Catalog 2009

- Ink Components

Kerley Ink

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100.0%

Denotes what percentage of a product is bio-based, ag-based, or made of renewable resources.

Pigment Dispersions

Kerley Ink manufactures and sells a wide variety of pigment dispersions and flushes, mainly for use in manufacturing sheetfed litho, heatset web offset, business forms, and coldset web offset newspaper inks. We offer:

- **Black Dispersions**
- **Phthalocyanine Blue Dispersions (process cyan)**
- **Red Dispersions**
- **Yellow Dispersions**
- **Green Dispersions**
- **Alkali Blue Dispersions**
- **Opaque White Dispersions**
- **Miscellaneous Dispersions**

Black Dispersions

Heatset/Quickset Multipurpose

15.3%

40 Plus Base Black

40 Plus Universal Black Base was devised as a product that could be used in a very wide variety of paste ink formulations. It can be used in conjunction with litho, heatset web, heatset web cover, quickset, and business forms vehicles. This is the original "40 Plus" base that we have been manufacturing since 1970.

Packaging:

40 Plus contains about 40 percent premium carbon black, a glossy, dense pigment for especially critical printing applications. 40 plus is also low in solvent content, making it acceptable as a component in reduced-VOC ink formulations. Normally, 40 to 45 percent of 40 Plus is the recommended level to use in an ink formula.

Chemical Resistance: 5% HCl: Excellent 5% NaOH: Excellent
Bleed Resistance:
Water: Excellent Ethanol: Excellent Hot Paraffin: Excellent Soap: Excellent Lacquer Solvents: Excellent Linseed Oil: Excellent Diethylene Glycol: Excellent Mineral Spirits: Excellent
Lightfastness: Full Strength: Excellent Tint: Excellent

SPECIFICATIONS:
Pigment type: pigment-grade furnace carbon black
Pigment Content: 39%
Solids Content: 88%
Solvent Boiling Range: 495 to 625 F
Vehicle type: Quickset/Heatset Multipurpose
Appearance: Thick, tacky black paste

9.8%

40 Plus FAST Quickset/Heatset Base Black

40 Plus FAST Base Black was designed to provide maximum setting speed for sheetfed and heatset inks without sacrificing gloss or print density. If your customer is demanding ever-shorter "backup" times, then you should use 40 Plus FAST Base black for all of your work-and-turn quickset blacks!

40 Plus FAST Base Black also has a softer body than our famous "40 Plus" universal base

black, which is an advantage on slow or low-horsepower mixing equipment.
40 Plus FAST Base Black can also be used to make stable heatset inks, with low VOC content.

Chemical Resistance: 5% HCl: Excellent 5% NaOH: Excellent
Bleed Resistance:
Water: Excellent Ethanol: Excellent Hot Paraffin: Excellent Soap: Excellent Lacquer Solvents: Excellent Linseed Oil: Excellent Diethylene Glycol: Excellent Mineral Spirits: Excellent
Lightfastness: Full Strength: Excellent Tint: Excellent

SPECIFICATIONS:
Pigment type: pigment-grade furnace carbon black
Pigment Content: 40%
Solids Content: 82%
Solvent Boiling Range: 495 to 625 F
Vehicle type: Fast Quickset/Heatset Multipurpose
Appearance: Thick, tacky black paste

34.6%

40 Plus Lo ODOR Quickset/Heatset Base Black

A very special version of 40 Plus base black, 40 Plus "LO ODOR" base black is a low odor version of regular 40 Plus base. This is particularly important in food packaging and other consumer-oriented printing. By using a specially chosen combination of vehicle components and carbon black, 40 Plus "LO ODOR" black achieves extremely fast inital setting for excellent work-and-turn litho blacks.
40 Plus LO ODOR is also excellent for making low-tack, high viscosity blacks.

Chemical Resistance: 5% HCl: Excellent 5% NaOH: Excellent
Bleed Resistance:
Water: Excellent Ethanol: Excellent Hot Paraffin: Excellent Soap: Excellent Lacquer Solvents: Excellent Linseed Oil: Excellent Diethylene Glycol: Excellent Mineral Spirits: Excellent
Lightfastness: Full Strength: Excellent Tint: Excellent

SPECIFICATIONS:
Pigment type: pigment-grade furnace carbon black
Pigment Content: 39%
Solids Content: 90%
Solvent Boiling Range: 495 to 625 F
Vehicle type: Fast Quickset/Heatset Multipurpose
Appearance: Thick, tacky black paste

23.3%

45 Plus Base Black

45 Plus Base Black is one of our newer, innovative black base products. Containing approximately 45% carbon black, this base can be used to make almost any type of offset ink. It is particularly good for making heatset inks and fast-setting quickset/sheetfed formulas. This base's relatively high concentration of carbon black pigment also means that one uses less base and more of the letdown vehicle that one is trying to emphasize in one's formula.

Despite its relatively lower viscosity, this base can yield ink formulas with a high viscosity-to-tack ratio. This attribute is particularly helpful for making low-tack inks that must not break down in the ink trains of high-speed web and sheetfed presses.

Chemical Resistance: 5% HCl: Excellent 5% NaOH: Excellent
Bleed Resistance:
Water: Excellent Ethanol: Excellent Hot Paraffin: Excellent Soap: Excellent Lacquer

Packaging:

Solvents: Excellent Linseed Oil: Excellent Diethylene Glycol: Excellent Mineral Spirits: Excellent
Lightfastness: Full Strength: Excellent Tint: Excellent

SPECIFICATIONS:
Pigment type: pigment-grade furnace carbon black
Pigment Content: 45.3%
Solids Content: 87%
Solvent Boiling Range: 520 to 580 F
Vehicle type: Quickset/Heatset Multipurpose
Appearance: Thick, tacky black paste

3.3%

ECON 30 Heatset Base Black

Econ 30 Base Black is an economical black base for super-efficient manufacture of heatset web inks. Econ 30 is 30% of a blue toned, ultra-jet carbon pigment in an energy-efficient vehicle. Unlike most bases of this type, Econ 30 is not a heavy paste base. Rather, it is like "liquid carbon". Econ 30 can literally be poured into a batch, and mixes quite readily with even the heaviest gel vehicles. Also, Econ 30 is arguably the most cost-effective heatset ink base on the market today. Econ 30 is pumpable, and is easily packaged into tote bins and bulk bags.

Packaging:

Designed to offer an "economy alternative" to inkmakers faced with increasing competitive pressure to produce new, lower-cost heatset black inks, Econ 30 Base Black is a bargain. Nowhere else can you find as large a combination of product features at such a low price!

Econ 30 is a heatset base made with 30 percent of a proprietary blue-toned, glossy carbon black pigment in a heatset vehicle that actually costs less than many heatset varnishes. Econ 30 Base Black is made in large batches in a continuous process, further reducing the cost of manufacture. The grind quality of Econ 30 Base Black is excellent - the amount of energy that the product is subjected to in the course of manufacture ensures beyond the shadow of a doubt that no agglomerated particles can ever possibly make it through the pre-mix, milling, or filtration processes.

The energy imparted to Econ 30 Base Black also has another benefit: it helps 30% of carbon black seem like more. You'll soon discover that Econ 30 Base Black behaves more like bases having considerably greater than 30% carbon pigmentation, giving you an even greater economy boost. To get more information about Econ 30 Base Black, please consult the Econ 30 Base Technical Manual.

Chemical Resistance: 5% HCl: Excellent 5% NaOH: Excellent
Bleed Resistance:
Water: Excellent Ethanol: Excellent Hot Paraffin: Excellent Soap: Excellent Lacquer Solvents: Excellent Linseed Oil: Excellent Diethylene Glycol: Excellent Mineral Spirits: Excellent
Lightfastness: Full Strength: Excellent Tint: Excellent

SPECIFICATIONS:
Pigment type: pigment-grade furnace carbon black
Pigment Content: 30%
Solids Content: 65%
Solvent Boiling Range: 495 to 625 F
Vehicle type: Low tack Heatset Web offset
Appearance: Moderately Gelled black paste

Mineral Oil-based Black

0.0%

Mineral Oil Base Black, or "MOBB" for short, is a dispersion of 25% carbon black in a severely hydrotreated, low-odor, near zero-VOC mineral oil. MOBB is intended primarily as a commodity item for the manufacture of newsink, but finds many other uses as well. Among them, MOBB serves as an excellent starting point for typewriter ribbon inks, computer printer ribbon inks, and special marking inks. MOBB is excellent for any application where intense black masstone is needed in a base which will never dry out. When approximately 30% hydrocarbon varnish is added to 70% MOBB, a web offset newsink is obtained. When the base is cut with petroleum solvent and resinated slightly with varnish or pitch, letterpress newsink is obtained. MOBB comes thoroughly milled down to micron particle size, so no further processing beyond thorough mixing with dilution agents is necessary, as the base has been more than adequately milled by us.

Packaging:

MOBB is compatible with petroleum-based oils and solvents and also with vegetable oils such as soybean oil and linseed oil. MOBB cannot be used with lower alcohols, ketones or esters.

SPECIFICATIONS:
Pigment type: pigment-grade furnace carbon black (news, low gloss)
Pigment Content: 25%
Solids Content: 100%
Vehicle type: 750 SUS Hydrotreated Mineral Oil (petroleum)
Appearance: Thin, short black paste

VOC-free dispersions for Paste Inks

Super 36 ECOBRIGHT Base Black

51.7%

Super 36 ECOBRIGHT Base Black is a VOC-free dispersion of 36% offset-grade, glossy carbon black. Super 36 ECOBRIGHT base can be used for such purposes as high adhesion inks for plastic surfaces and also for folding box inks in addition to ecologically sound publication and commercial offset formulations. Super 36 ECOBRIGHT is also very suitable for any no heat web offset formulation and can be made laser-compatible with the addition of a very small amount of metallic drier. Product viscosity is relatively low, meaning that inks can be made easily using lower-power mixing equipment.

Packaging:

Super 36 ECOBRIGHT base forms the backbone of all of Kerley's "EcoBrite" VOC-free black sheetfed inks. All of the oil-based portion of Super 36 ECOBRIGHT is drier-reactive, meaning that all of Super 36 ECOBRIGHT will polymerize quickly to a solid film, provided driers are added and the printed film is exposed to adequate air. Super 36 ECOBRIGHT has very aggressive drying characteristics. Keep this base covered against air. Use skin papers for storage. Since there is Tung Oil (Chinawood Oil) in Super 36 ECOBRIGHT, it cannot be guaranteed against self-oxidation when stored uncovered for periods of more than 30 days.

Chemical Resistance: 5% HCl: Excellent 5% NaOH: Excellent
Bleed Resistance:
Water: Excellent Ethanol: Excellent Hot Paraffin: Excellent Soap: Excellent Lacquer Solvents: Excellent Linseed Oil: Excellent Diethylene Glycol: Excellent Mineral Spirits: Excellent
Lightfastness: Full Strength: Excellent Tint: Excellent
SPECIFICATIONS:
Pigment type: pigment-grade furnace carbon black
Pigment Content: 36%

Solids Content: 100%
Vehicle type: Soya Oil Quickset/Heatset
Appearance: Thick, tacky black paste

Alkali Blue Dispersions

30.0% VSA 1000 Green Shade Reflex Blue

VSA 1000 is a multi-purpose dispersion of green shade Alkali Blue (Reflex Blue) pigment is a universal vehicle for paste inks. VSA 1000 can be used alone for making many types of Reflex Blue inks. Typical Reflex Blue formulas call for 22 to 35% loading of VSA 1000. VSA 1000 is an excellent base for making "Reflex Blue" base inks for color mixing systems.

Additionally, VSA 1000 can be used to "tone" many black inks: use approximately 3 to 8% for most paste inks.

Chemical Resistance: 5% HCl: Poor 5% NaOH: Poor
Bleed Resistance:
Water: Excellent Ethanol: Poor Hot Paraffin: Fair Soap: Poor Lacquer Solvents: Excellent Linseed Oil: Excellent Diethylene Glycol: Fair Mineral Spirits: Excellent
Lightfastness: Full Strength: Good Tint: Fair

SPECIFICATIONS:
Pigment type: Pigment Alkali Blue 61
Color Index No: 42765:1
Pigment Content: 40%
Solids Content: 78%
Solvent Boiling Range: 392 to 572 F
Vehicle type: Quickset/Heatset Multipurpose
Appearance: Thick, tacky blue paste

Packaging:

25.3% VSA 1010 Red Shade Reflex Blue

VSA 1010 is a multi-purpose dispersion of red shade Alkali Blue (Reflex Blue) pigment in a universal vehicle for paste inks. VSA 1010 can be used to "tone" many black inks: use approximately 3 to 8% for most paste inks.

Chemical Resistance: 5% HCl: Poor 5% NaOH: Poor
Bleed Resistance:
Water: Excellent Ethanol: Poor Hot Paraffin: Fair Soap: Poor Lacquer Solvents: Excellent Linseed Oil: Excellent Diethylene Glycol: Fair Mineral Spirits: Excellent
Lightfastness: Full Strength: Good Tint: Fair

SPECIFICATIONS:
Pigment type: Pigment Alkali Blue 61
Color Index No: 42765:1
Pigment Content: 42%
Solids Content: 78%
Solvent Boiling Range: 392 to 572 F
Vehicle type: Quickset/Heatset Multipurpose
Appearance: Thick, tacky blue paste

Opaque White Dispersions

VSW 500 Opaque White

17.0%

VSW 500 Opaque White is a dispersion of 75% rutile titanium dioxide in a stable, oil-modified polyester alkyd vehicle. VSW 500 Opaque White is designed to be used in a wide variety of paste inks such as business forms and quickset inks. Additionally, VSW 500 can be used as a dispersion in offset bake-on metal decorating inks for base white coatings for beverage cans. Additionally, VSW 500 can be used as a bleaching white for testing ink strengths.

Typical applications call for using between 40% and 60% of VSW 500 Opaque White to make an offset ink. VSW 500 cures very well to a hard, flexible film with the addition of metal driers such as cobalt, zirconium, or cerium. Care should be used in storage and disposal of rags used to clean VSW 500 from surfaces, as spontaneous combustion can possibly occur, due to the mild catalytic action of titanium dioxide.

Chemical Resistance: 5% HCl: Excellent 5% NaOH: Excellent
Bleed Resistance:
Water: Excellent Ethanol: Excellent Hot Paraffin: Excellent Soap: Excellent Lacquer Solvents: Excellent Linseed Oil: Excellent Diethylene Glycol: Excellent Mineral Spirits: Excellent
Lightfastness: Full Strength: Excellent Tint: Excellent

SPECIFICATIONS:
Pigment type: Rutile Titanium Dioxide White 6
Color Index No: 77891
Pigment Content: 75-77%
Solids Content: 100%
Solvent Boiling Range: N/A
Vehicle type: Long oil linseed alkyd
Appearance: Soft, freeflowing white paste

Packaging:

Ink Vehicles & Varnish

Heatset Letdown Vehicles

Crystagloss FF High Tack Freeflow Heatset

7.3%

Crystagloss FF is a freeflowing heatset vehicle designed for use in high-tack, high-gloss heatset web offset inks. Crystagloss FF is most suitable for manufacturing heatset web offset inks that will have a tack of more than 10 points @ 1200 RPM. Being a free-flowing vehicle, Crystagloss FF is very good for making high tack web inks that have good shelf stability and a more stable viscosity profile, despite having a higher tack. Being high in resin content, Crystagloss FF boosts gloss, transfer, and tack more quickly than other heavy-bodied heatset vehicles can.
Crystagloss FF is also very useful for diluting heavy varnishes, dispersions and bases or for use as a part of a heatset dispersing vehicle. Crystagloss FF helps develop gloss in unusually hard-to-wet pigments like carbon black and alkali blue. Crystagloss FF will also help build tack without over-gelling an ink.

SPECIFICATIONS:
Tack: 30 points @ 400 RPM @ 90 F
Viscosity (Laray): 1339 Poises/4,700 Dynes/sqCM Yield @ 25 C
Resin Type: Rosin/Hydrocarbon-based 150C MP
Solvent Percentage: 33-34
Solvent Boiling Range: 495 - 625 F

Packaging:

Econotherm Vehicle FF

0.0%

Econotherm Vehicle FF is a low viscosity, low-tack, free-flowing pure heatset vehicle. Use Econotherm Vehicle FF to "cut" the viscosity and tack of heatset web offset inks as well as a long-term viscosity stabilizer in colors such as rubine-based red inks. Econotherm Vehicle FF can be thought of as a "heatset alkyd" vehicle without the disadvantage of alkyd's too-slow drying speed.

Consisting of hard, high-melt ungelled resin and clean solvent, Econotherm Vehicle FF has no plasticizers, modifiers, or vegetable oils. Thus, Econotherm Vehicle FF maximizes drying performance without hurting any other important properties such as water pickup or scuff resistance.

SPECIFICATIONS:
Tack: 6 points @ 400 RPM @ 90 F
Viscosity (Cone & Plate): 41 Poises / Yield 2300 Dynes/CmSq @ 40 C
Resin Type: Rosin/Hydrocarbon-based 150C MP
Solvent Percentage: 23
Solvent Boiling Range: 495 - 625 F

Packaging:

13.4%

Utiligel LT Heatset Gel Web Offset Vehicle

Utiligel LT is called the "Web Offset Workhorse" for one major reason: it is the one vehicle you'll need to produce just about any low- to mid-tack web offset heatset ink you can think of. Utiligel LT excels at producing low tack heatset ink formulas. Utiligel's uniqueness stems from its simple formula. Consisting of hard, high-melt gelled resin and clean solvent, Utiligel has no plasticizers, modifiers, or vegetable oils. Thus, Utiligel LT maximizes drying performance without hurting any other important properties such as water pickup or scuff resistance. Consider using Utiligel LT when press speeds run from 1500-2500 FPM (500-800 Meters/Min).
Most importantly, Utiligel LT features high viscosity with a low tack (under 10 points @ 1200 RPM, Thwing-Albert Model 101). You can make inks with a tack as low as 5 points that still "hold up" under high speed shear. Did you know that you can also use Utiligel LT to make no-heat web inks that dry rub-free within minutes after impression? Yes, you can!

SPECIFICATIONS:
Tack: 9-10 points @ 1200 RPM @ 90 F
Viscosity (Laray): 195 Poises/7,900 Dynes/sqCM Yield @ 25 C
Resin Type: Rosin/Hydrocarbon-based 150C MP
Solvent Percentage: 48
Solvent Boiling Range: 495 - 625 F

63.8%

ThermaSoy™ S-50 Soy-based Heatset Letdown Vehicle

Thermasoy Vehicle S-50 is a soy oil-based gel vehicle designed to be used as a co-vehicle in heatset ink formulations. Thermasoy Vehicle S-50 is 100% solids, so you can use it as a co-letdown vehicle to reduce VOC content in heatset inks. Care must be used in formulating inks with Thermasoy Vehicle S 50, as this vehicle never really dries completely like a true heatset vehicle. To make truly low-VOC heatset inks using Thermasoy Vehicle S-50, make sure to add 3-5% of Kerley's TetraMax QS 50 PTFE stir-in compound. This step is especially important for heatset web inks intended for printing on coated (glossy) papers.

Thermasoy Vehicle S 50 contains approximately 50% Soy Oil, which also makes it suitable for any type of no heat web offset ink, especially if the ink is to be used on any ab-

sorbent stock. This makes ThermaSoy S-50 an good co- vehicle for higher-tack web forms inks.

SPECIFICATIONS:
Tack: 30 points @ 400 RPM @ 90 F
Viscosity (Laray): 734 Poises/69,250 Dynes/sqCM Yield @ 25 C
Resin Type: Rosin/Hydrocarbon-based 150C MP
Solvent Percentage: 0%
Solvent Boiling Range: N/A
Solvent type: Soya Oil

QSG ECON PLUS Low VOC Multipurpose Vehicle

45.3%

Packaging:

QSG ECON PLUS is a new, low-cost vehicle designed to be used in Low-VOC heatset web and economy sheetfed formulations as well as for conventional (non-laser) business forms inks.

Use QSG ECON PLUS to formulate low-cost, low-VOC, stay-open inks for sheetfed offset & no heat web offset printing inks. The addition of cobalt and/or manganese driers will help boost the film curing rate & hardness of QSG ECON PLUS. Sheetfed inks made with QSG ECON PLUS have very fast initial set speed for quick turn-around times. To make truly low-VOC heatset inks using QSG ECON PLUS, make sure to add 3-5% of Kerley's TetraMax QS 50 PTFE stir-in compound. This step is especially important for heatset web inks intended for printing on coated (glossy) papers. Expect to be able to produce viable heatset inks with 20% or less VOC's!

QSG ECON PLUS uses Linseed & Soy oils as the primary vegetable oils. QSG ECON PLUS has a medium gel body.

SPECIFICATIONS:
Tack: 13 points @ 400 RPM @ 90 F
Viscosity (Laray): 172 Poises/47,500 Dynes/sqCM Yield @ 30 C
Resin Type: Modified Phenolic/Hydrocarbon-based 150C MP
Solvent Percentage: 4%
Solvent Boiling Range: 375-550 F
Solvent type: Soya Oil, Linseed Oil

Quickset & Litho Letdown Vehicles

Crystagloss QS High-tack Freeflow Quickset Vehicle

44.2%

Packaging:

Crystagloss QS is a freeflowing, high-tack quickset vehicle. Crystagloss QS is best suited for making high gloss quickset inks with very good flow and moderate viscosity. Crystagloss QS can be used for making inks with superb film flexibility and adhesion to a wider variety of substrates such as polyester film and some pre-treated polyolefins. Use Crystagloss to "wake up" inks with poor transfer and pigment wetting.

Crystagloss QS can also be used to make laser-safe forms inks by using it with quickset flushes. Crystagloss QS is drier reactive, having a high percentage of rapidly oxidizing vegetable oils such as linseed and tung (chinawood) oils. In order to obtain maximum film conversion (drying) speed, Crystagloss QS is soy oil-free. Crystagloss QS is also fairly low in VOC's, having significantly less than 20% total volatiles by weight.

SPECIFICATIONS:
Tack: 25 points @ 400 RPM @ 90 F
Viscosity (Laray): 1030 Poises, 3,600 Dynes/CmSq
Resin Type: Rosin-Modified Phenolic 155C MP
Solvent Percentage: 18%
Solvent Boiling Range: 375-625 F

Drying Oil Content: 28%
Dry oil types: Linseed, Tung (Chinawood)

52.2%

Crystagloss QS METALLIC Quickset Vehicle

Crystagloss QS METALLIC vehicle is a ***low acid number*** quickset vehicle for sheetfed offset metallic ink formulations. Simply mix Crystagloss QS METALLIC vehicle with solvent-damped bronze and aluminum pigment pastes to obtain a press-ready ink. Crystagloss QS METALLIC vehicle is formulated to promote good 'leafing' properties of metallic pigments thus ensuring excellent brilliance of printed films containing metallic pigments. Crystagloss QS Metallic vehicle can easily handle 25-50% metallic paste by weight and still maintain good flow and leafing properties. Crystagloss QS METALLIC has a very high tack to compensate for the solvent present in most pigment pastes made for offset inks. This product can also be used to make low-VOC heatset web offset metallic inks. To make low-VOC heatset inks using Crystagloss QS METALLIC, make sure to add 3-5% of Kerley's TetraMax QS 50 PTFE stir-in compound. This step is especially important for heatset web inks intended for printing on coated (glossy) papers.

Packaging:

When using metallic pigments, be careful not to use too much drier, as Crystagloss QS METALLIC is rich in drying oils and can form a flexible "skin" quite aggressively. Under normal circumstances, we recommend adding no more than about 1% driers (assuming 6% metal content). Crystagloss QS METALLIC vehicle is wax-free.

SPECIFICATIONS:
Tack: 25 points @ 400 RPM @ 90 F
Viscosity (Laray): 2000 Poises, 65,000 Dynes/CmSq @ 25C
Resin Type: Low Acid Number Rosin-Modified Phenolic 155C MP
Acid number: <5, nominally about 3.
Solvent Percentage: 1%
Solvent Boiling Range: 495-625 F
Drying Oil Content: 28%
Drying oil types: Linseed

4.6%

Maxi Set™ Small Offset Extender Vehicle/Transparent Ink

Maxi Set Extender is part of the "Maxi Set" family of specially designed, economical small offset "rubber-based substitute" inks. Use Maxi Set Extender as a "transparent white" extender ink in combination with Maxi Set base colors like Rubine Red and Reflex Blue to blend tint colors and other special matches that require a color-free ink to reduce print strength of the blend. Such a blend is referred to as a "tint". Maxi Set extender is very press-stable, enabling inks to be left on the press overnight.

Packaging:

Maxi Set extender features excellent flow for easy handling and excellent lithographing. PTFE resin is included for enhanced setting and scuff resistance. Please refer to our product FAQ for more information about Maxi Set products.

SPECIFICATIONS:
Tack: 20 points @ 1200 RPM @ 90 F
Viscosity (Laray): 390 Poises, yield value: 3,000 Dynes/CmSq
Resin Type: Special Hydrocarbon 140C MP
Solvent Percentage: 47%
VOC percent (method 24) 47%
Solvent Boiling Range: 375-685 F
Drying Oil Content: 3%
PTFE Wax content: 2%

Maxi Set™ Small Offset Vehicle

6.8%

Maxi Set Vehicle is a product specially designed as an economical alternative to traditional small offset rubber-based vehicles. While Maxi Set Vehicle is for use on sheetfed lithographic presses, it is important to understand that Maxi Set is a rubber-base substitute, and not a traditional oil-based vehicle. Thus, Maxi Set Vehicle is not nearly drier-reactive as our other quickset vehicles. Rather, Maxi Set dries by penetration of the solvent portion of the vehicle into the paper substrate and by adhesion of the resin-pigment layer left on top. Maxi Set vehicle is very press-stable, enabling inks to be left on the press overnight. Also, Maxi Set vehicle can be used to make inks that produce stable emulsions, very important on some small offset presses with integrated dampening systems. Usually, all that is necessary to make a small offset ink with Maxi Set vehicle is flush (quickset or heatset), about 2% PTFE powder (Very helpful if you are making an ink for coated stocks.), and 52-type solvent to set the tack. Maxi Set vehicle can also be used to make business forms inks if the tack is reduced to the web offset range with oil or solvent. Maxi Set vehicle can be used to produce high tack small offset inks with measured VOC's of about 17% using Method 24.

SPECIFICATIONS:
Tack: 18 points @ 400 RPM @ 90 F
Viscosity (Laray): 525 Poises, yield value: 9,100 Dynes/CmSq
Resin Type: Special Hydrocarbon 140C MP
Solvent Percentage: 20%
VOC percent (method 24) 17.7%
Solvent Boiling Range: 375-675 F
Drying Oil Content: 0%

Packaging:

QSG FFG Free-Flowing Quickset Gel Vehicle

60.4%

QSG FFG is a Free-Flowing Gel vehicle that's designed to make softer-bodied sheetfed quickset inks than our long-standard QSG™ vehicle. QSG FFG can be used as a sole letdown vehicle or as a co-letdown vehicle. QSG FFG has only 20% VOC content.

QSG FFG vehicle is based in linseed oil for faster, better curing than quickset vehicles made with soy oil. QSG FFG vehicle has 33% linseed oil content for excellent reactiivity with cobalt and managanese driers. Use QSG FFG combined with a few percent of our Z-Kyd alkyd vehicle for ink applications that require better adhesion to non-porous stocks like polyester film.

SPECIFICATIONS:
Tack: 15 points @ 1200 RPM @ 90 F
Viscosity (Laray): N/A, Free-Flowing Soft Gel
Resin Type: Rosin-Modified Phenolic 155C MP
Solvent Percentage: 20%
Solvent Boiling Range: 375-625 F
Drying Oil Content: 30%
Drying Oil: Linseed

QSG NS High-Performance Quickset Gel Vehicle

38.2%

QSG NS is a highly-gelled ink quickset ink vehicle intended for use as a letdown vehicle to make Speedex-style printing inks. Speedex inks have excellent gloss, yet have incredibly fast inital setting characteristics while also having a very long "stay open" time on-press. We recommend using quickset flushes with proven, high-performace setting characteristics to make inks with incredibly fast inital setting times, yet long stay-open times on press.

QSG NS is drier-reactive, responding well to cobalt- and managnese-based driers. QSG NS uses highly effective ultra-high molecular weight resin technology to deliver the

fastest setting available while keeping VOC content at 20%.

SPECIFICATIONS:
Tack: 15 points @ 1200 RPM @ 90 F
Viscosity (Laray): N/A, Heavy, Viscous Gel
Resin Type: Rosin-Modified Phenolic 155C MP
VOC Percentage: 20% (Method 24)
Solvent Boiling Range: 375-625 F
Drying Oil Content: 14%
Drying Oil: Linseed, Tung (Chinawood)

36.0% QSG™ Quickset Gel Vehicle

QSG, or Quick Set Gel vehicle, has been a popular offering from Kerley for several years now. QSG is specially formulated to make high-performance quickset inks for high speed sheetfed presses, where extremely rapid setting must occur while not sacrificing transfer or gloss. QSG is composed of a high-melt gellable phenolic resin, a new-tech modified hydrocarbon resin, plus a high-wetting, tough drying alkyd vehicle. When QSG is used as the sole letdown vehicle in a formula, the resulting ink will dry to a tack-free state in minutes, but set overnight to a tough finish when metallic drying catalysts like cobalt are used in the ink formula. QSG can also be used in combination with other vehicles. An example of this would be to combine QSG vehicle with QSG FFG Free-Flowing Gel vehicle to produce a quickset ink with more flow but with excellent setting characteristics.

Packaging:

SPECIFICATIONS:
Tack: 13 points @ 1200 RPM @ 90 F
Viscosity (Laray): 337 Poises/25,300 Dynes/sqCM Yield @ 25 C
Resin Type: Rosin-Modified Phenolic 155C MP
Solvent Percentage: 33%
Solvent Boiling Range: 375-625 F
Drying Oil Content: 19%
Drying Oil: Linseed

45.3% QSG ECON PLUS Low VOC Multipurpose Vehicle

QSG ECON PLUS is a new, low-cost vehicle designed to be used in Low-VOC heatset web and economy sheetfed formulations as well as for conventional (non-laser) business forms inks.

Use QSG ECON PLUS to formulate low-cost, low-VOC, stay-open inks for sheetfed offset & no heat web offset printing inks. The addition of cobalt and/or manganese driers will help boost the film curing rate & hardness of QSG ECON PLUS. Sheetfed inks made with QSG ECON PLUS have very fast initial set speed for quick turn-around times. To make truly low-VOC heatset inks using QSG ECON PLUS, make sure to add 3-5% of Kerley's TetraMax QS 50 PTFE stir-in compound. This step is especially important for heatset web inks intended for printing on coated (glossy) papers. Expect to be able to produce viable heatset inks with 20% or less VOC's!

QSG ECON PLUS uses Linseed & Soy oils as the primary vegetable oils. QSG ECON PLUS has a medium gel body.

SPECIFICATIONS:
Tack: 13 points @ 400 RPM @ 90 F
Viscosity (Laray): 172 Poises/47,500 Dynes/sqCM Yield @ 30 C
Resin Type: Modified Phenolic/Hydrocarbon-based 150C MP
Solvent Percentage: 4%
Solvent Boiling Range: 375-550 F
Solvent type: Soya Oil, Linseed Oil

EcoBright Zero VOC Litho Vehicle

85.5%

Ecobrite Vehicle is a 100% solids, soy & tung oil-based vehicle suitable for use as a let-down vehicle for making sheetfed inks. Although EcoBright vehicle is an all-solids litho vehicle, sheetfed inks formulated with it have exceptionally fast initial setting. EcoBright-based inks dry to the touch in seconds. EcoBright is furnished as a viscous gel that can easily be softened with a wide variety of oils or solvents. Ecobright can also be used as a zero-VOC letdown vehicle for the manufacture of Soy-based forms inks, both conventional and laser-compatible.

It is recommended that cobalt and manganese driers be used with Ecobrite Vehicle in order to assure a hard cure takes place after impression, especialy on coated stocks and non-porous plastic films. Normal concentrations of these driers is sufficient to ensure hard cure.

SPECIFICATIONS:
Tack: 18.5 points @ 400 RPM @ 90 F
Viscosity (Laray): 1525 Poises, yield value: 10,700 Dynes/CmSq
Resin Type: Rosin-Modified Phenolic 155C MP
Solvent Percentage: 0%
Solvent Boiling Range: N/A
Drying Oil Content: 30%
Drying Oil: Tng (Cinawood), Soya

Packaging:

Speedex™ Quickset Gel Vehicle

70.5%

Speedex Vehicle is a true quickset vehicle. The word “quickset” is used widely to describe the drying mechanism where the initial “setting” occurs by means of the liquid portion of an ink (i.e.: solvents and oils) rapidly seeping into the fibrous matrix of the paper substrate immediately after impression, leaving a dry layer of resin and pigment on top of the ink film. This “set” film feels dry to the touch and does not offset onto other printed sheets easily. About 72 hours later, the Speedex Vehicle's film actually “cures” by chemically converting the vegetable oil-based portion of the ink through the process of oxidation polymerization, further anchoring the ink film to the substrate. Speedex Vehicle is perhaps on of Kerley's most eco-friendly vehicles, having low VOC content and a very high percentage of ingredients made from renewable resources.

What makes Speedex Vehicle unique is its ability to achieve initial setting very rapidly, then start curing in hours without the aid of conventional driers like cobalt and manganese. However, Speedex Vehicle is HIGHLY drier-reactive. To ensure maximum set speed and hardness of cure, Speedex uses no soy oil, but contains almost 40% vegetable oil. Unlike other Speedex products, Speedex Vehicle contains no waxes. For a transparent extender with waxes, we recommend the sister product, Speedex Extender.

SPECIFICATIONS:
Tack: 15 points @ 1200 RPM @ 90 F
Viscosity (Laray): 360 Poises, yield value: 3,700 Dynes/CmSq
Resin Type: Rosin-Modified Phenolic 155C MP
Solvent Percentage: 18%
Solvent Boiling Range: 444-625 F
Drying Oil Content: 39%
Drying Oil: Linseed, Tung (Chinawood)

Speedex™ Extender Vehicle/Transparent Ink

55.1%

Speedex Extender is a unique sheetfed offset printing ink/transparent extender with the performance specifications that printers really need.

Speedex features:

- The ability to be used right out of the can.

- Extremely fast initial setting.
- Jobs printed with Speedex on paper can be handled 5 minutes after impression.
- Speedex develops good cure in less than 12 hours.
- Speedex can stay "open" on press overnight, even on copper rollers.
- Speedex will not "skin" in the can for days.
- Speedex uses a drier-free setting mechanism.
- Speedex's cure rate and hardness can be greatly enhanced with driers.
- Speedex has approximately 20% VOC content.

Packaging:

Use Speedex wherever there is commercial printing on paper substrates. Speedex works well on a wide variety of stocks including quality offset stocks, and coated stocks of virtually all basis weights. Since Speedex is a true oil-based litho ink, it has a great deal of compatibility with many graphic arts chemicals. Ink conditioners and gel reducers will all work well with Speedex inks & extender. Speedex Extender contains high-melt polyethylene wax and a trace amount of PTFE wax. This means that, with the proper precautions, Speedex Extender can be used with inline coating and overprinting right out of the can. Consult the Speedex pamphlet for more details.

SPECIFICATIONS:
Tack: 15 points @ 1200 RPM @ 90 F
Viscosity (Laray): N/A, light gel
Resin Type: Rosin-Modified Phenolic 155C MP
Solvent Percentage: 19%
Solvent Boiling Range: 375-675 F
Drying Oil Content: 24%
Wax Content: <1% PTFE, 2% Polyethtylene

No Heat Web (coldset) Letdown Vehicles & Extenders

Kerley Ink offers simply the best, most comprehensive selection of quality, low-VOC and zero-VOC forms vehicle/extenders in the world today. Kerley pioneered the development of soy oil-based forms inks nearly three decades ago and has continued to improve them continuously since then. The Soytex™ line of no heat web forms extender vehicles are readily available to be used as tinting extenders or as building blocks for your own coldset web offset forms inks.

No Heat Web Forms Vehicles & Extenders

5.5%, 49.8%

Formsmaster Extender & Formsmaster Extender LZR

Packaging:

Formsmaster Extender is a freer-flowing, light gel version of old '80's classic Formsmaster Extender. Formsmaster Extender can be used as a low-cost transparent mixing white ink or as a letdown vehicle that can be mixed with flush to make a finished ink for business forms presses or for any other no heat web offset application where substrates have no coating on them (ie: newsprint or business forms stocks).

A laser-compatible version of Formsmaster Extender is available. Please order "**Formsmaster Extender ECON LZR**". Formsmaster Extender ECON LZR is a high solids content product (98%), plus it contains 20 percent linseed oil for better, harder dryback. Formsmaster Extender ECON LZR is also nearly 100 percent solids. Formsmaster Extender ECON LZR is drier-reactive, making it a suitable vehicle from which to make harder-drying laser inks. 1.5% of cobalt drier (based on 6% metal content) would be adequate for making air-drying inks that could be printed in less than 100 hours.

SPECIFICATIONS:
Tack: 10 points @ 1200 RPM @ 90 F
Viscosity (Cone & Plate): 34 Poises/1,200 Dynes/sqCM Yield @ 30 C
Resin Type: Special Hydrocarbon 140C MP
Solvent Percentage: 2%
Solvent Boiling Range: 550-650 F
Oil type: hydrotreated napthernic (petroleum)

Soytex Extender FFG

29.4%

Soytex Extender FFG is a freer-flowing version of our classic "Soytex Extender". Soytex Extender FFG can be used as a transparent mixing white ink or as a letdown vehicle that can be mixed with flush to make a finished ink for business forms presses or for any no-heat web offset application. It is possible to make a finished forms web ink with only 3 ingredient using this extender: flush, Soytex Extender FFG and soy oil (to adjust tack).

Soytex Extender FFG is not recommended for use in making laser-compatible forms inks. Please use Soytex Extender LZR for laser inks.

SPECIFICATIONS:
Tack: 9 points @ 1200 RPM @ 90 F
Viscosity (Cone & Plate): 63 poises / Yield 9600 Dynes/CmSq @ 40 C
Resin Type: Rosin-Modified Phenolic 155C MP
Solvent Percentage: 0%
Solvent Boiling Range: N/A
Soy Oil Content: approx 30%

Soytex Extender LZR laser-compatible vehicle

72.9%

Soytex Extender LZR is used in the manufacture of soy oil-based business forms inks that need to be compatible with laser printers. Soytex Extender LZR is a high soy oil content product (35%), plus it contains 20 percent tung oil for extra hard dryback. Soytex Extender LZR is also 100 percent solids. It is also used as a transparent white extender for making tints.

Soytex Extender LZR is very drier-reactive, making it an ideal vehicle from which to make ultra fast-drying laser inks. 1% of cobalt drier (based on 6% metal content) would be adequate for making air-drying inks that could be laser printed in less than 72 hours. As with all Kerley laser-compatible products, printers must be advised that printed material must be left to air dry with adequate windage (air exchange). Shrink wrapping of printed material is strongly discouraged. Use of non-absorbent stocks will also cause product performance problems. A minimum of 72 hours drying time is suggested before printing with laser printers will occur.

SPECIFICATIONS:
Tack: 12 points @ 1200 RPM @ 90 F
Viscosity (Laray): 190 Poises, 4,400 Dynes/CMsq Yield value @ 25 C
Resin Type: Rosin-Modified Phenolic 155C MP
Solvent Percentage: 0%
Solvent Boiling Range: N/A
Soy Oil Content: approx 35%
Total Vegetable Oil Content: 58%

Packaging:

Kerley Ink offers simply the best, most comprehensive selection of quality, zero-VOC news vehicle/extenders in the world today. Kerley pioneered the development of soy oil-based news inks nearly three decades ago and has continued to improve them continuously since then. The Soytab™ line of no heat web news extender vehicles are readily available to be used as tinting extenders or as building blocks for your own coldset web offset news inks.

No Heat Web News Vehicles & Extenders

Soytab Extender

34.9%

Soytab Extender is used in the manufacture of soy oil-based web offset news inks. Soytab Extender, as the name implies, is soy oil-based, containing approximately 25% soy oil. Soytab extender has 100 percent solids and is virtually VOC-free. It is used as an excellent letdown vehicle for making all kinds of no heat web news inks when combined with just about any type of flush. Soytab Extender has a short, thick gel consistency. To obtain a more free-flowing soy news extender, please see Soytab Extender FFG in this catalog.

Soytab Extender has a very gelled body, especially when held in comparison to its low tack. This high viscosity-to-tack ratio is especially useful for making newsinks for presses that are used in high-temperature climates, or where press conditions tend to cause the breakdown of less robust ink formulas. Use this extender to combat misting and dripping for ink fountains.

Please consult the Formulations Guide for more extensive information and formulas using Soytab Extender. For best performance, please avoid using any form of castor oil in process reds.

SPECIFICATIONS:
Tack: 6 points @ 1200 RPM @ 90 F
Viscosity (Cone & Plate): 40 Poises/17,000 Dynes/sqCM Yield @ 40 C
Resin Type: Rosin-Modified Phenolic 155C MP
Solvent Percentage: 0%
Solvent Boiling Range: N/A
Soy Oil Content: approx 25%

Packaging:

44.3%

Soytab Extender FFG

Soytab Extender FFG is a close relative of our 20 year-old standard, Soytab Extender. Both extenders are used as either letdown varnishes or as transparent white extenders. Both also have nearly zero VOC's and are soy oil-based.

The main difference with Soytab Extender FFG in comparison to our standard "Soytab Extender" is that although it is a gel, it is softer in body and does not develop a high-structure ink like standard Soytab Extender can. This is particularly advantageous if you are formulating for more modern higher-speed presses that use pressurized ink delivery systems from tanks or large tote bins.

Soytab Extender FFG is used in the manufacture of soy oil-based web offset news inks. Soytab Extender FFG, as the name implies, is soy oil-based, containing approximately 40% soy oil. Soytab extender has 100 percent solids and is virtually VOC-free. It is used as an excellent letdown vehicle for making all kinds of no heat web news inks when combined with just about any type of flush. For best performance, please avoid using any form of castor oil for water pickup control in process reds.

SPECIFICATIONS:
Tack: 7.5 points @ 1200 RPM @ 90 F
Viscosity (Cone & Plate): 44 Poises/5,800 Dynes/sqCM Yield @ 40 C
Resin Type: Rosin-Modified Phenolic 155C MP
Solvent Percentage: 0%
Solvent Boiling Range: N/A
Soy Oil Content: approx 40%

34.1%

Soytab Extender ELF

Soytab Extender ELF (Extra Long Flow) is a close relative of our 20 year-old standard, Soytab Extender. Soytab Extender ELF's main feature is that it is soft in body and has a very low viscosity. Soytab Extender ELF can be used as either a letdown varnish or as a transparent white extender. Soytab Extender ELF has nearly zero VOC's and is soy oil-based.

Use Soytab Extender ELF for developing newsinks for modern high speed presses that use "injector" type ink fountains. Soytab Extender ELF is particularly well-suited for use in making inks for keyless inking systems. Newsinks made with Soytab Extender ELF exhibit very good long-term control of viscosity, avoiding viscosity "creep" during extender periods of storage. Soytab Extender ELF is particularly good for making viscosity-stable Process Red (magenta) inks.

Make sure to pre-mix Soytab Extender ELF thoroughly before using it, as some settling of pigment solids in Soytab Extender ELF may occurr during long-term storage. For best performance, please avoid using any form of castor oil in process reds.

Soytab Extender ELF has 100 percent solids and is virtually VOC-free. It is used as an excellent letdown vehicle for making all kinds of no heat web news inks when combined with just about any type of flush. For best performance, please avoid using any form of castor oil for water pickup control in process reds.

SPECIFICATIONS:
Tack: 10 points @ 1200 RPM @ 90 F
Viscosity (Cone & Plate): 64 Poises / Yield 2300 Dynes/CmSq @ 40 C
Resin Type: Modified hydrocarbon 140C MP
Solvent Percentage: 0%
Solvent Boiling Range: N/A
Soy Oil Content: approx 25%

Soytab Extender C-40

27.5%

Soytab Extender C 40 is an economically-priced near zero-VOC extender vehicle intended for use as either a letdown varnish or as a transparent white in color mixing systems for newspaper and no heat web offset inks. Inks made with this extender will have a very "flat" finish when printed. Therefore, it is only recommended for printing on newsprint stocks. It is also our lest expensive extender in terms of direct cost per pound.

Soytab Extender C-40 is used in the manufacture of soy oil-based web offset news inks. Soytab Extender FFG, as the name implies, is soy oil-based, containing approximately 25% soy oil.

Soytab Extender C 40 is very thixotropic, due to the fact that there is 40% clay in the formula. This thixotropy can be used to produce an ink that is very resistant to misting and dripping, yet under mild agitation will produce flow. Soytab Extender C-40 has 100 percent solids and is virtually VOC-free. It is used as an excellent letdown vehicle for making all kinds of no heat web news inks when combined with just about any type of flush.

The main difference with Soytab Extender C-40 in comparison to our standard "Soytab Extender" is that although it is a very "short" gel, it is lower in absolute viscosity and does not develop a viscous ink like standard Soytab Extender can. This is particularly advantageous if you are formulating for more lower cost inks on older, slower newspaper presses. For best performance, please avoid using any form of castor oil for water pickup control in process reds.

SPECIFICATIONS:
Tack: 5.5 points @ 1200 RPM @ 90 F
Viscosity (Laray): 94 Poises/811 Dynes/sqCM Yield @ 25 C
Resin Type: Rosin-Modified Phenolic 155C MP
Solvent Percentage: 0%
Solvent Boiling Range: N/A
Soy Oil Content: approx 25%

Packaging:

Packaging:

Dispersing/Flushing Vehicles

OmniSperse™

70.8%

Omnisperse is our original high solids dispersion vehicle that can be used to grind as much as 45% pigment into a predispersion suitable for making most types of offset inks, including heatset, business forms, quickset and high-quality newsinks.

Omnisperse gets ts superior pigment-wetting characteristics from controlled selection of low acid number resins and alkyds to give good dispersion characteristics without compromising ink/water balance. High melt point phenolic resin is also employed to give very rapid setting characteristics to inks made using Omnisperse.

Omnisperse also exhibits very low color, so delicate shades can be obtained easily with Omnisperse. Omnisperse can be used to make "dry grinds" of pigments to be used for

both quickset and heatset inks.
SPECIFICATIONS:
Tack: 7 points @ 400 RPM @ 90 F
Viscosity (Cone & Plate): 67 Poises, Yield 4300 Dynes/CmSq @ 40 C
Resin Type: Rosin Modified Phenolic 160C MP, Long Oil Linseed Iso-Alkyd
Solvent Percentage: 4%
Solvent Boiling Range: 495 - 625

Alkyds

Kerley Ink Supplies Long Oil, Linseed Isophthalic Alkyds: a fundamental and basic ingredient in many pigment dispersions, flushes and letdown vehicles for offset inks. Alkyds, when used judiciously, can be incorporated directly as co-vehicles in many quickset, coldset, and heatset ink formulations.

Z-Kyd

74.0%

Z Kyd is a #1 Body, 100% solids, linseed isophtalic long oil alkyd vehicle. This oil-modified polyester is an excellent building block vehicle with many applications.

Use 2 to 10% Z-KYD to help reduce tack or viscosity of overly heavy or overgelled inks. Use 5 to 25% Z-KYD LSO to wet out "dry" inks or dispersions in order to rescue their transfer, gloss, and density

Due caution must be used when using more than 10% of any alkyd in an ink because there is the possibility of to much water pickup in litho ink formulations. We recommend trying 1% of Kerley's LithoTrol ink/water balance control additive to remedy the problem.

Packaging:

Use Z Kyd to:
- Improve transfer of inks
- Improve wetting and flow of overly gelled inks.
- 'Wet out' hard-to-disperse pigments.
- Increase solids content of inks.
- Increase film toughness and flexibility of inks and coatings.
- Increase vegetable oil content of inks.
- Z-kyd is also drier-reactive, making it an excellent film former.

SPECIFICATIONS:
Viscosity: Gardner #1
Viscosity (Cone & Plate): 12 Poises @ 40 C
COLOR: 6.5 (Gardener Scale)
ACID NO: 10.4
IODINE VALUE: 140 (WIJS Method)

Z-Kyd LSO

76.6%

Z-KYD LSO is a low viscosity, 100% solids version of our popular Z-KYD alkyd vehicle. Use 2 to 10% Z-KYD LSO to help reduce tack or viscosity of overly heavy or overgelled inks. Use 5 to 25% Z-KYD LSO to wet out "dry" inks or dispersions in order to rescue their transfer, gloss, and density. Due caution must be used when using more than 10% of any alkyd in an ink because there is the possibility of to much water pickup in litho ink formulations. We recommend trying 1% of LithoTrol ink/water balance control additive to remedy the problem.

Z-KYD LSO contains pure drying oil, so it can be used to help improve film hardness and integrity when metallic driers such as cobalt and manganese compounds are used.

Z-KYD LSO can also be used when dispersing or flushing pigments to reduce viscosity or help flushes "break". Z-KYD LSO also gives flow to high pigment content dispersions.

SPECIFICATIONS:
Viscosity: Gardner #00
COLOR: 6.5 (Gardener Scale)
ACID NO: 10.4
IODINE VALUE: 140 (WIJS Method)

Printing Ink Compounds & Additives

Kerley Ink manufactures many of their own ink additives. You can benefit from our 8 decades of experience making ink raw materials when you use the compounds and additives listed below in your own ink formulations. Check out our pages about Oils & Solvents for more inkmaking essentials.

Ink Compounds

Use the wax compounds listed below to increase rub resistance of many different types of printing inks and also to increase initial setting speed of no-heat inks that will be printed on both glossy and non-absorbent substrates.

PolyMax CQS 50 Polyethylene wax compound

43.2%

PolyMax CQS 50 polyethylene compound is a 100% solids high-performance, versatile additive for a variety of paste inks. PolyMax CQS 50 contains 50% Medium-High Density Polyethylene in a vegetable oil-based carrier vehicle.

Stir in between 3% and 6% PolyMax CQS 50 for best rub and scuff resistance. For even better results, PolyMax CQS 50 can be combined with 1% to 3% TetraMax QS 50 compound, thereby adding the film-strengthening properties of pure PTFE for ultimate scuff and scratch resistance. For more "fail-safe" ink films that require coating at some time after impression, use extra PolyMax CQS 50 in lieu of any wax compound containing PTFE resin, which can make a film unreceptive to overcoating and lamination.

For additional protection, PolyMax CQS 50 contains Tung Oil, nature's fastest and best film-forming vegetable oil. Use it with metallic driers for fast setting and extra tough ink films on paper and non-absorbent surfaces. Consult Kerley if you think a UV or EB-cured overcoating will be applied.

SPECIFICATIONS:
Active Wax resin type: Medium-High density Polyethylene (PE)
Wax Content: 50%
Solids Content: 100%
Vehicle type: Tung Oil (chinawood oil) plus Long-oil Linseed Alkyd
Appearance: Soft, short-flow white paste
Avg Particle Size: 4-6 microns

Packaging:

TetraMax QS 50 PTFE wax compound

37.0%

A 100% solids stir-in compound made of exclusively PTFE resin in long-oil alkyd, TetraMax QS 50 is the ultimate compound for quickset, forms and even heatset inks! It features 50% PTFE resin for maximum surface hardness and slip in an easy to use stir-in compound. As little as 2% of this compound makes a measurable difference in the scuff resistance of an ink. And, it can be used in an amazing variety of offset applications, especially where there is a need for high solids content. TetraMax QS 50's fast-setting alkyd vehicle also helps boost film integrity, especially when metallic driers are used in the ink formulation. TetraMax QS 50 is laser-safe. Do not use tetraMax QS 50 or any PTFE-containing compound if you anticipate any lamination of the ink film, especially off-press. Consult Kerley if you think a UV or EB-cured overcoating will be applied.

SPECIFICATIONS:
Active Wax resin type: Virgin Polytetraflouroethylene (PTFE)
Wax Content: 50%
Solids Content: 100%
Vehicle type: Long-oil Linseed Alkyd
Appearance: Soft, short-flow white paste

Litho-Dri COMBO PASTE Drier Compound

32.7%

Litho Dri COMBO PASTE is a super high-solids combination of Cobalt and Manganese driers suspended in a neutral polyeithylene-based wax vehicle. Litho Dri COMBO PASTE contains no drying oils, so it is capable of being stored for extended periods of time without self-skinning. Litho Dri COMBO PASTE contains no PTFE wax.

Use 1.5-5.5% Litho Dri COMBO PASTE in conventional oil-based sheetfed finished inks and overprint varnishes to ensure hard curing of printed films. It is a "stir-in" product that can be used on-press as well as in manufacture of finished litho inks.

For safety, and rags that come in contact with Litho Dri COMBO PASTE and drying oil vehicles should be stored in airtight containers to avaoid the danger of spontaneous combustion.

SPECIFICATIONS:
Active Wax resin type: Medium-High density Polyethylene (PE)
Wax Content: 55%
Solids Content: 97%
Metal content: 2% cobalt, 1% manganese
Vehicle type: Cobalt/Manganese Napthenates
Appearance: Soft, short-flow light purple paste
Avg Particle Size: 4-6 microns

Packaging:

Litho-Dri TFI PASTE Drier Compound

39.0%

Litho Dri TFI PASTE is a super high-solids combination of Cobalt and Manganese driers suspended in a polyethylene & PTFE-based wax vehicle. Litho Dri TFI PASTE contains no drying oils, so it is capable of being stored for extended periods of time without self-skinning. Litho Dri TFI PASTE contains PTFE wax.

Use 1.5-5.5% Litho Dri TFI PASTE in conventional oil-based sheetfed finished inks and overprint varnishes to ensure extra-hard curing of printed films. Additionally, Litho-Dri TFI PASTE compound will also deliver extra scuff resitance and excellent “slip” of dried films. It is a "stir-in" product that can be used on-press as well as in manufacture of finished litho inks. Compatibility with UV overcoating,foil stamping & laminating shouild be checked before using this compound in any finished ink or overprint varnish.

For safety, and rags that come in contact with Litho Dri TFI PASTE and drying oil vehicles should be stored in airtight containers to avoid the danger of spontaneous combustion.

SPECIFICATIONS:
Active Wax resin type:
Medium-High density Polyethylene (PE) &Virgin Polytetraflouroethylene (PTFE)
Wax Content: 30% Polythylene, 20% PTFE
Solids Content: 100%
Metal content: 2.8% cobalt, 0.75% manganese
Vehicle type: Cobalt/Manganese Napthenates
Appearance: Soft, short-flow light purple paste
Avg Particle Size: 4-6 microns

Ink Additives

Gel Plex™ viscosity modifier

21.2%

Now featuring a smoother, creamier texture for better dispersability, Gel Plex is a 100% solids, soy oil-based compound developed for use as a thickening agent in most paste inks. Gel Plex uses surface-treated montmorillonite clay as its active ingredient. The recommended dosage of Gel Plex for best results is between 2% and 6%, depending on the amount of gellation needed and the amount of resinous material in the ink to be modified. More than 6% Gel Plex may reduce gloss levels noticeably in high gloss inks. Gel Plex eliminates the need to store messy powdered thickening agents and will do the same job. Best results are obtained with quickset and heatset inks as well as high resin

content business forms inks and newsinks. For thickening inks that require a harder film, please use Gel Plex OMPE.

Although Gel Plex is a "stir-in" compound, the maximum thickening value of Gel Plex is obtained with high shear. The more mixing energy that is used to incorporate Gel Plex, the more thickening is obtained in a shorter period of time. Adding 0.2 -0.5% tap water boosts Gel Plex's gelling action. Gel Plex increases viscosity 20-25%. Gel Plex products produce a gentle gelling action that takes about 24 hours to maximize so batches containing Gel Plex won't "freeze" during mixing.

Gel Plex is an excellent ink/water balance agent. Inks that display scumming and stripping tendencies can many times be helped with the addition of Gel Plex. Inks that are overemulsified by fountain solution can be helped by Gel Plex, too. Inks with excess misting tendency will benefit by the addition of Gel Plex as well.

SPECIFICATIONS:
Active thickener type: surface-treated Montmorollinite Clay
Active Ingredient Content: 45%
Solids Content: 100%
Vehicle type: Soya Oil & Microcrystalline Wax
Appearance: Soft, short-flow light brown paste

Gel Plex™ OMPE curable viscosity modifier

48.4%

Gel Plex OMPE is a 100% solids, Oil Modified Polyester-based compound developed for use as a thickening agent for polymerization-cured inks like bake-on metal deco inks and sheetfed litho inks activated with metal driers. Gel Plex OMPE uses surface-treated montmorillonite clay as its active ingredient. The recommended dosage of Gel Plex OMPE for best results is between 2% and 6%, depending on the amount of gellation needed. More than 6% Gel Plex OMPE may reduce gloss levels noticeably in high gloss inks. Gel Plex OMPE eliminates the need to store messy powdered thickening agents and will do the same job. Best results are obtained with metal deco, high-solids sheetfed inks, and inks that cross-link.

Although Gel Plex OMPE is a "stir-in" compound, the maximum value of Gel Plex OMPE is obtained with high shear. The more mixing energy that is used to incorporate Gel Plex, the more thickening is obtained in a shorter period of time. Gel Plex OMPE increases viscosity 20-25%. Adding 0.2 -0.5% tap water boosts Gel Plex's gelling action. Gel Plex products produce a gentle gelling action that takes about 24 hours to maximize so batches containing Gel Plex won't "freeze" during mixing.

Gel Plex is an excellent ink/water balance agent. Inks that show scumming and stripping can be helped with the addition of Gel Plex. Inks that are overemulsified by fountain solution can be helped by Gel Plex, too. Inks with excess misting will benefit from Gel Plex.

SPECIFICATIONS:
Active thickener type: surface-treated Montmorollinite Clay
Active Content: 45%
Solids Content: 100%
Vehicle type: Long Oil Modified Polyester
Appearance: Soft, short-flow light brown paste

Packaging:

LithoTrol™ ink/water balance additive

26.3%

LithoTrol is a high-performance additive used to reduce excessive water pickup in any type of lithographic or web offset ink. Typically, 0.5 to 1.0% of LithoTrol added to any ink with a "Duke" water pickup of 100% or more will see a reduction to 35-55% water pickup. Results vary by the type of fountain solution used.

How do you know you need LithoTrol? The simplest way is to perform an ink/water emulsification test prior to running a new formula on an actual printing press. To perform an official "Duke" test, you'll need a Duke™ Ink/Water Emulsification tester. A Duke water pickup of more than 80% in 5 minutes is an indicator that you will need to use a water pickup control agent like LithoTrol. Another way to determine if you need LithoTrol is when your client complains of your ink "piling" or building up a gummy gel

on the press's rollers, especially during a long run. This many times means that the ink is emulsifying excessively and that the ink is full of water, which makes the ink very short in flow and gummy in texture. Less often, the water will "wash out" the ink due to the ink not having enough viscosity and tack to counter the fountain solution effectively. Inks with low tack & viscosity will especially benefit if it can be proven that they have too much water pickup. Inks treated with LithoTrol resist changes in viscosity and flow much better than an ink without LithoTrol.

LithoTrol contains the highest concentration of active water-fighting ingredient currently available. LithoTrol comes in the form of a medium viscosity clear paste that can be easily stirred in to any offset paste ink.

SPECIFICATIONS:
Active ingredient: Hydrophobic Polyoxyalkane compounds
Active Content: 25%
Solvent/VOC Content: 44%
Vehicle type: Quickset/Heatset Multipurpose
Appearance: Soft, long-flow amber gel

Litho Dri CO 6 cobalt paste drier

75.0%

Litho Dri CO 6 is a 6% metal content Cobalt drier that can be used to stimulate oxidation and polymerization of lithographic inks, thus causing them to cure, or "dry". Please remember that metal driers will fail to dry inks that do not contain signficant percentages of unsaturated vegetable oils or unsaturated resins.

For black inks, we recommend using 1.5-2.0% of Litho Dri CO 6 by weight. Color inks should have about 0.75-1.0%. True relex blue inks that contain alkali blue pigments will benefit from 1.0-2.0% concentrations. We recommend the addition of 1 to 1.5 % of Litho Dri MN 6 in most litho formulas to obtain "bottom drying", too.

Care should be exercised in the storage and handling of Litho Dri. Keep containers tightly sealed to avoid "crusting". Rags soaked to drying oils (ie: linseed, tung) that have been exposed to Litho Dri can spontaneously ignite if left in a heap for an extended period of time.

SPECIFICATIONS:
Active ingredient: Cobalt Metal
Active Content: 6%
Solids Content: 100%
Vehicle type: Napthenic compound
Appearance: Soft, long-flow dark blue/brown paste

Litho Dri MN 6 manganese paste drier

75.0%

Litho Dri MN 6 is a 6% metal content Manganese drier that can be used to stimulate oxidation and polymerization of lithographic inks, thus causing them to "dry". Please remember that metal driers will fail to dry inks that do not contain signficant percentages of unsaturated vegetable oils or unsaturated resins.

For black inks, we recommend using 0.5-1.0% of Litho Dri MN 6 by weight. Color inks should have about 1%. We recommend the addition of 1.5-2 % of Litho Dri CO 6 in most litho formulas to obtain "top drying", too.

Care should be exercised in the storage and handling of Litho Dri. Keep containers tightly sealed to avoid "crusting". Rags soaked to drying oils (ie: linseed, tung) that have been exposed to Litho Dri can spontaneously ignite if left in a heap for an extended period of time.

SPECIFICATIONS:
Active ingredient: Manganese Metal
Active Content: 6%
Solids Content: 100%
Vehicle type: Napthenic compound
Appearance: Soft, long-flow dark brown paste

Packaging:

Oils & Solvents

Oils and solvents are some of the basic "building blocks" of all inks manufactured today. Kerley Ink offers a wide scope of both petroleum-based and agri-based oils and solvents.

Petroleum-based oils & solvents

Solvex Petrolatum

0.0%

Solvex petrolatum is a stabilized form of petroleum grease that is particularly suitable as a tack reducing agent for all types of no heat paste inks. Unlike solvents and oils, Solvex petrolatum will not reduce viscosity rapidly when reducing tack. Solvex petrolatum can also be used in limited quantity in heatset inks as a tack stabilizing agent to keep blanket piling due to rapid solvent evaporation under control. For this purpose, no more than 3-5% is recommended as a maximum figure. Solvex petrolatum is particularly useful as an ingredient in inks that must stay "open" for extended periods of time. However, it is not recommended for use in rapid-setting sheetfed inks. See our product "GLO" for use in quickset formulations.

Solvex Pitch

0.0%

Use Solvex PITCH as a wetting agent to increase flow in almost any type of carbon black-based paste ink. Solvex PITCH has approximately 10% VOC's, so it can be used in low-VOC formulations. Between 1 and 4% by total formula weight is the recommended dosage. Between 7 and 12% by weight of carbon black is what is recommended for black dispersions to induce freeflowing properties. Solvex pitch is particularly effective on 'high structure' carbon blacks commonly found in newsinks and business forms inks. Solvex PITCH is compatible with almost every type of paste ink resin, oil, and solvent available. However, Solvex PITCH is not recommended for use in VOC-free or in radiation-curable inks, as it contains some VOC's.

Solvex solvents

0.0%

Solvex products are quickset and heatset solvents in severely hydrotreated, low-aromatic forms. Solvex products are available as a convenience item in limited quantity, because we are not petroleum distributors. Solvex 60 is a 60-type ink solvent: best suited for quickset formulations. Solvex 525 is a 52-type solvent: best suited for quickset and tack-stable heatset inks. Solvex products are great for setting tacks of quickset and heatset inks. Below are the specifications for Solvex products:

Packaging:

Product	Solvex 60	Solvex 525
Boiling Range (deg F)	580-675	515-585
Aromatic Content	< 2%	< 1%
Lbs/Gal (Specific Gravity)	6.9 (0.830)	6.8 (0.817)
Flash Point (deg F)	310	260

Tamalene Ink Oils

0.0%

Tamalene Ink Oils are severely hydrotreated napthenic mineral oils in the 750 SUS & 100 SUS viscosity range. Tamalene Oils are ideal for low-cost newsinks & business forms inks as a tack adjuster or vehicle component. They is excellent as a low-cost, ultralow-VOC alternative to soy oil. Tamalene Oils have a pale, straw color and feature low VOC content. The odor of Tamalene 750 is also quite low. Below are the specifications for Tamalene:

Product	Tamalene 750	Tamalene 100
Viscosity (Saybolt Universal Seconds @ 100 F)	750-800	90-110
Lbs/Gal (Specific Gravity)	7.65 (0.92)	7.49 (0.90)
Flash Point (deg F)	380	320

Vegetable Oils & Bio Solvents

In today's more environmentally-conscious market, vegetable oils have come to be recognized once again as a critical ingredient in many printing ink formulas. Vegetable oils were the primary ingredient in most ancient printing ink formulas from thousands of years ago. Vegetable oils can impart flow to an ink yet also provide some surface toughness when vegetable oil-containing ink films cure through free-radical polymerization. And of course, vegetable oils are essentially zero-VOC products, too! And yes, de-inking in the paper recycling process can be made considerably easier by the use of vegetable oils in inks.

100.0%

BCO (Blown Castor Oil)

BCO (Blown Castor Oil) is an old-time favorite for controlling water pickup in all types of lithographic and offset inks. A pale, straw-colored liquid with the characteristic odor of castor bean oil, BCO is stirred in at a low temperature to produce optimum results. Usually, only one or two percent is all that is needed to bring water pickup down to desired levels. BCO is recommended for most colors. Some pigments, such as Lithol Rubine, tend to gel up when BCO is used in the formula. We suggest the use of an alternative water pickup control agent.

Packaging:

100.0%

SBO

SBO, short for Soy Bean Oil, is a staple ingredient that you can use for the formulation of many no heat web inks and to a limited extent in quickset inks, too. SBO is alkali refined for extra clarity and purity. SBO is primarily used as a tack reducing agent and to impart flow in overly stiff-bodied inks. SBO has little or no ability to oxidize and dry in the presence of metallic driers, so it is a natural for "stay open" inks that need to have a long shelf life.

100.0%

Tung Oil

Tung Oil, also commonly referred to as Chinawood Oil, is a high-performance drying oil normally used in small amounts to increase the oxidizing and polymerizing properties of an ink. Tung Oil is so prone to oxidation that metallic driers must be used sparingly, if at all. Care must be taken when handling Tung Oil, because items such as rags soaked with Tung Oil can auto-oxidize and catch on fire. Tung Oil has a clear-to-light-brown color and a rich, nutty aroma. Normally, only 5 to 15 percent is all that is used in an ink to boost setting speed and hardness of drying. Tung Oil can also be used as a tack reducing agent and to impart flow to stiff inks.

100.0%

ARLO

Alkali Refined Linseed Oil, commonly called "ARLO" for short, has been a classic ingredient in inks for centuries. Extracted from the seed of the flax plant, this oil is filtered and then "washed" with alkaline water to remove acid impurities. The resulting product is a golden, rich-smelling oil that is composed primarily of linolenic acid. It is the presence of

linolenic acid with its ability to polymerize readily in the presence of metallic driers such as cobalt or manganese that is of great value to inkmakers. When ARLO is combined with a metallic drier and exposed to oxygen in the air it will start to "oxidize", and a tough, flexible "skin" will start to form where the ARLO is exposed to the air. Since ARLO is prone to oxidation, care must be taken when handling ARLO, because items such as rags soaked with ARLO can auto-oxidize and catch on fire. Although ARLO readily dries and is considered a "drying oil", it does not skin nearly as readily as Tung Oil. ARLO can be used for a great many things. No inkmaker should be caught dead without a drum on the premises. ARLO can be used for cutting tack and body, increasing flow of overly "short" inks, and to enhance the film integrity of inks that contain metallic driers that can react with ARLO.

Packaging:

GLO

92.9%

Gelled Linseed Oil, which we call "GLO" for short, is a convenient way to reduce the tack of a heavy ink. What makes GLO different from other oils or solvents is that it can be easily handled by just about anyone, including pressroom personnel. With its short, gel body, GLO makes a wonderful "gel reducer" useful for reducing the tack and body of just about any sheetfed or web offset ink. Being an all-solids, bio-based product, GLO is safe for the environment, too! GLO is not available in disposable tote bins.

MSOY

100.0%

A truly unique, bio-based solvent, MSOY is a methyl ester of soybean oil. It is used in place of Solvex™ solvents when a strong, low viscosity liquid solvent is needed, but without the high VOC content that comes with them. MSOY is extremely effective at solubilizing a wide variety of hard resins used in lithographic and web offset ink formulas. Caution must be used when formulating inks containing MSOY, due to the fact that MSOY has a Kauri-Butanol value of 50, which makes it 2-3 times as powerful a solvent as current hydrotreated petroleum-based solvents, such as Solvex™. This high Kauri-Butanol value can potentially swell synthetic and natural rubber when used in excess of 5% in formulas. MSOY has less than 10% VOC content as measured by EPA Method 24.

Packaging Options

55 Gallon Straight-Sided Drums

210 Liter Capacity.
Net weight blacks:
450 lbs. (205 kilograms)
Net weight nova blacks:
425 lbs. (193 kilograms)
Net weight colors:
400 lbs. (181 kilograms)
This is the standard packaging for all finished inks as defined in our price list.

15 Gallon Metal Kits

(60 Liter Capacity.)
Net weight base & most flushes:
135 lbs. (61 kilograms)
Net weight varnishes, alkali blue flushes & most compounds:
110 lbs. (50 kilograms)
There is an upcharge of US$ 0.10/lb ($0.23/kg) over regular drum prices for this package.

3-1/2 Gallon Plastic Kits

(13 Liter Capacity.)
Net weight 30 lbs. all colors. (13.6 kilograms)
See price list for details about $0.07/lb. ($0.15/kg) packaging upcharge for kits.
55_gal_lined_drum55 Gallon Drums with Plastic Liner
Upcharge for liners US$ 0.01/lb. (US$ 0.02/kg)

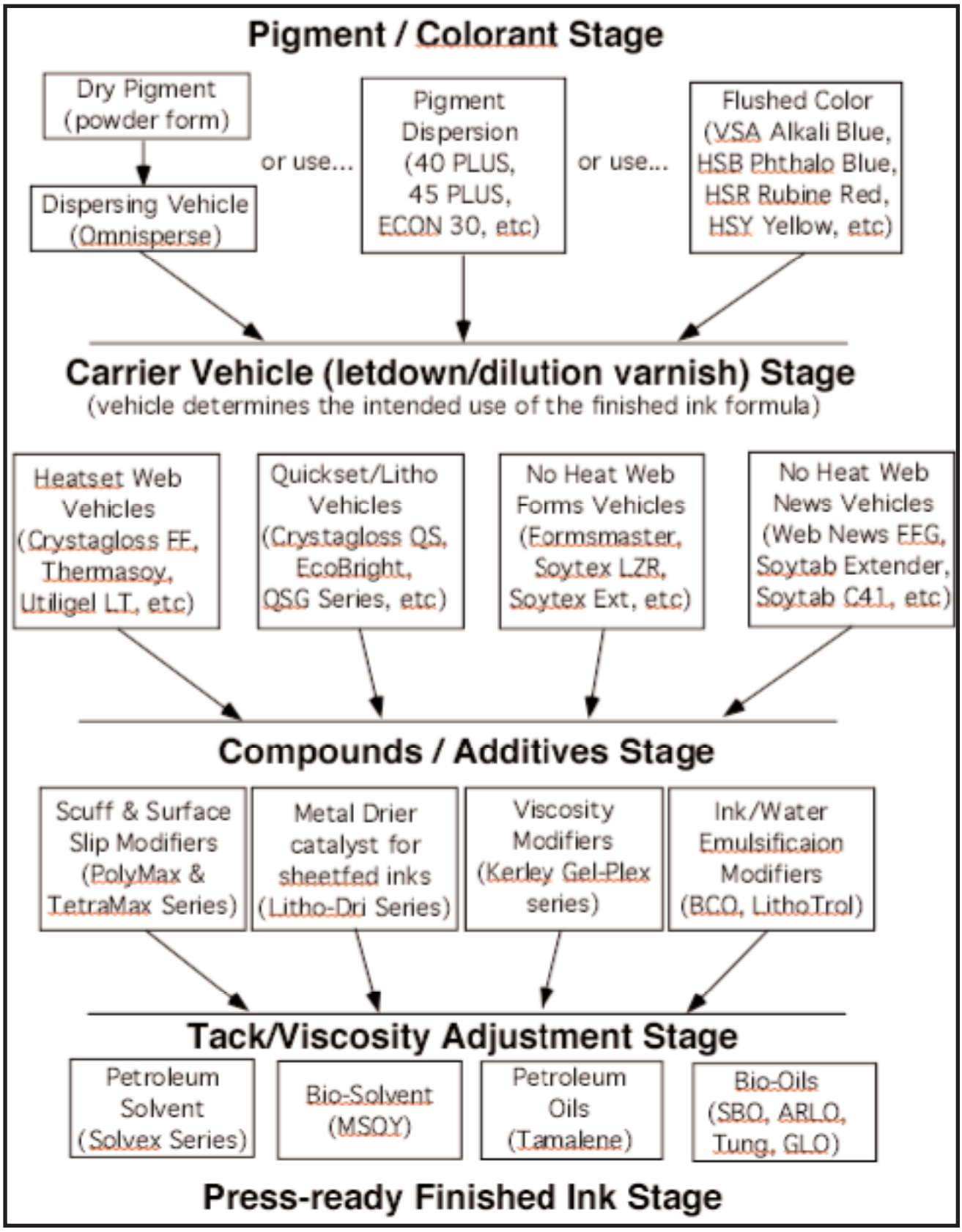
100.0%

Denotes what percentage of a product is bio-based, ag-based, or made of renewable resources.

27 How to Make a Paste Ink...

Below is a step-by-step diagram showing what is necessary to make a basic formulation of paste ink using some of the various Kerley Ink Components presented in this catalog. There are five steps or "stages" in the manufacture of a paste ink. (With minor adjustments, liquid inks follow almost the exact same regimen.)
Typical concentrations are:

1) Pigments / Colorants	30-50%	(sets the color shade & strength)
2) Carrier vehicles	30-70%	(defines the type of ink to be made)
3) Compounds/Additives	2-10%	(changes the flow & film properties)
4) Tack/Viscosity Adjusters	2-10%	(final adjustments to suit client's press/paper)



Kerley's legacy:
100 years in the graphic arts.
1909-2009

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