



1. PRODUCT AND COMPANY IDENTIFICATION

Product code ADE11
Product name Lemon Yellow
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 |
| Titanium dioxide | 13463-67-7 | 10 - 30 |
| Diacetone alcohol | 123-42-2 | 5 - 10 |
| Propylene glycol monomethyl ether | 107-98-2 | 1 - 5 |
| 2-Butoxyethanol | 111-76-2 | 1 - 5 |
| C.I. Pigment yellow 14 | 5468-75-7 | 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 |
| Titanium dioxide | 10 - 30 | TWA: 10 mg/m ³ | TWA: 10 mg/m ³ TWA: 15 mg/m ³ | TWA: 10 mg/m ³ |
| Diacetone alcohol | 5 - 10 | 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 |

| Component | Weight % | ACGIH TLV | OSHA PEL | Ontario TWAEV |
|-----------------|----------|-------------|--|------------------|
| 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 % | 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 |
| Titanium dioxide | 10 - 30 | 5000 mg/m ³ | TWA: 10 mg/m ³ STEL: 20 mg/m ³ |
| Diacetone alcohol | 5 - 10 | 1800 ppm 10% LEL | TWA: 240 mg/m ³ TWA: 50 ppm STEL: 75 ppm STEL: 360 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 |

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) | 10.074 | Specific Gravity | 1.21 |
| VOC by weight | 30.575 | VOC by volume | 34.286 |
| VOC lbs/gal | 3.083 | VOC grams/liter | 369.455 |

10. STABILITY AND REACTIVITY

10. STABILITY AND REACTIVITY

| | |
|---|--|
| 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) | |
| Titanium dioxide | 10000 mg/kg (Rat) | | |
| 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 |
| C.I. Pigment yellow 14 | 5 g/kg (Rat) | | |

Chronic Toxicity

| Component | ACGIH | IARC | NTP | OSHA |
|------------------------|-------|----------|-----|------|
| Titanium dioxide | | Group 2B | | X |
| 2-Butoxyethanol | A3 | | | |
| C.I. Pigment yellow 14 | | Group 1 | | |

Legend:

ACGIH: (American Conference of Governmental Industrial Hygienists)

IARC: (International Agency for Research on Cancer)

OSHA: (Occupational Safety & Health Administration)

A3 - Animal Carcinogen
Group 1 - Carcinogenic to Humans
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 | Bladder, 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 |
| Diacetone alcohol | | 96 Hr LC50 Lepomis macrochirus: 420 mg/L | 48 Hr EC50 water flea: 8750 mg/L |
| 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 |
| 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 | < 0.001 |
| C.I. Pigment yellow 14 | 5468-75-7 | 1 - 5 |

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 |
| Titanium dioxide | Not Listed | Not Listed | X | X | X | X |
| Diacetone alcohol | Not Listed | Not Listed | X | X | X | X |
| Propylene glycol monomethyl ether | Not Listed | Not Listed | X | X | X | X |
| 2-Butoxyethanol | Not Listed | Not Listed | X | X | X | X |
| C.I. Pigment yellow 14 | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed | Not Listed |

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 |
| Titanium dioxide | D2A |
| Diacetone alcohol | B3, D2B |
| Propylene glycol monomethyl ether | B2 |
| 2-Butoxyethanol | B3, D1A, D2B |

| Component | NPRI - National Pollutant Release Inventory |
|-------------------------------------|--|
| Dipropylene Glycol Monomethyl Ether | Part 4 Substance |
| Diacetone alcohol | Part 4 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