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## 1. PRODUCT AND COMPANY IDENTIFICATION

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Product Name: 8104 BLACK INK  
Product Number: 201-8104  
REACH Registration Number: N/A  
Identified Use: Marking ink for semiconductor  
Uses Advised Against: None identified  
Manufacturer: Xandex, Inc.  
1360 Redwood Way, Suite A  
Petaluma, CA 94954 USA  
Web Site: [www.xandex.com](http://www.xandex.com)  
E-Mail: [beastin@xandex.com](mailto:beastin@xandex.com)  
Information Contact: Bill Eastin  
Emergency Telephone: (800) 535-5053 (US Domestic)  
(352) 323-3500 (International)

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## 2. HAZARDS IDENTIFICATION

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### Emergency Overview

#### OSHA Hazards

Combustible Liquid, Target Organ Effect, Irritant, Harmful by ingestion, Harmful by skin absorption

#### Target Organs

Central nervous system, Blood, Liver, Kidney

#### GHS Classification

Flammable Liquids (Category 3)  
Acute toxicity, Oral (Category 4)  
Acute toxicity, Inhalation (Category 3)  
Acute toxicity, Dermal (Category 4)  
Skin irritation (Category 2)  
Acute aquatic toxicity (Category 2)  
Serious eye damage (Category 1)

#### GHS Label elements, including precautionary statements

Pictogram





# Safety Data Sheet

Version 3.4

Revision Date: 02/03/17

Print Date: 02/03/17

Replaces: Version 3.3 Dated 11/04/16

## Signal Word

Danger

### Hazard statements

H226	Flammable liquid and vapor
H302 + H312	Harmful if swallowed or in contact with skin
H315	Causes skin irritation
H318	Causes serious eye damage
H331	Toxic if inhaled
H401	Toxic to aquatic life

### Precautionary statements

P261	Avoid breathing fume/gas/mist/vapors/spray
P280	Wear protective gloves
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P311	Call a POISON CENTER or doctor/physician

### NFPA Rating

Health hazard	2
Fire	2
Reactivity hazard	0

### HMIS Classification

Health hazard	2
Flammability	2
Physical hazard	0

### Potential Health Effects

Eyes:	This product can cause irritation to eyes on contact. Risk of serious damage to eyes.
Skin:	This product can cause moderate irritation to skin on contact.
Inhalation:	Vapor or mist can cause irritation to the nose and throat.
Ingestion:	Harmful if swallowed.

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

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### Description

Phenoxy resin and dye based ink mixture.

**Hazardous Ingredients**

Chemical name	EC-No	Index-No	CAS-No	Amount (%)	Classification according to Regulation (EC) No 1272/2008 (CLP)	Classification according to 67/548/EEC
Benzyl Alcohol	202-859-9	603-057-00-5	100-51-6	40-60	H302 + 312, H315, H332, H401, P280	R20/22, Xn
Diacetone Alcohol	204-626-7	603-016-00-1	123-42-2	8-20	H226, H303, H318, H331, P261, P280, P305 + P351 + P338, P311	R11-36, Xi, F
Nigrosine Dye	616-851-1		8005-02-5	5-15		R48/20/21/22-20/21/22-48, S24/25 Xn, Xi
Ethyl-3-Ethoxypropionate	212-112-9		763-69-9	10-30	H226	R10, F

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**4. FIRST AID MEASURES**

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**In case of eye contact:**

Thoroughly flush with water. Call physician immediately.

**In case of skin contact:**

Wash with soap and water.

**In case of inhalation:**

Remove to fresh air.

**In case of ingestion:**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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**5. FIRE FIGHTING MEASURES**

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**Conditions of flammability:**

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

**Suitable extinguishing media:**

Use water spray, dry chemical, CO<sub>2</sub>, alcohol-resistant foam.

**Hazardous combustion products:**

Emits carbon and nitrogen oxides under fire conditions.

**Special protective equipment for fire fighters:**

Wear self-contained breathing apparatus if necessary.



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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions:**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Remove all sources of ignition. Ensure adequate ventilation.

**Environmental precautions:**

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

**Methods for cleaning up:**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:**

Avoid contact with skin and eyes. Avoid inhalation of vapor, mist or gas. Remove all sources of ignition.

**Conditions for storage:**

Store at a temperature of 10-25°C (50-77°F) to maintain maximum shelf life.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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**Components with workplace control parameters**

Limit value type (country of origin)	Substance name	EC-No	CAS-No	Occupational exposure limit value	Source
TWA (USA)	Benzyl alcohol	202-859-9	100-51-6	10 ppm	Workplace Environmental Exposure Levels (WEEL)
TWA (USA)	Diacetone alcohol	204-626-7	123-42-2	50 ppm	ACGIH Threshold Limit Values (TLV)
TWA (USA)	Diacetone alcohol	204-626-7	123-42-2	50 ppm 240 mg/m <sup>3</sup>	NIOSH Recommended Exposure Limits
TWA (USA)	Diacetone alcohol	204-626-7	123-42-2	50 ppm 240 mg/m <sup>3</sup>	Occupational Exposure Limits (OSHA)- Table Z-1 Limits for Air Contaminants
TWA (USA)	Diacetone alcohol	204-626-7	123-42-2	50 ppm 240 mg/m <sup>3</sup>	Occupational Exposure Limits (OSHA)- Table Z-1 Limits for Air Contaminants- 1910.1000



## Exposure controls

### Eye protection

Safety goggles

### Respiratory protection

For continuous exposure to large quantities, wear respirator (CEN/NIOSH approved) as required for concentrations of air contaminants encountered.

### Skin protection

Chemical resistant gloves. Avoid repeated or prolonged skin exposure.

### Hygiene measures

Wash hands thoroughly after handling.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Physical State:</b>	Opaque liquid
<b>Color:</b>	Black
<b>Odor:</b>	Slight alcoholic odor
<b>Flash Point:</b>	44°C
<b>Specific Gravity:</b>	1.067 (Water = 1)
<b>% Volatile/Non-Volatile (Solids):</b>	78% Volatile / 22% Non-Volatile

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## 10. STABILITY AND REACTIVITY

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<b>Chemical Stability:</b>	Stable under recommended storage conditions
<b>Conditions to Avoid:</b>	Heat, flames and sparks
<b>Hazardous Decomposition Products:</b>	Carbon and nitrogen oxides
<b>Materials to Avoid:</b>	Strong oxidizing agents, strong bases

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## 11. TOXICOLOGICAL INFORMATION

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### Acute toxicity

#### Benzyl alcohol

##### Oral LD50

LD50 Oral-rat-1,230 mg/kg

##### Inhalation LC50

No data available

##### Dermal LD50

LD50 Dermal-rabbit-2,000 mg/kg

## Diacetone alcohol

### Oral LD50

LD50 Oral-rat-2,520 mg/kg

### Inhalation LC50

LC50 Inhalation-rat-4h-1,500 ppm

### Dermal LD50

LD50 Dermal-rabbit-13,500 mg/kg

## Ethyl-3-ethoxypropionate

### Oral LD50

LD50 Oral-rat-male- >5,000 mg/kg

LD50 Oral-rat-female- 4,309 mg/kg

### Inhalation LC50

LC50 Inhalation-rat- male-6 h- >998 ppm

### Dermal LD50

LD50 Dermal-rabbit- male- 4,080 mg/kg

LD50 Dermal-rabbit-female- 4,680 mg/kg

## Skin corrosion/irritation

### Benzyl alcohol

Skin-rabbit-irritating to skin-24h

### Diacetone alcohol

No data available

### Ethyl-3-ethoxypropionate

Skin-rabbit-no skin irritation-4h-OECD

Test Guideline 404

## Serious eye damage / eye irritation

### Benzyl alcohol

No data available

### Diacetone alcohol

Eyes-rabbit-Severe eye irritation-24 h



## **Ethyl-3-ethoxypropionate**

Skin-rabbit-no eye irritation-24 h-OECD Test Guideline 405

## **Respiratory or skin sensitization**

### **Ethyl-3-ethoxypropionate**

Guinea pig- Does not cause skin sensitization-OECD  
Test Guideline 406

## **Germ cell mutagenicity**

### **Ethyl-3-ethoxypropionate**

Genotoxicity in-vitro – *S. typhimurium* – with and  
without metabolic activation - negative

## **Carcinogenicity**

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

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

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

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

## **Reproductive toxicity**

No data available

## **Teratogenicity**

No data available

## **Specific target organ toxicity- single exposure (Globally Harmonized System)**

No data available

## **Specific target organ toxicity- repeated exposure (Globally Harmonized System)**

No data available

## **Aspiration hazard**

No data available



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## Potential health effects

<b>Ingestion</b>	Harmful if swallowed.
<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	Harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.

## Signs and Symptoms of Exposure

Central nervous system depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness, blood disorders, dermatitis and blurred vision. The chemical, physical, and toxicological properties of this product have not been thoroughly investigated.

## Synergistic effects

No data available

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## 12. ECOLOGICAL INFORMATION

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### Toxicity

#### Benzyl alcohol

Toxicity to fish	LC50- Lepomis macrochirus (Bluegill)- 10 mg /l – 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50- Daphnia magna (Water Flea)- 55 mg /l – 24 h

#### Diacetone alcohol

Toxicity to fish	LC50- Lepomis macrochirus (Bluegill)- 420 mg /l – 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50- Daphnia magna (Water Flea)- 9,000 mg /l – 24 h

#### Ethyl-3-ethoxypropionate

Toxicity to fish	Static test LC50- Pimephales promelas (Fathead Minnow)- 45.3 mg /l- 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	Immobilization EC50- Daphnia magna (Water Flea)- 785 mg/l – 48 h Method: OECD Test Guideline 204
Toxicity to algae	Growth inhibition EC50- Selenastrum capricomutum (Green Algae)- >115 mg/l – 72 h Method: OECD Test Guideline 201
Toxicity to bacteria	Growth inhibition EC50- other microorganisms - >5,000 mg/l – 16 h





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## Persistence and degradability

### Benzyl alcohol

Biodegradability

Biotic/Aerobic

Result: 92-96% - Readily biodegradable

## Bioaccumulative potential

No data available

## Mobility in soil

No data available

## PBT and vPvB assessment

No data available

## Other adverse effects

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

Toxic to aquatic life.

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## 13. DISPOSAL CONSIDERATIONS

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Contact a professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations in the jurisdiction where the product is used.

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## 14. TRANSPORT INFORMATION

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### DOT (US)

UN Number: 1210, Printing Ink, Flammable      Packing Group III

Marine pollutant: No

Poison inhalation hazard: No

### IATA

UN Number: 1210, Printing Ink, Flammable      Packing Group III

### IMDG

UN Number: 1210, Printing Ink, Flammable      Packing Group III

Marine pollutant: No

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## 15. REGULATORY INFORMATION

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### OSHA Hazards

Combustible Liquid, Target Organ Effect, Harmful by ingestion, Harmful by skin absorption, Irritant

### CERCLA Status:

Not listed



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## TSCA Status:

All chemicals used in this product are TSCA listed.

## SARA 302:

This product contains no chemicals subject to the notification under SARA Title III, Section 302.

## SARA 311/312 Hazards

Acute health hazard, chronic health hazard, fire hazard

## SARA 313:

This product contains no chemicals subject to the notification under SARA Title III, Section 313.

## Massachusetts Right To Know Components

	CAS No.	Revision Date
Benzyl Alcohol	100-51-6	1993-04-24
Diacetone Alcohol	123-42-2	1993-04-24

## Pennsylvania Right To Know Components

	CAS No.	Revision Date
Benzyl Alcohol	100-51-6	1993-04-24
Diacetone Alcohol	123-42-2	1993-04-24
Ethyl-3-Ethoxypropionate	763-69-9	

## New Jersey Right To Know Components

	CAS No.	Revision Date
Benzyl Alcohol	100-51-6	1993-04-24
Diacetone Alcohol	123-42-2	1993-04-24
Ethyl-3-Ethoxypropionate	763-69-9	

## German Regulations

Water-endangering substances (WGK [water hazard class]): 1

## 16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Xandex Incorporated shall not be held liable for any damage resulting from handling or from contact with the above product.

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