Sigma Ink Inc.
12800 Brookprinter Place
Poway Ca, 92064

SAFETY DATA SHEET

1. Product and Company Identification

Product Name	PP-Primer
Product Identifier	Sigma PP Primer
Recommended uses and restrictions	Printing inks
Manufacturer's data	Sigma Inks (USA) 12800 Brookprinter place, Poway, CA 92064 USA Phone: (888) 424-9300 Website: www.sigmainks.com Contact the distributor: www.printexusa.com
Emergency number	Chemtrec (USA): (800) 424-9300 Chemtrec (Outside USA): (703) 527-3887 (Calls receivables accepted)

2. Hazard identification

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 3), H226
Eye irritation (Category 2A), H319
Short-term (acute) aquatic hazard (Category 3), H402
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

GHS Label elements, including precautionary statements

Identification of the substance or mix	Sigma PP-Primer
Pictogram	
Signal word	Danger
Hazard statement(s)	
H225	Highly flammable liquid and vapor.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
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.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
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	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P370 + P378	In case of fire: Use dry sand, dry chemical, or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS

Repeated exposure may cause skin dryness or cracking.

3. Composition/information on components

Chemical identity of the substance	Common name or synonyms	CAS number	Impurities and additives	Percentage
Aromatic 100 Solvent Naphtha	Light aromatic	64742-94-6	--	0.3-.01 %
Acetone	2-Propanone	67-64-1		30-60%
n-butyl acetate		123-86-4	--	60-80 %

The ranges in the percentages of composition are due batch variation.
This product may contain traces of cumene.

4. First Aid Measures

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
Flush eyes with water as a precaution.
If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

5. Firefighting Measures

Extinguishing media

Suitable extinguishing media
Dry powder Dry sand
Unsuitable extinguishing media
Do NOT use water jet.

Special hazards arising from the substance or mixture

Carbon oxides

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Use water spray to cool unopened containers.

6. Accidental release Measures

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.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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.

7. Handling and storage

Precautions for safe handling

Avoid inhalation of vapor or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

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.

8. Exposure controls/Personal protection

Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
n-Butyl acetate	123-86-4	TWA	150 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Upper Respiratory Tract irritation Eye irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC)		
		STEL	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Eye irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC)		
		TWA	150 ppm 710 mg/m3	USA. NIOSH Recommended Exposure Limits
		ST	200 ppm 950 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	150 ppm 710 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m3 is approximate.		
		PEL	150 ppm 710 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		STEL	200 ppm 950 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		TWA	50 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Eye irritation		
		STEL	150 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation Eye irritation		
Acetone	67-64-1	TWA	250 ppm	USA. ACGIH Threshold Limit Values (TLV)

	Remarks	Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen		
		STEL	500 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen		
		TWA	250 ppm 590 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	1,000 ppm 2,400 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m3 is approximate.		
		STEL	750 ppm 1,780 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		C	3,000 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		PEL	500 ppm 1,200 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Solvent Naphtha	64742-94-6	TWA	20 ppm	ACGIH limit value (TLV), USA

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Acetone	67-64-1	Acetone	25 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			

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

Face shield and safety glasses 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

Impervious clothing, 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

Physical state and appearance	Viscous Liquid
Color	See product specification
Smell	Characteristic
Odor threshold	Not determined.
Hydrogen Potential, pH	Not determined.
Melting point / freezing point	Not determined.
Starting point and boiling range	180 °C (356 °F)
Flashpoint	9.2 °C (48 °F)
Evaporation rate	Not determined.
Flammability	Not applicable.
Upper/lower limits of flammability or explosiveness	Lo: 0.7 vol % Up: 10.8 vol %
Vapor pressure	5 mmHg (6.7 hPa)
Steam density	Not determined.
Relative density	Not determined.
Solubility	Not miscible or difficult to mix
Partition coefficient	Not determined.
Spontaneous ignition temperature	Not determined.
Decomposition temperature	Not determined.
Viscosity	Not determined.
Molecular weight	Not determined.
VOC content	56 %

Other data No further relevant information available.

10. Stability and reactivity

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapors may form explosive mixture with air.

Conditions to avoid

Heat, flames, and sparks.

Incompatible materials

Strong oxidizing agents, Strong reducing agents, Strong bases, Bases, oxidizing agents, Reducing agents, Acetone reacts violently with phosphorous oxychloride. Strong Oxidizing agents.

Hazardous decomposition products

Other decomposition products - No data available
Hazardous decomposition products formed under fire conditions. - Carbon oxides
In the event of fire: see section 5

11. Toxicological information

Information on toxicological effects

Acute toxicity

n-Butyl acetate
LD50 Oral - Rat - female - 10,760 mg/kg
(OECD Test Guideline 423)
Inhalation: No data available
LD50 Dermal - Rabbit - male and female - 14,112 mg/kg
(OECD Test Guideline 402)
No data available

Acetone
LD50 Oral - Rat - female - 5,800 mg/kg
Remarks: (ECHA)
LC50 Inhalation - Rat - 4 h - 76 mg/l
Remarks: Unconsciousness Drowsiness Dizziness
LD50 Dermal - Rabbit - 20,000 mg/kg
Remarks: (IUCLID)
No data available

Aromatic 100

LD50 oral rat 8400 mg/kg
LD50 dermal rabbit > 2000 mg/kg
LC50 inhalation rat (ppm) 3400 ppm/4h
ATE US (oral) 8400.000 mg/kg body weight
ATE US (gases) 3400.000 ppmV/4h

Skin corrosion/irritation

n-Butyl acetate
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)
Drying-out effect resulting in rough and chapped skin.

Acetone
Skin - Rabbit
Result: Mild skin irritation - 24 h
(Draize Test)
Remarks: (RTECS)

Serious eye damage/eye irritation

n-Butyl acetate
Eyes - Rabbit
Result: No eye irritation
(OECD Test Guideline 405)

Eyes - Rabbit
Result: Eye irritation - 24 h
(Draize Test)
Remarks: (RTECS)
Risk of corneal clouding.

Respiratory or skin sensitization

Acetone
Maximization Test - Guinea pig
Result: negative
Remarks: (ECHA)
Chronic exposure may cause dermatitis.

Germ cell mutagenicity

n-Butyl acetate
Ames test
Escherichia coli/Salmonella typhimurium
Result: negative
OECD Test Guideline 474
Mouse - male and female - Red blood cells (erythrocytes)
Result: negative

Acetone
Mutagenicity (mammal cell test): chromosome aberration.
Chinese hamster ovary cells

Result: negative
Ames test
Salmonella typhimurium
Result: negative
In vitro mammalian cell gene mutation test
Mouse lymphoma test
Result: negative

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

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
No data available

Specific target organ toxicity - single exposure
May cause drowsiness or dizziness. - Central nervous system
Acute oral toxicity - Risk of aspiration upon vomiting. Aspiration may cause pulmonary edema and pneumonitis.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - No observed adverse effect level - 125 mg/kg - Lowest observed adverse effect level - 500 mg/kg RTECS: AF7350000

Drowsiness
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption of large quantities: somnolence, Drowsiness, narcosis.
Handle in accordance with good industrial hygiene and safety practice.

12. Ecotoxicological information

Toxicity

n-Butyl acetate

Toxicity to fish	flow-through test LC50 - *Pimephales promelas* (fathead minnow) – 18 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 44 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - *Pseudokirchneriella subcapitata* (green algae) - 397 mg/l - 72 h (OECD Test Guideline 201) Remarks: (in analogy to similar products)
Toxicity to bacteria	static test IC50 - Tetrahymena pyriformis - 356 mg/l - 40 h Remarks: (ECHA)

Acetone

Toxicity to fish	flow-through test LC50 - *Pimephales promelas* (fathead minnow) - 6,210 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test LC50 - Daphnia pulex (Water flea) - 8,800 mg/l - 48 h Remarks: (ECHA)
Toxicity to algae	static test NOEC - *M.aeruginosa* - 530 mg/l - 8 d (DIN 38412) Remarks: (maximum permissible toxic concentration) (IUCLID)
Toxicity to bacteria	static test EC50 - activated sludge - 61.15 mg/l - 30 min (OECD Test Guideline 209)

Aromatic 100

Toxicity to fish	LC50 fish 1 9.22 mg/l (Exposure time: 96 h - Species: *Oncorhynchusmykiss)*
Toxicity to daphnia and other aquatic invertebrates	EC50 Daphnia 1 6.14 mg/l (Exposure time: 48 h - Species: *Daphniamagna*)

Persistence and degradability

n-Butyl acetate

Biodegradability	aerobic - Exposure time 28 d Result: 83 % - Readily biodegradable. (OECD Test Guideline 301D)
Theoretical oxygen demand	2,207 mg/g Remarks: (Lit.)
Ratio BOD/ThBOD	7 - 46 % Remarks: (Lit.)

Acetone

Biodegradability	aerobic - Exposure time 28 d Result: 91 % - Readily biodegradable. (OECD Test Guideline 301B)
Biochemical Oxygen Demand (BOD)	1,850 mg/g Remarks: (IUCLID)
Chemical Oxygen Demand (COD)	2,070 mg/g Remarks: (IUCLID)
Theoretical oxygen demand	2,200 mg/g Remarks: (Lit.)

Bio accumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

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

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.
Discharge into the environment must be avoided

13. Disposal Consideration

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

No. UN	1210
Official definition of transport of the UN	Printing ink
Class	3
Group of container/packaging	III
Environmental risks	No data available.
Special cautions for the user	No data available.
Transport to gravel	Not applicable.

15. Regulatory information

Disposals specify

SARA 304 extremely dangerous Substances Quantity Reportable
This material does not contain any component in the section 304 EHS RQ.

SARA 311/312 Dangers
Danger of Fire
Acute danger for the Health
Danger for the Chronic Health

SARA 302
This material does not contain chemical products subjects to the requirements reported by SARA Title III, section 302.

SARA 313
The following components are subject to the levels of reference established by SARA Title III, Section 313:

Dangers OSHA
Flammable liquid, irritant moderated in contact with the eyes, teratogen, danger for the reproduction, toxicity specifies only, toxic specific in determinate organs – only exhibition, specific toxicity in determinate organs – exhibitions repeated.

WHMIS Classification
B2: flammable Liquid
D2To: Material Very Toxic Causing Other Toxic Effects
D2B: Toxic Material Causing Other Toxic Effects

EPCRA - Record for the Right to Know Community and of Planning of Emergencies

CERCLA Quantity Reportable

Law of the Clean Air

The (The) following(s) product(s) chemical(s) are cataloged like HAP according to the Record of the Clean Air of the USA Section 12 (40 CFR 61):

1.7338 %

This product does not contain any chemical product that appear in the Record of Clean Air of the USA Section 112(r) for the Prevention of Accidental Release (40 CFR 68.130, Sub-part F).

(The) following(s) product(s) chemical(s) enumerates (n) in the Record of Clean Air of the USA Section 111 SOCMI COVs intervals or finals (40 CFR 60.489):

108-94-1	Cyclohexanone	96.9318 %
64742-95-6	Aromatic 100	1.3344 %

Law of the Clean Water

The following Dangerous Substances enumerate in the Law of the Clean Water of USA, Section 311 of the table 116.4To:
8

16. Other information on the preparation and updating of safety data sheets

Additional information

The information and recommendations in this leaf security with, to our best know and understand, precise to the date of his expedition. At all 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.