

## SECTION 1: Identification

### 1.1. Identification

Product form : Mixture  
Trade name : 6990 BLACK INK, 6993 BLACK INK, 6997 BLACK INK  
Product code : 201-1651, 201-1661, 201-1671 (respectively)

### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Marking ink for semiconductors

### 1.3. Supplier

Xandex Inc.  
1360 Redwood Way, Suite A  
Petaluma, CA 94954 USA  
T: +1 707-763-7799  
www.xandex.com  
[beastin@xandex.com](mailto:beastin@xandex.com)

### 1.4. Emergency telephone number

Emergency number : (800) 535-5053 (US Domestic); +1-352-323-3500 (International)

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

#### GHS US classification

Serious eye damage/eye irritation Category 1 Causes serious eye damage  
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation May cause respiratory irritation

### 2.2. GHS Label elements, including precautionary statements

#### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger  
Hazard statements (GHS US) : Causes serious eye damage  
May cause respiratory irritation  
Precautionary statements (GHS US) : Avoid breathing mist, spray, vapors.  
Use only outdoors or in a well-ventilated area.  
Wear eye protection.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Call a POISON CENTER, a doctor if you feel unwell.  
Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.  
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
2-Phenoxyethanol	CAS-No.: 122-99-6	52.64	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 STOT SE 3, H335
Diethylene glycol monophenyl ether	CAS-No.: 104-68-7	7.52	Eye Dam. 1, H318

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell. Obtain medical attention if breathing difficulty persists.
First-aid measures after skin contact	: Wash with water and soap as a precaution. Seek medical attention if ill effect or irritation develops.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse eye with clean water for 20-30 minutes, retracting eyelids often. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after eye contact	: Serious damage to eyes.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: Presents no particular fire or explosion hazard.
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Explosion hazard	: No hazard identified.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Thermal decomposition may produce : Carbon oxides (CO, CO <sub>2</sub> ), Nitrogen oxides.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ventilate area. Avoid inhalation of the product.

#### 6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Ventilate spillage area. Evacuate unnecessary personnel. Avoid breathing mist, spray, vapors. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment	: Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Ventilate area. Stop leak if safe to do so. Prevent entry to sewers and public waters.

### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

For containment	: Collect spillage. In case of large spillages: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.
Methods for cleaning up	: Wipe up with absorbent material (for example cloth). Collect spillage. Store away from other materials.
Other information	: Dispose of materials or solid residues at an authorized site. Dispose in a safe manner in accordance with local/national regulations.

### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13: "Disposal considerations".

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Ensure adequate ventilation. Avoid breathing mist, spray, vapors. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Handle in accordance with good industrial hygiene and safety procedures.

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### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep container tightly closed in a cool, well-ventilated place. Keep container closed when not in use. Store locked up.
Incompatible materials	: Strong oxidizing agents.
Storage temperature	: 10 – 25 °C (50 - 77 °F)

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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No additional information available

#### 2-Phenoxyethanol (122-99-6)

No additional information available

#### Diethylene glycol monophenyl ether (104-68-7)

No additional information available

### 8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station. Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.
Environmental exposure controls	: Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Wear suitable gloves resistant to chemical penetration. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer

#### Eye protection:

Chemical goggles or safety glasses

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. An approved organic vapor respirator/supplied air or self-contained breathing apparatus must be used when vapor concentration exceeds applicable exposure limits

#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Opaque.
Color	: Black
Odor	: Slight alcohol-like
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 242 °C (467.6 °F)

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Flash point	: 121 °C (249.8 °F)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.15
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: 495 °C (923 °F)
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Lower explosion limit: 0.9 vol %
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

Volatility : 75 % (25% Non-Volatile solids)

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition may produce : Carbon oxides (CO, CO<sub>2</sub>). Nitrogen oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

#### 2-Phenoxyethanol (122-99-6)

LD50 oral rat	1850 mg/kg
LD50 dermal rat	14391 mg/kg body weight Animal: rat, Remarks on results: other:

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2-Phenoxyethanol (122-99-6)	
LC50 Inhalation - Rat	> 0.057 mg/l (Exposure time: 8 h)
Diethylene glycol monophenyl ether (104-68-7)	
LD50 oral rat	2140 mg/kg
LD50 dermal rat	> 5000 mg/kg
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)

2-Phenoxyethanol (122-99-6)	
LOAEL (animal/male, F1)	≈ 1875 mg/kg body weight Animal: mouse, Animal sex: male, Guideline: other:
LOAEL (animal/female, F1)	≈ 1875 mg/kg body weight Animal: mouse, Animal sex: female, Guideline: other:
STOT-single exposure	: May cause respiratory irritation.

2-Phenoxyethanol (122-99-6)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)

2-Phenoxyethanol (122-99-6)	
LOAEL (oral,rat,90 days)	> 700 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
LOAEL (dermal,rat/rabbit,90 days)	> 500 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
NOAEL (dermal,rat/rabbit,90 days)	500 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)

Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Viscosity, kinematic	: No data available
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after eye contact	: Serious damage to eyes.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : This material has not been tested for environmental effects.

2-Phenoxyethanol (122-99-6)	
LC50 - Fish [1]	337 – 352 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	> 500 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 - Other aquatic organisms [1]	> 500 mg/l waterflea
LC50 - Fish [2]	366 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Other aquatic organisms [2]	443 mg/l

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### Diethylene glycol monophenyl ether (104-68-7)

LC50 - Fish [1]	432 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
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### 12.2. Persistence and degradability

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Persistence and degradability	Not established.
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### 12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
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### 2-Phenoxyethanol (122-99-6)

Partition coefficient n-octanol/water (Log Pow)	1.13 (at 25 °C)
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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
<b>14.1. UN number</b>			
Not regulated for transport			
<b>14.2. Proper Shipping Name</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>			
Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available			

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### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

No additional information available

#### 15.2. International regulations

##### CANADA

##### 2-Phenoxyethanol (122-99-6)

Listed on the Canadian DSL (Domestic Substances List)

##### Diethylene glycol monophenyl ether (104-68-7)

Listed on the Canadian DSL (Domestic Substances List)

##### EU-Regulations

##### 2-Phenoxyethanol (122-99-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

##### Diethylene glycol monophenyl ether (104-68-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

##### National regulations

##### 2-Phenoxyethanol (122-99-6)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on the Japanese ISHL (Industrial Safety and Health Law)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)  
Listed on the NCI (Vietnam - National Chemicals Inventory)

##### Diethylene glycol monophenyl ether (104-68-7)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on the Japanese ISHL (Industrial Safety and Health Law)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)  
Listed on the NCI (Vietnam - National Chemicals Inventory)

#### 15.3. US State regulations

No additional information available



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### SECTION 16: Other information

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Revision date : 15 December 2021

Other information : None.

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.