Sigma Ink Inc.
12800 Brookprinter Place
Poway Ca, 92064

SAFETY DATA SHEET

1. Product and Company Identification

Name of the product	Thinner UR 102
Identifier of the product	UR 102
Uses recommended and restrictions	Thinner for Print with Pad
Data of the manufacturer	Sigma Inks (USA) 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. Hazards identification

Classification of the substance or mixture

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

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

GHS Label elements, including precautionary statements

Identification of the substance or mix	UR 102
Pictogram	
Signal word	Warning
Hazard statement(s)	
H226	Flammable liquid and vapor.
H336	May cause drowsiness or dizziness.
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.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
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.

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 ingredients

Substances

Component	Classification	Concentration
n-Butyl acetate	Flam. Liq. 3; STOT SE 3; Aquatic Acute 3; H226, H336, H402	<= 95 %

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. Fire-fighting 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. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

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.

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.
For precautions see section 2.2.

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

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

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

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

Appearance	Form: liquid
	Color: colorless, clear
Odor	Fruity
Odor Threshold	No data available
pH	6.2 at 5.3 g/l at 20 °C (68 °F)
Melting point/freezing point	Melting point/range: -78 °C (-108 °F) - lit.
Initial boiling point and boiling range	124 - 126 °C 255 - 259 °F - lit.

Flash point	27 °C (81 °F) - closed cup - Regulation (EC) No. 440/2008, Annex, A.9
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 7.6 %(V) Lower explosion limit: 1.7 %(V)
Vapor pressure	11.2 hPa at 20 °C (68 °F) - Regulation (EC) No. 440/2008, Annex, A.4
Vapor density	4.01 - (Air = 1.0)
Relative density	0.88 g/cm3 at 25 °C (77 °F) - lit.
Water solubility	5.3 g/l at 20 °C (68 °F) - OECD Test Guideline 105 - soluble
Partition coefficient: n-octanol/water	log Pow: 2.3 at 25 °C (77 °F) - OECD Test Guideline 117 - Bioaccumulation is not expected.
Auto-ignition temperature	415 °C (779 °F) at 1,010 hPa - DIN 51794
Decomposition temperature	No data available
Viscosity	0.83 mm2/s at 20 °C (68 °F) - ASTM D 445 - 0.66 mm2/s at 40°C (104 °F) - ASTM D 445 -
Explosive properties	No data available
Oxidizing properties	No data available

Other safety information

Conductivity	< 0.2 µS/cm
Surface tension	61.3 mN/m at 1g/l at 20 °C (68 °F) - OECD Test Guideline 115
Relative vapor density	4.01 - (Air = 1.0)

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

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

Information on toxicological effects

Acute toxicity

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

Skin corrosion/irritation

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

Serious eye damage/eye irritation

Eyes - Rabbit
Result: No eye irritation
(OECD Test Guideline 405)
Respiratory or skin sensitization
No data available

Germ cell mutagenicity

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

Toxicity

Toxicity to fish	flow-through test LC50 - *Pimephales promelas* (fathead minnow) – 18 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and another aquatic invertebrate	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)

Persistence and degradability

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.)

Bioaccumulative 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 considerations

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	1263
Official definition of transport of the UN	Paint related material
Class	3
Group of container/packaging	III

Environmental risks	No applicable.
Special cautions for the user	Caution:
Transport to gravel	No applicable.

15. Regulatory information

Disposals specify

SARA 355 (substances extremely dangerous)
None of the ingredients are listed

SARA 313
None of the ingredients are listed

TSCA (Law of Control of Toxic Substances)
123-86-4 n-butyl acetate
64742-95-6 Aromatic 100
1330-20-7 Xylene

Proposition 65.
Chemists that knows that they cause cancer
None of the ingredients are listed

Chemists that knows that they cause reproductive toxicity in women
None of the ingredients are listed.

Chemists that knows that cause reproductive toxicity in humans
None of the ingredients are Listed.

Chemists that knows that causing developing toxicity
None of the ingredients are listed

Categories cancerogenic

EPA (Agency of environmental Protection)
Any of the ingredients this enlisted.

TLV (Value Limit of Threshold Established by ACGIH)
1330-20-7 Xylene

NIOSH-Ca (National institute for the Health and Labor Security)
Any of the ingredients this enlisted.

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 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.