



1. PRODUCT AND COMPANY IDENTIFICATION

Product code ADE67
Product name Reflex Blue
Product description ADE Series Epoxy Screen Ink

Manufacturer or supplier's details

UNITED STATES
Nazdar Company
8501 Hedge Lane Terrace
Shawnee, KS 66227
Tel: 1-913-422-1888
Tel: 1-800-677-4657
Fax: 1-913-422-2294

UNITED KINGDOM
Nazdar Limited
7 Barton Road
Heaton Mersey Industrial Estate
Stockport, Chesire SK4 3EG
Tel: +44 161 442 2111

Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300
Outside USA: Chemtrec: 1-703-527-3887

Website: www.nazdar.com
MSDS Information: 1-913-422-1888 ext 2305
MSDS Contact: Regulatory Compliance
email: regcomp@nazdar.com

2. HAZARDS IDENTIFICATION

This product is a preparation. Health hazard information is based on its components.

Appearance Viscous liquid.
Flammable Properties Combustible liquid and vapor.
Emergency Overview Irritant. May cause drowsiness and dizziness.

Eyes May irritate eyes.
Skin May cause skin irritation and/or dermatitis. Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

Inhalation Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Dipropylene Glycol Monomethyl Ether	34590-94-8	10 - 30
Diacetone alcohol	123-42-2	10 - 30
C.I. Pigment Blue 15:3	147-14-8	5 - 10
Propylene glycol monomethyl ether	107-98-2	1 - 5
2-Butoxyethanol	111-76-2	1 - 5
Titanium dioxide	13463-67-7	1 - 5

4. FIRST AID MEASURES

Skin Contact Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

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 immediately if irritation develops and persists.

Inhalation Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

Ingestion If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Combustible liquid and vapor.
Suitable Extinguishing Media	Foam. Carbon dioxide (CO ₂). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
Specific Hazards Arising from the Chemical	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Methods for Cleaning Up	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
Environmental Precautions	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

7. HANDLING AND STORAGE

Handling	Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component	Weight %	ACGIH TLV	OSHA PEL	Ontario TWAEV
Dipropylene Glycol Monomethyl Ether	10 - 30	TWA: 100 ppm Skin STEL: 150 ppm	TWA: 600 mg/m ³ TWA: 100 ppm STEL: 150 ppm STEL: 900 mg/m ³ Skin	TWA: 100 ppm TWA: 605 mg/m ³ STEL: 150 ppm STEL: 910 mg/m ³
Diacetone alcohol	10 - 30	TWA: 50 ppm	TWA: 50 ppm TWA: 240 mg/m ³	TWA: 240 mg/m ³ TWA: 50 ppm STEL: 360 mg/m ³ STEL: 75 ppm
Propylene glycol monomethyl ether	1 - 5	TWA: 100 ppm STEL: 150 ppm	TWA: 100 ppm TWA: 360 mg/m ³ STEL: 540 mg/m ³ STEL: 150 ppm	TWA: 365 mg/m ³ TWA: 100 ppm STEL: 150 ppm STEL: 550 mg/m ³
2-Butoxyethanol	1 - 5	TWA: 20 ppm	TWA: 120 mg/m ³ TWA: 25 ppm Skin TWA: 50 ppm TWA: 240 mg/m ³	TWA: 20 ppm Skin

Component	Weight %	ACGIH TLV	OSHA PEL	Ontario TWAEV
Titanium dioxide	1 - 5	TWA: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 15 mg/m ³	TWA: 10 mg/m ³

Component	Weight %	NIOSH IDLH	Mexico OEL (TWA)
Dipropylene Glycol Monomethyl Ether	10 - 30	600 ppm	TWA: 100 ppm TWA: 60 mg/m ³ STEL: 150 ppm STEL: 900 mg/m ³
Diacetone alcohol	10 - 30	1800 ppm 10% LEL	TWA: 240 mg/m ³ TWA: 50 ppm STEL: 75 ppm STEL: 360 mg/m ³
C.I. Pigment Blue 15:3	5 - 10	100 mg/m ³	
2-Butoxyethanol	1 - 5	700 ppm	TWA: 120 mg/m ³ TWA: 26 ppm STEL: 360 mg/m ³ STEL: 75 ppm
Titanium dioxide	1 - 5	5000 mg/m ³	TWA: 10 mg/m ³ STEL: 20 mg/m ³

NIOSH IDLH: Immediately Dangerous to Life or Health

Engineering Measures

Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.

Personal Protective Equipment

Respiratory Protection

Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.

Eye Protection

Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.

Skin Protection

Wear protective gloves/clothing. Solvent-resistant apron and boots.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Viscous liquid	Physical State	Liquid
Odor	Characteristic	Odor Threshold	No information available
pH	No information available	Autoignition Temperature	No information available
Boiling point/Boiling Range	>149°C / >300°F	Melting Point/Range	No information available
Freezing Point/Range	No information available	Solubility	No information available
Evaporation Rate	No information available	Partition Coefficient (n-octanol/water)	No information available
Vapour Pressure	No information available	Vapour Density	Heavier than air
Flammability (solid, gas)	No information available	Flash Point	52°C / 125°F
Flammability Limits in Air		Method	Setaflash closed cup
Upper	No information available	Photochemically Reactive	No
Lower	No information available		
Weight Per Gallon (lbs/gal)	9.185	Specific Gravity	1.1
VOC by weight	40.316	VOC by volume	42.6
VOC lbs/gal	3.707	VOC grams/liter	444.163

10. STABILITY AND REACTIVITY

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Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Heat, flames and sparks.
Incompatible Products	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO ₂). Carbon monoxide.
Possibility of Hazardous Reactions	None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Dipropylene Glycol Monomethyl Ether	5230 mg/kg (Rat)	9500 mg/kg (Rabbit)	
Diacetone alcohol	4 g/kg (Rat)	13500 mg/kg (Rabbit)	
Propylene glycol monomethyl ether	5200 mg/kg (Rat)	13000 mg/kg (Rabbit)	54.6 mg/L (Rat) 4 h 24 mg/L (Rat) 1 h
2-Butoxyethanol	470 mg/kg (Rat)	2270 mg/kg (Rat) 220 mg/kg (Rabbit)	2.21 mg/L (Rat) 4 h 450 ppm (Rat) 4 h
Titanium dioxide	10000 mg/kg (Rat)		

Chronic Toxicity

Component	ACGIH	IARC	NTP	OSHA
2-Butoxyethanol	A3			
Titanium dioxide		Group 2B		X

Legend:

ACGIH: (American Conference of Governmental Industrial Hygienists)
 IARC: (International Agency for Research on Cancer)
 OSHA: (Occupational Safety & Health Administration)

A3 - Animal Carcinogen
 Group 2B - Possibly Carcinogenic to Humans
 X - Present

Sensitisation	No information available
Mutagenic Effects	No information available
Reproductive Effects	No information available
Developmental Effects	No information available
Teratogenicity	No information available
Chronic Effects	Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effect, such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system.
Target Organ Effects	Blood, Central nervous system, Eyes, Hematopoietic System, Kidney, Liver, Lungs, Respiratory system, Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Environmental fate information is derived from consideration of the properties of the ingredients. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Dipropylene Glycol Monomethyl Ether		96 Hr LC50 Pimephales promelas: >10000 mg/L [static]	48 Hr LC50 Daphnia magna: 1919 mg/L

Component	Freshwater Algae	Freshwater Fish	Water Flea
Diacetone alcohol		96 Hr LC50 Lepomis macrochirus: 420 mg/L	48 Hr EC50 water flea: 8750 mg/L
C.I. Pigment Blue 15:3		48 Hr LC50 Oryzias latipes: >100 mg/L [static]	
Propylene glycol monomethyl ether		96 Hr LC50 Pimephales promelas: 20.8 g/L [static]; 96 Hr LC50 Leuciscus idus: 4600-10000 mg/L [static]	96 Hr EC50 water flea: 10457 mg/L
2-Butoxyethanol		96 Hr LC50 Lepomis macrochirus: 2950 mg/L	24 Hr EC50 water flea: 1720 mg/L; 24 Hr LC50 Daphnia magna: 1698-1940 mg/L

Persistence and Degradability	No information available
Bioaccumulation	No information available
Mobility in Environmental Media	No information available

Component	log Pow
Dipropylene Glycol Monomethyl Ether	-0.064
Diacetone alcohol	1.03
C.I. Pigment Blue 15:3	6.6
Propylene glycol monomethyl ether	-0.437
2-Butoxyethanol	0.81

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods	Dispose of contents/container in accordance with local regulation.
Contaminated Packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

DOT

UN1210, Printing Ink, 3, III

ICAO/IATA

UN1210, Printing Ink, 3, III

IMDG/IMO

UN1210, Printing Ink, 3, III

15. REGULATORY INFORMATION

International Inventories

Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

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	1 - 5	1.0

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

This product contains the following HAPs:

Component	CAS-No	Weight %
Dipropylene Glycol Monomethyl Ether	34590-94-8	10 - 30

U.S. State Regulations**California Prop. 65**

WARNING! This product contains a chemical known in the State of California to cause cancer. WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Component	CAS-No	Weight %
Benzene	71-43-2	< 0.01
Quartz, crystalline silica	14808-60-7	< 0.01

State Right-to-Know

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
Dipropylene Glycol Monomethyl Ether	Not Listed	Not Listed	X	X	X	X
Diacetone alcohol	Not Listed	Not Listed	X	X	X	X
C.I. Pigment Blue 15:3	Not Listed	Not Listed	X	X	Not Listed	Not Listed
Propylene glycol monomethyl ether	Not Listed	Not Listed	X	X	X	X
2-Butoxyethanol	Not Listed	Not Listed	X	X	X	X
Titanium dioxide	Not Listed	Not Listed	X	X	X	X

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
Dipropylene Glycol Monomethyl Ether	B3
Diacetone alcohol	B3, D2B
C.I. Pigment Blue 15:3	Uncontrolled product according to WHMIS classification criteria
Propylene glycol monomethyl ether	B2
2-Butoxyethanol	B3, D1A, D2B
Titanium dioxide	D2A

Component	NPRI - National Pollutant Release Inventory
Dipropylene Glycol Monomethyl Ether	Part 4 Substance
Diacetone alcohol	Part 4 Substance
C.I. Pigment Blue 15:3	Part 1, Group 1 Substance
Propylene glycol monomethyl ether	Part 4 Substance
2-Butoxyethanol	Part 4 Substance Part 1, Group 1 Substance; Part 5 Substance

REACH: Substances of Very High Concern (SVHC): Article 57 of Regulation (EC) No 1907/2006

Does NOT contain a listed substance

HMIS: Health 1* Flammability 2 Instability 0 PPE X

16. OTHER INFORMATION

Revision Date Dec-08-2008

Revision Summary New MSDS format

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 MSDS