



**1. PRODUCT IDENTIFICATION**

**PRODUCT NAME:** Black MT Ink Roll  
**PRODUCT USE:** Ink for marking on non-porous surfaces  
**PANNIER P/N** P2645-HPNP-MT1P  
**CHEMICAL FAMILY:** Mixture

**Manufacturer/Supplier:**  
PANNIER CORPORATION  
207 SANDUSKY STREET  
PITTSBURGH, PA 15212-5823 U.S.A.

**Emergency Telephone Number:**  
INFOTRAC: 1-800-535-5053

**2. HAZARDS IDENTIFICATION**

**Classification:** Flammable Liquids Category 2  
Serious Eye Damage Category 1  
Skin Irritation Category 2  
Skin Sensitization Category 1  
Aspiration hazard Category 1  
Acute toxicity, Oral Category 5  
Acute toxicity, Dermal Category 5  
Acute aquatic toxicity Category 1  
Chronic aquatic toxicity Category 1  
Specific target organ toxicity – single exposure – respiratory system Category 3  
Specific target organ toxicity – single exposure – central nervous system Category 3

**Labeling: Symbols:**







**Signal Word:** Danger  
**Hazard statements:** H225 Highly flammable liquid and vapor  
H304 May be fatal if swallowed and enters airways  
H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H318 Causes serious eye damage  
H319 Causes serious eye irritation  
H332 Harmful if inhaled  
H335 May cause respiratory irritation  
H336 May cause drowsiness or dizziness  
H410 Very toxic to aquatic life with long lasting effects

**Precautionary statements:** P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
P273 Avoid release to the environment  
P280 Wear protective gloves/protective clothing/eye protection/face protection  
P302 + P352 **IF ON SKIN:** Wash with plenty of soap and water.  
P305+351+338 **IF IN EYES:** Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention  
P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.  
 P501 Dispose of contents/container to an approved waste disposal plant.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt. %	GHS Classification	Hazard Statements	Pictograms
1-Propanol	71-23-8	12 - 16	Flammable liquids (Cat. 2) Serious eye damage (Cat. 1) Specific target organ toxicity – single exposure – Central nervous system (Cat. 3)	H225 H318 H336	
2-Ethylhexanol	104-76-7	10 - 30	Flammable liquids (Cat. 4) Acute toxicity, Oral (Cat. 5) Acute toxicity, Inhalation (Cat. 4) Acute toxicity, Dermal (Cat. 5) Skin irritation (Cat. 2) Eye irritation (Cat. 2A) Specific target organ toxicity – single exposure – Respiratory system (Cat.3) Acute aquatic toxicity (Cat. 3)	H227 H303 + H313 H315 H319 H332 H335 H402	
Isobutanol	78-83-1	10 - 20	Flammable Liquids (Cat 3) Skin irritation (Cat. 2) Serious eye damage (Cat. 1) Acute Aquatic Toxicity (Cat. 2) Specific target organ toxicity – single exposure – Central nervous system, Respiratory system (Cat. 3) Chronic Aquatic Toxicity (Cat. 2)	H226 H315 H318 H335 H336	
d-Limonene	5989-27-5	30 - 60	Flammable liquids (Cat. 3) Skin irritation (Cat. 2) Skin sensitization (Cat. 1) Aspiration hazard (Cat. 1) Acute aquatic toxicity (Cat. 1) Chronic aquatic toxicity (Cat. 1)	H226 H304 H315 H317 H410	

### 4. FIRST AID MEASURES

- Inhalation:** Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Seek immediate medical attention/advice.
- Skin contact:** Immediately flush with plenty of water, while removing contaminated clothing. When symptoms persist or in all cases of doubt, seek medical advice.
- Eye contact:** Flush eyes with water for at least 15 minutes while holding eyelids open. When symptoms persist or in all cases of doubt, seek medical advice.
- Ingestion:** Seek immediate medical attention/advice. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.
- Notes for physician:** Treat symptomatically.

### 5. FIREFIGHTING MEASURES

- Suitable extinguishing media:** Dry chemical, foam, carbon dioxide and water fog
- Fire hazards/conditions of flammability:** Flammable liquid and vapor. This material will ignite when exposed to heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical / electrical equipment). Vapors may be heavier than air and may

**Explosion data:** collect in confined and low-lying areas. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.  
Sensitivity to mechanical impact / static discharge:  
May be sensitive to static discharge. Not expected to be sensitive to mechanical impact.

**Special fire-fighting procedures/equipment:**  
Firefighters should wear protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Hazardous combustion products: Oxides of carbon and nitrogen, irritating fumes and smoke.

**NFPA Rating:** Health: 2 Flammability: 3 Instability: 1 Special Hazards: 0

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions:** All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Do not eat, drink or smoke while participating in clean up.

**Environmental precautions:** Ensure spilled product does not enter drains, sewers, waterways or confined spaces. For large spills, dike the area to prevent spreading.

**Spill response/cleanup:** Ventilate area of release. Remove all sources of ignition. Use only non-sparking tools and equipment in the cleanup process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Use proper bonding and grounding techniques when transferring liquid. Notify the appropriate authorities as required.

**Prohibited materials:** Do not use combustible absorbents, such as sawdust.

**Special spill response procedures:**  
In case of a transportation accident, in the United States contact CHEMTREC at 1-800-424-9300 or International at 1-703-527-3887.  
If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national US CERCLA Reportable Quantity (RQ): 5,000 lbs Isobutanol

**7. HANDLING AND STORAGE**

**Precautions for safe handling:** Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not ingest. Avoid breathing vapor or mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flames. Use proper bonding and grounding techniques when transferring liquid. Avoid contact with incompatible materials. Wash thoroughly after handling.

**Conditions for safe storage:** Store in a cool, dry, well-ventilated area. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

**Incompatible materials:** Strong oxidizing agents; strong reducing agents; acids

**Special packaging materials:** Always keep in containers made of the same materials as the supply container.

**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**Components with workplace control parameters:**

Component	CAS No.	Control Parameters	Source
1-Propanol	71-23-3	100 ppm	USA ACGIH TLV Upper respiratory tract irritation Eye irritation
		200 ppm 500 mg/m3	USA OSHA TWA Table Z-1 Limits for Air Contaminants 1910-1000

		200 ppm 500 mg/m3	USA NIOSH TWA Recommended Exposure Limits Potential for dermal absorption
		250 ppm 625 mg/m3	USA NIOSH ST Recommended Exposure Limits Potential for dermal absorption
<b>Isobutanol</b>	78-83-1	50 ppm	USA ACGIH TLV Skin and eye irritation
		50 ppm 150 mg/m3	USA OSHA TWA Table Z-1 Limits for Air Contaminants 1910-1000
		50 ppm 150 mg/m3	USA NIOSH TWA Recommended Exposure Limits
<b>d-Limonene</b>	5989-27-5	20 ppm	USA ACGIH TLV Upper respiratory tract irritation Central Nervous System impairment Sensitizer Lung damage Skin irritation

**Ventilation and engineering measures:** Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

**Respiratory protection:** If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Confirmation of which type of respirator is most suitable for the intended application should be obtained from respiratory protection suppliers.

**Skin protection:** Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers.

**Eye / face protection:** Chemical splash goggles should be worn when handling this product.

**Other protective equipment:** Wear resistant clothing and impervious footwear. Other equipment may be required depending on workplace standards. An eyewash station and safety shower should be made available in the immediate working area.

**General hygiene considerations:** Avoid breathing vapor or mist. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove and wash contaminated clothing before re-use. Do not take contaminated clothing out of the workplace.

**SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

**Physical state:** Solid

**Appearance:** Rigid porous foam saturated with black ink

**Odor:** Solvent/alcohol

**Odor Threshold:** N/Av

**Specific Gravity:** 0.9

**pH:** Not applicable

**Boiling point:** 93° – 202°C / 199° – 395° F

**Melting/Freezing point:** Not available

**Coefficient of water/oil distribution:** Not available

**Vapor pressure (mm Hg @ 20 C / 68 F):** 10.5

**Vapor density (Air = 1):** Heavier than air

**Evaporation rate (n-Butyl acetate = 1):** Slower than n-Butyl acetate

**Solubility in water:** Somewhat

**% Volatiles (by weight):** 72%

**Flash Point 32 C,** 89° F

**Auto-ignition temperature** Not available

Lower flammable limit (% by vol)	0.7 – 1.7
Upper flammable limit (% by vol)	6.1 – 10.9
Flame Projection Length	Not available
Flashback observed	Not available

## 10. STABILITY AND REACTIVITY

<b>Chemical stability:</b>	Stable under the recommended storage and handling conditions prescribed.
<b>Possibility of hazardous reactions:</b>	None are known.
<b>Conditions to avoid:</b>	Avoid heat and open flame. Ensure adequate ventilation, especially in confined areas.
<b>Materials to avoid and incompatibility:</b>	See Section 7 (Handling and Storage) for further details.
<b>Hazardous decomposition products:</b>	None known; refer to hazardous combustion products in Section 5.

## 11. TOXICOLOGICAL INFORMATION

<b>Target organs:</b>	Eyes, skin, respiratory system, digestive system, central nervous system.
<b>Routes of exposure:</b>	Inhalation: YES Skin absorption: YES Skin & Eyes: YES Ingestion: YES
<b>Toxicological data:</b>	There is no available data for the mixture itself, only for the ingredients. See below for individual ingredient acute toxicity data

Ingredient	LD50 Oral, rat	LD50 Rabbit, dermal	Skin corrosion/irritation Skin, rabbit	Serious eye damage/eye irritation Eyes, rabbit
1-Propanol	8,038 mg/kg	4,000 mg/kg	No skin irritation	Severe eye irritation
2-Ethyl-1-hexanol	3,730 mg/kg	>3,000 mg/kg	Skin irritation – 24 h	Moderate eye irritation – 24 h
Isobutanol	2,460 mg/kg	3,400 mg/kg	Mild skin irritation	Moderate eye irritation – 24 h
d-Limonene	4,400 mg/kg	>5,000 mg/kg	No data available	No eye irritation

<b>Carcinogenicity:</b>	Carcinogenicity	Rat	Oral, Subcutaneous
	Carcinogenicity	Mouse	Oral
<b>IARC:</b>	3-Group 3: Not classifiable as to its carcinogenicity to humans (d-Limonene).		
<b>ACGIH:</b>	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.		
<b>NTP:</b>	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.		
<b>OSHA:</b>	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.		
<b>Teratogenicity:</b>	Developmental toxicity Rat Oral		
<b>Germ cell mutagenicity:</b>	Not expected to be mutagenic in humans.		
<b>Epidemiology:</b>	Not available.		
<b>Reproductive toxicity:</b>	Reproductive toxicity Mouse Oral		
<b>Specific target organ toxicity – single exposure:</b>	May cause drowsiness or dizziness. May cause respiratory irritation		
<b>Conditions aggravated by overexposure:</b>	Pre-existing skin, eye, liver, kidney, respiratory and central nervous system disorders.		

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity:

Ingredient	Toxicity to fish		Toxicity to invertebrates		Toxicity to algae	
	LC50 r	96 h	EC50	48 hr	EC50	48 h
1-Propanol	Pimephales promelas	4,555 mg/l	Daphnia magna	3,642 mg/l	Pseudokirchneriella subcapitata	9,170 mg/l
2-Ethyl-1-hexanol I	Leuciscus idus	17.1 mg/l	Daphnia magna	39 mg/l	Chlorella emersonii	10 – 50 mg/l

Isobutanol	Pimephales promelas 1.22 mg/l		
d-Limonene	Pimephales promelas 0.72 mg/l	Daphnia magna 0.36 mg/l	

No data is available on the mixture itself.

**d-Limonene:** Some studies have shown that certain bacteria and fungi have the ability to degrade terpenes, decreasing their toxicity to fish. When spilled, this product may act as an oil, causing a film, sheen, emulsion or sludge at or beneath the surface of a body of water.

**Mobility:** No data is available on the mixture itself.  
Citrus terpenes volatilize rapidly

**Persistence:**  
2-Ethyl Hexanol: Readily biodegradable  
d-Limonene: 71% Readily biodegradable  
No data is available on the mixture itself.

**Bioaccumulation potential:** No data is available on the mixture itself.

**Other adverse environmental effects:** The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. 2-Ethyl Hexanol and d-Limonene are harmful to aquatic life.




**13. DISPOSAL CONSIDERATIONS**

**Handling for disposal:** Handle waste according to recommendations in Section 7. Empty containers retain residue (liquid and/or vapor) and can be dangerous. Do not cut, weld, drill or grind on or near this container.

**Methods of disposal:** Dispose of in accordance with federal, provincial and local hazardous waste regulations.

**RCRA:** If this product, as supplied, becomes as waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

**SECTION 14 – TRANSPORT INFORMATION**

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
49 CFR / DOT	UN3175	Solids containing flammable liquid, n.o.s. (n-propanol, isobutanol)	4.1	II	
ICAO /	UN3175	IATA Solids containing flammable liquid, n.o.s. (n-propanol, isobutanol)	4.1	II	
IMDG	UN3175	Solids containing flammable liquid, n.o.s. (n-propanol, isobutanol)	4.1	II	

**Marine Pollutant:** No

**SECTION 15 – REGULATORY INFORMATION**

**Inventory Status:** All listed ingredients appear on the Toxic Substances Control Act (TSCA) Inventory, EINECS/ELINCS, AICS, and DSL.

This material is classified as hazardous under OSHA regulations (29CFR 19410.1200). See Section 2.

**SARA TITLE III:** Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this mixture.

**SARA TITLE III:** Sec. 311, 312: Fire Hazard, Acute Health Hazard, Chronic Health Hazard.  
**SARA TITLE III:** Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to SARA notification requirements since it does not contain any Toxic Chemical constituents above de minimus concentrations.

**CERCLA:** Reportable Quantities (RQ) Isobutanol 5,000 lbs  
 Any release equal to or exceeding the RQ must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies and described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State and local regulations may be more restrictive than federal regulations

**RCRA CODE:** U140 Isobutanol

**Hazardous Air Pollutants (HAPS):** None

**US State "Right to Know" Laws:**

California Proposition 65: To the best of our knowledge, this mixture does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

**Other US State "Right To Know" Lists:**

**The following chemicals are specifically listed by individual states:**

- 1-Propanol (MA, MN, NJ, CA, PA, RI)
- 2-Ethyl hexanol (MA, NJ, PA)
- Isobutanol (MA, NJ, PA)
- d-Limonene (NJ, PA)

**International Information:**

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). See Section 2.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

## SECTION 16 – OTHER INFORMATION

**HMIS RATING:** Health: 2\*  
 Flammability: 3  
 Reactivity: 1  
 \* Chronic hazard 0-Minimal 1- Slight 2- Moderate 3- Serious 4- Severe

**Legend:**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
DOT	Department of Transportation
EPA	Environmental Protection Agency
HMIS	Hazardous Material Identifications System
HSDB	Hazardous Substances Data Bank
IARC	International Agency for Research on Cancer
Inh	Inhalation
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Association
NIOSH	National Institute of Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible exposure limit
RCRA	Resource Conservation and Recovery Act
RTECS	Registry and Toxic Effects of Chemical Substances
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit
TDG	Canadian Transportation of Dangerous Goods Act and Regulations
TLV	Threshold Limit Values
TPQ	Threshold Planning Quantity
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Materials Identification System

**References:**

1. ACGIH, Threshold Limit Values and Biological Exposure Indices

2. International Agency for Research on Cancer Monographs
3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases (Chempendium, HSDB and RTECs)
4. Material Safety Data Sheets for manufacturers
5. US EPA Title III List of Lists
- 6 California Proposition 65 List

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.