



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 08/06/2015

Reviewed on 08/06/2015

## \* 1 Identification

- **Product identifier**
- **Trade name: Sigma MP 102**
- **Relevant identified uses of the substance or mixture and uses advised against:**  
No further relevant information available.
- **Product description** Pad Printing Ink Thinner
- **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 or contact distributor: 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:**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.

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



GHS02

- **Signal word:** Warning
- **Hazard statements:**  
Flammable liquid and vapor.
- **Precautionary statements:**  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Use explosion-proof electrical/ventilating/lighting/equipment.  
Wear protective gloves / eye protection / face protection.  
Ground/bond container and receiving equipment.  
Keep container tightly closed.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
In case of fire: Use for extinction: CO2, powder or water spray.  
Store in a well-ventilated place. Keep cool.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)



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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-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: 108-94-1	Cyclohexanone	25-50%
RTECS: GW 1050000	⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H332	
CAS: 763-69-9	Ethyl 3-ethoxypropionate	25-50%
RTECS: UF 3325000	⚠ Flam. Liq. 3, H226	
CAS: 108-65-6	2-methoxy-1-methylethyl acetate	25-50%
	⚠ Flam. Liq. 3, H226	

## 4 First-aid measures

- **Description of first aid measures:**
- **General information:**  
Symptoms of poisoning may occur after several hours; therefore medical observation is advised for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **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:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **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.

(Contd. on page 3)



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- **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:**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.  
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**  
Ensure adequate ventilation.  
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).  
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:**  
Open and handle receptacle with care.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect from heat.  
Protect against electrostatic charges.
- **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:**  
Protect from heat and direct sunlight.  
Store in cool, dry conditions in well sealed receptacles.
- **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

(Contd. on page 4)



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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.

· **Exposure controls:**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Use adequate exhaust ventilation to prevent inhalation of product vapors.

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

Do not eat or drink while handling product.

Wash hands before breaks and at the end of work.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Select glove material based on penetration times, rates of diffusion and degradation.

· **Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material:**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

(Contd. on page 5)



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· **Eye protection:**



Tightly sealed goggles

**\* 9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

**Form:** Liquid  
**Color:** Clear  
**Odor:** Characteristic  
**Odor threshold:** Not determined.

· **pH-value:** Acidic

· **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:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

**Lower:** 1.1 Vol %  
**Upper:** 10.8 Vol %

· **Vapor pressure @ 20 °C (68 °F):** 5 hPa (4 mm Hg)

· **Density @ 20 °C (68 °F):** 0.955 g/cm<sup>3</sup> (7.969 lbs/gal)

· **Relative density:** Not determined.

· **Vapor density:** Not determined.

· **Evaporation rate:** Not determined.

· **Solubility in / Miscibility with:**

**Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

**Dynamic:** Not determined.  
**Kinematic:** Not determined.

· **Solvent content:**

**Organic solvents:** 66.7 %

**VOC content:** 66.7 %

· **Other information:** No further relevant information available.



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### 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:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### \* 11 Toxicological information

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

· **LD/LC50 values that are relevant for classification:**

#### 108-94-1 Cyclohexanone

Oral	LD50	1535 mg/kg (rat)
Dermal	LD50	948 mg/kg (rabbit)
Inhalative	LC50/4 h	8000 mg/l (rat)

- **Primary irritant effect:**
- **On the skin:** Mild irritant effect.
- **On the eye:** Mild irritant effect.
- **Additional toxicological information:**
- **Carcinogenic categories:**
- **IARC (International Agency for Research on Cancer):**  
Substance is not listed.

None of the ingredients are listed.

- **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:** No further relevant information available.
- **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.
- **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:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 7)



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Observe all federal, state and local environmental regulations when disposing of this material.

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

**\*14 Transport information**

- **UN-Number:** UN1263
- **DOT, ADR, IMDG, IATA** UN1263
- **UN proper shipping name:** Paint related material
- **DOT** UN1263 Paint related material
- **ADR** PAINT RELATED MATERIAL
- **IMDG, IATA** PAINT RELATED MATERIAL
- **Transport hazard class(es):**
- **DOT**



- **Class:** 3 Flammable liquids
- **Label:** 3

· **ADR**



- **Class:** 3 (F1) Flammable liquids
- **Label:** 3

· **IMDG, IATA**



- **Class:** 3 Flammable liquids
- **Label:** 3
- **Packing group:** III
- **DOT, ADR, IMDG, IATA** III
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Warning: Flammable liquids
- **Danger code (Kemler):** 30
- **EMS Number:** F-E, S-E
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **Transport/Additional information:**
- **DOT**
- **Quantity limitations:** 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":** UN 1263 PAINT RELATED MATERIAL, 3, III

\* **15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- **SARA (Superfund Amendments and Reauthorization):**

· **Section 355 (extremely hazardous substances):**  
None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**  
None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**  
All ingredients are listed.

· **California Proposition 65:**

· **Chemicals known to cause cancer:**  
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**  
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**  
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**  
None of the ingredients are listed.

- **Carcinogenic categories:**

· **EPA (Environmental Protection Agency):**  
None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH):**  
108-94-1 | Cyclohexanone | A3

· **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:**



GHS02





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- **Signal word:** Warning
- **Hazard statements:**  
Flammable liquid and vapor.
- **Precautionary statements:**  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Use explosion-proof electrical/ventilating/lighting/equipment.  
Wear protective gloves / eye protection / face protection.  
Ground/bond container and receiving equipment.  
Keep container tightly closed.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
In case of fire: Use for extinction: CO2, powder or water spray.  
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:**

CAS: 108-94-1 RTECS: GW 1050000	Cyclohexanone ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H332	25-50%
CAS: 763-69-9 RTECS: UF 3325000	Ethyl 3-ethoxypropionate ⚠ Flam. Liq. 3, H226	25-50%
CAS: 108-65-6	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226	25-50%

All ingredients are listed.

- **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:** 08/06/2015 / 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
- Acute Tox. 4: Acute toxicity, Hazard Category 4

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