



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

General advice	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.
Eye contact	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.
Skin Contact	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.
Inhalation	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.
Ingestion	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.
Self-protection of the first aider	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 (CO₂) 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 ³	TWA: 3.5 mg/m ³	IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ TWA: 0.1 mg/m ³

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

Physical state	liquid	Odor	Acrylic
Appearance	Black	Odor Threshold	No information available
Color	No information available		

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

Other Information

Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Density	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

Product Information	The product has not been tested
Inhalation	Avoid breathing vapors or mists. Harmful by inhalation.
Eye contact	Irritating to eyes. Avoid contact with eyes. Causes serious eye damage.
IF ON SKIN	Irritating to skin. Avoid contact with skin. May cause sensitization by skin contact. Harmful in contact with skin.
Ingestion	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 ³ (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

Skin corrosion/irritation	Irritating to skin.
Serious eye damage/eye irritation	Risk of serious damage to eyes. Irritating to eyes.
irritation	Irritating to eyes, respiratory system and skin.
Sensitization	May cause sensitization by skin contact. May cause an allergic skin reaction.
Mutagenic effects	No information available.
Carcinogenicity	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

Reproductive toxicity

May impair fertility. Possible risk of impaired fertility. May cause harm to the unborn child. Possible risk of harm to the unborn child.

STOT - single exposure

No information available.

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Chronic toxicity

Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

Target organ effects

blood, Eyes, Skin, Gastrointestinal tract (GI), Lungs, Nasal Cavities.

Aspiration hazard

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

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

Prepared by Kao Collins Inc.
1201 Edison Drive
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