

1. Product and Company Identification

Name of the product	Sigma Ink UV Series
Identifier of the product	UV Ink Series
Uses recommended and restrictions	Ink Sigma range UV for print with pads
Data of the manufacturer	Sigma Inks (USA) 12800 Brookprinter place, Poway, CA 92064 USA Telephone: (888) 424-9300 Website: www.sigmainks.com Contact to the distributor: www.printexusa.com
Emergency telephone number	Chemtrec (And.Or.): (800) 424-9300 Chemtrec Out: (703) 527-3887 (collect calls)

2. Hazard Identification

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 3), H226
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Skin irritation (Category 2), H315
Serious eye damage (Category 1), H318
Short-term (acute) aquatic hazard (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

**Identification of the substance or mix
Pictogram**

UV Ink Series



Signal Word

Danger

Hazard statement(s)

H226

Flammable liquid and vapor.

H302 + H312 + H332

Harmful if swallowed, in contact with skin or if inhaled.

H315

Causes skin irritation.

H318

Causes serious eye damage.

H402

Harmful to aquatic life.

Precautionary statement(s)

P210

Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.



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P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P210	Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 + P310	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/ doctor.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. Composition/information on ingredients

Ingredients

Chemical identity of the substance	Common name	CAS number	Impurities and additives	Percent %
Ethyl 3-ethoxypropionate	Propanoic acid 3-ethoxy-, ethyl ester	763-69-9	-	21-29 %
Cyclohexanone	Cyclohexanone	108-94-1	-	13-25 %
Polyvinyl chloride copolymer	-	53710-52-4	-	7-15 %



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2-methoxy-1-acetate of methyl ethyl	2-Propanol, 1-methoxy-, acetate	108-65-6	-	5-7 %
Pigment	-	-	-	7-11 %
Dipentaerythritol pentaacrylate ester	-	60506-81-2		< 15 %

Any concentration shown as a range is due to batch variation.

For the Pigments CAS numbers see section 16.

4. First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry powder Dry sand

Unsuitable extinguishing media

Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Combustible.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.
 Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.
 For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Cyclohexanone	108-94-1	TWA	20 ppm	Limit value (TLV) of ACGIH, USA
		STEL	50 ppm	Limit value (TLV) of ACGIH, USA
		TWA	50 ppm 200 mg/m3	Occupational exposure limits (OSHA), EE.UU. - table Z-1 limits for air contaminates
		TWA	25 ppm 100 mg/m3	Recommended exposure limits NIOSH, EE.UU.
		PEL	25 ppm 100 mg/m3	Chemical Contaminant Exposure Limits Allowed in California (title 8, art 107)
2-methoxy-1-acetate of methyl ethyl	108-65-6	TWA	50 ppm	US WEEL

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Cyclohexanone	108-94-1	1,2- Cyclohexanediol	80 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift at end of workweek			
		1,2-Cyclohexanediol	8 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift (As soon as possible after exposure ceases)			

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	: Liquid
Color	: Look product specification
Odor	: Characteristic
Odor Threshold	: Not determined
pH	: Not determined
Melting point/freezing point	: Not determined
Boiling point/boiling range	: 295 °F / 146 °C
Flash point	: 109 °F / 43 °C
Inflammability	: Doesn't apply
Evaporation rate	: Not determined
Self-ignition	: 599 °F / 315 °C
Upper-lower limits of flammability for explosiveness	: 1.1 % Vol. Upper 9.8 % Vol. Lower
Vapor pressure	: 5 hPa (4 mmHg) @ 20 °C (68 °F)
Relative vapor density	: Not determined
Relative density	: Not determined
Solubility	: Not miscible. Hard to mix
Partition coefficient:	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Molecular weight	: No data available
VOC content	: 50.0 – 60.0 %

9.2 Other safety information

No data available

10. Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available
In the event of fire: see section 5

11. Toxicological information

11.1 Information on toxicological effects

Information on likely routes of entry

Symptoms related to physical, chemical and toxicological characteristics : No data available
Immediate, delayed and chronic effects (from short or long term exposure) : No data available

Numerical measures of toxicity

Acute oral toxicity : **763-69-9** ethyl 3-ethoxypropionate
LD50- (mouse) – 5000 mg/kg

108-94-1 Cyclohexanone
LD50- (mouse)- 1535 mg/kg

108-65-6 2-methoxy-1-acetate of methyl ethyl
LD50 (mouse) – 8532 mg/kg

Acute skin toxicity : **763-69-9** ethyl 3-ethoxypropionate
LD50- (rabbit) – 4080 mg/kg

108-94-1 Cyclohexanone
LD50- (rabbit)- 948 mg/kg

108-65-6 2-methoxy-1-acetate of methyl ethyl
No data available

Acute inhalation toxicity : **763-69-9** ethyl 3-ethoxypropionate
LC50/ 4h (mouse) – 998 mg/L
LC50/ 96 h (trout) – 67.26 mg/L

108-94-1 Cyclohexanone
LC50- 4 h (mouse)- 8000 mg/L
LC50/ 96 h (trout) – 491.475 mg/L
LC50/ 48 h (daphnia) – 257.42 mg/L

108-65-6 2-methoxy-1-acetate of methyl ethyl
LC50- 4 h (mouse)- 35.7 mg/L
LC50/ 96 h (trout) – 129.92 mg/L
LC50/ 48 h (daphnia) – 316.42 mg/L

Interactive effects : No data available

Other information : No data available

Skin corrosion / irritation : Without effect

Serious eye damage / eye : Without effect

irritation

Respiratory or skin : No data available

sensitivity

Germ cell mutagenicity : No data available

Carcinogenicity : **108-94-1** Cyclohexanone
Group 3 – Not classifiable as to it's carcinogenicity to humans
IARC (International Agency for Research on Cancer)

53710-52-4 Polyvinyl chloride copolymer
Group 3 – Not classifiable as to it's carcinogenicity to humans
IARC (International Agency for Research on Cancer)

Reproductive toxicity : No data available

Specific systemic toxicity : No data available

single exposure

Specific systemic toxicity : No data available

repeated exposures

Aspiration hazard : No data available

12. Ecological information

12.1 Ecotoxicity

Toxicity	<p>763-69-9 ethyl 3-ethoxypropionate EC50 (daphnia) – 785 mg/L EC50/ 96 h (green algae) – 75.95 mg/L</p> <p>108-94-1 Cyclohexanone EC50/ 96 h (green algae)- 137.349 mg/L</p> <p>108-65-6 2-methoxy-1-acetate of methyl ethyl EC50- 96 h (green algae)- 170.43 mg/L</p>
Persistence and degradability	No relevant information available
Bioaccumulative potential	No relevant information available
Mobility in soil	No relevant information available
Other adverse effects	No relevant information available

13. Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. Transport information

<p>DOT (US) UN number: 1210 Printing ink related material Class: 3 Proper shipping name: Printing Ink Reportable Quantity (RQ): 5000 lbs Reportable Quantity (RQ): 100 lbs Poison Inhalation Hazard: No</p>	<p>Packing group: III</p>	
<p>IMDG UN number: 1210 Class:</p>	<p>Packing group: III</p>	<p>3 EMS-No: F-E, S-D</p>



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Proper shipping name: Printing Ink		
IATA UN number: 1210 Class: 3 Proper shipping name: Printing Ink	Packing group: III	

15. Regulatory information

SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard:

Massachusetts Right to Know Components

No components are subject to the Massachusetts Right to Know Act.

16. Another information

Additional information

The information and recommendations in this safety sheet with, to our best know and understand, precise to the date of his expedition. At all the here included will have to be considered to create guarantee, expresses or implicit and will not establish contractual relation legally validates. It is responsibility of the user determine the applicability of this information and the suitability of the material or product for any purpose.

Pigments CAS numbers

Color	Name	CAS number
White	Titanium dioxide	13463-67-7
Black	Carbon black	1333-86-4
Yellow	Benzimidazolone Diarylide yellow	31-837-42-0 5-567-15-7
Red	diketo-pyrrolo-pyrrole	084-632-65-5
Blue	Cu phthalocyanine, α -mod	147-14-8
Orange	Disazopyrazolone	3-520-72-7
Green	Cu phthalocyanine	1-328-53-6