NORLAND PRODUCTS INCORPORATED
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SAFETY DATA SHEET

For Emergency:
Telephone (609) 395-1966
Date Prepared: November 12, 2024

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

TRADE NAME: **Norland Optical Adhesive 86TH**
TRADE CODE: **NOA 86TH**
PRODUCT USE: Ultraviolet/Visible Light and Heat Curing Adhesive
MANUFACTURER & SUPPLIER: **NORLAND PRODUCTS INC**
1095 Cranbury South River Road
Suite 20
Jamesburg, NJ 08831 **USA**
TELEPHONE: (609) 395-1966 FAX: (609) 395-9006
EMAIL: SDS@norlandproducts.com

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture GHS-US Classification

Acute Oral Toxicity: Cat. 4
Skin Sensitization: Cat. 1A
Eye Damage/Irritation: Cat. 2A
Acute Aquatic Toxicity: Cat. 1
Specific Organ Toxicity:
Single Exposure: Cat. 2 (Central Nervous System)
Repeated Exposure: Cat. 1 (Liver)

Pictogram

Signal Word: Warning

2.2 Label Elements GHS-US Labeling

Hazard Statements (GHS-US)

H302 Harmful if Swallowed
H317 May Cause an Allergic Skin Reaction
H319 Causes Serious Eye Irritation
H410 Very Toxic to Aquatic Life with Long Lasting Effects
H411 Toxic to Aquatic Life with Long Lasting Effects
H371 May Cause Damage to Organs (Central Nervous System)
H372 Causes Damage to Organs (Liver) Through Prolonged or Repeated Exposure

Precautionary Statements:

P301+P316 If Swallowed: Get Emergency Medical Help Immediately
P305+ P351+P338 If in Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.
P260 Do not breathe dust/fume/gas/mist/vapor/spray
P280 Wear Protective Gloves/protective clothing/eye protection/face protection
P501 Dispose of contents/container in accordance with local, regional, national and international regulations
P403+ P233+ P235 Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Other Hazard: None Known

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Nature: Urethane related resin based formulation

Composition:	Cas#:	Content:	GHS-US Classifications
Pentaerythritol Tetra 3	7575-23-7	30-50%	H302 Cat. 4 Harmful If Swallowed H317 Cat. 3 Skin Sensitization H319 Cat. 2A Eye Damage/ Irritation H335 Cat. 3 Respiratory Tract Irritation H410 Cat. 1 Acute Aquatic Toxicity H411 Cat. 2 Aquatic Toxicity H371 Cat 2 May Cause Damage to Organs (Central Nervous System) H372 Cat 1 Causes Damage to Organs through prolonged or repeated exposure (Liver)
Acrylic Monomer	Trade Secret	36-60%	Same GHS-US Classification as above
Benzopinacol	464-72-2	.3-3%	

4. FIRST AID MEASURES

First Aiders should wear gloves/protective clothes & eye/face protection

In Case of Inhalation: If tightness in the chest, irritation, or coughing occurs, remove to fresh air. Get Medical attention if symptoms persist.

In Case of Splashes in Eye: If the material gets in the eyes, immediately wash the eyes with copious amounts of water, occasionally lifting the lower and upper eyelids. Continue for 15 minutes and get Medical attention immediately.

In Case of Skin Contact: If the material gets on the skin, immediately wash the area with soap and water and flush with water. If irritation develops, get Medical attention.

In Case of Clothes Splattering: Discard or wash contaminated clothing before reuse.

In Case of Ingestion: If material has been swallowed, dilute with milk or water if the victim is alert. See doctor as soon as possible.

First Aiders should wear gloves, protective clothing, eye/face protection if there is a potential for exposure to Liquid product.

5. FIRE-FIGHTING MEASURES

Extinguishing Media Recommended: Carbon Dioxide, foam, dry chemical

Extinguishing Media Inadvisable: Water. Jets of Water from fire hose

Special Hazards: None

Hazardous Decomposition/Combustion Products: Could generate carbon monoxide, carbon dioxide, sulfur dioxide or Hydrogen sulfide

Special Protection Equipment: A Self-contained breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

Measures For Personal Safety:

GLOVES: Use gloves made from an impervious material (e.g. nitrile, butyl, or latex rubber) latex rubber may soften and become pervious if also exposed to organic solvents

RESPIRATOR: Not required under normal operating conditions. Respiratory protection may be needed in unusual circumstances where significant exposure to fumes or mists can occur. A NIOSH approved air purifying respirator with an organic vapor cartridge would be recommended. Use must comply with OSHA (29 CFR 1910.134) and other regulatory standards.

EYE: Wear Safety Glasses

FOOTWEAR: Impervious shoes (e.g. leather, not cloth or sandals)

Ventilation Requirements:

A Fume Hood is not generally required. The room should have adequate ventilation to avoid potential for concentration of mist or vapors.

Environmental Measures:

Stop the product from entering the drainage system and the natural environment. Limit leakage with Earth.

Cleaning Methods:

Recovery: Absorb material with paper towel or other absorbent. Place in container for disposal. If possible, expose absorbed resin to UV light or sunlight to solidify resin.

Cleaning/Decontamination: Clean up with soap and water

Elimination: Eliminate according to local and national regulations

7. HANDLING AND STORAGE

Handling:

Technical Measures; Do not reuse container. This product is for Industrial use only. Practice good housekeeping and vigorous personal hygiene to minimize contact with material.

Precautions to Take: Avoid Contact with skin and eyes

Storage: Store at 1°C to 5°C Keep away from Sunlight

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Precautionary Measure: None

Exposure Limits: None

Protective Personal Equipment:

Respiratory: Not needed with normal use

Protection for hands: Use gloves made from an impervious material (e.g. nitrile, butyl or latex rubber. Latex rubber may soften and become pervious if also exposed to organic solvents.

Eye Protection: Wear Safety Glasses

Protection from Skin: Wear Clothing that provides protection to skin

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	
Color:	Clear Liquid
Odor:	Slight Sulfur Odor
pH:	No Data Available
Melting Point:	No Data Available
Boiling Point:	No Data Available
Decomposition Temperature:	>300°C
Flash Point:	175°C
Auto Ignition Temperature:	No Data Available
Explosive Properties:	None
Oxidizing Properties:	None
Vapor Pressure:	<0.1 @ 20°C
Density:	>1
Solubility/Miscibility:	
Solubility in Water:	Not miscible
Viscosity:	20,000 – 25,000 CPS @ 25°C

10. STABILITY AND REACTIVITY

Conditions to Avoid:	Keep away from UV and Sunlight. Temperatures above 65°C may cause exothermic non-hazardous polymerization.
Substances to Avoid:	None
Hazardous Decomposition Products:	None

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	
Ingestion:	LD50 Oral (Rat): 1,000-2,000 mg/kg Method: OECD Test Guidelines 423
Inhalation:	LC50 (Rat) >3.6v mg/l Method: OECD Test Guidelines 403
Local Effects:	
On Skin:	Slight irritating to skin
On Eyes:	Irritating to eyes
Long Term Toxicity:	
Skin Contact:	May cause sensitization by skin contact
Reproductive Toxicity:	No Data Available

12. ECOLOGICAL INFORMATION

Toxicity to Fish:	LC50 (Oncorhynchus Mykiss (rainbow trout): 0.42 mg/l Method: OECD Test Guidelines 203
Toxicity to Daphnia & Other:	EC50 (Daphnia Magna (Water Flea): 0.35 mg/l
Mobility:	Cured adhesives are immobile
General Ecological:	Do Not empty liquid into drains or ground water

13. DISPOSAL CONSIDERATION

Disposal Methods for Product and Waste:

Send to authorized disposal plants or for incineration under controlled conditions

Disposal Methods for Contaminated Packaging:

Do not reuse package. Send to authorized disposal plants or for incineration under controlled Conditions.

You should comply with the local and national regulations in force when disposing.

14. TRANSPORTATION INFORMATION

International Regulations:

IATA-DGR UN/ID No. UN 3082 Environmentally Hazardous Substance: liquid Class 9
Packing Group: III , low danger (z),
Packing Instruction: (cargo aircraft): 964 (passenger aircraft): 964

IMDG-Code UN number: UN 3082 Environmentally Hazardous Subsance:
liquid packing group III, low danger (z)

15. REGULATORY INFORMATION

Contains:
Urethane related adhesives

US Federal Regulations

Unless otherwise noted, this product is in compliance with the inventory listing of the Countries shown below:

Europe (EINECS/ELINCS)	Listed/Registered
USA (TSCA)	Listed/Registered
Canada (DSL)	Listed/Registered
Australia (AICS)	Listed/Registered
Japan (MITI)	Listed/Registered
Korea (TCCL)	Listed/Registered
Philippines (PICCS)	Listed/Registered
China	Listed/Registered

16. OTHER INFORMATION

Custom Situation: Harmonized System (HTS/Schedule B) 3506.91.0000

Last Revision: August 25, 2023
Latest Revision: November 12, 2024

The information included 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 guidance for the 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 test.