
1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: 8103 BLACK INK
Product Number: 201-1621
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
E-Mail: beastin@xandex.com
Information Contact: Bill Eastin
Emergency Telephone: (800) 535-5053 (US Domestic)
+1-352-323-3500 (International)

2. HAZARDS IDENTIFICATION

Emergency Overview

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

Acute Toxicity, Oral (Category 4) H302
Acute Toxicity, Inhalation (Category 4) H332
Eye Irritation (Category 2A) H319
Acute Aquatic Toxicity (Category 2) H401

GHS Label elements, including precautionary statements

Pictogram



Signal Word

Warning

Hazard statements

| | |
|-------------|---------------------------------|
| H227 | Combustible liquid |
| H302 + H332 | Harmful if swallowed or inhaled |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| 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. |



Safety Data Sheet

905-0001-01 Revision: A

Revision Date: 27-Jan-2020

Print Date: 27-Jan-2020

Replaces: Version 4.0 Dated 05/14/19

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 serious irritation to eyes on contact. |
| 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. |

3. COMPOSITION/INFORMATION ON INGREDIENTS

Description

Phenoxy resin and dye based ink mixture with a blend of alcohols

Hazardous Ingredients

| Chemical name | EC-No | Index-No | CAS-No | Amount (%) | Classification |
|-------------------|-----------|--------------|-----------|------------|--|
| Benzyl Alcohol | 202-859-9 | 603-057-00-5 | 100-51-6 | 60-80 | Acute Tox. 4; Eye Irrit. 2A; Aquatic Acute 2; H302, H319, H401 |
| Diacetone Alcohol | 204-626-7 | 603-016-00-1 | 123-42-2 | 10-20 | Flam. Liq. 3; Eye Irrit. 2A; H226, H319 |
| Nigrosine Dye | 616-851-1 | | 8005-02-5 | 2-7 | Self-heat. 2; Combustible Dust- USH01; H252 |
| Proprietary* | NA | NA | NA | 10-20 | NA |

* Ingredient is a proprietary trade secret of Xandex Inc. and is a non-hazardous chemical compound.

4. FIRST AID MEASURES

In case of eye contact:

Thoroughly flush with water for at least 15 minutes. Consult a physician immediately.

In case of skin contact:

Wash with soap and plenty of water.

In case of inhalation:

Remove person to fresh air.



Safety Data Sheet

905-0001-01 Revision: A

Revision Date: 27-Jan-2020

Print Date: 27-Jan-2020

Replaces: Version 4.0 Dated 05/14/19

In case of ingestion:

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, CO₂, 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:

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Environmental precautions:

Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided. 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.



Safety Data Sheet

905-0001-01 Revision: A

Revision Date: 27-Jan-2020

Print Date: 27-Jan-2020

Replaces: Version 4.0 Dated 05/14/19

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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 ³ | NIOSH Recommended Exposure Limits |
| TWA (USA) | Diacetone alcohol | 204-626-7 | 123-42-2 | 50 ppm 240 mg/m ³ | 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 ³ | Occupational Exposure Limits (OSHA)- Table Z-1 Limits for Air Contaminants- 1910.1000 |

Individual Protection Measures

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form

Opaque liquid

Color

Black

Safety Data

pH

No data available

Melting point/freezing point

No data available

Boiling point

No data available

Odor

Slight alcoholic odor

Odor threshold

No data available

Flash point

64° C



Safety Data Sheet

905-0001-01 Revision: A

Revision Date: 27-Jan-2020

Print Date: 27-Jan-2020

Replaces: Version 4.0 Dated 05/14/19

| | |
|---|---------------------------------|
| Ignition temperature | No data available |
| Auto-ignition temperature | No data available |
| Lower explosion limit | No data available |
| Upper explosion limit | No data available |
| Vapor pressure | No data available |
| Water solubility | No data available |
| Specific gravity | 1.079 (Water = 1) |
| % Volatile/Non-Volatile (Solids) | 81% Volatile / 19% Non-Volatile |
| Partition coefficient | No data available |
| Relative vapor density | No data available |
| Evaporation rate | No data available |

10. STABILITY AND REACTIVITY

| | |
|--|---|
| Chemical Stability: | Stable under recommended storage conditions |
| Conditions to Avoid: | Heat and flame |
| Hazardous Decomposition Products: | Carbon and nitrogen oxides |
| Materials to Avoid: | Strong oxidizing agents |

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Benzyl alcohol

Oral LD50

LD50 Oral-rat-male 1,620 mg/kg (ECHA)

Diacetone alcohol

Oral LD50

LD50 Oral-rat 2,520 mg/kg

Inhalation LC50

LC50 Inhalation-rat-4 h >10 mg/l

Dermal LD50

LD50 Dermal-rabbit 13,500 mg/kg

Skin corrosion/irritation

Benzyl alcohol

Skin - Rabbit

Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Diacetone alcohol

No data available



Safety Data Sheet

905-0001-01 Revision: A

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Replaces: Version 4.0 Dated 05/14/19

Serious eye damage / eye irritation

Benzyl alcohol

Eyes - Rabbit

Result: irritating

(OECD Test Guideline 405)

Diacetone alcohol

Eyes-rabbit-Severe eye irritation-24 h

Respiratory or skin sensitization

Benzyl Alcohol

Maximization Test

Result: negative

(OECD Test Guideline 406)

Diacetone alcohol

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

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



Safety Data Sheet

905-0001-01 Revision: A

Revision Date: 27-Jan-2020

Print Date: 27-Jan-2020

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Aspiration hazard

No data available

Synergistic effects

No data available

Potential health effects

Ingestion

Harmful if swallowed.

Inhalation

May be harmful if inhaled. Causes respiratory tract irritation.

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.

12. ECOLOGICAL INFORMATION

Toxicity

Benzyl alcohol

Toxicity to fish

Static test LC50- Pimephales promelas (Fathead minnow)- 460 mg /l – 96 h (US-EPA)

Toxicity to daphnia and other aquatic invertebrates

Immobilization EC50- Daphnia magna (Water flea)- 230 mg /l – 48 h (OECD Test Guideline 202)

Toxicity to algae

Static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 700 mg/l – 72 h (OECD Test Guideline 201)

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

Persistence and degradability

Benzyl alcohol

Biodegradability

aerobic - Exposure time 14 d

Result: 92 - 96 % - Readily biodegradable. (OECD Test Guideline 301C)

aerobic - Exposure time 21 d

Result: 95 - 97 % - Readily biodegradable. (OECD Test Guideline 301A)



Safety Data Sheet

905-0001-01 Revision: A

Revision Date: 27-Jan-2020

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Replaces: Version 4.0 Dated 05/14/19

| | |
|---------------------------------|---------------------|
| Biochemical Oxygen Demand (BOD) | 1,550 mg/g |
| Theoretical oxygen demand | 2,515 mg/g (IUCLID) |
| Ratio BOD/ThBOD | 62 % |

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

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.

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 |
| Poison inhalation hazard: | No |
| Not dangerous goods | |

IATA

| | |
|---------------------|-----|
| UN Number: | N/A |
| Not dangerous goods | |

IMDG

Not dangerous goods.



Safety Data Sheet

905-0001-01 Revision: A

Revision Date: 27-Jan-2020

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Replaces: Version 4.0 Dated 05/14/19

15. REGULATORY INFORMATION

OSHA Hazards

Combustible Liquid, Target Organ Effect, Harmful by Ingestion or Inhalation, 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:

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

Massachusetts Right To Know Components

| | CAS No. |
|-------------------|----------|
| Benzyl Alcohol | 100-51-6 |
| Diacetone Alcohol | 123-42-2 |

Pennsylvania Right To Know Components

| | CAS No. |
|-------------------|----------|
| Benzyl Alcohol | 100-51-6 |
| Diacetone Alcohol | 123-42-2 |

New Jersey Right To Know Components

| | CAS No. |
|-------------------|----------|
| Benzyl Alcohol | 100-51-6 |
| Diacetone Alcohol | 123-42-2 |

California Prop. 65 Components

| | CAS No. |
|---------|---------|
| Aniline | 62-53-3 |

German Regulations

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



Safety Data Sheet

905-0001-01 Revision: A

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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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