

**1. Product and Company Identification**

<b>Name of the product</b>	Sigma Ink MP Metallic, Opaque and Mixing Colors
<b>Identifier of the product</b>	MP Ink Metallic, Opaque and Mixing Colors
<b>Uses recommended and restrictions</b>	Ink Sigma range MP for print with pads
<b>Data of the manufacturer</b>	Sigma Inks (USA) 12800 Brookprinter place, Poway, CA 92064 USA Telephone: (888) 424-9300 Website: <a href="http://www.sigmainks.com">www.sigmainks.com</a> Contact to the distributor: <a href="http://www.printexusa.com">www.printexusa.com</a>
<b>Emergency telephone number</b>	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** Sigma Ink MP Metallic, Opaque and Mixing Colors



**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.
P233	Keep container tightly closed.



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## SAFETY DATA SHEET

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	-	21-32 %
Cyclohexanone	Cyclohexanone	108-94-1	-	14-28 %
Copolymer of Vinyl Chloride	-	53710-52-4	-	7-18 %
2-methoxy-1-acetate of methyl ethyl	2-Propanol, 1-methoxy-, acetate	108-65-6	-	5-10%
Pigment	-	-	-	7-12 %

Any concentration shown as a range is due to batch variation

#### **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			
		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/range : Not determined



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Boiling point/ range	: 295 °F / 146 °C
Flash point	: 109 °F / 43 °C
Evaporation rate	: Not determined
Self-ignition	: 599 °F / 315 °C
Upper-lower explosive limits	: 1.1 % Vol. Upper 9.8 % Vol. Lower
Vapor pressure	: 5 hPa (4 mmHg) @ 20 °C (68 °F)
Relative vapor density	: Not determined
Density	: 0.97 - 1.3 g/cm <sup>3</sup> @ 20.0 °C (Depends on the color)
Solubility	: Not miscible. Hard to mix
Partition coefficient:	: No data available
Decomposition temperature	: No data available
Viscosity	: 20 000 to 30 000 cps
Molecular weight	: No data available
VOC content	: 54.0 %
Other data	: No data available

### 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 irritation** : Without effect
- Respiratory or skin sensitivity** : No data available
- 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 single exposure** : No data available
- Specific systemic toxicity repeated exposures** : No data available
- Aspiration hazard** : No data available

**12. Ecological information**

**12.1 Ecotoxicity**

- Toxicity**
  - 763-69-9** ethyl 3-ethoxypropionate  
 EC50 (daphnia) – 785 mg/L  
 EC50/ 96 h (green algae) – 75.95 mg/L
  - 108-94-1** Cyclohexanone  
 EC50/ 96 h (green algae)- 137.349 mg/L

**108-65-6** 2-methoxy-1-acetate of methyl ethyl  
 EC50- 96 h (green algae)- 170.43 mg/L

**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**

<b>DOT (US)</b> 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	Packing group: III	
<b>IMDG</b> UN number: 1210 Class: Proper shipping name: Printing Ink	Packing group: III	3 EMS-No: F-E, S-D
<b>IATA</b> 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

:

Reportable Quantity                      F003 lbs

**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 of 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 in particular.