

GLOBAL COLOR INTELLIGENCE

FOR INDUSTRIAL COLOR COMPOUNDS

Changing the way you think about color

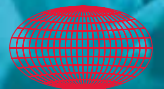


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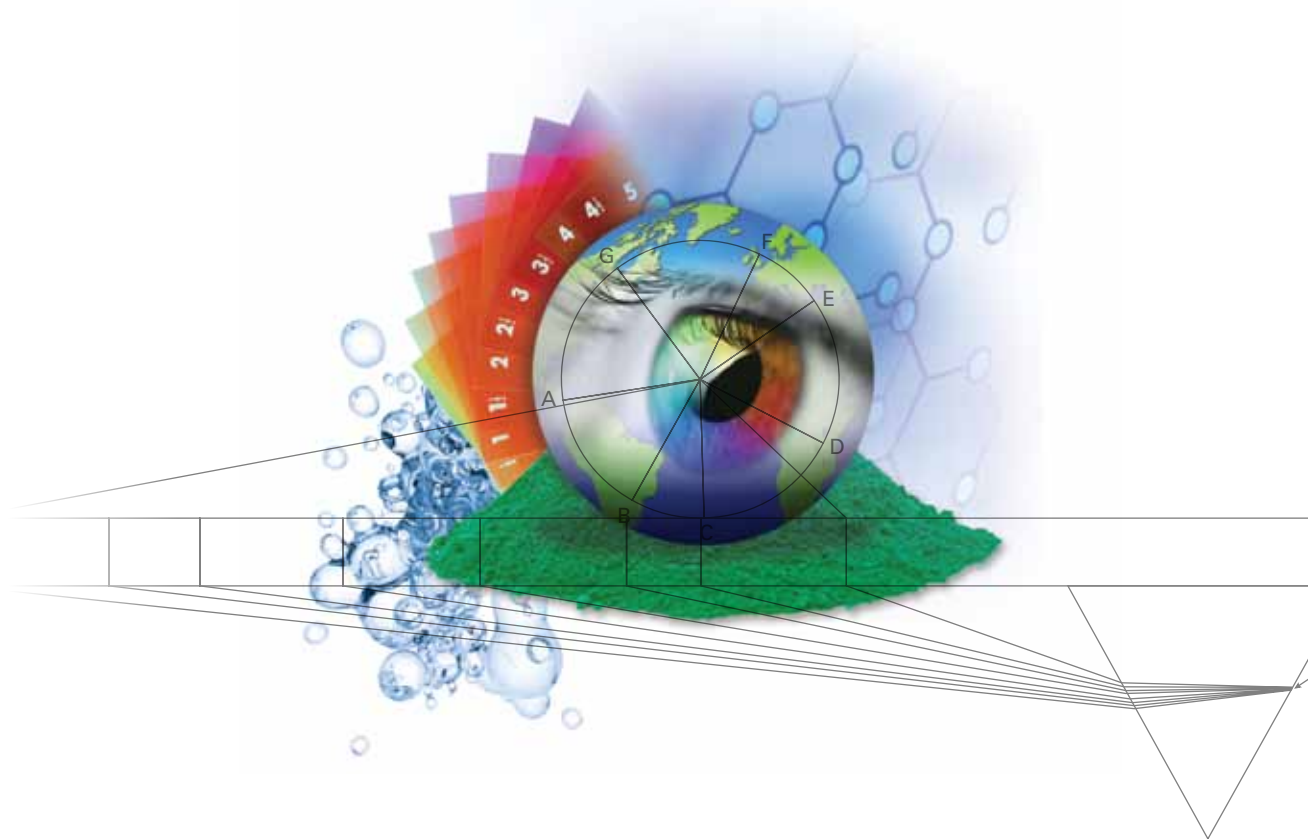
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Color Solutions For Industrial Color Compounds

A MORE INNOVATIVE COLOR PALETTE

In the global marketplace of industrial color compounds, color is what makes a product stand out and be noticed. Color delivers a message of vitality, functionality and individuality all in one glance.

At Keystone™ we help you achieve maximum success and profit through the use of color. Our palette includes a wide array of specialized dyes for all types of applications. You benefit from the expertise of the industry's premier technical laboratory, with application and color specialists and other professionals who consistently formulate new ideas and solutions.

Let our application expertise help you meet your most critical demands. Whether you are looking to color detergents, lubricants, coolants, adhesives or waxes, you can count on Keystone for the colorants and specialized intelligence to bring your products to their full potential.

*Brighten your products
and your business outlook
with Keystone fluorescent
dyes. Customers around
the world will notice.
Keystone has the
solutions — you choose
the colors.*



Color Solutions For Industrial Color Compounds

A MORE INNOVATIVE INFRASTRUCTURE

The global requirements for utilizing dyes in industrial color compounds go beyond the understanding of proper selection and application. They also include the need for regulatory compliance and supply chain support in both domestic and international markets.

Keystone has a worldwide framework in place to ensure that all products meet the complex compliance regulations of REACH, EINECS, FDA and more. And we maintain distribution channels and warehouses in the U.S., Europe, Asia and Latin America, so products are readily available wherever and whenever needed.

Our global technical sales support team not only provides local and regional access to information and products, but also a worldwide communication network for fast response to questions and changes in market demand.












Keystone's global customer support services include establishing and coordinating worldwide master product standards and assisting in meeting regional regulatory compliance requirements.



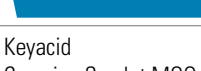
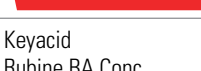


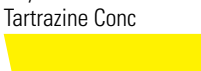

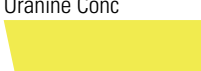
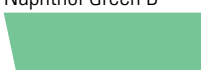




DYES FOR HOUSEHOLD, INSTITUTIONAL & INDUSTRIAL APPLICATIONS

Keystone offers a wide range of colors that can be used in both liquid and powder detergents. These dyes and optical brighteners have a very high degree of solubility in warm water and are generally stable to alkaline conditions.



Product Name	Product Code	Color Index Name	Shade	Chemical Class
OPTICAL BRIGHTENERS				
Keyfluor White CBS-X 	915-351-50	FL Brightener 351	Blue Under UV	Distyrylbi-phenyl
Keyfluor White AMS-GX 	915-412-50	FL Brightener 71	Blue Under UV	Stilbene
Keyfluor White 5BM-GX 	915-028-62	FL Brightener 28	Blue Under UV	Stilbene
Keyfluor White ST Liquid 	915-028-41	FL Brightener 28	Blue Under UV	Stilbene
LIQUID DYE CONCENTRATES				
Keyamine Turquoise 8GL 	205-086-42	Direct Blue 86	Green Shade Blue	Phthalocyanine
Keyazine Rhodamine B Liquid 	703-010-41	Basic Violet 10	FL Pink	Xanthene
Keyacid Orange Y Liquid 	501-007-40	Acid Orange 7	Orange	Azo
Keyacid Tartrazine Supra Liq 	801-023-33	Acid Yellow 23	Red Shade Yellow	Azo
Keyacid Metanil Yellow Liq 	801-036-43	Acid Yellow 36	Golden Yellow	Azo
Keyacid Uranine K Liq 	801-073-42	Acid Yellow 73	FL Yellow	Xanthene
Keyacid Green G-AF Liq 	401-025-42	Acid Green 25	Blue Shade Green	Anthraquinone

Product Name	Product Code	Color Index Name	Shade	Chemical Class
DYE POWDERS				
Keyamine Turquoise G 	205-086-50	Direct Blue 86	Green Shade Blue	Phthalocyanine
Keyacid Brilliant Blue RA 	201-080-51	Acid Blue 80	Mid Shade Blue	Anthraquinone
Keyacid Blue GS 	201-145-50	Acid Blue 145	Mid Shade Blue	Anthracene
Keyacid Croceine Scarlet M00 	601-073-50	Acid Red 73	Scarlet	Azo
Keyacid Rubine BA Conc 	601-014-50	Acid Red 14	Rubine	Azo
Keyazine Rhodamine B Conc 	703-010-50	Basic Violet 10	FL Pink	Xanthene
Keyacid Orange YA 	501-007-50	Acid Orange 7	Orange	Azo
Keyacid Tartrazine Conc 	801-023-50	Acid Yellow 23	Red Shade Yellow	Azo
Keyacid Metanil Yellow 	801-036-51	Acid Yellow 36	Golden Yellow	Azo
Keyacid Uranine Conc 	801-073-52	Acid Yellow 73	FL Yellow	Xanthene
Keyacid Naphthol Green B 	401-001-40	Acid Green 1	Green	Napthalene
Keyacid Green G Extra 	401-025-51	Acid Green 25	Blue Shade Green	Anthraquinone

DYES FOR CAR WASH SOAPS & DETERGENTS

Keystone offers a variety of dyes that are widely used for car wash cleaning compounds and detergents. These dyes have a very high degree of solubility in water and can readily be incorporated into soaps and other cleaning compounds as powders or liquids. These dyes are most widely used as indicators in cleaning compounds, and provide a vibrant display of rainbow colors in triple-foam car wash products.



Product Name	Product Code	Color Index Name	Shade	Chemical Class
LIQUID DYE CONCENTRATES				
Keyacid Blue FG Liquid	201-009-00	Acid Blue 9	Green Shade Blue	Triphenylmethane
Keyamine Turquoise 8GL	205-086-42	Direct Blue 86	Green Shade Blue	Phthalocyanine
Keyacid Red XB-HS Liquid	601-052-43	Acid Red 52	FL Pink	Xanthene
Keyacid Orange Y Liquid	501-007-40	Acid Orange 7	Orange	Azo
Keyacid Tartrazine Supra Liquid	801-023-33	Acid Yellow 23	Red Shade Yellow	Azo
Keyacid Uranine K Liquid	801-073-42	Acid Yellow 73	FL Yellow	Xanthene
Keyacid Green OEM Liquid	401-641-44	Proprietary Blend	FL Green	Proprietary Blend

Product Name	Product Code	Color Index Name	Shade	Chemical Class
DYE POWDERS				
Keyacid Blue FG	201-009-50	Acid Blue 9	Green Shade Blue	Triphenylmethane
Keyamine Turquoise G	205-086-50	Direct Blue 86	Green Shade Blue	Phthalocyanine
Keyacid Red XB 100%	601-052-40	Acid Red 52	FL Pink	Xanthene
Keyacid Orange YA	501-007-50	Acid Orange 7	Orange	Azo
Keyacid Tartrazine Conc	801-023-50	Acid Yellow 23	Red Shade Yellow	Azo
Keyacid Uranine Conc	801-073-52	Acid Yellow 73	FL Yellow	Xanthene
Keyacid FL Green 6040	401-641-50	Proprietary Blend	FL Green	Proprietary Blend

Keyacid™ and Keyamine™ are trademarks of Keystone Aniline Corporation.

DYES FOR pH-STABLE WATER-BASED SYSTEMS

Dyes With Chemically Stable Profiles For Difficult Formulations

Keystone offers a wide range of colors for use in harsh chemical formulations. Coloring products with extreme pH, fragrances, corrosion inhibitors, or other harsh chemicals can be very difficult. Chemical and pH extremes may stress the dye molecule until it breaks, or perhaps even change the solvent value of the product, rendering the dye unsuitable. The chemical reactions within a product may affect the properties of the dye over time. Therefore, even when using dyes with good stability profiles, full stability testing must be done on both product and product efficacy.

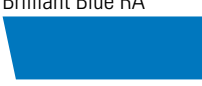

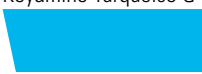
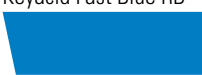
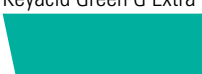
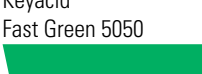
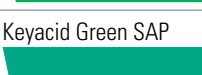
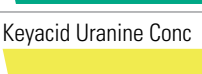
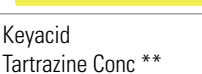











Product Name	Product Code	Color Index Name	Shade	Chemical Class
DYES STABLE IN ACID (pH 2.5 TO 7.0)				
Keyacid Brilliant Blue RA *	201-080-51	Acid Blue 80	Mid Shade Blue	Anthraquinone
Keyacid Blue GS *	201-145-50	Acid Blue 145	Mid Shade Blue	Anthracene
Keyazine Blue 2B *	203-009-51	Basic Blue 9	Green Shade Blue	Methylene
Keyacid Blue FG	201-009-50	Acid Blue 9	Green Shade Blue	Triphenylmethane
Keyacid Fast Blue RB	201-025-51	Acid Blue 25	Red Shade Blue	Anthraquinone
Keyacid Green G Extra	401-025-51	Acid Green 25	Blue Shade Green	Anthraquinone
Keyacid Fast Green 5050	401-615-50	Proprietary Blend	Mid Shade Green	Proprietary Blend

Product Name	Product Code	Color Index Name	Shade	Chemical Class
Keyacid Fast Yellow 2G *	801-017-50	Acid Yellow 17	Green Shade Yellow	Azo
Keyacid Tartrazine Conc *	801-023-50	Acid Yellow 23	Red Shade Yellow	Azo
Keyacid Yellow 3GL 125%	801-034-50	Acid Yellow 34	Green Shade Yellow	Azo
Keyacid Red GN *	601-001-49	Acid Red 1	Mid Shade Red	Napthalene
Keyacid Rubine BA Conc	601-014-50	Acid Red 14	Rubine	Azo
Keyacid Red XB 100%	601-052-40	Acid Red 52	FL Pink	Xanthene
Keyacid Croceine Scarlet M00	601-073-50	Acid Red 73	Scarlet	Azo
Keyacid Black BR Conc	101-001-50	Acid Black 1	Blue Shade Black	Azo

*Stable to pH of 1 in some systems.

Keyacid™ and Keyazine™ are trademarks of Keystone Aniline Corporation.

Product Name	Product Code	Color Index Name	Shade	Chemical Class
DYES STABLE IN BASE (pH 7.0 TO 11.0)				
Keyacid Brilliant Blue RA 	201-080-51	Acid Blue 80	Mid Shade Blue	Anthraquinone
Keyacid Blue GS ** 	201-145-50	Acid Blue 145	Mid Shade Blue	Anthracene
Keyamine Turquoise G 	205-086-50	Direct Blue 86	Green Shade Blue	Phthalocyanine
Keyacid Fast Blue RB 	201-025-51	Acid Blue 25	Red Shade Blue	Anthraquinone
Keyacid Green G Extra 	401-025-51	Acid Green 25	Blue Shade Green	Anthraquinone
Keyacid Fast Green 5050 	401-615-50	Proprietary Blend	Mid Shade Green	Proprietary Blend
Keyacid Green SAP 	401-609-52	Proprietary Blend	Yellow Shade Green	Proprietary Blend
Keyacid Uranine Conc 	801-073-52	Acid Yellow 73	FL Yellow	Xanthene
Keyacid Tartrazine Conc ** 	801-023-50	Acid Yellow 23	Red Shade Yellow	Azo

Product Name	Product Code	Color Index Name	Shade	Chemical Class
Keyacid Yellow 3GL 125% 	801-034-50	Acid Yellow 34	Green Shade Yellow	Azo
Keyacid Metanil Yellow 	801-036-51	Acid Yellow 36	Golden Yellow	Azo
Keyacid Orange YA 	501-007-50	Acid Orange 7	Orange	Azo
Keyacid Red GN ** 	601-001-49	Acid Red 1	Mid Shade Red	Napthalene
Keyacid Rubine BA Conc ** 	601-014-50	Acid Red 14	Rubine	Azo
Keyazine Rhodamine B 	703-010-50	Basic Violet 10	FL Pink	Xanthene
Keyacid Croceine Scarlet MOO 	601-073-50	Acid Red 73	Scarlet	Azo
Keyacid Black BR Conc 	101-001-50	Acid Black 1	Blue Shade Black	Azo
Keyacid Black WA BR Conc 	101-052-50	Acid Black 52	Black	Azo

**Stable to pH of 13.0 in some systems.

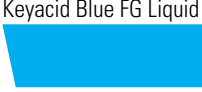

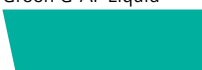
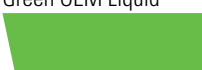
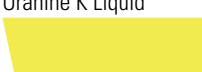
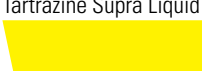




Keyacid™, Keyamine™ and Keyazine™ are trademarks of Keystone Aniline Corporation.

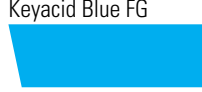


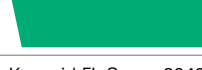
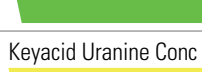

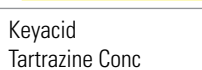



DYES FOR ANTIFREEZE, DE-ICERS & WASHER FLUIDS

Keystone offers a variety of dyes that are widely used to color antifreeze. These dyes have a very high degree of solubility in water/glycol systems and can readily be incorporated into the coolant formulation as powders or liquids. These dyes are often used to differentiate coolant products or to impart a select color into the formulation.

Dyes used to color antifreeze must not only be soluble in the coolant formulation and impart the desired color, but they must also be stable at elevated temperatures. Keystone has a select palette of dyes that cover a wide spectrum of colors and are suitable for use in coolant systems.



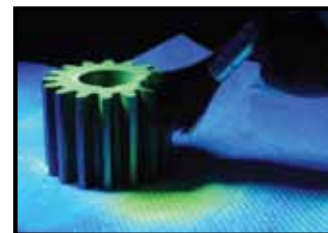
Product Name	Product Code	Color Index Name	Shade	Chemical Class
LIQUID DYE CONCENTRATES				
Keyacid Blue FG Liquid 	201-009-00	Acid Blue 9	Green Shade Blue	Triphenylmethane
Keyamine Bond Blue A Liquid 	205-199-48	Direct Blue 199	Green Shade Blue	Phthalocyanine
Keyacid Green G-AF Liquid 	401-025-42	Acid Green 25	Blue Shade Green	Anthraquinone
Keyacid Green OEM Liquid 	401-641-44	Proprietary Blend	FL Green	Proprietary Blend
Keyacid Uranine K Liquid 	801-073-42	Acid Yellow 73	FL Yellow	Xanthene
Keyacid Tartrazine Supra Liquid 	801-023-33	Acid Yellow 23	Red Shade Yellow	Azo
Keyacid Orange Y Liquid 	501-007-40	Acid Orange 7	Orange	Azo
Keyacid FL Orange DC 	530-601-42	Proprietary Blend	FL Orange	Proprietary Blend
Keyacid Red XB-HS Liquid 	601-052-43	Acid Red 52	FL Pink	Xanthene
Keystone Rhodamine WT Liquid 	703-010-27	Proprietary Blend	FL Pink	Xanthene



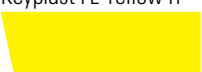


Product Name	Product Code	Color Index Name	Shade	Chemical Class
DYE POWDERS				
Keyacid Blue FG 	201-009-50	Acid Blue 9	Green Shade Blue	Triphenylmethane
Keyamine Turquoise FBL 400% 	205-199-61	Direct Blue 199	Green Shade Blue	Phthalocyanine
Keyacid Green G Extra 	401-025-51	Acid Green 25	Blue Shade Green	Anthraquinone
Keystone Antifreeze Green 	401-600-50	Proprietary Blend	FL Green	Proprietary Blend
Keyacid FL Green 6040 	401-641-50	Proprietary Blend	FL Green	Proprietary Blend
Keyacid Uranine Conc 	801-073-52	Acid Yellow 73	FL Yellow	Xanthene
Keyacid Quinoline Yellow 	801-003-71	Acid Yellow 3	Green Shade Yellow	Quinoline
Keyacid Tartrazine Conc 	801-023-50	Acid Yellow 23	Red Shade Yellow	Azo
Keyacid Orange YA 	501-007-50	Acid Orange 7	Orange	Azo
Keyacid Red XB 100% 	601-052-40	Acid Red 52	FL Pink	Xanthene



Keyacid™ and Keyamine™ are trademarks of Keystone Aniline Corporation.

DYES FOR NON-DESTRUCTIVE TESTING (NDT) APPLICATIONS

Keystone offers a variety of dyes that are widely used for non-destructive testing applications. These dyes are readily incorporated into the penetrant and can easily be viewed by eye or under black light, depending on the chemistry of the dye and the particular application.



Product Name	Product Code	Color Index Name	Shade	Chemical Class
OIL AND SOLVENT SOLUBLE				
Keystone Liquid Oil Red HF 	606-429-51	Solvent Red 164	Red	Azo
Automate Blue 8AHF 	206-098-31	Solvent Blue 98	Blue	Anthraquinone
Keyplast FL Yellow R 	806-043-50	Solvent Yellow 43	FL Yellow	Naphthalimide
Keyfluor White RWP Conc 	950-010-55	FL Brightener 91	Blue Under UV	Coumarin
Keyfluor White OB 	915-426-51	FL Brightener 184	Brill Blue FL Under Black Light	Benzoxazole

Product Name	Product Code	Color Index Name	Shade	Chemical Class
WATER SOLUBLE				
Keystone Uranine K Liquid 	801-073-42	Acid Yellow 73	FL Yellow	Xanthene
Keyfluor White ST Liquid 	915-028-41	FL Brightener 28	Blue Under UV	Stilbene









Automate™, Keyplast™ and Keyfluor™ are trademarks of Keystone Aniline Corporation.

DYES FOR GREASES, LUBRICANTS & OIL-BASED PRODUCTS

Automate™ dyes are concentrated solvent-soluble dyes provided in two liquid forms: Xylene and High Flash, Hydro-Treated Aromatic. Automate dyes have been found to be completely miscible in all petroleum fuels, lubricating oils, hydraulic oils, greases, and many other related hydrocarbon solvents. Common applications include the coloration of lubricants, such as automatic transmission fluids, leak detection, fuels, polishes, explosives, adhesives, and a variety of other solvents.



Product Name	Product Code	Color Index Name	Shade	Chemical Class
XYLENE				
Automate Red BXL 	606-164-32	Solvent Red 164	Red	Azo
Automate Red GXS 	606-165-31	Proprietary Blend	Yellow Shade Red	Proprietary Blend
Automate Blue 8A 	206-098-42	Solvent Blue 98	Blue	Anthraquinone
Automate Orange 2XS 	506-410-50	Proprietary Blend	Orange	Proprietary Blend
Automate Green MX 	406-408-41	Proprietary Blend	Green	Proprietary Blend
Automate Purple XS 	706-404-40	Proprietary Blend	Purple	Proprietary Blend
Automate Brown 2XS 	306-405-41	Proprietary Blend	Brown	Proprietary Blend
Automate Black 1XS 	106-401-42	Proprietary Blend	Black	Proprietary Blend

Product Name	Product Code	Color Index Name	Shade	Chemical Class
HIGH FLASH HYDRO-TREATED AROMATIC				
Automate Red IKHF 	606-429-50	Solvent Red 164	Red	Azo
Automate Blue 8AHF 	206-098-31	Solvent Blue 98	Blue	Anthraquinone
Automate Yellow HF 	806-417-50	N/A	Yellow	Azo
Automate Yellow 8HF 	806-107-52	Solvent Yellow 175	Red Shade Yellow	Azo
Automate Brown 2XSHF 	306-405-42	Proprietary Blend	Brown	Proprietary Blend
Fluorescent Yellow 131SC 	606-175-50	Solvent Red 175	FL Yellow	Perylene
Automate Green HFXS 	406-407-43	Proprietary Blend	Green	Proprietary Blend
Automate Orange 2HFXS 	506-410-52	Proprietary Blend	Orange	Proprietary Blend

Recommended Dosage: The following recommendations are provided as a starting point for typical applications. Actual dosage will depend on desired color strength, as well as background color of the base material.

FUELS

5 to 20 mg/l — 0.5 to 2.0 lbs/1,000 gallons;

LUBRICANTS

50 to 200 mg/l — 5 to 20 lbs/1,000 gallons;




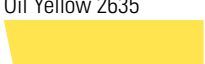
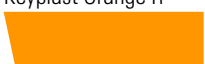






GREASES






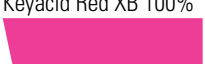

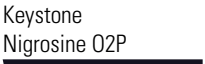
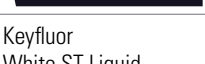
500 to 2,000 mg/l — 50 to 200 lbs/1,000 gallons.

DYES FOR ADHESIVES

Keystone offers a broad selection of dyes that are widely used for solvent and water-based adhesives. The dyes selected below have excellent solubility in the recommended system and provide a noticeable vibrant color to the adhesive. The optical brighteners are clear in the adhesive system and provide a bright fluorescent when excited by black light.



Product Name	Product Code	Color Index Name	Shade	Chemical Class
SOLVENT ADHESIVE SYSTEMS				
Keyplast Blue A 	206-036-51	Solvent Blue 36	Mid Shade Blue	Anthraquinone
Keyplast Green B 	406-003-50	Solvent Green 3	Blue Shade Green	Anthraquinone
Keyplast Yellow 2GH 	806-072-51	Solvent Yellow 72	Red Shade Yellow	Azo
Keystone Oil Yellow 2635 	806-056-50	Solvent Yellow 56	Yellow	Azo
Keyplast Orange R 	806-014-50	Solvent Yellow 14	Yellow Shade Orange	Azo
Keyplast Red KLB 	606-168-50	Solvent Red 168	Blue Shade Red	Anthraquinone
Keyplast Red OB 	606-026-50	Solvent Red 26	Blue Shade Red	Azo
Keystone Rhodamine B Base 	606-049-50	Solvent Red 49	FL Pink	Xanthene
Keyplast Violet IRS 	706-013-50	Solvent Violet 13	Violet	Anthraquinone
Keyplast Black AMX 	106-655-50	Proprietary Blend	Black	Proprietary Blend
Keyfluor White RWP 	950-010-55	FL Brightener 91	Blue Under UV	Coumarin



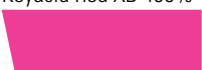
Product Name	Product Code	Color Index Name	Shade	Chemical Class
WATER-BASED ADHESIVE SYSTEMS				
Keyamine Turquoise 8GL 	205-086-50	Direct Blue 86	Green Shade Blue	Phthalocyanine
Keystone Pyranine 120 	406-007-60	Solvent Green 7	FL Yellow	Pyrene
Keyacid Uranine Conc 	801-073-52	Acid Yellow 73	FL Yellow	Xanthene
Keyacid Tartrazine Conc 	801-023-50	Acid Yellow 23	Red Shade Yellow	Azo
Keyacid Rubine BA Conc 	601-014-50	Acid Red 14	Rubine	Azo
Keyacid Red XB 100% 	601-052-40	Acid Red 52	FL Pink	Xanthene
Keyacid Fast Violet FRL 	701-048-50	Acid Violet 48	Violet	Anthracene
Keystone Nigrosine O2P 	101-002-44	Acid Black 2	Blue Shade Black	Amine
Keyfluor White ST Liquid 	915-028-41	FL Brightener 28	Blue Under UV	Stilbene

Keyplast™, Keyfluor™, Keyamine™ and Keyacid™ are trademarks of Keystone Aniline Corporation.

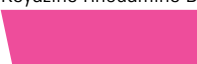

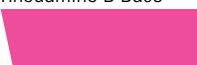


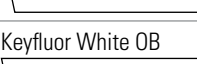

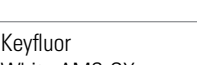

FLUORESCENT DYES

Keystone offers a variety of dyes that can be used to produce fluorescent colors for industrial applications such as adhesives, antifreeze, soaps and detergents, leak detection, non-destructive testing and water tracing. Whether you're making an OEM engine coolant, formulating triple-foam car wash soap or doing a municipal water flow study, Keystone has the right fluorescent dye for your application. Many of our products are available in both powder and high-strength liquid to suit your specific handling needs.



Product Name	Product Code	Shade	Adhesives	Antifreeze	Car Wash Soaps	Leak Detection	Non-Destructive Testing	Soaps & Detergents	Water Tracing	Water or Solvent Soluble	Cationic or Anionic
Keyacid Green OEM Liquid 	401-641-44	FL Green	●	●	●			●		WS	A
Keystone Uranine Conc 	801-073-52	FL Yellow	●	●	●	●		●	●	WS	A
Keystone Uranine K Liquid 	801-073-42	FL Yellow	●	●	●	●		●	●	WS	A
Keyacid Fluoresceine 	801-073-51	FL Yellow		●	●	●		●	●	WS	A
Keystone Pyranine 10G 	406-007-60	FL Yellow	●					●		WS	A
Keyplast Fluorescent Yellow R 	806-043-50	FL Yellow					●			SS	N/A
Fluorescent Yellow 131SC 	606-175-50	FL Yellow				●				SS	N/A
Keyacid Orange DC 	530-601-42	FL Orange	●	●						WS	A
Keyacid Red XB 100% 	601-052-40	FL Pink	●	●	●			●		WS	A
Keyacid Red XB 400% 	601-052-50	High Strength FL Pink	●	●	●			●		WS	A

Keyacid™, Keyplast™ and Keytect™ are trademarks of Keystone Aniline Corporation.

Product Name	Product Code	Shade	Adhesives	Antifreeze	Car Wash Soaps	Leak Detection	Non-Destructive Testing	Soaps & Detergents	Water Tracing	Water or Solvent Soluble	Cationic or Anionic
Keyazine Rhodamine B 	703-010-50	FL Pink			●			●		WS	C
Keystone Rhodamine WT Liquid 	703-010-27	FL Pink				●			●	WS	C
Keyplast Rhodamine B Base 	606-049-50	FL Pink	●							SS	N/A
Keyfluor White ST Liquid 	915-028-41	Optical Brightener	●					●		WS	A
Keyfluor White ST Pure 	915-028-62	High-Strength Powder Version of White ST Liquid	●					●		WS	A
Keyfluor White CBS-X 	915-351-50	Optical Brightener, Chlorine Bleach Stable	●					●		WS	A
Keyfluor White OB 	915-426-51	Optical Brightener, Soluble in a Wide Range of Organic Solvents					●			SS	N/A
Keyfluor White RWP 	950-010-55	Optical Brightener, Excellent Solubility in a Wide Range of Solvents	●				●	●		SS	N/A
Keyfluor White AMS-GX 	915-412-50	Optical Brightener						●		WS at high temps	A

Keyazine™, Keyplast™ and Keyfluor™ are trademarks of Keystone Aniline Corporation.

DYES FOR FOODS, DRUGS & COSMETICS (CERTIFIED)

Certified dyes are government-regulated dyes used in food, drug and cosmetic applications to impart color. All production batches of certified dyes sold in the United States are regulated by the U.S. Food and Drug Administration to fall below a specified level of identified heavy metals and other impurities.

Keystone certified dyes are widely used in products intended for cleaning food-processing equipment and other cleaning products that may have direct contact with foods, drugs or cosmetics. These dyes are also commonly used for direct food coloring, cosmetics and pharmaceutical drug applications.

The specifications and acceptable use for each certified dye are different, so please review the Keystone technical data sheets prior to use in your application.



Product Name	Product Code	Type
FOODS, DRUGS & COSMETICS (FD&C CERTIFIED DYES)		
■ FD&C Blue #1	220-405-xx	W
■ FD&C Blue #2	220-406-xx	W
■ FD&C Red #3	620-408-xx	W
■ FD&C Red #4	620-409-xx	W
■ FD&C Red #40	620-431-xx	W
■ FD&C Yellow #5	820-404-xx	W
■ FD&C Yellow #6	820-405-xx	W

Product Name	Product Code	Type
DRUGS AND COSMETICS (D&C CERTIFIED DYES)		
■ D&C Green #5	420-401-xx	W
■ D&C Green #6	420-402-xx	E, O
■ D&C Green #8	420-403-xx	E, W
■ D&C Orange #4	520-401-xx	E, W
■ D&C Red #28	620-401-xx	W
■ D&C Yellow #8	820-412-xx	E, W
■ D&C Yellow #10	820-402-xx	W

E – External Only; O – Oil Soluble; W – Water Soluble;
Available in low, medium and high strength.



LIQUID DYES FOR WATER TRACING AND LEAK DETECTION

DYES FOR WATER TRACING

Keystone Uranine K Liquid and Keystone Rhodamine WT Liquid

Keystone offers two dyes specifically for tracing the flow of water in lakes, rivers, underground streams, springs, estuaries, tidal basins and other natural bodies of water. They may also be used in water lines, storage tanks and cooling towers, and to gauge the infiltration of soil with waste water from industrial sources. Because these dyes are in liquid form, they are easy to measure and use.

> See *Technical Bulletin 65* for further details.

DYES FOR LEAK DETECTION

Keytect Fluorescent Yellow 131SC Liquid

Keytect™ Fluorescent Yellow 131SC Liquid is the ideal tracer dye for most applications. It can be used in hydraulic systems, internal combustion engines or other power equipment where petroleum-based fluid is used. Sand holes in castings, improperly seated gaskets, and leaks in oil-filled heat exchangers are just a few examples of where Keytect Tracer Yellow R can be used.

> See *Technical Bulletin 65* for further details.

WATER TRACING STUDIES

Among support for the use of Rhodamine WT Liquid is a study conducted by **SRI International of Menlo Park, CA**. The study evaluated the risk level involved in exposure to trace levels of diethylnitrosamine (DNA) in streams in which a Rhodamine WT tracer dye was used. The study determined that the ability of Rhodamine WT to form DNA in nitrite-rich waters presented a negligible risk and was well below the standard set by the EPA for drinking water. Rhodamine WT was granted clearance for use as a tracer dye in potable water applications.¹

The Department of National Health and Welfare, Ottawa, Canada, published a study of the mutagenic activity of Rhodamine WT in vitro and in vivo mammalian assays.² The in vitro mammalian tests resulted in negligible or low levels of chromosomal anomalies and certain types of DNA damage, even at very high concentrations of the dye. Furthermore, no evidence of in vivo genetic activity was observed either in terms of bone marrow micronuclei or sperm abnormalities.

According to **Environmental/Water Quality Operational studies by the U.S. Army Corps of Engineers**, "Rhodamine WT has been chosen as the dye most suitable for use in inflow studies..." and "...poses no known environmental or health hazards when used in unpolluted water."³

The National Sanitation Foundation International states that, per ANSI/NSF Standard 60, "Concentrations of Rhodamine WT Liquid in drinking water are not to exceed 0.1 parts per billion (ppb) and the exposure is to be infrequent."⁴

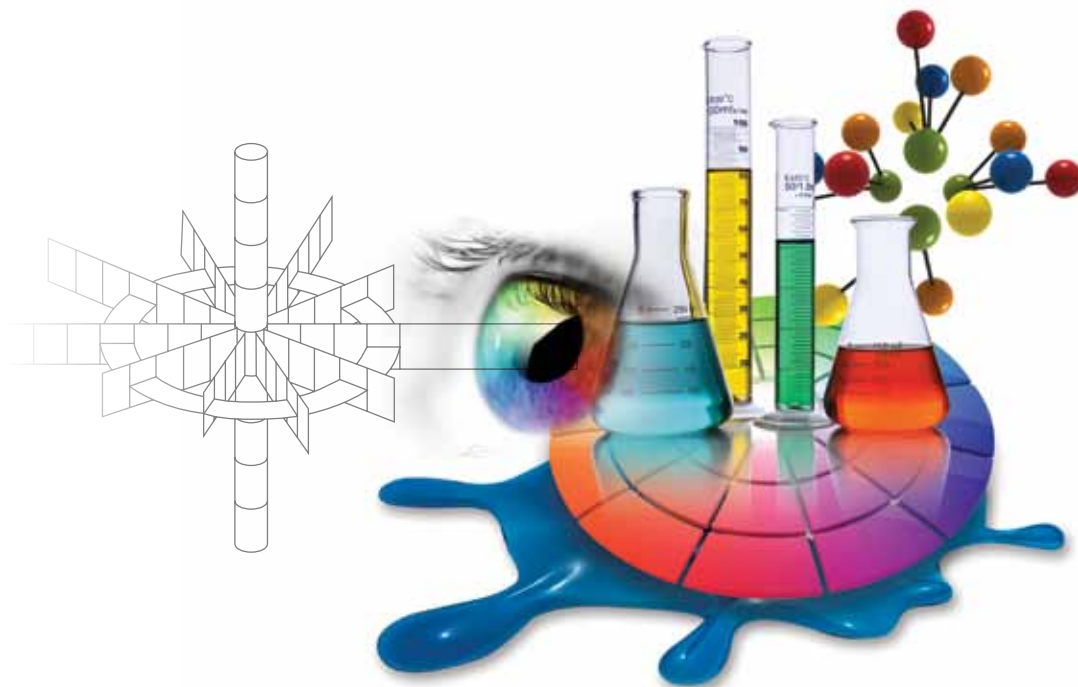
Feel free to contact your Keystone sales representative or go to www.dyes.com for further information on these products or any other colorants we may offer.

¹ Rhodamine WT & B, Memo to F.J. Traina, April 10, 1980, Cotruvo, J.A.

² Comparative Mammalian In Vitro and In Vivo Studies on the Mutagenic Activity of Rhodamine WT, Mutation Research, Vol. 118, (1983), pp. 117-125, Douglas, George R, et al.

³ Chief of Engineers, U.S. Army, Washington, DC 20314

⁴ National Sanitation Foundation International, 789 N. Dixboro Road, Ann Arbor, MI 48113



Color Solutions For Industrial Color Compounds

A MORE INNOVATIVE KEYSTONE

Keystone understands color. Color and color application is our only business, and we have more than 90 years of experience we can share. Dyes and pigments are complex raw materials, and we excel at making them work in many varied applications, plus providing the support to deliver your color message and product to markets around the world.

Take advantage of our world-class expertise in the world of color. Contact us today and let us know how we can help meet your challenges.

Keystone's broad knowledge base of color application can help you identify new global market trends that can add to your product portfolio and increase your profitability.

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