

The following is an incomplete list of the most common plastics used in Nerf and their compatibility with common solvents. A "Y" indicates that the solvent will dissolve the plastic in question. A "N" indicates that the solvent is not recommended for use with that plastic. Either it does not dissolve the plastic at all or does so poorly.

Polymethyl methacrylate (Acrylic)

- 1,2 Dichloroethane: Y
- Acetone: Y
- Cyclohexanone: Y
- Dichloromethane: Y
- MEK: Y
- Methyl benzene: Y
- Tetrahydrofuran: Y

Acrylonitrile butadiene styrene (ABS)

- 1,2 Dichloroethane: Y
- Acetone: Y
- Cyclohexanone: Y
- Dichloromethane: N
- MEK: Y
- Methyl benzene: N
- Tetrahydrofuran: N

Polyacetal (Delrin - POM)

- 1,2 Dichloroethane: N
- Acetone: N
- Cyclohexanone: N
- Dichloromethane: N
- MEK: Y
- Methyl benzene: Y
- Tetrahydrofuran: N

Cellulose acetate butyrate (Butyrate)

- 1,2 Dichloroethane: Y
- Acetone: Y
- Cyclohexanone: Y
- Dichloromethane: Y
- MEK: Y
- Methyl benzene: Y
- Tetrahydrofuran: Y

Cross-linked low density polyethylene (PEX)

- 1,2 Dichloroethane: Y
- Acetone: Y (at 100%)
- Cyclohexanone: N
- Dichloromethane: Y
- MEK: N
- Methyl benzene: Y
- Tetrahydrofuran: Y

Low density polyethylene (LDPE)

- 1,2 Dichloroethane: Y
- Acetone: Y
- Cyclohexanone: Y
- Dichloromethane: Y
- MEK: Y
- Methyl benzene: N
- Tetrahydrofuran: N

High density polyethylene (HDPE)

- 1,2 Dichloroethane: Y
- Acetone: Y
- Cyclohexanone: N
- Dichloromethane: N
- MEK: Y
- Methyl benzene: Y
- Tetrahydrofuran: N

Ultra high molecular weight polyethylene (UHMW)

- 1,2 Dichloroethane: N
- Acetone: N
- Cyclohexanone: N
- Dichloromethane: Y
- MEK: N
- Methyl benzene: Y
- Tetrahydrofuran: N

Nylon

- 1,2 Dichloroethane: N
- Acetone: N
- Cyclohexanone: N
- Dichloromethane: N
- MEK: N
- Methyl benzene: N
- Tetrahydrofuran: N

Polycarbonate

- 1,2 Dichloroethane: Y
- Acetone: Y
- Cyclohexanone: Y
- Dichloromethane: Y
- MEK: Y
- Methyl benzene: Y
- Tetrahydrofuran: Y

Polyester (Polyethylene terephthalate - PET)

- 1,2 Dichloroethane: Y
- Acetone: Y
- Cyclohexanone: N
- Dichloromethane: Y
- MEK: N
- Methyl benzene: N
- Tetrahydrofuran: Y

Copolyester (Polyethylene terephthalate glycol - PETG)

- 1,2 Dichloroethane: Y
- Acetone: Y
- Cyclohexanone: Y
- Dichloromethane: Y
- MEK: Y
- Methyl benzene: Y
- Tetrahydrofuran: Y

Polypropylene

- 1,2 Dichloroethane: Y
- Acetone: Y
- Cyclohexanone: N
- Dichloromethane: Y
- MEK: N
- Methyl benzene: Y
- Tetrahydrofuran: N

Polystyrene

- 1,2 Dichloroethane: Y
- Acetone: Y
- Cyclohexanone: Y
- Dichloromethane: Y
- MEK: Y
- Methyl benzene: Y
- Tetrahydrofuran: Y

Polyvinyl chloride (PVC)*

- 1,2 Dichloroethane: Y
- Acetone: Y
- Cyclohexanone: Y
- Dichloromethane: Y
- MEK: Y
- Methyl benzene: Y
- Tetrahydrofuran: Y

*Includes PVC in pipe and flexible tube, as well as CPVC as we use it, since our CPVC is simply Copper-sized PVC and not Chlorinated PVC.

Teflon (TFE)

- 1,2 Dichloroethane: N
- Acetone: N
- Cyclohexanone: N
- Dichloromethane: N
- MEK: N
- Methyl benzene: N
- Tetrahydrofuran: N

On solvents

- 1,2 Dichloroethane: Also known as Ethylene dichloride. Found in paint removers.
- Acetone: Found in small quantities in nail polish remover. Also found in various plastic cements. Also found in acrylic paint thinners and varnishes. Can be bought pure.
- Cyclohexanone: Found in plastic cement, particularly ABS and PVC pipe cement.
- Dichloromethane: Also known as Methylene chloride. Found primarily in paint stripper. Used as an industrial solvent. Banned in Europe.
- Methyl ethyl ketone (MEK): Also known as Butanone. A large component of almost all plastic cements especially ABS and polystyrene cement. Can be bought pure.
- Methyl benzene: Also known as Toluene. Used mostly as a paint thinner or paint remover. Found along with MEK in polystyrene model kit cement.
- Tetrahydrofuran: Found almost exclusively in PVC cement. Can also be in some varnishes.

Plastic cement is generally comprised of a solvent (or mixture of solvents) along with dissolve plastic resin of the plastic in question. Thus PVC cement will contain dissolved PVC along with the solvents.

Examples:

Genova ABS cement is around 20% Acetone, 60% MEK, and 20% ABS resin.

Oatey Green Transition cement is around 40% Tetrahydrofuran, 35% Acetone and MEK, 10% Cyclohexanone, and 15% PVC resin.

Look either on the can or search for Material Safety Data Sheets for the ingredients and quantities, and then look up which plastics these will work with.