

INK 0001 DOD W BLACK

Safety data sheet according to U.S.A. Federal Hazcom 2012

SECTION 1. Identification of the substance/mixture and of the company/undertaking.

1.1. Product identifier.

Code: 0001
Product name: INK 0001 DOD W BLACK

1.2. Relevant identified uses of the substance or mixture and uses advised against.

Intended use: Printing Ink

1.3. Details of the supplier of the safety data sheet.

Name: MarCode Inc. dba Zanasi USA
Full address: 9490 Hemlock Lane N
District and Country: 55369 Maple Grove, Minnesota
United States of America
Tel. 763-593-1907
Fax.

1.4. Emergency telephone number.

For urgent inquiries refer to: For Hazardous Materials [or Dangerous Goods] Incident
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300

SECTION 2. Hazards identification.

2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement.

Flammable liquid, category 4
Hazard pictograms: --
Signal words: Warning

Combustible liquid.

Hazard statements:
H227 Combustible liquid.

Precautionary statements:

Prevention:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves / eye protection / face protection.
Response:
P370+P378 In case of fire: use . . . to extinguish.
Storage:
P403+P235 Store in a well-ventilated place. Keep cool.
Disposal:
P501 Dispose of contents / container to . . .

2.2. Other hazards.

Information not available.

SECTION 3. Composition/information on ingredients.

3.1. Substances.

Information not relevant.

INK 0001 DOD W BLACK**SECTION 3. Composition/information on ingredients. ... / >>****3.2. Mixtures.****Contains:**

Identification.	x = Conc. %.	Classification:
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WATER

CAS. 7732-18-5 76

EC. 231-791-2

INDEX.

2-BUTOXYETHANOL

CAS. 111-76-2 9

Flammable liquid, category 4 H227, Acute toxicity, category 4 H302, Acute toxicity, category 4 H312, Acute toxicity, category 4 H332, Eye irritation, category 2 H319, Skin irritation, category 2 H315

EC. 203-905-0

INDEX. 603-014-00-0

ETHANEDIOL

CAS. 107-21-1 8

Acute toxicity, category 4 H302

EC. 203-473-3

INDEX. 603-027-00-1

INERT

CAS. 6.5

EC.

INDEX.

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures.**4.1. Description of first aid measures.**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed.

Specific information on symptoms and effects caused by the product are unknown.

For symptoms and effects caused by the contained substances, see chap. 11.

4.3. Indication of any immediate medical attention and special treatment needed.

Information not available.

SECTION 5. Firefighting measures.**5.1. Extinguishing media.**

SUITABLE EXTINGUISHING EQUIPMENT

Choose the most appropriate extinguishing equipment for the specific case.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

The product is neither flammable nor combustible.

5.3. Advice for firefighters.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

INK 0001 DOD W BLACK**SECTION 6. Accidental release measures.****6.1. Personal precautions, protective equipment and emergency procedures.**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions.

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up.

Collect the leaked product into a suitable container. If the product is flammable, use explosion-proof equipment. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections.

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage.**7.1. Precautions for safe handling.**

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

7.2. Conditions for safe storage, including any incompatibilities.

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s).

Information not available.

SECTION 8. Exposure controls/personal protection.**8.1. Control parameters.**

Regulatory References:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits - Limits for Air Contaminants TABLE Z-1-1910.1000.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
EU	OEL EU TLV-ACGIH	Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC. ACGIH 2016

2-BUTOXYETHANOL**Threshold Limit Value.**

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	98	20	246	50	SKIN.
TLV-ACGIH	-	97	20			
OSHA	USA	240	50			SKIN.
CAL/OSHA	USA	97	20			SKIN.
NIOSH	USA	24	5			SKIN.

INK 0001 DOD W BLACK**SECTION 8. Exposure controls/personal protection. ... / >>****ETHANEDIOL****Threshold Limit Value.**

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
OEL	EU	52	20	104	40	SKIN.
TLV-ACGIH	-	10				
CAL/OSHA	USA	100	40			
NIOSH	USA				50 (C)	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

TLV of solvent mixture: 19 mg/m3.

8.2. Exposure controls.

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

HAND PROTECTION

Protect hands with category III work gloves (OSHA 29 CFR 1910.138).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84 and OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS.

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties.**9.1. Information on basic physical and chemical properties.**

Appearance	liquid	
Colour	black	
Odour	mild	
Odour threshold.	Not available.	
pH.	8-9	
Melting point / freezing point.	Not available.	
Initial boiling point.	Not available.	
Boiling range.	Not available.	
Flash point.	60 < T ≤ 93	(°C:F)
Evaporation rate	Not available.	
Flammability (solid, gas)	not flammable	
Lower flammability limit.	Not available.	
Upper flammability limit.	Not available.	
Lower explosive limit.	Not available.	
Upper explosive limit.	Not available.	
Vapour pressure.	5 mmHg	
Vapour density	Not available.	
Relative density.	1,01-1,02	
Solubility	miscible	
Partition coefficient: n-octanol/water	Not available.	
Auto-ignition temperature.	Not available.	

INK 0001 DOD W BLACK**SECTION 9. Physical and chemical properties.** ... / >>

Decomposition temperature.	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information.

Total solids (250°C / 482°F)	7,00 %
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SECTION 10. Stability and reactivity.**10.1. Reactivity.**

There are no particular risks of reaction with other substances in normal conditions of use.

2-BUTOXYETHANOL

Decomposes under the effect of heat.

ETHANEDIOL

In the air absorbs moisture. Decomposes at temperatures above 200°C/392°F.

10.2. Chemical stability.

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions.

No hazardous reactions are foreseeable in normal conditions of use and storage.

2-BUTOXYETHANOL

May react dangerously with: aluminium, oxidising agents. Forms peroxides with: air.

ETHANEDIOL

Risk of explosion on contact with: perchloric acid. May react dangerously with: chlorosulphuric acid, sodium hydroxide, sulphuric acid, phosphorus pentasulphide, chromium (III) oxide, chromyl chloride, potassium perchlorate, potassium dichromate, sodium peroxide, aluminium. Forms explosive mixtures with: air.

10.4. Conditions to avoid.

None in particular. However the usual precautions used for chemical products should be respected.

2-BUTOXYETHANOL

Avoid exposure to: sources of heat, naked flames.

ETHANEDIOL

Avoid exposure to: sources of heat, naked flames.

10.5. Incompatible materials.

Information not available.

10.6. Hazardous decomposition products.**2-BUTOXYETHANOL**

May develop: hydrogen.

ETHANEDIOL

May develop: hydroxyacetaldehyde, glyoxal, acetylaldehyde, methane, carbon monoxide, hydrogen.

SECTION 11. Toxicological information.**11.1. Information on toxicological effects.****ETHANEDIOL**

Following ingestion it initially stimulates the CNS; later on depression results. Renal damage with anuria and uremia may occur.

Symptoms of over exposure are: vomiting, somnolence, difficulty in breathing, convulsions. The lethal dose in man is approximately 1,4 l/kg. The way of entry is inhalation and ingestion.

ACUTE TOXICITY.

INK 0001 DOD W BLACK**SECTION 11. Toxicological information. ... / >>**

LC50 (Inhalation - vapours) of the mixture:	> 20 mg/l
LC50 (Inhalation - mists / powders) of the mixture:	Not classified (no significant component).
LD50 (Oral) of the mixture:	>2000 mg/kg
LD50 (Dermal) of the mixture:	>2000 mg/kg

2-BUTOXYETHANOL	
LD50 (Oral).	615 mg/kg Rat
LD50 (Dermal).	405 mg/kg Rabbit
LC50 (Inhalation).	2.2 mg/l/4h Rat

ETHANEDIOL	
LD50 (Oral).	> 2000 mg/kg Rat
LD50 (Dermal).	9530 mg/kg Rabbit

Carcinogenicity Assessment:

111-76-2	2-BUTOXYETHANOL
ACGIH:: A3	
IARC:3	
107-21-1	ETHANEDIOL
ACGIH:: A4	

SKIN CORROSION / IRRITATION.

Does not meet the classification criteria for this hazard class.

SERIOUS EYE DAMAGE / IRRITATION.

Does not meet the classification criteria for this hazard class.

RESPIRATORY OR SKIN SENSITISATION.

Does not meet the classification criteria for this hazard class.

GERM CELL MUTAGENICITY.

Does not meet the classification criteria for this hazard class.

CARCINOGENICITY.

Does not meet the classification criteria for this hazard class.

REPRODUCTIVE TOXICITY.

Does not meet the classification criteria for this hazard class.

STOT - SINGLE EXPOSURE.

Does not meet the classification criteria for this hazard class.

STOT - REPEATED EXPOSURE.

Does not meet the classification criteria for this hazard class.

ASPIRATION HAZARD.

Does not meet the classification criteria for this hazard class.

SECTION 12. Ecological information.

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity.

Information not available.

12.2. Persistence and degradability.

2-BUTOXYETHANOL	
Solubility in water.	1000 - 10000 mg/l
Rapidly biodegradable.	

ETHANEDIOL	
Solubility in water.	1000 - 10000 mg/l
Rapidly biodegradable.	

INK 0001 DOD W BLACK**SECTION 12. Ecological information.** ... / >>**12.3. Bioaccumulative potential.**

2-BUTOXYETHANOL
Partition coefficient: n-octanol/water. 0.81

ETHANEDIOL
Partition coefficient: n-octanol/water. -1.36

12.4. Mobility in soil.

Information not available.

12.5. Results of PBT and vPvB assessment.

Information not available.

12.6. Other adverse effects.

Information not available.

SECTION 13. Disposal considerations.**13.1. Waste treatment methods.**

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information.

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number.

Not applicable.

14.2. UN proper shipping name.

Not applicable.

14.3. Transport hazard class(es).

Not applicable.

14.4. Packing group.

Not applicable.

14.5. Environmental hazards.

Not applicable.

14.6. Special precautions for user.

Not applicable.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code.

Information not relevant.

SECTION 15. Regulatory information.**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture.**

U.S. Federal Regulations.

INK 0001 DOD W BLACK

SECTION 15. Regulatory information. ... / >>

Clean Air Act Section 112(b):

107-21-1 ETHANEDIOL

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

No component(s) listed.

Clean Water Act – Priority Pollutants:

No component(s) listed.

Clean Water Act – Toxic Pollutants:

No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

DEA List II Chemicals (Essential Chemicals):

No component(s) listed.

EPA List of Lists:

313 Category Code:

107-21-1 ETHANEDIOL

EPCRA 302 EHS TPQ:

No component(s) listed.

EPCRA 304 EHS RQ:

No component(s) listed.

CERCLA RQ:

107-21-1 ETHANEDIOL

EPCRA 313 TRI:

107-21-1 ETHANEDIOL

RCRA Code:

No component(s) listed.

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations.

Massachusetts:

111-76-2 2-BUTOXYETHANOL
107-21-1 ETHANEDIOL

Minnesota:

111-76-2 2-BUTOXYETHANOL
107-21-1 ETHANEDIOL

New Jersey:

111-76-2 2-BUTOXYETHANOL
107-21-1 ETHANEDIOL

New York:

107-21-1 ETHANEDIOL

Pennsylvania:

111-76-2 2-BUTOXYETHANOL
107-21-1 ETHANEDIOL

California:

111-76-2 2-BUTOXYETHANOL
107-21-1 ETHANEDIOL

Proposition 65:

INK 0001 DOD W BLACK**SECTION 15. Regulatory information. ... / >>**

This product does not contain any substances know to the State of California to cause cancer, reproductive harm or birth defects.

International Regulations.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Candadian WHMIS.

Information not available.

SECTION 16. Other information.

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 4	Flammable liquid, category 4
Acute Tox. 4	Acute toxicity, category 4
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
H227	Combustible liquid.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H315	Causes skin irritation.

LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAA 112 ® RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112®)
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: EC Regulation 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

INK 0001 DOD W BLACK**SECTION 16. Other information. ... / >>**

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website

- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Departemnt Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:

The following sections were modified:

03 / 09.