



We drive variable printing

Issuing Date 18-Jan-2018

Revision date 30-Jan-2018

Revision Number 1

## 1. Identification of the Substance/Preparation and of the Company/Undertaking

### Product identifier

**Product name** Black Ink, UV Paper

### Other means of identification

**Product Code(s)** 201-0006-089

**Synonyms** No information available

### Recommended use of the chemical and restrictions on use

**Recommended Use** ink.

**Uses advised against** No information available

### Details of the supplier of the safety data sheet

#### **Supplier Address**

217 Performance Lane  
Cresson TX 76035  
Phone 817-512-3151  
Fax 817-512-3158  
orders@digitalprint.com

#### **Company Name**

Kao Collins Inc.  
1201 Edison Drive  
Cincinnati, OH 45216  
PH: 513-948-9000  
Info@kaocollins.com

**Emergency telephone number** Chemtrec 1-800-424-9300

**Emergency Telephone** International Chemtrec: +1 703-527-3887

## 2. Hazards Identification

### Classification

#### **OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1B
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

### Label Elements

#### EMERGENCY OVERVIEW

**Danger****Hazard statements**

Harmful if swallowed  
 Harmful in contact with skin  
 Harmful if inhaled  
 Causes skin irritation  
 Causes serious eye damage  
 May cause an allergic skin reaction  
 Suspected of causing cancer  
 Suspected of damaging fertility or the unborn child  
 Causes damage to organs through prolonged or repeated exposure

**Appearance** Black**Physical state** liquid**Odor** Acrylic**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Use only outdoors or in a well-ventilated area  
 Contaminated work clothing should not be allowed out of the workplace  
 Wear protective gloves  
 Do not breathe dust/fume/gas/mist/vapors/spray

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
 Specific measures (see supplemental first aid instructions on this label)  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 Immediately call a POISON CENTER or doctor/physician  
 IF ON SKIN: Wash with plenty of soap and water  
 Call a POISON CENTER or doctor/physician if you feel unwell  
 Take off contaminated clothing and wash before reuse  
 If skin irritation or rash occurs: Get medical advice/attention  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)****Other Information**

• Harmful to aquatic life with long lasting effects  
 Unknown acute toxicity 99.19673 % of the mixture consists of ingredient(s) of unknown toxicity

**3. Composition/information on Ingredients**

Chemical Name	CAS-No	Weight-%	Trade secret
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1,6-Hexanediol diacrylate	13048-33-4	25 - 50	*
1-Vinyl-2-pyrrolidone	88-12-0	1 - 15	*
Lactam	Proprietary	1 - 15	*
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.`-(2,2-dimethyl-1,3-propanediyl)bis[.o mega.-[(1-oxo-2-propenyl)oxy] -	84170-74-1	1 - 15	*
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	75980-60-8	1 - 10	*
Amine Acrylate	PROPRIETARY	1 - 10	*
Carbon black	1333-86-4	1 - 5	*
Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)- Oligomer	162881-26-7	1 - 5	*
	NOT AVAILABLE	0.1 - <1	*
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.`,.alpha.`-1,2,3-propanetriyltris[.ome ga.-[(1-oxo-2-propenyl)oxy]-	52408-84-1	0.1 - <1	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

#### NOTE

Remaining components are either not hazardous or below threshold limits.

## 4. First aid measures

### Description of first aid measures

<b>General advice</b>	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Immediate medical attention is required. If symptoms persist, call a physician.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If symptoms persist, call a physician.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water. Immediate medical attention is not required.
<b>Inhalation</b>	Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required. If not breathing, give artificial respiration. Artificial respiration and/or oxygen may be necessary. Call a physician. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Call a physician.
<b>Self-protection of the first aider</b>	Use personal protective equipment as required. Avoid contact with eyes, skin and clothing.

### Most important symptoms and effects, both acute and delayed

**Symptoms** Hives.

### Indication of any immediate medical attention and special treatment needed

**Notes to Physician** Eye Contact - Emergency Medical Treatment Procedures:  
Some photoinitiators cure in the near UV and visible light range.  
Keep overhead lighting OFF as a precaution. Flush eyes for an additional 15-30 minutes prior to examination under light. DO NOT use UV light with fluorescent stain to examine injured eye without copious irrigation of the eye. May cause sensitization of susceptible persons. Use of epinephrine may be indicated. Treat symptomatically.

## 5. Fire-fighting measures

### Suitable extinguishing media

Use Water spray Carbon dioxide (CO<sub>2</sub>) Dry chemical Cool containers with flooding quantities of water until well after fire is out

**Unsuitable extinguishing media** CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization in susceptible persons.

### Explosion data

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

### Protective equipment and precautions for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### **Personal precautions**

Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

### Environmental precautions

#### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

### Methods and material for containment and cleaning up

#### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

#### **Methods for cleaning up**

Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers.

## 7. Handling and Storage

### Precautions for safe handling

#### **Handling**

Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin and clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.

### Conditions for safe storage, including any incompatibilities

#### **Storage**

Keep out of the reach of children. Keep container tightly closed in a dry and well-ventilated place. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

#### **Incompatible materials**

None known based on information supplied.

## 8. Exposure Controls/Personal Protection

### Control parameters

#### **Exposure guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
1-Vinyl-2-pyrrolidone 88-12-0	TWA: 0.05 ppm	-	-
Carbon black 1333-86-4	TWA: 3 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup>	IDLH: 1750 mg/m <sup>3</sup> TWA: 3.5 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>

NIOSH IDLH: *Immediately Dangerous to Life or Health*

#### Appropriate engineering controls

**Engineering Measures**                      Ventilation systems.

#### Individual protection measures, such as personal protective equipment

**Eye/Face Protection**                      Tight sealing safety goggles. Face protection shield.

**Skin and body protection**                Chemical resistant apron.

**Respiratory protection**                    If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures**                            When using do not eat or drink. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with eyes, skin and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

## 9. Physical and Chemical Properties

#### Information on basic physical and chemical properties

<b>Physical state</b>	liquid	<b>Odor</b>	Acrylic
<b>Appearance</b>	Black	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>		
<b>Melting point / freezing point</b>		
<b>Boiling point/range (°C) VALUE</b>	No information available	
<b>Flash point</b>	> 95 °C	Seta Closed Cup
<b>Evaporation rate</b>	No information available	
<b>Flammability (solid, gas)</b>	No information available	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit:</b>	No information available	
<b>Lower flammability limit:</b>	No information available	
<b>Vapor pressure</b>	No information available	
<b>Vapor density</b>	No information available	
<b>Specific gravity</b>	1.0 - 1.1	Not applicable
<b>Water solubility</b>	No information available	
<b>Solubility(ies)</b>	No information available	
<b>Partition coefficient</b>	No information available	
<b>Autoignition temperature</b>	>200	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	No information available	
<b>Explosive properties</b>	No information available	
<b>Oxidizing properties</b>	No information available	

#### Other Information

<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content</b>	No information available
<b>Density</b>	No information available

**Bulk density** No information available

## 10. Stability and Reactivity

### Reactivity

No data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

**Hazardous polymerization** Hazardous polymerization may occur.

### Conditions to avoid

Heat, flames and sparks.

### Incompatible materials

None known based on information supplied.

### Hazardous Decomposition Products

Carbon oxides. Oxides of sulfur.

## 11. Toxicological Information

### Information on likely routes of exposure

<b>Product Information</b>	The product has not been tested
<b>Inhalation</b>	Avoid breathing vapors or mists. Harmful by inhalation.
<b>Eye contact</b>	Irritating to eyes. Avoid contact with eyes. Causes serious eye damage.
<b>IF ON SKIN</b>	Irritating to skin. Avoid contact with skin. May cause sensitization by skin contact. Harmful in contact with skin.
<b>Ingestion</b>	Do NOT taste or swallow. Harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
1,6-Hexanediol diacrylate 13048-33-4	= 5 g/kg ( Rat )	= 3600 mg/kg ( Rabbit ) = 3600 µL/kg ( Rabbit )	-
1-Vinyl-2-pyrrolidone 88-12-0	= 830 mg/kg ( Rat )	= 560 mg/kg ( Rabbit )	= 3070 mg/m <sup>3</sup> ( Rat ) 4 h
Carbon black 1333-86-4	> 15400 mg/kg ( Rat )	> 3 g/kg ( Rabbit )	-
Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)- 162881-26-7	> 2000 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	-

### Information on toxicological effects

**Symptoms** No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	Irritating to skin.
<b>Serious eye damage/eye irritation</b>	Risk of serious damage to eyes. Irritating to eyes.
<b>irritation</b>	Irritating to eyes, respiratory system and skin.
<b>Sensitization</b>	May cause sensitization by skin contact. May cause an allergic skin reaction.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenicity</b>	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
1-Vinyl-2-pyrrolidone 88-12-0	A3	-	-	-

Carbon black 1333-86-4	-	Group 2B	-	X
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ACGIH: (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

<b>Reproductive toxicity</b>	May impair fertility. Possible risk of impaired fertility. May cause harm to the unborn child. Possible risk of harm to the unborn child.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure.
<b>Chronic toxicity</b>	Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.
<b>Target organ effects</b>	blood, Eyes, Skin, Gastrointestinal tract (GI), Lungs, Nasal Cavities.
<b>Aspiration hazard</b>	No information available.

#### Numerical measures of toxicity - Product Information

**Unknown acute toxicity** 99.19673 % of the mixture consists of ingredient(s) of unknown toxicity

**The following values are calculated based on chapter 3.1 of the GHS document .**

**ATEmix (oral)** 1426 mg/kg

**ATEmix (dermal)** 1970 mg/kg

**ATEmix (inhalation-dust/mist)** 1.6 mg/l

## 12. Ecological Information

### Ecotoxicity

Harmful to aquatic life with long lasting effects

67.72498 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Toxicity to Fish	Crustacea
1-Vinyl-2-pyrrolidone 88-12-0	780: 72 h Desmodesmus subspicatus mg/L EC50	-	45: 48 h Daphnia species mg/L EC50
Carbon black 1333-86-4	-	-	5600: 24 h Daphnia magna mg/L EC50

### Persistence and degradability

No information available.

### Bioaccumulation/Accumulation

No information available.

Chemical Name	Partition coefficient
1-Vinyl-2-pyrrolidone 88-12-0	0.4

### Other adverse effects

No information available

## 13. Disposal Considerations

### Waste treatment methods

#### **Waste treatment methods**

Disposal should be in accordance with applicable regional, national and local laws and regulations. Should not be released into the environment.

#### **Contaminated packaging**

Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

## 14. Transport Information

### DOT

Not regulated

<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated

### 15. Regulatory Information

#### International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	AICS
1,6-Hexanediol diacrylate 13048-33-4	X	X	X	X	X	X	X	X
1-Vinyl-2-pyrrolidone 88-12-0	X	X	X	X	X	X	X	X
Lactam	X	X	X	X	X	-	X	X
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.`-(2,2-dimethyl-1,3-propanediyl)bis[.omega.-[(1-oxo-2-propenyl)oxy] - 84170-74-1	X	X	-	-	X	X	X	X
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide 75980-60-8	X	X	X	X	X	X	X	X
Carbon black 1333-86-4	X	X	X	X	X	X	X	X
Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)- 162881-26-7	X	X	X	X	X	-	X	X
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.`-.alpha.`-1,2,3-propanetriyltris[.omega.-[(1-oxo-2-propenyl)oxy]- 52408-84-1	X	X	X	X	X	X	X	X

#### Legend Legend:

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

#### U.S. Federal Regulations

**SARA 313**



Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product is not a chemical which is subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	Yes

**Clean Water Act**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CAS-No	Weight-%	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
1-Vinyl-2-pyrrolidone	88-12-0	1 - 15		Group V		

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

**U.S. State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Carbon black - 1333-86-4	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
1-Vinyl-2-pyrrolidone 88-12-0	X	-	-
Carbon black 1333-86-4	X	X	X

**U.S. EPA Label Information**

EPA Pesticide registration number Not applicable

**16. Other Information**

<b>NFPA</b>	Health hazard 2	flammability 1	Instability 2	Physical and chemical properties -
<b>HMIS</b>	Health hazard 2	flammability 1	Physical hazards 2	Personal precautions X

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Cincinnati, OH 45216

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Revision note

No information available

**Disclaimer**

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet