



- Introductions

- Jaime MacFall – Business Development Manager of North Shore Floors
- Bob Watts – VP of Sales at North Shore Floors

- Review of Polyurea

- Watch old school clip of “Your Fathers Polyurea”
- Review what technology has changed in the past 15 years

- Comparison of popular coating technologies

- Chemical resistance comparison
- Physical properties comparison
- Watch hammer clip

- Review of polyurea and LEED

- LEED points overview
- Region material
- What is a VOC?
  - *Substance that will evaporate at temperature of use and which, by a photochemical reaction, will cause oxygen in the air to be converted into smog-promoting ozone under favorable climatic conditions.*
- Zero VOC's (Smelling experiment)
- Material Reuse (Asbestos Encapsulation)
- Recycled Content

- Continuing R&D Effort

- New roofing experiment

# Vikon Coatings

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## MATERIAL SAFETY DATA SHEET

Product: DYNA-PUR 9070BL (Side A)  
Date: September 30, 2009

### SECTION 1 Material

Product Name: Vikote Standard 9070BL (Side A) (All Colors)  
Product Code: PU-9070BL-\*-\*  
Chemical Family: Aliphatic Polyisocyanate  
Chemical Name: Blend of IPDI/HDI based Polyisocyanate Prepolymer  
Product Use: Polyurea/Polyurethane Hardener

### SECTION 2 Physical and Chemical Properties

Form:	Liquid	Odor:	Nearly Odorless
Color:	Clear/Pale Yellow	Odor Threshold:	not est.
Molecular Weight:	N/A	Solubility in Water % by WT:	Insoluble
Boiling Point:	N/A	Specific Gravity (H <sub>2</sub> O=1):	1.14 @ 20°C
Vapor Pressure (at 20°C, mm Hg):	1.8 x 10 <sup>-5</sup>	Percent Volatile by Volume:	Negligible
Vapor Density (air=1):	N/A	Evaporation Rate (butyl acetate = 1):	N/A
Freezing Point:	-74°F (-59°C)	Viscosity (cps at 25°F):	2975
Bulk Density (lbs/gal):	9.5	Percent Solids by Weight:	100

Volatile Organic Compounds (VOCs) by Formulation: 0%

### SECTION 3 Stability and Reactivity

Stability: Stable under normal conditions.  
Conditions to Avoid: N/A  
Incompatibility (Materials to Avoid): Water, amines, strong bases, alcohols  
Hazardous Polymerization: May occur; contact with moisture or other materials which react with isocyanates or temperatures above 400°F may cause polymerization.  
Decomposition Products: By high heat and fire: carbon dioxide, carbon monoxide, oxides of nitrogen, HCN, HDI, and other undetermined aliphatic fragments.

### SECTION 4 Hazard Identification

Material	CAS #	%	SARA 313	OSHA	ACGIH
Homopolymer of HDI	28182-81-2	60-65%	None	N/E	N/E
Polymer with IPDI and Polyether Glycol	68084-46-8	35-40%	None	N/E	N/E
Isophorone Diisocyanate	4098-71-9	<.5%			
			ppm	mg/m3	
			OSHA PEL-TWA:	N/E	N/E
			OSHA PEL STEL:	N/E	N/E
			OSHA PEL CEILING:	N/E	N/E
			ACGIH TLV-TWA:	N/E	N/E
			ACGIH TLV STEL:	N/E	N/E
			ACGIH TLV CEILING:	N/E	N/E

N/E = Not Established

EMERGENCY OVERVIEW: May cause eye, skin, and respiratory tract irritation. May cause allergic respiratory reaction.  
Harmful if inhaled. May cause allergic skin reaction. May cause lung damage.

ROUTES OF ENTRY: Inhalation; Skin Contact; Eye Contact

#### POTENTIAL HEALTH EFFECTS

EYES: Liquid, aerosol and vapors of this product may cause irritation

SKIN: May cause skin sensitization

INGESTION: None found

INHALATION: Can cause respiratory tract irritation. Certain individuals may develop isocyanate sensitization (asthma like symptoms).

#### MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Asthma and other respiratory disorders (bronchitis, emphysema), skin allergies, eczema

#### CARCINOGENICITY:

Not listed by NW, IARC or regulated as a carcinogen by OSHA

# WHY VIKON POLYUREA?

## Eco Friendly

Vikon's polyurea coatings are made of 100% solids, Zero VOC, pure polyurea. Using zero VOC coatings means using zero toxic fumes and zero degradation to the ozone. Vikon also makes many coatings with optional recycle content.

## Vikon's Amazing Research and Development

Vikon's research and development team here in Palmer MA is hard at work continually developing new and innovating eco friendly technologies. Tell us about your specific problems and we can custom formulate a solution.

## Cures in Cold/Hot Temperatures

Polyurea is a very versatile technology, most of its physical properties can be easily changed using different formulations. Through this versatility our formulations can cure anywhere from -30F all the way to +1000F

## 2 Hour Return to Service

Our standard 9070 formulation has a 2 hour "walk on" return to service. Our other formulations have a return to service that can vary from 30 seconds to 6 days. Talk to your installer about the formulation that's right for you.

## Exterior/Interior Use

Most of our formulations are UV stable and completely waterproof so they can be used both inside and outside. For the first time in the coating industry there is a clear, maintenance free coating for outdoor wood! Talk to us about using Vikon Coatings to protect your capital investments!



# WHY NORTH SHORE FLOORS?

## 25 Years of Industry Experience

North Shore Floor Systems (NSF) is an established business with a 25 year track record of excellence in the coating industry.

## Our Reputation Speaks for Itself!

Talk to some of our valued clients: Columbia Construction; Hutter Construction; UVM; Boston Medical Center; May Institute; UMass Lowell; Boston Medical Center; Lonza Labs; Millipore.

## Specialization In Polyurea Installations

We specialize in extremely durable industrial coatings with uniquely decorative attributes. Our commitment is to offer high performing products which yield high end results.

## State Office of Minority and Women Business Assistance Certified

We are certified by the SOMWBA, let us help you with your next state project!

## 3/5 Year Warranty

We offer a 3 or 5 year single source complete warranty for both the product and the installation.

NORTHSHORE  
FLOOR SYSTEMS

Right. First Time. Every Time. Over Time!

[www.nsfsystems.com](http://www.nsfsystems.com)





	<b>9070 Polyurea</b>	<b>100% Solids Epoxy</b>	<b>Waterborne Epoxy</b>	<b>Polyurethane</b>
Adhesion to Concrete	1100 PSI	4800 PSI	550 PSI	3000 PSI
Elongation	200%	0.40%	7%	0.50%
Tensile Strength	2200 PSI	8500 PSI	N/A	N/A
Shore D Hardness	55	85	4H or 40+	N/A
Working time	10-15 Min	30 Min	0.5 – 1.5 Hour	30 Min
Dry To Touch	2 Hrs	8 Hrs	5-7 Hrs	4 Hrs
Full Return to Service	8-48 Hrs	12 Hrs	7-10 Hrs	8 Hrs
UV Resistance; Change over 2000 Hrs	<2%	NOT STABLE (>100%)	NOT STABLE (>100%)	NOT STABLE (>100%)
Moisture Resistance (Perm Rating)	<.01	.15% (NOT Perm Rating)	N/A (Porous)	N/A (Porous)
Conductivity	<1*10 <sup>-11</sup>	N/A	N/A	N/A
Odor/VOC Content	No VOC; Low Odor	No VOC; Low Odor	N/A	3.8 Lbs/Gal
Application Temperature	-30F to >300F	50F to 85F	55F to 95F	50F to 125F
Durability (Service Life)	7-10 Yrs	1-3 Years	1 Year	1-3 Years
Durability (Warranty)	5 Yrs	None	None	None
Percent Solids	100%	100%	40%	43.3%
Hydrostatic Pressure (Lbs per 100SF)	>12	Not Rated (<5)	Not Rated (<5)	Not Rated (<5)



	9070 Polyurea	100% Solids Epoxy	Waterborne Epoxy	Polyurethane
Acetic Acid (10%)	Excellent	Severe	Severe	Severe
Ammonium Hydroxide, 20%	Excellent	Moderate	Severe	N/A
Ammonium Nitrate	Excellent	Excellent	Excellent	Moderate
Brine (130,000 ppm)	Excellent	N/A	N/A	Moderate
Chlorine (2,000 ppm)	Excellent	N/A	N/A	Severe
Citric Acid	Excellent	Excellent	Excellent	Excellent
Copper Chromate Arsenic (4%)	Excellent	N/A	N/A	Excellent
Diesel Fuel	Excellent	Moderate	Moderate	Moderate
Hexane	Excellent	Excellent	Excellent	Moderate
Hydrochloric Acid	Excellent	Excellent	Excellent	Severe
Jet A Fuel	Excellent	N/A	N/A	N/A
Kerosene	Excellent	Moderate	Moderate	Excellent
Lactic Acid	Excellent	Excellent	Excellent	N/A
Liquid Nitrogen Fertilizer	Excellent	Moderate	Moderate	N/A
Liquid Urea Fertilizer	Excellent	Severe	Severe	N/A
Methanol	Moderate	Severe	Severe	Severe
Mineral Spirits	Excellent	Excellent	Excellent	Excellent
Motor Oil	Excellent	Excellent	Excellent	N/A
Phosphoric Acid (10%)	Excellent	Severe	Severe	Excellent
Sodium Chloride	Excellent	Moderate	Severe	Excellent
Sodium Hydroxide	Excellent	Moderate	Severe	Severe
Stearic Acid	Excellent	N/A	N/A	N/A
Sulfuric Acid (20%)	Excellent	Excellent	Excellent	Severe