

# First Contact™ Polymer – Red Spray

**Next Generation Clean!**

Not for use on some plastic lenses or eyeglasses!

## What is First Contact™?

**First Contact™** is an easy to use one-part polymer solution that cleans and protects precision optics and other surfaces. It applies as a liquid and dries to a flexible film that is peeled off leaving an amazingly clean surface! **First Contact™** consists of designer polymers in a complex solvent system that provides optimal surface adhesion to safely and effectively clean optical surfaces without thermally shocking the surface. No dragging or scratching. No peeled coatings. Easily poured, painted or sprayed.

## Cleaning & Protection:

**First Contact™** provides a barrier to oxygen, sulfur compounds, water, and water vapor. The tough, elastic film prevents abrasion damage and eliminates the possibility of sensitive surfaces becoming scratched or dirty.

## Safe for use on:

**First Contact™** is safe on all glasses and metals, also silica, Si, Ge, NaCl, KBr, KRS-5 etc. and all polar inorganic crystals including nonlinear optical crystals like coated BBO. It is safe on all coatings, including AR & reflective coatings, and most first surface mirrors & gratings. Do not use on plastics that dissolve in polar organic solvents such as acetone.

**First Contact™** comes in large quantities or kits consisting of an applicator bottle, peel tabs and multiple refill bottles (1 oz). An ounce can clean many dozens of one-inch diameter flat optics. Order from one of our distributors near you or on our website.

## SAFETY AND HANDLING:

**FLAMMABLE MIXTURE. KEEP AWAY FROM SPARKS AND OPEN FLAME**

First Contact is a flammable solution containing alcohols and acetone (for safety concerns, compare to fingernail polish). Use only with adequate ventilation. Wear protective outer garments including gloves and goggles. Keep out of eyes and mucous membranes. If splashed into eye, rinse with copious amounts of water. Consult physician. If ingested, induce vomiting. Consult physician. Material Safety Data Sheets available on website.

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## Photonic Cleaning Technologies, LLC

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**First Contact™ Red Spray** is ready to use from the bottle and is already thinned to spray. We recommend some testing and trial applications before attempting a critical use. To peel, be sure film is thick enough & *completely* dry. Once an initial protective tack coat is on the surface, much thicker coats can be applied and they will not run as easily. Further coats can be applied by pouring, brushing or spraying.

### DO NOT USE TO CLEAN CERTAIN PLASTIC LENSES, EYEGLASSES, POLYCARBONATES, ETC.

1. Apply **First Contact™** by spraying a quick, light tack coat and then applying more layers. Mask as needed and do not allow **First Contact™** solution to get under retaining rings or mounts. Be certain you have a good thick coating right out to the edge of the optic. Apply multiple thin coats to create a film that is thick and mechanically strong enough to remove in one piece. As long as the film does not tear and is peelable it is thick enough. A general rule of thumb is that a nice, thick coat will result if 1ml of **First Contact™** is used per 25cm<sup>2</sup> of surface. On smooth surfaces, thinner films often work just fine.
2. In applying **First Contact™** Polymer solution you do not have to touch the surface directly with a brush or spreader. A tab of chemical resistant nylon mesh or unwaxed dental floss may be set into the liquid solution with the intent of using the “tab” to peel the dried film from the treated surface. This technique is helpful with small or recessed surfaces. For small objects, like fiber ends, it is often easier to secure the peel tab to a table and touch and peel back the coated object to remove the **First Contact™** film. For example, a thick “drop” may be applied near the edge and a pin in only the film itself can start the peel. (Allow this drop to dry thoroughly).
3. ALLOW THE SOLUTION TO DRY THOROUGHLY. Cure the polymer by allowing it to dry completely, minimum 20 minutes, or by experience (some small, flat optics can be peeled in a few minutes, others like frosted surfaces with 2mm of liquid on them must dry for hours or overnight). Film adhesion is quite high before curing is complete, but is minimal for the dried film. The polymer film may not be dry even when the surface feels dry to the touch. Be patient. The polymer solution dissolves dried polymer, so if it was too thin when peeled and some film pieces remain on the surface, just reapply the liquid in a thicker coat, allow to dry and then peel as usual.
4. Remove cured **First Contact™** polymer film by carefully starting and lifting at an edge with a peel tab. Be careful not to start peeling any underlying coating on the optic with the peel tab because if a poor coating or a grating is going to fail it is weakest on the edges. Peel the film using the special adhesive tabs provided or the previously mentioned mesh or floss described in step 2. When using the adhesive tabs, press the adhesive firmly onto the dry polymer film at an edge, allow the adhesive to bond to the polymer for 20 seconds, and lift it by gently peeling from the edge. Totally dry polymer peels off with minimal stretching and virtually no adhesion to the treated surface.
5. To clean up, put the caps on any open bottles. If a spray head needs cleaning, flush it with **First Contact™** solvent. **First Contact™** polymer is inert. It can be disposed of in a regular trash can.

**First Contact™** cleans some Diffraction Gratings! **First Contact™** penetrates nanostructures to remove contaminants including skin oils.

Repeat applications of **First Contact™** may remove excessive amounts of contaminants and old, set deposits.

**First Contact™** does not repair damage on precision surfaces. It cannot be used on substrates that dissolve in acetone or ethanol.

**First Contact™** will not always remove water soluble deposits or hard water spots. However water soluble deposits can be removed in a two step process with **First Contact™** completing the clean up as described on our website. **Version 1.1**

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