1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: 7824 BLACK INK
Product Number: 201-1511
REACH Registration Number: N/A
Identified Use: Marking ink for semiconductors
Uses Advised Against: None identified
Manufacturer: Xandex, Inc.
1360 Redwood Way, Suite A
Petaluma, CA 94954 USA
Web Site: www.xandex.com
E-Mail: beastin@xandex.com
Information Contact: Bill Eastin
Emergency Telephone: (800) 535-5053 (US Domestic)
(352) 323-3500 (International)

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Combustible Liquid, Target Organ Effect, Irritant, Harmful by ingestion, Reproductive hazard

Target Organs
Blood, Liver, Kidney, Nerves

GHS Classification
Flammable liquids (Category 4)
Acute toxicity, Oral (Category 4)
Acute toxicity, Inhalation (Category 3)
Skin irritation (Category 3)
Serious eye damage (Category 1)

GHS Label elements, including precautionary statements
Pictogram

Signal Word
Danger

Hazard statements
H227 Combustible liquid
H302 Harmful if swallowed
H316 Causes mild skin irritation
Safety Data Sheet

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Replaces: Version 3.4 Dated 11/04/16

H318 Causes serious eye damage
H331 Toxic if inhaled

Precautionary statements
P261 Avoid breathing fume/gas/mist/vapors/spray
P280 Wear protective gloves/eye protection
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: Causes eye irritation.
Skin: Harmful if absorbed through skin. Causes skin irritation.
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion: Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Description
Phenoxy resin and dye based ink mixture with a solvent blend.

Hazardous Ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>EC-No</th>
<th>Index-No</th>
<th>CAS-No</th>
<th>Amount (%)</th>
<th>Classification according to Regulation (EC) No 1272/2008 (CLP)</th>
<th>Classification according to 67/548/EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Phenoxyethanol</td>
<td>204-589-7</td>
<td>603-098-00-9</td>
<td>122-99-6</td>
<td>40-60</td>
<td>H302, H316, H319</td>
<td>R22-36, Xn</td>
</tr>
<tr>
<td>Diacetone Alcohol</td>
<td>204-626-7</td>
<td>603-016-00-1</td>
<td>123-42-2</td>
<td>10-30</td>
<td>H226, H303, H318, H331, P261, P280, P305 + P351 + P338, P311</td>
<td>R11-36, Xi, F</td>
</tr>
<tr>
<td>Nigrosine Dye</td>
<td>616-851-1</td>
<td>8005-02-5</td>
<td></td>
<td>1-7</td>
<td></td>
<td>R48/20/21/22-20/21/22-48, S24/25 Xn, Xi</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

In case of eye contact:
Thoroughly flush with water for at least 15 minutes. Consult a physician.

In case of skin contact:
Wash with soap and plenty of water. Consult a physician.

In case of inhalation:
Remove to fresh air. Consult a physician.

In case of ingestion:
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE FIGHTING MEASURES

Conditions of flammability:
Flammable in the presence of a source of ignition when the temperature is above the flash point.

Suitable extinguishing media:
Use water spray, dry chemical, carbon dioxide, 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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Wear protective clothing and gloves. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Environmental precautions:
Do not let product enter drains.

Methods for cleaning up:
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling:
Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.
Conditions for storage:
Store at a temperature of 10-25°C (50-77°F) to maintain maximum shelf life.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Limit value type (country of origin)</th>
<th>Substance name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Occupational exposure limit value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA (USA)</td>
<td>Diacetone alcohol</td>
<td>204-626-7</td>
<td>123-42-2</td>
<td>50 ppm</td>
<td>ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Remarks: Eye &amp; Upper Respiratory Tract irritation</td>
</tr>
<tr>
<td>TWA (USA)</td>
<td>Diacetone alcohol</td>
<td>204-626-9</td>
<td>123-42-2</td>
<td>50 ppm 240 mg/m3</td>
<td>NIOSH Recommended Exposure Limits</td>
</tr>
<tr>
<td>TWA (USA)</td>
<td>Diacetone alcohol</td>
<td>204-626-9</td>
<td>123-42-2</td>
<td>50 ppm 240 mg/m3</td>
<td>Occupational Exposure Limits (OSHA)- Table Z-1 Limits for Air Contaminants</td>
</tr>
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<td>50 ppm 240 mg/m3</td>
<td>Occupational Exposure Limits (OSHA)- Table Z-1 Limits for Air Contaminants</td>
</tr>
</tbody>
</table>

Exposure controls

Eye protection
Safety goggles tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Respiratory protection
Where risk assessment shows they are appropriate, wear respirator (CEN/NIOSH approved) as required for concentrations of air contaminants encountered.

Skin protection
Avoid repeated or prolonged skin exposure.
Use nitrile rubber gloves with a minimum layer thickness of 0.2 mm.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical State:</th>
<th>Opaque liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>Black</td>
</tr>
<tr>
<td>Odor:</td>
<td>Slight alcoholic odor</td>
</tr>
<tr>
<td>Flash Point:</td>
<td>69°C</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>1.076 (Water = 1)</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Chemical Stability: Stable under recommended storage conditions
Conditions to Avoid: Heat, flames and sparks
Hazardous Decomposition Products: Carbon and nitrogen oxides
Materials to Avoid: Strong oxidizing agents, Strong acids, Strong bases
Possibility of Hazardous Reactions: No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity
2-Phenoxyethanol
Oral LD50
LD50 Oral-rat-1,260 mg/kg

Inhalation LC50
No data available

Dermal LD50
LD50 Dermal-rat-14,422 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

Skin corrosion/irritation
2-Phenoxyethanol
Skin-rabbit-mild skin irritation-24h

Diacetone alcohol
No data available
Serious eye damage / eye irritation

2-Phenoxyethanol
Eyes-rabbit-Moderate eye irritation

Diacetone alcohol
Eyes-rabbit-Severe eye irritation-24 h

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

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
May cause reproductive disorders.

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
Potential health effects

Ingestion
Harmful if swallowed.

Inhalation
May be harmful if inhaled. Causes respiratory tract irritation.

Skin
Harmful if absorbed through skin. Causes skin irritation.

Eyes
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

12. ECOLOGICAL INFORMATION

Toxicity
2-Phenoxyethanol
Toxicity to fish LC50- Leuciscus idus (Golden orfe)- > 100 mg /l - 96 h

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

Persistence and degradability
2-Phenoxyethanol
Biodegradability Readily biodegradable, according to appropriate OECD test.

Diacetone alcohol
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

PBT and vPvB assessment
No data available
Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS
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.

14. TRANSPORT INFORMATION

DOT (US)
UN Number: N/A
Marine pollutant: No
Poison inhalation hazard: No
Not dangerous goods

IATA
UN Number: N/A
Not dangerous goods

IMDG
Not dangerous goods.

15. REGULATORY INFORMATION

OSHA Hazards
Combustible Liquid, Target Organ Effect, Harmful by ingestion, Reproductive hazard, Irritant

CERCLA Status:
Not listed

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.

SARA 313:
The following component is subject to reporting levels established in SARA Title III, Section 313.

<table>
<thead>
<tr>
<th>CAS No.</th>
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</thead>
<tbody>
<tr>
<td>122-99-6</td>
<td>1995-01-01</td>
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2-Phenoxyethanol
Massachusetts Right To Know Components

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<tr>
<td>123-42-2</td>
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Pennsylvania Right To Know Components

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New Jersey Right To Know Components

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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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