



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 104**
- **Relevant identified uses of the substance or mixture and uses advised against:**
No further relevant information available.
- **Product description** PVC 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.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

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



GHS02 GHS07

- **Signal word:** Warning
- **Hazard-determining components of labeling:**
1-methoxy-2-propanol
1,2,4-Trimethylbenzene
- **Hazard statements:**
Flammable liquid and vapor.
Causes skin irritation.
Causes serious eye irritation.



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May cause drowsiness or dizziness.

Harmful to aquatic life with long lasting effects.

Precautionary statements:

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

Use explosion-proof electrical/ventilating/lighting/equipment.

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.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Avoid release to the environment.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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 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.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

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:

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

Classification system:

NFPA ratings (scale 0 - 4)



Health = 1

Fire = 3

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 1

Fire = 3

Reactivity = 0

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.

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· Dangerous Components:		
CAS: 763-69-9 RTECS: UF 3325000	Ethyl 3-ethoxypropionate ⚠ Flam. Liq. 3, H226	25-50%
CAS: 107-98-2 RTECS: UB 7700000	1-methoxy-2-propanol ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	25-50%
CAS: 108-94-1 RTECS: GW 1050000	Cyclohexanone ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H332	15-35%
CAS: 108-65-6	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226	15-35%
CAS: 95-63-6 RTECS: DC3325000	1,2,4-Trimethylbenzene ⚠ Flam. Liq. 3, H226; ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	5-10%

* 4 First-aid measures

- **Description of first aid measures:**
- **After inhalation:** In case of unconsciousness place patient stably in 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:** CO2, 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:** No further relevant information available.
- **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:**
Inform respective authorities in case of seepage into water course or sewage system.
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.
Do not flush with water or aqueous cleansing agents
Dispose of the collected material according to regulations.

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- **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:**
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 the original container.
- **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.
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:**

· Components with occupational exposure limits:	
107-98-2 1-methoxy-2-propanol	
REL	Short-term value: 540 mg/m ³ , 150 ppm Long-term value: 360 mg/m ³ , 100 ppm
TLV	Short-term value: 369 mg/m ³ , 100 ppm Long-term value: 184 mg/m ³ , 50 ppm
108-94-1 Cyclohexanone	
PEL	Long-term value: 200 mg/m ³ , 50 ppm
REL	Long-term value: 100 mg/m ³ , 25 ppm Skin
TLV	Long-term value: 50 mg/m ³ , 20 ppm Skin
108-65-6 2-methoxy-1-methylethyl acetate	
WEEL	Long-term value: 50 ppm
95-63-6 1,2,4-Trimethylbenzene	
REL	Long-term value: 125 mg/m ³ , 25 ppm
TLV	Long-term value: 123 mg/m ³ , 25 ppm

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· Ingredients with biological limit values:	
108-94-1 Cyclohexanone	
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.

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 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.

· **Eye protection:**



Tightly sealed goggles

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* 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

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

· **pH-value:** Acidic

· **Change in condition**

Melting point/Melting range: Not determined.
Boiling point/Boiling range: 120 °C (248 °F)

· **Flash point:** 35 °C (95 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 270 °C (518 °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: 20.0 Vol %

· **Vapor pressure @ 20 °C (68 °F):** 12 hPa (9 mm Hg)

· **Density @ 20 °C (68 °F):** 0.949 g/cm³ (7.919 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: 100.0 %
VOC content: 100.0 %
949.0 g/l / 7.92 lb/gl

· **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.

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- **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:**

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

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)
107-98-2 1-methoxy-2-propanol		
Oral	LD50	5660 mg/kg (rat)
Dermal	LD50	13000 mg/kg (rabbit)
Inhalative	LC50/96 hours	12732 mg/l (Trout)
	LC50/48 hrs	5744 mg/l (daphnia)
108-94-1 Cyclohexanone		
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)
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)
95-63-6 1,2,4-Trimethylbenzene		
Oral	LD50	6000 mg/kg (rat)
Inhalative	LC50/96 hours	3.359 mg/l (Trout)
	LC50/48 hrs	2.21 mg/l (daphnia)

- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:**
Irritating effect.
Causes serious eye irritation.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

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- **Carcinogenic categories:**
- **IARC (International Agency for Research on Cancer):**
None of the ingredients are listed.

108-94-1	Cyclohexanone	3
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- **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:**
Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

763-69-9 Ethyl 3-ethoxypropionate	
EC50	75.95 mg/l (Green algae) (96 Hr) 785 mg/l (daphnia)
107-98-2 1-methoxy-2-propanol	
EC50	1654 mg/l (Green algae) (96 hr)
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)
95-63-6 1,2,4-Trimethylbenzene	
EC50	3.084 mg/l (Green algae)

- **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.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **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.
Harmful to aquatic organisms
- **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.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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- **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

- **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):**

95-63-6 | 1,2,4-Trimethylbenzene

· **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 GHS07



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- **Signal word:** Warning
- **Hazard-determining components of labeling:**
 - 1-methoxy-2-propanol
 - 1,2,4-Trimethylbenzene
- **Hazard statements:**
 - Flammable liquid and vapor.
 - Causes skin irritation.
 - Causes serious eye irritation.
 - May cause drowsiness or dizziness.
 - Harmful to aquatic life with long lasting effects.
- **Precautionary statements:**
 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 - Use explosion-proof electrical/ventilating/lighting/equipment.
 - 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.
 - Ground/bond container and receiving equipment.
 - Use only non-sparking tools.
 - Avoid release to the environment.
 - Take precautionary measures against static discharge.
 - Wash thoroughly after handling.
 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - 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.
 - If skin irritation occurs: Get medical advice/attention.
 - If eye irritation persists: Get medical advice/attention.
 - In case of fire: Use for extinction: CO2, powder or water spray.
 - If on skin: Wash with plenty of water.
 - Take off contaminated clothing and wash it before reuse.
 - 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:**

CAS: 763-69-9 RTECS: UF 3325000	Ethyl 3-ethoxypropionate ⚠ Flam. Liq. 3, H226	25-50%
CAS: 107-98-2 RTECS: UB 7700000	1-methoxy-2-propanol ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	25-50%
CAS: 108-94-1 RTECS: GW 1050000	Cyclohexanone ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H332	15-35%

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CAS: 108-65-6	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226	15-35%
CAS: 95-63-6 RTECS: DC3325000	1,2,4-Trimethylbenzene ⚠ Flam. Liq. 3, H226; ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	5-10%
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 / 4

· **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
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
- Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2
- Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

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

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