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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product code 97422
Product name Reflex Blue
Product category 9700 Series SV Screen Ink

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Printing operations

Details of the supplier of the safety data sheet

UNITED STATES	UNITED KINGDOM
Nazdar Company	Nazdar Limited
8501 Hedge Lane Terrace	Barton Road
Shawnee, KS 66227	Heaton Mersey
Tel: +001-913-422-1888	Stockport, England SK4 3EG
Tel: +001-800-677-4657	Tel: +44 161 442 2111
Fax: +001-913-422-2294	
www.nazdar.com	

Emergency telephone number

USA: Chemtrec: +001-800-424-9300
Outside USA: Chemtrec: +001-703-527-3887
24 Hour Emergency Phone Number

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Dermal	Category 4 - (H312)
Acute toxicity - Inhalation (Vapors)	Category 4 - (H332)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Skin Corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)

Label elements



Signal Word
Warning

Hazard Statements

H302 - Harmful if swallowed
H312 - Harmful in contact with skin

H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H332 - Harmful if inhaled

Precautionary Statements

P264 - Wash face, hands and any exposed skin thoroughly after handling
 P270 - Do not eat, drink or smoke when using this product
 P330 - Rinse mouth
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
 P332 + P313 - If skin irritation occurs: Get medical advice/attention
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337 + P313 - If eye irritation persists: Get medical advice/attention
 P280 - Wear protective gloves/protective clothing/eye protection/face protection

Hazards not otherwise classified (HNOC)

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Component	CAS-No	Weight %	Trade Secret	Note
2-Butoxyethanol	111-76-2	30 - 60	*	
Resin	Trade Secret	5 - 10	*	
Titanium dioxide	13463-67-7	1 - 5	*	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General Advice Show this safety data sheet to the doctor in attendance.
Eye Contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.
Skin Contact Wash off immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation (redness, rash, blistering) develops, get medical attention.
Inhalation Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.
Ingestion Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed

None under normal use conditions.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Foam. Carbon dioxide (CO₂). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions

Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling

Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep container closed when not in use. Keep out of the reach of children.

Incompatible Products

Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Component	ACGIH TLV
2-Butoxyethanol 111-76-2	TWA: 20 ppm
Titanium dioxide 13463-67-7	TWA: 10 mg/m ³

Component	OSHA PEL
2-Butoxyethanol 111-76-2	TWA: 50 ppm TWA: 240 mg/m ³ Skin
Titanium dioxide 13463-67-7	TWA: 15 mg/m ³ total dust

Component	OSHA PEL (vacated)
2-Butoxyethanol 111-76-2	TWA: 25 ppm TWA: 120 mg/m ³ Skin
Titanium dioxide 13463-67-7	TWA: 10 mg/m ³ total dust

Component	Ontario TWAEV
2-Butoxyethanol 111-76-2	TWA: 20 ppm
Titanium dioxide 13463-67-7	TWA: 10 mg/m ³

Component	Mexico OEL (TWA)
2-Butoxyethanol 111-76-2	TWA/VLE-PPT: 26 ppm TWA/VLE-PPT: 120 mg/m ³ STEL/PPT-CT: 75 ppm STEL/PPT-CT: 360 mg/m ³
Titanium dioxide 13463-67-7	TWA/VLE-PPT: 10 mg/m ³ STEL/PPT-CT: 20 mg/m ³

Appropriate engineering controls

Engineering Measures

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Wear safety glasses with side shields (or goggles). If splashes are likely to occur. Wear suitable face shield. Ensure that eyewash stations and safety showers are close to the workstation location.

Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Appearance	Colored Liquid
Odor	Characteristic	Odor Threshold	No information available
Property	Values	Remarks • Method	
pH		No data available	
Melting Point / Freezing Point		No data available	
Boiling Point / Boiling Range	> 149 °C / 300 °F		
Flash Point	62 °C / 143 °F	Pensky Martens Closed Cup (PMCC)	
Evaporation rate		No data available	
Flammability Limit in Air			
Upper flammability limit		No data available	
Lower flammability limit		No data available	
Vapor Pressure		No data available	
Vapor Density		No data available	
Specific Gravity	1		
Water Solubility		No data available	
Solubility in other solvents		No data available	
Partition coefficient: n-octanol/water		No data available	
Autoignition Temperature		No data available	
Decomposition temperature		No data available	
Kinematic viscosity		No data available	

Dynamic viscosity No data available

Explosive Properties No data available

Oxidizing Properties No data available

Other Information

Photochemically Reactive No

Weight Per Gallon (lbs/gal) 8.35

VOC by weight % (less water)	VOC by volume % (less water)	VOC lbs/gal (less water)	VOC grams/liter (less water)
58.9	60.85	4.92	590.16

10. STABILITY AND REACTIVITY

Reactivity

No information available.

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO₂). Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Specific test data for the substance or mixture is not available. Harmful if inhaled. (based on components).
Eye Contact	Specific test data for the substance or mixture is not available.
Skin Contact	Specific test data for the substance or mixture is not available. Harmful in contact with skin. (based on components).
Ingestion	Specific test data for the substance or mixture is not available. Harmful if swallowed. (based on components).

Component	Oral LD50
2-Butoxyethanol 111-76-2	= 470 mg/kg (Rat)
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)

Component	Dermal LD50
2-Butoxyethanol 111-76-2	= 99 mg/kg (Rabbit)

Component	Inhalation LC50
2-Butoxyethanol 111-76-2	= 450 ppm (Rat) 4 h = 486 ppm (Rat) 4 h

Information on toxicological effects

Symptoms Specific test data for the substance or mixture is not available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Specific test data for the substance or mixture is not available. Causes skin irritation (pain, redness and swelling). (based on components).
Eye damage/irritation	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components).
Irritation	Specific test data for the substance or mixture is not available.
Corrosivity	Specific test data for the substance or mixture is not available.
Sensitization	Specific test data for the substance or mixture is not available.
Mutagenic Effects	Specific test data for the substance or mixture is not available.
Carcinogenic effects	Specific test data for the substance or mixture is not available.
Reproductive Effects	Specific test data for the substance or mixture is not available.
STOT - single exposure	Specific test data for the substance or mixture is not available.
STOT - repeated exposure	Specific test data for the substance or mixture is not available.
Chronic Toxicity	Specific test data for the substance or mixture is not available.
Aspiration hazard	Specific test data for the substance or mixture is not available.
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH
2-Butoxyethanol 111-76-2	A3

Component	IARC
Titanium dioxide 13463-67-7	Group 2B

Component	OSHA
Titanium dioxide 13463-67-7	X

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	850.00 mg/kg
ATEmix (dermal)	1,871.00 mg/kg mg/l
ATEmix (inhalation-dust/mist)	2.60 mg/l
ATEmix (inhalation-vapor)	19.00 mg/l

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Specific test data for the substance or mixture is not available.

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Component	Fish
2-Butoxyethanol 111-76-2	96h LC50 Lepomis macrochirus: = 2950 mg/L 96h LC50 Lepomis macrochirus: = 1490 mg/L (static)

Component	Crustacea
2-Butoxyethanol 111-76-2	48h EC50 Daphnia magna: > 1000 mg/L

Persistence and Degradability

No information available.

Bioaccumulation

No information available

Component	Partition coefficient
2-Butoxyethanol 111-76-2	0.81

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods Contain and dispose of waste according to local regulations.

Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Note: This information is not intended to convey all specific transportation requirements relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation information can be found in the specific regulations for your mode of transportation. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

DOT Not regulated
Proper Shipping Name Printing Ink

ICAO / IATA / IMDG / IMO Not Regulated
Proper Shipping Name Printing Ink

15. REGULATORY INFORMATION

International Inventories

All components are listed on the TSCA Inventory. For further information, please contact: Supplier (manufacturer/importer/downstream user/distributor).

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	CAS-No	Weight %	SARA 313 - Threshold Values
2-Butoxyethanol	111-76-2	30 - 60	1.0
Copper Phthalocyanine Compound	Trade Secret	1 - 5	1.0

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Component	CAS-No	Weight %
2-Butoxyethanol	111-76-2	30 - 60

U.S. State Regulations

Component	Massachusetts Right To Know

2-Butoxyethanol 111-76-2	X
Titanium dioxide 13463-67-7	X

Component	Minnesota Right To Know
2-Butoxyethanol 111-76-2	X
Titanium dioxide 13463-67-7	X

Component	New Jersey Right To Know
2-Butoxyethanol 111-76-2	X
Titanium dioxide 13463-67-7	X

Component	Pennsylvania Right To Know
2-Butoxyethanol 111-76-2	X
Titanium dioxide 13463-67-7	X

California Prop. 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm

Component	California Prop. 65
Titanium dioxide	Carcinogen

- This product contains titanium dioxide in a non-respirable form. Inhalation of titanium dioxide is unlikely to occur from exposure to this product

Canada

Component	NPRI - National Pollutant Release Inventory
2-Butoxyethanol 111-76-2	Part 5, Individual Substances; Part 4 Substance

Pursuant to NOM-018-STPS-2015

This information within is considered correct but is not exhaustive and will be used for guidance only, which is based on the current knowledge of the substance or mixture and is applicable to the appropriate safety precautions for the product.

16. OTHER INFORMATION

HMIS:	Health	Flammability	Reactivity	Personal Protection
	2 *	2	0	X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)
STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value

ACGIH: (American Conference of Governmental Industrial Hygienists)

- A1 - Known Human Carcinogen
- A2 - Suspected Human Carcinogen
- A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)

- Group 1 - Carcinogenic to Humans
- Group 2A - Probably Carcinogenic to Humans
- Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen
Reasonably Anticipated to be a Human Carcinogen
OSHA: (Occupational Safety & Health Administration)
X - Present

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet