Sigma Ink Inc.
12800 Brookprinter Place
Poway Ca, 92064

1. Product and Company Identification

Name of the product	Thinner MP-102
Identifier of the product	Thinner MP-102
Uses recommended and restrictions	Thinner for MP Inks series
Data of the manufacturer	Sigma Inks (US) 12800 Brookprinter place, Poway, CA 92064 USA Telephone: (888) 424-9300 Website: www.sigmainks.com Contact to the distributor: www.printexusa.com
Emergency telephone number	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

Pictogram

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.
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 3ethoxypropionate	Propanoic acid 3ethoxy-, ethyl ester	763-69-9	-	25-50 %
Cyclohexanone	Cyclohexanone	108-94-1	-	25-50 %
2-methoxy-1-acetate of methyl ethyl	2-Propanol, 1methoxy-, acetate	108-65-6	-	25-50 %

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.
If on skin, rinse well with water
If on clothes, remove the clothes
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
Carbon Dioxide (CO2)
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 build up 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 en d of workweek			
		Cyclohexanol	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.

Full contact
Material: butyl-rubber
Minimum layer thickness: 0.3 mm
Break through time: 480 min

Material tested:Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact
Material: Nature latex/chloroprene
Minimum layer thickness: 0.6 mm
Break through time: 35 min
Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

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 multipurpose 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	:	Colorless
Odor	:	Characteristic
Odor Threshold	:	Not determined

pH	:	Not determined
Melting point/range	:	Not determined
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 Explosion limits	:	1.1 % Vol. Upper 9.8 % Vol. Lower
Vapor pressure	:	5 hPa (4 mmHg) @ 20 °C (68 °F)
Relative vapor density	:	Not determined
Relative density	:	0.945-0.95
Density	:	0.9535 g/cm^3 @ 20.0 °C
Solubility	:	Not miscible. Hard to mix
Partition coefficient:	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	Not determined
Molecular weight	:	No data available
VOC content	:	100 %
Other data	:	No

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

DOT (US) UN number: 1263 Paint related material Class: 3 Proper shipping name: Cyclohexanone Reportable Quantity (RQ): 5000 lbs Reportable Quantity (RQ): 100 lbs Poison Inhalation Hazard: No	Packing group: III	
IMDG UN number: 1915 Class: Proper shipping name: CYCLOHEXANONE	Packing group: III	3 EMS-No: F-E, S-D
IATA UN number: 1915 Class: 3 Proper shipping name: Cyclohexanone	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 información 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.