



Sigma Inks  
12113 Kirkham Road  
Poway, CA 92064  
USA

# Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 06/29/2015

Reviewed on 06/29/2015

## 1 Identification

- **Product identifier**
- **Trade name: UV Opaque Series**
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Sigma Inks (US)  
12113 Kirkham Road  
Poway, CA 92064 USA  
Phone: (888) 424-9300  
Website: [www.sigmainks.com](http://www.sigmainks.com) or contact distributor: [www.printexusa.com](http://www.printexusa.com)
- **Emergency telephone number:**  
Chemtrec (US): (800) 424-9300  
Chemtrec (Outside US): (703) 527-3887 (Collect calls accepted)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

Flam. Liq. 4 H227 Combustible liquid.

- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05 GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Aliphatic Diacrylate Oligomer  
Pigment  
polyvinyl chloride  
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide  
Dipentaerythritol monohydroxy pentaacrylate
- **Hazard statements**  
Combustible liquid.  
Causes serious eye damage.



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May cause an allergic skin reaction.

May cause respiratory irritation.

**Precautionary statements**

Keep away from flames and hot surfaces. – No smoking.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves / eye protection / face protection.

Wear protective gloves.

Wear eye protection / face protection.

Contaminated work clothing must not be allowed out of the workplace.

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.

Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a poison center/doctor if you feel unwell.

Wash contaminated clothing before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

If on skin: Wash with plenty of water.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Unknown acute toxicity:**

60 percent of the mixture consists of ingredient(s) of unknown toxicity.

**Classification system:**

**NFPA ratings (scale 0 - 4)**



**HMS-ratings (scale 0 - 4)**



**Hazard(s) not otherwise classified (HNOC):** None known

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous Components:**

CAS: 763-69-9 RTECS: UF 3325000	Ethyl 3-ethoxypropionate Flam. Liq. 3, H226	16-26%
	Pigment STOT SE 3, H335	10-25%

(Contd. on page 3)



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CAS: 108-94-1 RTECS: GW 1050000	Cyclohexanone ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H332	8-15%
	Aliphatic Diacrylate Oligomer ⚠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317; Aquatic Acute 3, H402; Aquatic Chronic 3, H412	10-14%
CAS: 9002-86-2 RTECS: KV0350000	polyvinyl chloride ⚠ STOT SE 3, H335	3-11%
CAS: 108-65-6	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226	4-7%
CAS: 60506-81-2	Dipentaerythritol monohydroxy pentaacrylate ⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	3-6%
CAS: 162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide ⚠ Skin Sens. 1, H317; Aquatic Chronic 4, H413	0.8-1%

## 4 First-aid measures

· **Description of first aid measures**

· **After inhalation:**

Consult a doctor for complaints.

In case of unconsciousness, place patient securely on side position for transportation.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation occurs, consult a doctor.

· **After eye contact:**

Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes.

Seek immediate medical advice.

· **After swallowing:** If swallowed and symptoms occur, consult a doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed:** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:** Water

· **Special hazards arising from the substance or mixture**

Combustible liquid. Vapors can travel to a source of ignition and flash back.

Explosive mixtures may occur at temperatures at or above flashpoint.

· **Advice for firefighters**

· **Protective equipment:**

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.

· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

(Contd. on page 4)



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- Do not flush with water or aqueous cleansing agents
- Dispose of the collected material according to regulations.
- **Reference to other sections**
- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**
- Ensure good ventilation/exhaustion at the workplace.
- Open and handle receptacle with care.
- Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Protect from heat.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
- Keep receptacle tightly sealed.
- Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

· <b>Components with occupational exposure limits:</b>	
<b>108-94-1 Cyclohexanone</b>	
PEL	Long-term value: 200 mg/m <sup>3</sup> , 50 ppm
REL	Long-term value: 100 mg/m <sup>3</sup> , 25 ppm Skin
TLV	Long-term value: 50 mg/m <sup>3</sup> , 20 ppm Skin
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>	
WEEL	Long-term value: 50 ppm

· <b>Ingredients with biological limit values:</b>	
<b>108-94-1 Cyclohexanone</b>	
BEI	80 mg/L urine end of shift at end of workweek 1.2-Cyclohexanediol with hydrolysis (nonspecific, semi-quantitative)
	8 mg/L urine end of shift Cyclohexanol with hydrolysis (nonspecific, semi-quantitative)

- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.  
(Contd. on page 5)



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· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

· **Breathing equipment:** Not required.

· **Protection of hands:**



Protective gloves

· **Eye protection:**



Tightly sealed goggles

### \* 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:**

Liquid

**Color:**

See product specification

· **Odor:**

Characteristic

· **Odor threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**

**Melting point/Melting range:**

Not determined.

**Boiling point/Boiling range:**

146 °C (295 °F)

· **Flash point:**

43 °C (109 °F)

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

315 °C (599 °F)

· **Decomposition temperature:**

Not determined.

· **Auto igniting:**

Product is not self-igniting.

· **Danger of explosion:**

May form explosive peroxides.

· **Explosion limits:**

**Lower:**

1.1 Vol %

**Upper:**

9.8 Vol %

· **Vapor pressure @ 20 °C (68 °F):**

5 hPa (4 mm Hg)

· **Density:**

**Relative density**

Not determined.

**Vapor density**

Not determined.



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- Evaporation rate** Not determined.
- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 77.2 %
  - VOC content:** 77.2 %
- **Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Heat, flame and ignition sources.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>763-69-9 Ethyl 3-ethoxypropionate</b>		
Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	4080 mg/kg (rabbit)
Inhalative	LC50/4 h	>998 mg/l (rat)
	LC50/96 hours	67.26 mg/l (Trout)
<b>108-94-1 Cyclohexanone</b>		
Oral	LD50	1535 mg/kg (rat)
Dermal	LD50	948 mg/kg (rabbit)
Inhalative	LC50/4 h	8000 mg/l (rat)
	LC50/96 hours	491.475 mg/l (Trout)
	LC50/48 hrs	257.42 mg/l (daphnia)
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
Oral	LD50	8532 mg/kg (rat)
Inhalative	LC50/4 h	35.7 mg/l (rat)
	LC50/96 hours	129.92 mg/l (Trout)
	LC50/48 hrs	316.57 mg/l (daphnia)

- **Primary irritant effect:**
- **on the skin:** Emmissions from broken bulbs may cause an allergic skin reaction.
- **on the eye:** Strong irritant with the danger of severe eye injury.



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Causes serious eye irritation.

- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**
  - Group 1 - Carcinogenic to humans
  - Group 2A - Probably carcinogenic to humans
  - Group 2B - Possibly carcinogenic to humans
  - Group 3 - Not classifiable as to its carcinogenicity to humans
  - Group 4 - Probably not carcinogenic to humans

108-94-1	Cyclohexanone	3
9002-86-2	polyvinyl chloride	3

· **NTP (National Toxicology Program)**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients are listed.

## 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

**763-69-9 Ethyl 3-ethoxypropionate**

EC50 75.95 mg/l (Green algae) (96 Hr)  
785 mg/l (daphnia)

**108-94-1 Cyclohexanone**

EC50 137.349 mg/l (Green algae) (96 hr)

**108-65-6 2-methoxy-1-methylethyl acetate**

EC50 170.43 mg/l (Green algae) (96 Hr)

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**

· **General notes:**

Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Recycle or dispose with household trash.



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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## \* 14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA**
- **UN proper shipping name**
- **DOT**
- **ADR**
- **IMDG, IATA**
- **Transport hazard class(es)**

UN1210

Printing ink  
UN1210 Printing ink  
PRINTING INK

· **DOT**



- **Class**
- **Label**

3 Flammable liquids  
3

· **ADR**



- **Class**
- **Label**

3 (F1) Flammable liquids  
3

· **IMDG, IATA**



- **Class**
- **Label**
- **Packing group**
- **DOT, ADR, IMDG, IATA**
- **Environmental hazards:**
- **Special precautions for user**
- **Danger code (Kemler):**
- **EMS Number:**
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
- **Transport/Additional information:**
- **DOT**
- **Quantity limitations**

3 Flammable liquids  
3

III  
Not applicable.  
Warning: Flammable liquids  
30  
F-E,S-D

Not applicable.

On passenger aircraft/rail: 60 L  
On cargo aircraft only: 220 L





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- **ADR**
- **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml

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- **IMDG**
- **Limited quantities (LQ)** 5L
- **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml
- **UN "Model Regulation":** UN1210, Printing ink, 3, III

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· <b>Section 355 (extremely hazardous substances):</b>
None of the ingredients are listed.

· <b>Section 313 (Specific toxic chemical listings):</b>
None of the ingredients are listed.

· <b>TSCA (Toxic Substances Control Act):</b>
763-69-9 Ethyl 3-ethoxypropionate
28262-63-7 Acrylic Resin
108-94-1 Cyclohexanone
9002-86-2 polyvinyl chloride
108-65-6 2-methoxy-1-methylethyl acetate
60506-81-2 Dipentaerythritol monohydroxy pentaacrylate
162881-26-7 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
68957-00-6 Additive 54

- **California Proposition 65**

· <b>Chemicals known to cause cancer:</b>
None of the ingredients are listed.

· <b>Chemicals known to cause reproductive toxicity for females:</b>
None of the ingredients are listed.

· <b>Chemicals known to cause reproductive toxicity for males:</b>
None of the ingredients are listed.

· <b>Chemicals known to cause developmental toxicity:</b>
None of the ingredients are listed.

- **Carcinogenic categories**

· <b>EPA (Environmental Protection Agency)</b>
None of the ingredients are listed.

· <b>TLV (Threshold Limit Value established by ACGIH)</b>	
108-94-1 Cyclohexanone	A3
9002-86-2 polyvinyl chloride	A4



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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

Aliphatic Diacrylate Oligomer  
Pigment  
polyvinyl chloride  
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide  
Dipentaerythritol monohydroxy pentaacrylate

· **Hazard statements**

Combustible liquid.  
Causes serious eye damage.  
May cause an allergic skin reaction.  
May cause respiratory irritation.

· **Precautionary statements**

Keep away from flames and hot surfaces. – No smoking.  
Avoid breathing dust/fume/gas/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves / eye protection / face protection.  
Wear protective gloves.  
Wear eye protection / face protection.  
Contaminated work clothing must not be allowed out of the workplace.  
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.  
Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
Call a poison center/doctor if you feel unwell.  
Wash contaminated clothing before reuse.  
If skin irritation or rash occurs: Get medical advice/attention.  
In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
If on skin: Wash with plenty of water.  
Store locked up.  
Store in a well-ventilated place. Keep container tightly closed.  
Store in a well-ventilated place. Keep cool.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

· **State Right to Know**

All ingredients are listed.



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- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

- **Date of preparation / last revision** 06/29/2015 / 3

- **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Flam. Liq. 3: Flammable liquids, Hazard Category 3  
Flam. Liq. 4: Flammable liquids, Hazard Category 4  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2  
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1  
Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B  
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1  
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3  
Aquatic Acute 3: Hazardous to the aquatic environment - Acute Hazard, Category 3  
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3  
Aquatic Chronic 4: Hazardous to the aquatic environment - Chronic Hazard, Category 4

- **\* Data compared to the previous version altered.**

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