

## 1. Product and Company Identification

<b>Product Name</b>	Sigma MP G2-AP
<b>Product Identifier</b>	Thinner MP G2-AP
<b>Recommended uses and Restrictions</b>	Diluent
<b>Manufacturer Data</b>	Sigma Inks (USA) 12800 Brook printer 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 Number</b>	Chemtrec (And.Or.): (800) 424-9300 Chemtrec (Out of And.Or.): (703) 527-3887 (Collect call)

## 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 statement

**Identification of the substance or mix**  
**Pictogram**

MP G2-AP



**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**

**3.1 Substances**

Formula	: C6H10O
Molecular weight	: 98.14 g/mol
CAS-No.	: 108-94-1
EC-No.	: 203-631-1
Index-No.	: 606-010-00-7



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## SAFETY DATA SHEET

Chemical Identity of the substance	Common name or synonymous name	Number CAS	Impurities y additives	Percentage
Ciclohexanone	Ciclohexanone	108-94-1	-	90 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 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

Component	CAS-No.	Value	Control parameters	Basis
Cyclohexanone	108-94-1	TWA	20 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Upper Respiratory Tract irritation Eye irritation Confirmed animal carcinogen with unknown relevance to humans Danger of cutaneous absorption		
		STEL	50 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Eye irritation Confirmed animal carcinogen with unknown relevance to humans Danger of cutaneous absorption		
		TWA	25 ppm 100 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		TWA	50 ppm 200 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m <sup>3</sup> is approximate.		
		PEL	25 ppm 100 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		Skin		

**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

a) Appearance	Form: liquid Color: colorless, to, light yellow
b) Odor	Characteristic
c) Odor Threshold	No data available
d) pH	ca.7 at 70 g/l at 20 °C (68 °F)
e) Melting point/freezing point	Melting point/range: -47 °C (-53 °F) - lit.
f) Initial boiling point and boiling range	155 °C 311 °F - lit.
g) Flash point	44 °C (111 °F) - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 9.4 %(V) Lower explosion limit: 1.1 %(V)
k) Vapor pressure	ca.24 hPa at 50 °C (122 °F) ca.4.5 hPa at 20 °C(68 °F)
l) Vapor density	No data available
m) Relative density	0.947 g/cm <sup>3</sup> at 25 °C (77 °F)
n) Water solubility	ca.90 g/l at 20 °C (68 °F)
o) Partition coefficient: n-octane/water	log Pow: 0.86 at 25 °C (77 °F) - Bioaccumulation is not expected.
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	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

#### **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**

##### **Acute toxicity**

LD50 Oral - Rat - male - 1,620 mg/kg

Remarks: (ECHA)

LC50 Inhalation - Rat - male and female - 4 h - > 6.2 mg/l

Remarks: (ECHA)

LD50 Dermal - Rabbit - 1,100 mg/kg

Remarks: (External MSDS)

##### **Skin corrosion/irritation**

Skin - Rabbit

Result: irritating - 4 h

(OECD Test Guideline 404)

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

##### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Irreversible effects on the eye

Remarks: (ECHA)

Risk of corneal clouding.

##### **Respiratory or skin sensitization**

##### **Germ cell mutagenicity**





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Mutagenicity (mammal cell test):

Result: negative

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### Reproductive toxicity

#### Specific target organ toxicity - single exposure

Acute oral toxicity - Stomach/intestinal disorders, Risk of aspiration upon vomiting.,

Aspiration may cause pulmonary edema and pneumonitis.

Acute inhalation toxicity - In high doses: Irritation symptoms in the respiratory tract.

#### Specific target organ toxicity - repeated exposure

##### Aspiration hazard

##### Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 2,160 h - No observed adverse effect level - 143 mg/kg

RTECS: GW1050000

Prolonged or repeated exposure to skin causes defatting and dermatitis., Cough, Shortness of breath, Headache, Nausea, Vomiting, Incoordination., Inhalation of high concentrations may cause:, Central nervous system depression, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Systemic effects:

After absorption of large quantities: Headache, Salivation, Nausea, Vomiting, Dizziness, narcosis, Coma

The following applies to ketones in general: when vapors/aerosols occur, mucosal irritations, coughing, and dyspnea after inhalation. The absorption of large quantities leads to: CNS depression (narcosis). Repeated skin contact leads to a degreasing effect, with secondary inflammation possible. Toxic effects on the liver and kidneys cannot be excluded after high doses. The inhalation of droplets may result in the formation of edemas in the respiratory tract. Other dangerous properties cannot be excluded. and safety practice.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

## **12. Ecological information**

### **12.1 Toxicity**

Toxicity to fish	flow-through test LC50 - <i>Pimephales promelas</i> (fathead minnow) - 527 - 732 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - <i>Daphnia magna</i> (Water flea) - 800 mg/l - 24 h (DIN 38412)  EC5 - Protozoa - 573 mg/l - 48 h Remarks: (maximum permissible toxic concentration)(IUCLID)
Toxicity to algae	IC5 - <i>Scenedesmus quadricauda</i> (Green algae) - 370 mg/l - 8 d Remarks: (IUCLID)  static test EC50 - <i>Chlamydomonas reinhardtii</i> (green algae) - 32.9 mg/l - 72 h Remarks: (ECHA)
Toxicity to bacteria	EC5 - <i>Pseudomonas patina</i> - 180 mg/l - 16 h Remarks: (maximum permissible toxic concentration)(Lit.)  static test EC50 - activated sludge - > 1,000 mg/l - 30 min (OECD Test Guideline 209)

### **12.2 Persistence and degradability**

#### Biodegradability

aerobic - Exposure time 14 d  
Result: 87 % - Readily biodegradable.  
(MITI test)  
aerobic - Exposure time 28 d  
Result: 90 - 100 % - Readily biodegradable.  
(OECD Test Guideline 301F)

#### Theoretical oxygen demand

2,608 mg/g  
((calculated))  
Remarks: (Lit.)

### **12.3 Bioaccumulative potential**

### **12.4 Mobility in soil**

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

### **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  
Packing group: III  
Proper shipping name: Paint related Material  
Reportable Quantity (RQ): 5000 lbs  
Reportable Quantity (RQ): 100 lbs  
Poison Inhalation Hazard: No

#### **IMDG**

UN number: 1263 Class:  
Proper shipping name:  
Paint related Material  
Packing group: III  
3 EMS-No: F-E, S-D

#### **IATA**

UN number: 1263 Class: 3  
Proper shipping name: Paint related Material  
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

**TLV (Value Limit of Umbral ACGIH)**

108-91-1      Cyclohexanone

:

**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.