



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 05/22/2015

Reviewed on 05/22/2015

### \* 1 Identification

- **Product identifier**
- **Trade name:** *Sigma MP 205*
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Product description** MP 205 Hardener for Pad Printing Ink
- **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**



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.  
Eye Irrit. 2A H319 Causes serious eye irritation.  
Skin Sens. 1 H317 May cause an allergic skin reaction.  
STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

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

- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger

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

1,6-Hexamethylene Diisocyanate Homopolymer

- **Hazard statements**

Harmful if inhaled.  
Causes serious eye irritation.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
May cause respiratory irritation.



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### · **Precautionary statements**

Wear respiratory protection.  
Avoid breathing dust/fume/gas/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves.  
Wear eye protection / face protection.  
Wash thoroughly after handling.  
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.  
Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).  
If experiencing respiratory symptoms: Call a poison center/doctor.  
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 inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.  
If skin irritation or rash occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.  
If on skin: Wash with plenty of water.  
Store locked up.  
Store in a well-ventilated place. Keep container tightly closed.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

### · **Unknown acute toxicity:**

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

### · **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:**

|            |                                                                                                       |        |
|------------|-------------------------------------------------------------------------------------------------------|--------|
| 28182-81-2 | 1,6-Hexamethylene Diisocyanate Homopolymer                                                            | 70-90% |
|            | ⚠ Resp. Sens. 1, H334; ⚠ Acute Tox. 4, H332; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335 |        |
| 108-65-6   | 2-methoxy-1-methylethyl acetate                                                                       | 15-35% |
|            | ⚠ Flam. Liq. 3, H226                                                                                  |        |

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### \* 4 First-aid measures

- **Description of first aid measures**

- **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation 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 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:**

Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor.

- **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:** Use fire fighting measures that suit the environment.

- **Special hazards arising from the substance or mixture** No further relevant information available.

- **Advice for firefighters**

- **Protective equipment:**

Mouth respiratory protective device.

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 (ie. sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

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.

Prevent formation of aerosols.

- **Information about protection against explosions and fires:** No special measures required.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Store in cool, dry conditions in well sealed receptacles.  
Keep receptacle tightly sealed.
- **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**

· **Components with occupational exposure limits:**

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

WEEL Long-term value: 50 ppm

- **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.  
Do not eat or drink while handling product.  
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.  
Avoid contact with the eyes and skin.
- **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.

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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:

Viscous

Color:

Clear

· **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:**

170 °C (338 °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 does not present an explosion hazard.

· **Explosion limits:**

Lower:

1.5 Vol %

Upper:

10.8 Vol %

· **Vapor pressure @ 20 °C (68 °F):**

3.4 hPa (3 mm Hg)

· **Density @ 20 °C (68 °F):**

1.097 g/cm<sup>3</sup> (9.154 lbs/gal)

· **Relative density**

Not determined.

· **Vapor density**

Not determined.

· **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:

20.0 %

VOC content:

20.0 %

219.3 g/l / 1.83 lb/gal

· **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:**

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

|            |               |                       |
|------------|---------------|-----------------------|
| 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) |

#### 763-69-9 Ethyl 3-ethoxypropionate

|            |               |                     |
|------------|---------------|---------------------|
| 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)  |

- **Primary irritant effect:**
- **on the skin:** Emissions from broken bulbs may cause an allergic skin reaction.
- **on the eye:**  
Irritating effect.  
Causes serious eye irritation.
- **Sensitization:**  
Sensitization possible through inhalation.  
Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

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.

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### \* 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

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

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

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

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

785 mg/l (daphnia)

· **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:** Not known to be hazardous to water.

· **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:**

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**

· **DOT, ADR, ADN, IMDG, IATA**

Non-Regulated Material

· **UN proper shipping name**

· **DOT, ADR, ADN, IMDG, IATA**

Non-Regulated Material

· **Transport hazard class(es)**

· **DOT, ADR, ADN, IMDG, IATA**

· **Class**

Non-Regulated Material

· **Packing group**

· **DOT, ADR, IMDG, IATA**

Non-Regulated Material

· **Environmental hazards:**

Not applicable.

· **Special precautions for user**

Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **UN "Model Regulation":**

-

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### \* 15 Regulatory information

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

#### · **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)**

77-58-7 dibutyltin dilaurate

A4

#### · **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**



GHS07 GHS08

#### · **Signal word** Danger

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

1,6-Hexamethylene Diisocyanate Homopolymer

#### · **Hazard statements**

Harmful if inhaled.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause respiratory irritation.





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Wear respiratory protection.  
Avoid breathing dust/fume/gas/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves.  
Wear eye protection / face protection.  
Wash thoroughly after handling.  
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.  
Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).  
If experiencing respiratory symptoms: Call a poison center/doctor.  
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 inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.  
If skin irritation or rash occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.  
If on skin: Wash with plenty of water.  
Store locked up.  
Store in a well-ventilated place. Keep container tightly closed.  
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.

· **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** 05/22/2015 / 6

### · **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  
Flam. Liq. 3: Flammable liquids, Hazard Category 3  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A  
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1  
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

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STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

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

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