2 (H315); Eye Dam. 1 (H318); STOT SE 3 (H335, H336) | Harmonised | ± 1.6 (Medium) | 74.12 | D-AGS: n/a F: 300 UK: 308 | D-AGS: n/a F: n/a UK: n/a | 600 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| n-Propanol (n-ProH) | 71-23-8 | 01-2119486761-29 | Eye Irrit. 1 (H318); STOT SE 3 (H336) | Harmonised | ± 2.8 (Medium) | 60.1 | D-AGS: n/a F: 500 UK: 500 | D-AGS: n/a F: n/a UK: 625 | 268 | 1723 | n/a | n/a |
| ESTERS | | | | | | | | | | | | |
| ethylacetate (ETAC) | 141-78-6 | 01-2119475103-46 | Eye Irrit. 2 (H319); STOT SE 3 (H336) | Harmonised | 9.8 (Medium) | 88.11 | EU: 734 | EU: 1468 | 734 | 1468 | 734 | 1468 |
| n-Propyl Acetate (n-PrAc) | 109-60-4 | 01-2119484620-39 | Eye Irrit. 2 (H319); STOT SE 3 (H336) | Harmonised | 3 - 5 (Medium) | 102.13 | D-AGS: 420 F: 840 UK: 849 | D-AGS: 840 F: n/a UK: 1060 | No inhalation hazard identified | No inhalation hazard identified | 420 | 840 |
| n-butyl acetate (n-BuAc) | 123-86-4 | 01-2119485493-29 | STOT SE 3 (H336) | Harmonised | ± 1.5 (Medium) | 116.16 | D-AGS: 300 F: 710 UK: 724 | D-AGS: 600 F: 940 UK: 966 | 300 | 600 | 300 | 600 |
| Isobutyl acetate (iBuAc) | 110-19-0 | 01-2119488971-22 | STOT SE 3 (H336) [EUH066 skin defatting statement] | Harmonised + Industry Recommendation | 2.1 (Medium) | 116.16 | D-AGS: 300 F: 710 UK: 724 | D-AGS: 600 F: 940 UK: 903 | 300 | 600 | 300 | 600 |
| GLYCOL ETHERS/ESTERS | | | | | | | | | | | | |
| Dipropylene glycol monomethyl ether (DPGME) | 34590-94-8 | 01-2119450011-60 | Not classified | Industry Recommendation | <0.5 (Low) | 148.2 | EU: 308 | EU: n/a | 308 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| Dipropylene glycol n-butyl ether (DPGBE) | 29911-28-2 | 01-2119451543-42 | Not classified | Industry Recommendation | <0.5 (Low) | 190.28 | n/a | n/a | 189 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| Tripropylene glycol monobutyl ether (TPGBE) | 55934-93-5 | 01-2119453620-46 | Not classified | Industry Recommendation | <0.5 (Low) | 248.36 | n/a | n/a | 420 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| Tripropylene glycol monomethyl ether (TPGME) | 25498-49-1 | 01-2119450087-41 | Not classified | Industry Recommendation | <0.5 (Low) | 206.28 | n/a | n/a | 187 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| Ethylene glycol butyl ether (EGBE) | 111-76-2 | 01-2119475108-36 | Acute Tox. 4 (H302, H312, H332); Skin Irrit. 2 (H315); Eye Irrit. 2 (H319) | Harmonised | <0.5 (Low) | 118.17 | EU: 98 | EU: 246 | 98 | 1091 | No inhalation hazard identified | 246 |
| Ethylene glycol butyl ether acetate (EGBEA) | 112-07-2 | 01-2119475112-47 | Acute Tox. 4 (H302, H312) | Industry Recommendation (Note 3) | <0.5 (Low) | 160.21 | EU: 133 | EU: 333 | 133 | No inhalation hazard identified | No inhalation hazard identified | 333 |
| Diethylene glycol butyl ether (DEGBE) | 112-34-5 | 01-2119475104-44 | Eye Irrit. 2 (H319) | Harmonised | <0.5 (Low) | 162.23 | D-AGS: 67 F: 67.5 UK: 67.5 | D-AGS: 100 F: 101.2 UK: 101.2 | 67.5 | No inhalation hazard identified | 67.5 | 101.2 |

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|--|------------|------------------|---|-------------------------|--------------------------|--------|---|---|---------------------------------|---------------------------------|--|--|
| Diethylene glycol butyl ether acetate (DEGBEA) | 124-17-4 | 01-2119475110-51 | Not classified | Industry Recommendation | <0.5 (Low) | 204.26 | D-AGS: 67 (Note 4) F: n/a UK: n/a | D-AGS: 100 (Note 4) F: n/a UK: n/a | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| Diethylene glycol ethyl ether (DEGEE) | 111-90-0 | 01-2119475105-42 | Not classified | Industry Recommendation | <0.5 (Low) | 134.17 | D-AGS: 35 (Note 4) F: n/a UK: n/a | D-AGS: 70 (Note 4) F: n/a UK: n/a | 61 | No inhalation hazard identified | 30 | No inhalation hazard identified |
| Propylene glycol ethyl ether (PGEE) | 1569-02-4 | 01-2119462792-32 | STOT SE 3 (H336) Eye Irrit. 2 (H319) | Industry Recommendation | 1 at 25 deg C (Medium) | 104.15 | D-AGS: 220 F: n/a UK: n/a | D-AGS: 440 F: n/a UK: n/a | 211 | 500 | No inhalation hazard identified | No inhalation hazard identified |
| Propylene glycol ethyl ether acetate (PGEEA) | 54839-24-6 | 01-2119475116-39 | STOT SE 3 (H336) | Harmonised | ± 0.2 (Low) | 146.18 | D-AGS: 300 F: n/a UK: n/a | D-AGS: 600 F: n/a UK: n/a | 302 | 608 | No inhalation hazard identified | No inhalation hazard identified |
| Dipropylene glycol dibenzoate (DPGDB) | 27138-31-4 | 01-2119529241-49 | Not classified | Industry Recommendation | Negligible | 342.39 | n/a | n/a | 8.8 | 35.08 | Hazard unknown but no further hazard information necessary as no exposure expected | Hazard unknown but no further hazard information necessary as no exposure expected |
| Triethylene glycol bis(2-ethyl hexanoate) (TEGEH) | 94-28-0 | 01-2119475524-34 | Not classified | Industry Recommendation | Negligible | 402.57 | n/a | n/a | 27.9 | No inhalation hazard identified | 167.4 | No inhalation hazard identified |
| 2-Propanol, 1-methoxy- (PM) (PGME) | 107-98-2 | 01-2119457435-35 | STOT SE 3 (H336) | Harmonised | 1.1 (Medium) | 90.12 | EU: 375 | EU: 563 | 369 | 553.5 | No inhalation hazard identified | 553.5 |
| 2-Propanol, 1-propoxy- (PnP) (PGnPE) | 1569-01-3 | 01-2119474443-37 | Eye Irrit. 2 (H319) | Harmonised | ± 0.3 (Low) | 118.17 | n/a | n/a | 263 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| 2-Propanol, 1-methoxy-, 2-acetate (PMA) (PGMEA) | 108-65-6 | 01-2119475791-29 | Not classified for human health | Harmonised | <0.5 (Low) | 132.16 | EU: 275 | EU: 550 | 275 | No inhalation hazard identified | No inhalation hazard identified | 550 |
| 2-Propanol, 1-butoxy- (PnB) (PGBE) | 5131-66-8 | 01-2119475527-28 | Skin Irrit. 2 (H315); Eye Dam. 2 (H319) | Harmonised | ± 0.1 (Low) | 132.2 | n/a | n/a | 617 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| Phenoxyisopropanol (PPH) (PGPhE) | 770-35-4 | 01-2119486566-23 | Eye Irrit. 2 (H319) | Industry Recommendation | 0.001 (Low) | 152.19 | n/a | n/a | 25.7 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| SOME NON-OSPA SOLVENTS OF INTEREST | | | | | | | | | | | | |
| ALCOHOLS | | | | | | | | | | | | |
| methanol | 67-56-1 | 01-2119433307-44 | Acute Tox. 3 (H301, H311, H331); STOT SE 1 (H370) | Harmonised | >10 (High) | 32.04 | EU: 260 | n/a | 260 | 260 | 260 | 260 |
| ethanol | 64-17-5 | 01-2119457610-43 | Not classified for human health | Harmonised | 5.7 (Medium) | 46.07 | D-AGS: 960 F: 1900 UK: 1920 | D-AGS: 1920 F: 9500 UK: n/a | 950 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| tert-Butanol | 75-65-0 | 01-2119444321-51 | Eye Dam. 2 (H319); Acute Tox. 4 (H332); STOT SE 3 (H335) | Harmonised | 5.4 at 25 deg C (Medium) | 74.12 | D-AGS: 62 F: 300 UK: 308 | D-AGS: 248 F: n/a UK: 462 | 2.7 | 214 | No inhalation hazard identified | No inhalation hazard identified |
| hexanol (hexan-1-ol) | 111-27-3 | 01-2119487967-12 | Acute Tox. 4 (H302); | Harmonised | 0.36 at 38 deg C (Low) | 102.17 | D-AGS: 210 (Note 4) F: n/a UK: n/a | D-AGS: 210 (Note 4) F: n/a UK: n/a | 99 | No inhalation hazard identified | 210 | No inhalation hazard identified |
| cyclohexanol | 108-93-0 | 01-2119447488-26 | Skin Irrit. 2 (H315); Acute Tox.4 (H302, H332); STOT SE 3 (H335) | Harmonised | 0.17 at 32 deg C (Low) | 100.16 | D: n/a F: 200 UK: 208 | D: n/a F: 300 UK: n/a | 130 | n/a | n/a | n/a |
| Amyl Alcohol (1-pentanol) | 71-41-0 | 01-2119491284-34 | Skin Irrit. 2 (H315); Acute Tox. 4 (H332); STOT SE 3 (H335) | Harmonised | 0.204 (Low) | 88.15 | n/a | n/a | No inhalation hazard identified | No inhalation hazard identified | 73.16 | 292 |
| diacetone alcohol (DAA) | 123-42-2 | 01-2119473975-21 | Eye Irrit. 2 (H319) | Harmonised | 0.129 (Low) | 116.16 | D-AGS: 96 F: 240 UK: 241 | D-AGS: 192 F: n/a UK: 362 | 59.2 | No inhalation hazard identified | No inhalation hazard identified | 240 |
| 2,2,4-trimethyl-1,3-pentanediol mono(2-methylpropanoate) | 25265-77-4 | 01-2119441305-48 | Not classified | Industry Recommendation | 0.0013 (Low) | 216.32 | n/a | n/a | 49 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| KETONES | | | | | | | | | | | | |
| Isophorone (3,5,5-trimethylcyclohex-2-enone) | 78-59-1 | 01-2119497282-32 | Acute Tox. 4 (H302, H312); Eye Irrit. 2 (H319); STOT SE 3 (H335); Carc. 2 (H351) | Harmonised | 0.04 (Low) | 138.21 | D-AGS: 11 F: n/a UK: n/a | D-AGS: 22 F: 25 UK: 29 | 11 | 22 | 11 | 22 |
| Methyl iso Amyl ketone (5-methylhexan-2-one) | 110-12-3 | 01-2119472300-51 | Acute Tox. 4 (H332); | Harmonised | 0.665 at 25 deg C (Low) | 114.19 | n/a | n/a | 95 | 818 | No inhalation hazard identified | No inhalation hazard identified |
| 2,6-dimethylheptan-4-one (DIBK) | 108-83-8 | 01-2119474441-41 | STOT SE 3 (H335) | Harmonised | 0.225 (Low) | 142.24 | D-AGS: n/a F: 250 UK: 148 | D-AGS: n/a F: n/a UK: n/a | 53 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| ESTERS | | | | | | | | | | | | |

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| methyl acetate | 79-20-9 | 01-2119459211-47 | Eye Irrit. 2 (H319); STOT SE 3 (H336) | Harmonised | 22.8 (High) | 74.08 | D-AGS: 610 F: 610 UK: 616 | D-AGS: 2440 F: 760 UK: 770 | 610 | No inhalation hazard identified | 305 | No inhalation hazard identified |
| 2,2,4-trimethyl-1,3-pentanediol diisobutyrate | 6846-50-0 | 01-2119451093-47 | Not classified | Industry Recommendation | 0.0015 (Low) | 286.41 | n/a | n/a | 110 | No inhalation hazard identified | No inhalation hazard identified | No inhalation hazard identified |
| Isopropyl acetate (iPrAc) | 108-21-4 | 01-2119537214-46 | Eye Irrit. 2 (H319); STOT SE 3 (H336) | Harmonised | 6 (Medium) | 102.13 | D-AGS: 420 F: 950 UK: n/a | D-AGS: 840 F: 1140 UK: 849 | 279 | 558 | 227 | No inhalation hazard identified |

Note 1: See Appendix 2 of BPG Managing health risks of solvent exposures for H phrase definitions

Note 2: Harmonised values are from Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation)

Note 3: EU and national limit values extracted from GESTIS: International Limit Values Database, hosted by IFA Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung
<http://www.dguv.de/ifa/gestis/gestis-internationale-grenzwerte-fuer-chemische-substanzen-limit-values-for-chemical-agents/index-2.jsp>

Note 4: An outdated Harmonised Classification exists for EGBEA which is still to be aligned with the EU Risk Assessment Report.

Note 5: Inhalable aerosol and vapour