

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT IDENTIFICATION

**Product name:** NXR-3022 Nanoimprint Resist (underlayer)

Revision date: 08/29/2008

**Supplier:** Nanonex Corporation

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## 2. COMPOSITION/ INFORMATION ON COMPONENTS

Proprietary

## 3. HAZARDS IDENTIFICATION

### Physical Hazards:

Flammable/combustible liquid

### Acute Health Effects (Short-Term):

May causes skin and eye irritation. May cause allergic skin reaction. Inhalation of vapors in unventilated area may, over time, induce headaches.

### Chronic Health Effects (Long-Term):

No data on the chronic health effects of this material is available.

## 4. FIRST AID MEASURES

### Inhalation:

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

### Eye Contact:

In case of eye contact, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain emergency medical attention.

### Skin Contact:

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Seek medical attention if ill effect or irritation develops.

### Ingestion:

Seek immediate medical advice.

## 5. FIRE FIGHTING MEASURES

### Recommended Extinguishing Media:

Carbon dioxide, dry chemical, wafer spray, foam, or wafer fog.

### Special Firefighting Procedures:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep fire exposed containers cool and reduce vapors with water spray.

**Hazardous Decomposition Products:**

Acrid smoke-fumes/carbon monoxide/carbon dioxide and perhaps other toxic vapors may be released during a fire involving this product.

**6. ACCIDENTIAL RELEASE MEASURES**

Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Wear disposable coveralls and discard them after use. Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete. Evacuate area. Shut off all sources of ignition.

**7. HANDLING AND STORAGE****Handling:**

Keep away from sources of ignition.  
Use only in a fume hood.

**Storage:**

Keep container tightly closed in a cool, dry, and well-ventilated area.  
Keep away from heat, sparks, open flame and strong oxidizing agents.

**8. EXPOSURE CONTROLS/ PERSONAL PROTECTION****Respiratory Protection:**

If this material is handled at elevated temperature or under mist forming conditions, NIOSH/MSHA-approved respiratory protection equipment should be used.

**Eye Protection:**

Avoid eye contact. Eye protection such as chemical splash goggles and/or face shield must be worn, when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapor. Contact lenses should not be worn.

**Skin Protection:**

When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn. This equipment must be cleaned thoroughly after each use.

**Engineering Controls:**

If handling results in aerosol or vapor generation, local exhaust ventilation is recommended.

**Other Hygienic Practices:**

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

**Other Work Practices:**

Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse. Shower after work using plenty of soap and water.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Boiling point: 149 °C  
Melting point: -80 °C  
Flashpoint: 48 °C (118 °F)  
Explosion limits in air:



Upper: No data  
Lower: 1.1 vol. %  
Ignition temperature: 252 °C (486 °F)  
Vapor pressure: 1.5 mmHg / 20 °C  
Specific gravity: 0.89 / 20 °C  
Solubility in water: soluble

## 10. TOXICOLOGICAL INFORMATION

### Acute Data:

May causes skin and eye irritation. May cause allergic skin reaction. Inhalation of vapors in unventilated area may, over time, induce headaches.

### Sub-chronic Data:

Other than potential irritation as indicated above, no information on illness or injury to humans from acute or chronic exposure to this product is available.

## 11. DISPOSAL CONSIDERATION

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

## 12. REGULATORY INFORMATION

### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xi

Indication of Danger: Irritant.

R: 10-36/37/38

Risk Statements: Flammable. Irritating to eyes, respiratory system and skin.

S: 16-26-36

Safety Statements: Keep away from sources of ignition – no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Combustible (USA) Flammable (EU). Irritant.

Risk Statements: Irritating to eyes, respiratory system and skin.

Safety Statements: Keep away from sources of ignition – no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US Statements: Target organ(s): Eyes. Liver.

### UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes

DEMINIMIS: 1 %

NOTES: This product is subject to SARA section 313 reporting requirements - glycol ethers.

TSCA INVENTORY ITEM: Yes

### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

## 13. TRANSPORTATION INFORMATION

**DOT:**

Proper Shipping Name: Ethers, n.o.s.  
UN#: 3271  
Class: 3  
Packing Group: Packing Group III  
Hazard Label: Flammable liquid  
PIH: Not PIH

**IATA:**

Proper Shipping Name: Ethers, n.o.s. (propoxy propanol solution)  
IATA UN Number: 3271  
Hazard Class: 3  
Packing Group: III

**14. OTHER INFORMATION**

<b>HMIS Est.:</b>	Health – 1	Flammability – 2	Reactivity – 0
<b>NFPA Est.:</b>	Health – 1	Flammability – 2	Reactivity – 0

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. Nanonex shall not be held liable for any damage resulting from handling or from contact with the above product.