

FROM PA DEP 12/08

Frac Water Chemicals Chemical Components (From MSDS)

This list is the basis for the River Reporter article analyzing the health effects of fracturing ingredients to be found at this link <http://www.riverreporter.com/issues/08-12-04/fracking.pdf>

2,2-Dibromo-3-Nitrilopropionamide	Polyethoxylated Alkanol (1)
2-butoxyethanol	Polyethoxylated Alkanol (2)
2-methyl-4-isothiazolin-3-one	Polyethylene Glycol Mixture
5-chloro-2-methyl-4-isothiazotin-3-one	Polysaccharide
Acetic Acid	Potassium Carbonate
Acetic Anhydride	Potassium Hydroxide
Aliphatic Acid	Prop-2-yn-1-01
Aliphatic Alcohol Polyglycol Ether	Propan-2-01
Ammonia Persulfate	Propargyl Alcohol
Aromatic Hydrocarbon	Propylene
Aromatic Ketones	Sodium Bicarbonate
Boric Acid	Sodium Chloride
Boric Oxide	Sodium Hydroxide
Butan-1-01	Sucrose
Citric Acid	Tetramethylammonium Chloride
Crystalline Silica: Cristobalite	Frac Stage #1
Crystalline Silica: Quartz	Hydrochloric Acid
Dazomet	Propargyl Alcohol
Diatomaceous Earth	Methanol
Diesel (use discontinued)	Acetic Acid
Ethane-1,2-diol	Acetic Anhydride
Ethoxylated Alcohol	Frac Stage #2
Ethoxylated Alcohol	Methanol
Ethoxylated Octylphenol	Boric Oxide
Ethylene Glycol	Petroleum Distillate Blend
Ethylhexanol	Polysaccharide
Ferrous Sulfate Heptahydrate	Potassium Carbonate
Formaldehyde	Sodium Chloride
Glutaraldehyde	Potassium Hydroxide
Glycol Ethers	Ethylene Glycol
Guar gum	Boric Acid
Hemicellulase Enzyme	Sodium Bicarbonate
Hydrochloric Acid	Monoethanolamine
Hydrotreated light distillate	Frac Stage #3
Hydrotreated Light Distilled	Hydrotreated light distillate
Isopropanol	Ethoxylated Alcohol
Isopropyl Alcohol	Glutaraldehyde
Magnesium Nitrate	Dazomet
Mesh Sand (Crystalline Silica)	Sodium Hydroxide
Methanol	Methanol
Mineral Spirits	Diesel (use discontinued)
Monoethanolamine	2,2-Dibromo-3-Nitrilopropionamide
Petroleum Distillate Blend	Polyethylene Glycol Mixture
Petroleum Distillates	Mesh Sand (Crystalline Silica)