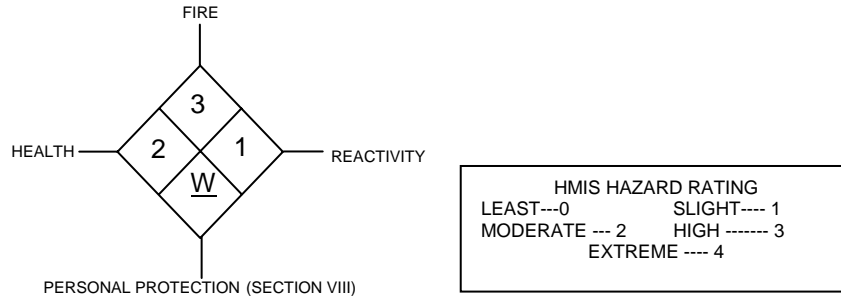


MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Instant Floor: Base Coat - Iso (A)



SECTION 1 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Residual diisocyanate monomer content: <0.30%

Weight %	Components	CAS No.
60 - 100%	Homopolymer of Hexamethylene Diisocyanate	28182-81-2
10 - 20%	t-Butyl Acetate	540-88-5
10 - 20%	Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)	Trade secret
3 - 7%	Benzene, 1-chloro-4-(trifluoromethyl)-	98-56-6
<=0.3%	Hexamethylene-1,6-Diisocyanate	822-06-0

SECTION 2 – HAZARDS IDENTIFICATION

Emergency Overview WARNING! Color: Colorless, Yellow Form: liquid Odor: Solvent, Fruity. Flammable. Toxic gases/fumes may be given off during burning or thermal decomposition. Closed container may forcibly rupture under extreme heat or when contents have been contaminated with water. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Vapors may spread long distances and ignite. Vapors or mist may be a fire and explosion hazard when exposed to high temperature or ignition. Causes respiratory tract irritation. May cause allergic respiratory reaction. Harmful if inhaled. Respiratory sensitizer. Lung damage and respiratory sensitization may be permanent. Causes skin irritation. May cause allergic skin reaction. Skin sensitizer. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction. Causes eye irritation. May cause lung damage.

Potential Health Effects

Primary Routes of Entry: Skin Contact, Inhalation, Eye Contact

Medical Conditions Aggravated by Exposure: Skin Allergies, Eczema, Asthma, Respiratory disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE Inhalation

Acute Inhalation

Diisocyanate or polyisocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Chronic Inhalation

As a result of previous repeated overexposures or a single large dose, certain individuals may develop

sensitization to diisocyanates or polyisocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to diisocyanates or polyisocyanates at levels well below the exposure limits or guidelines. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be delayed up to several hours after exposure. Sensitization can be permanent. Chronic overexposure to diisocyanates has also been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.

Skin

Acute Skin

Causes irritation with symptoms of reddening, itching, and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

Chronic Skin

Prolonged contact can cause reddening, swelling, rash, and, in some cases, skin sensitization. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Eye

Acute Eye

Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor may cause irritation with symptoms of burning and tearing.

Chronic Eye

Prolonged vapor contact may cause conjunctivitis.

Ingestion

Acute Ingestion

Ingestion and/or vomiting may cause aspiration into the lungs resulting in chemical pneumonitis (inflammation of the lungs).

Carcinogenicity:

No Carcinogenic substances as defined by IARC, NTP and/or OSHA

SECTION 3 – FIRST AID MEASURES

Eye Contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Then remove contact lenses, if easily removable, and continue eye irrigation for not less than 15 minutes. Get medical attention if irritation develops.

Skin Contact

Immediately remove contaminated clothing and shoes. In case of skin contact, wash affected areas with soap and water. Use lukewarm water if possible. Wash contaminated clothing before reuse. For severe exposures, immediately get under safety shower and begin rinsing. Get medical attention if irritation develops and persists.

Inhalation

Move to an area free from further exposure. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening.

Ingestion

Do not induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention.

Notes to physician

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision. Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound. Inhalation: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

SECTION 4 – FIRE FIGHTING MEASURES

Suitable Extinguishing Media: dry chemical, carbon dioxide (CO₂), foam, water spray for large fires.

Special Fire Fighting Procedures

Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion.

Unusual Fire/Explosion Hazards

Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO₂ formed). Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous. Flammable Liquid. Vapors may spread long distances and ignite. Vapors or mist may be a fire and explosion hazard when exposed to high temperature or ignition. Vapors are heavier than air and may travel a considerable distance to a source of ignition and flashback.

SECTION 5 – ACCIDENTAL RELEASE MEASURES**Spill and Leak Procedures**

Evacuate non-emergency personnel. Isolate the area and prevent access. Remove ignition sources. Notify management. Put on protective equipment. Control source of the leak. Ventilate. Contain the spill to prevent spread into drains, sewers, water supplies, or soil. Call Linings at 412-923-1800 for assistance and advice. Major Spill or Leak (Standing liquid): To minimize vapor, cover the spillage with fire fighting foam (AFFF). Released material may be pumped into closed, but not sealed, metal container for disposal. Process can generate heat. Minor Spill or Leak (Wet surface): Cover spill area with suitable absorbent material (Kitty Litter, Oil-Dri®, etc). Saturate absorbent material with neutralization solution and mix. Wait 15 minutes. Collect material in open-head metal containers. Repeat applications of decontamination solution, with scrubbing, followed by absorbent until the surface is decontaminated. Check for residual surface contamination. Swype® test kits have been used for this purpose. Apply lid loosely and allow containers to vent for 72 hours to let carbon dioxide (CO₂) escape.

Additional Spill Procedures/Neutralization

Neutralization solutions:

- (1) Colorimetric Laboratories Inc. (CLI) decontamination solution.
- (2) A mixture of 75% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10) and 5% n-propanol.
- (3) A mixture of 80% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10).
- (4) A mixture of 90% water, 3-8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.

Linings requires that CHEMTREC be immediately notified (800-424-9300) when this product is unintentionally released from its container during its course of distribution, regardless of the amount released. Distribution includes transportation, storage incidental to transportation, loading and unloading. Such notification must be immediate and made by the person having knowledge of the release.

SECTION 6 – HANDLING AND STORAGE

Storage Temperature:

minimum: 4 °C (39.2 °F)
maximum: 30 °C (86 °F)

Storage Period

12 Months: after receipt of material by customer

Handling/Storage Precautions

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Ground and bond containers and equipment before transferring to avoid static sparks.

Further Info on Storage Conditions

Store separate from food products. Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard 29 CFR 1910.1200.

SECTION 7 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Homopolymer of Hexamethylene Diisocyanate (28182-81-2)

Time Weighted Average (TWA): 0.5 mg/m³ Exposure Limit
Short Term Exposure Limit (STEL): 1.00 mg/m³ (15-min)

t-Butyl Acetate (540-88-5)

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 200 ppm US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL: 200 ppm, 950 mg/m³

Polyisocyanate Based on Hexamethylene Diisocyanate (HDI) (CAS# is a trade secret)

Time Weighted Average (TWA): 0.50 mg/m³ Exposure Limit
Short Term Exposure Limit (STEL): 1.00 mg/m³

Hexamethylene-1,6-Diisocyanate (822-06-0)

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 0.005 ppm Exposure Limit

Ceiling Limit Value: 0.02 ppm

Industrial Hygiene/Ventilation Measures

Good industrial hygiene practice dictates that worker protection should be achieved through engineering controls, such as ventilation, whenever feasible. When such controls are not feasible to achieve full protection, the use of respirators and other personal protective equipment is mandated. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination. Curing ovens must be ventilated to prevent emissions into the workplace. If oven off-gases are not vented properly (i.e. they are released into the work area), it is possible to be exposed to airborne monomeric HDI.

Respiratory Protection

A respirator that is recommended or approved for use in isocyanate-containing environments (air-purifying or fresh air-supplied) may be necessary for spray applications or other situations such as high temperature use which may produce inhalation exposures. A supplied-air respirator (either positive pressure or continuous flow-type) is highly recommended when spraying this material. Observe OSHA regulations for respirator use (29 CFR 1910.134). SPRAY APPLICATION: A. Good industrial hygiene practice dictates that when isocyanate-based coatings are spray applied, some form of respiratory protection should be worn. During the spray application of coatings containing this product the use of a supplied-air (either positive pressure or continuous flow-type) respirator is mandatory when ONE OR MORE of the following conditions exists: -the airborne isocyanate concentrations are not known; or -the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times

the 8 hour TWA exposure limit); or -the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m³ averaged over 8 hours or 10 mg/m³ averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits); or -operations are performed in a confined space (See OSHA Confined Space Standard, 29 CFR 1910.146).

NON-SPRAY OPERATIONS: A. During non-spray operations such as mixing, batch-making, brush or roller application, etc., at elevated temperatures (for example, heating of material or application to a hot substrate), it is possible to be exposed to airborne isocyanate vapors. Therefore, when the coatings system will be applied in a non-spray manner, a supplied-air (either positive pressure or continuous flow-type) respirator is highly recommended.

Hand Protection

Gloves should be worn, Nitrile rubber gloves, Butyl rubber gloves, Neoprene gloves.

Eye Protection

When handling liquid product, chemical goggles should be worn., Chemical safety goggles in combination with a full face shield if a splash hazard exists.

Skin and body protection

Avoid all skin contact. Depending on the conditions of use, cover as much of the exposed skin area as possible with appropriate clothing to prevent skin contact., Gloves, long sleeved shirts and pants.

Medical Surveillance

All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evaluation. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Applicants who have a history of adult asthma should be restricted from work with isocyanates. Applicants with a history of prior isocyanate sensitization should be excluded from further work with isocyanates. A comprehensive annual medical surveillance program should be instituted for all employees who are potentially exposed to diisocyanates. Once a worker has been diagnosed as sensitized to any isocyanate, no further exposure can be permitted.

Additional Protective Measures

Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product. Follow all label instructions.

SECTION 8 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Color:	Colorless, Yellow
Odor:	Solvent, Fruity
pH:	Not Applicable
Freezing Point:	No Data Available
Boiling Point/Range:	Approximately 97 °C (206.6 °F) Estimated based on component(s)
Flash Point:	72 °F (22 °C) – Penske Martin
Lower Explosion Limit:	Approximately 0.90 %(V) for the solvent
Upper Explosion Limit:	Approximately 10.5 %(V) for the solvent
Vapor Pressure:	HDI Polyisocyanate: 5.2 X 10 ⁻⁹ @ 68 F (20 C) mmHg 10 mmHg @ 20 °C (68 °F) Estimated based on component(s)
Specific Gravity:	Approximately 1.16 @ 20 °C (68 °F) Estimated
Solubility in Water:	Insoluble - Reacts slowly with water to liberate CO ₂ gas
Autoignition Temperature:	445 °C (833 °F)
Bulk Density:	Approximately 9.64 lb/gal Estimated based on component(s)

SECTION 9 – STABILITY AND REACTIVITY

Hazardous Reactions

Contact with moisture, other materials that react with isocyanates, or temperatures above 350 F (177 C), may cause polymerization.

Stability

Stable under normal conditions of use and storage.

Materials to avoid

Water, Amines, Strong bases, Alcohols, copper alloys

Conditions to avoid

Heat, flames and sparks.

Hazardous decomposition products

By Fire and High Heat: Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke, Hydrogen cyanide, Isocyanate, Isocyanic Acid, Other undetermined compounds

SECTION 10 – TOXICOLOGICAL INFORMATION

Toxicity Data for Homopolymer of Hexamethylene Diisocyanate Acute Oral Toxicity

LD50: > 5,000 mg/kg (Rat) Estimated Value

Acute Inhalation Toxicity

LC50: 390-453 mg/m³, aerosol, 4 hrs (Rat, Male/Female) RD50: 20.8 mg/m³, 3 hrs

Acute dermal toxicity

LD50: > 5,000 mg/kg (rabbit)

Skin Irritation

rabbit, Draize, Slightly irritating

Eye Irritation

rabbit, Draize, Slightly irritating

Sensitization

dermal: sensitizer (guinea pig, Maximisation Test (GPMT)) dermal: non-sensitizer (Guinea pig, Buehler)

inhalation: non-sensitizer (guinea pig)

Repeated Dose Toxicity

3 wks, inhalation: NOAEL: 3.7 - 4.3 mg/m³, (Rat) 90 ds, inhalation: NOAEL: 3.3 - 3.4 mg/m³, (Rat)

Irritation to lungs and nasal cavity.

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Toxicity Data for t-Butyl Acetate Acute Oral Toxicity

LD50: 4,500 mg/kg (Rat)

Acute Inhalation Toxicity

LC50: > 4000 ppm, (rat)

Acute dermal toxicity

LD50: > 2,000 mg/kg (rabbit)

Skin Irritation

Skin Irritation

Eye Irritation

Eye Irritation

Repeated Dose Toxicity

inhalation: NOAEL: Not Established (<120 ppm), (rat,)

Toxicity Data for Benzene, 1-chloro-4-(trifluoromethyl)-Acute Oral Toxicity

LD50: > 10,000 mg/kg (rat)

Acute Inhalation Toxicity

LC50: > 10,000 mg/l, (rat)

Acute dermal toxicity

LD50: > 2,700 mg/kg (rabbit)

Skin Irritation

rabbit, Non-irritating

Eye Irritation

rabbit, Non-irritating

Repeated Dose Toxicity

28 d, inhalation: NOAEL: Not Established (<100 ppm), (rat, Male/Female)

SECTION 11 – ECOLOGICAL INFORMATION

Ecological Data for Homopolymer of Hexamethylene Diisocyanate Biodegradation

0 %, Exposure time: 28 Days, Not readily biodegradable.

Acute and Prolonged Toxicity to Fish

LC0: > 100 mg/l (Zebra fish (Brachydanio rerio), 96 hrs)

Acute Toxicity to Aquatic Invertebrates

EC0: > 100 mg/l (Water flea (Daphnia magna), 48 hrs)

Toxicity to Aquatic Plants

EC50: > 1,000 mg/l, (Green algae (Scenedesmus subspicatus), 72 hrs)

Toxicity to Microorganisms

EC50: > 1,000 mg/l, (Activated sludge microorganisms, 3 hrs)

Ecological Data for t-Butyl Acetate Biodegradation

Readily biodegradable.

Bioaccumulation

approximately 10 BCF

Acute and Prolonged Toxicity to Fish

LC50: 327 mg/l (Fathead minnow (Pimephales promelas), 96 h)

Acute Toxicity to Aquatic Invertebrates

EC50: 3,968 mg/l (Water flea (Daphnia magna))

Toxicity to Aquatic Plants

420 mg/l, EC5, (other: algae)

Ecological Data for Benzene, 1-chloro-4-(trifluoromethyl)-Biodegradation

Not readily biodegradable.

Acute and Prolonged Toxicity to Fish

LC50: 13.5 mg/l (Bluegill (Lepomis macrochirus), 96 h)

Acute Toxicity to Aquatic Invertebrates

12.4 mg/l LC50 (Water flea (Daphnia magna), 48 h)

Toxicity to Aquatic Plants

500 mg/l, IC50, (Blue-green algae (Anabaena flosaquae), 72 h)

SECTION 12 - DISPOSAL CONSIDERATIONS

Waste Disposal Method

Waste disposal should be in accordance with existing federal, state and local environmental control laws. Incineration is the preferred method.

Empty Container Precautions

Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning.

SECTION 13 – TRANSPORTATION INFORMATION

Land transport (DOT) Proper Shipping Name: Resin Solution

Hazard Class or Division: 3

UN/NA Number: UN1866

Packaging Group: II

Hazard Label(s): Flammable Liquid

RSPA/DOT Regulated Components:

t-Butyl Acetate

Hexamethylene-1,6-Diisocyanate

Reportable Quantity: 25,000 lbs

Sea transport (IMDG) Proper Shipping Name: Resin Solution

Hazard Class or Division: 3

UN-No: UN1866

Packaging Group: II

Hazard Label(s): Flammable Liquids

Air transport (ICAO/IATA) Proper Shipping Name: Resin Solution

Hazard Class or Division: 3

UN-No: UN 1866

Packaging Group: II

Hazard Label(s): Flammable Liquids

SECTION 14 – REGULATORY INFORMATION

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302): Components

t-Butyl Acetate Reportable quantity: 5,000 lbs

SARA Section 311/312 Hazard Categories:

Acute Health Hazard, Chronic Health Hazard, Fire Hazard

Resin solution (contains tert-Butyl acetate, Benzene, 1-chloro-4-(trifluoromethyl)-) 3

UN1866 II Flammable Liquid

25,000 lb

RESIN SOLUTION (contains tert-Butyl acetate, Benzene, 1-chloro-4-(trifluoromethyl)-) 3

UN1866 II Flammable liquids

Resin solution (contains tert-Butyl acetate, Benzene, 1-chloro-4-(trifluoromethyl)-) 3

UN1866 II Flammable liquids

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):

Components

None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III

Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required: Components

None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):

When discarded in its purchased form, this product meets the criteria of ignitability, and should be managed as a hazardous waste (EPA Hazardous Waste Number D001). (40 CFR 261.20-24)

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Weight %	Components	CAS-No.
60 - 100%	Homopolymer of Hexamethylene Diisocyanate	28182-81-2
10 - 20%	t-Butyl Acetate	540-88-5
10 - 20%	Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)	CAS# is a trade secret
3 - 7%	Benzene, 1-chloro-4-(trifluoromethyl)-	98-56-6

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous

Substances Lists:

Weight %	Components	CAS-No.
10 - 20%	t-Butyl Acetate	540-88-5
<=0.3%	Hexamethylene-1,6-Diisocyanate	822-06-0

California Prop. 65:

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

SECTION 15 – OTHER INFORMATION

NFPA 704M Rating

Health	2
Flammability	3

Reactivity	1
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMS Rating

Health	2*
Flammability	3
Physical Hazard	1

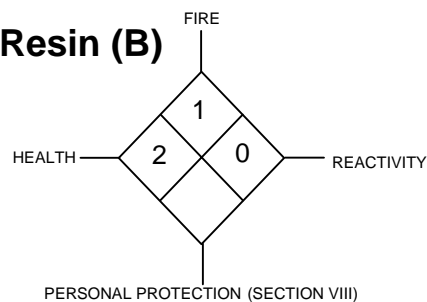
0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe * = Chronic Health Hazard

The handling of products containing reactive HDI polyisocyanate/prepolymer and/or monomeric HDI requires appropriate protective measures referred to in this MSDS. These products are therefore recommended only for use in industrial or trade (commercial) applications.

This information is furnished without warranty, express or implied. This information is believed to be accurate to the best knowledge. The information in this MSDS relates only to the specific material designated herein. No legal responsibility for use of or reliance upon the information in this MSDS is taken.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Instant Floor: Base Coat - Resin (B)



HMIS HAZARD RATING	
LEAST --- 0	SLIGHT ---- 1
MODERATE --- 2	HIGH ----- 3
	EXTREME ---- 4

SECTION 1 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
60 - 80%	Aspartic Ester	CAS# is a trade secret
5 - 15%	Monoaspartate	
7 - 13%	Aldimine	54914-37-3
<=5%	Aliphatic Carboxylic Ester	623-91-6

OTHER INGREDIENTS

The following potentially hazardous ingredient(s) are contained at levels below disclosure requirements and are provided for informational purposes only.

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
<=0.4%	Alicyclic Amine	6864-37-5

SECTION 2 – HAZARDS IDENTIFICATION

Emergency Overview

WARNING! **Color:** Clear **Form:** viscous liquid **Odor:** Mild, Aldehyde. Toxic gases/fumes may be given off during burning or thermal decomposition. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Product, based on components, may be toxic by inhalation, ingestion and skin absorption. Causes respiratory tract irritation. Harmful if inhaled. May cause allergic skin reaction. Causes skin irritation. Causes eye irritation. Harmful if swallowed.

Primary Routes of Entry:

Medical Conditions Aggravated by Exposure:

Skin Contact, Eye Contact, Ingestion, Inhalation, Skin disorders, Respiratory disorders, Eye disorders, Skin Allergies

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation

Acute Inhalation

Expected to be toxic by inhalation. May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

Skin

Acute Skin

May cause sensitization of susceptible persons. Slightly toxic by skin absorption. May cause irritation with symptoms of reddening, itching, swelling and rash.

Eye

Acute Eye

Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage. Vapor may cause irritation with symptoms of burning and tearing.

Chronic Eye

Prolonged vapor contact may cause conjunctivitis.

Ingestion

Acute Ingestion

May be harmful if swallowed. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. Aldimine component can be corrosive to the digestive tract with symptoms of burning and ulceration. Ingestion and/or vomiting may cause aspiration into the lungs resulting in chemical pneumonitis (inflammation of the lungs).

Carcinogenicity:

No Carcinogenic substances as defined by IARC, NTP and/or OSHA

SECTION 3 – FIRST AID MEASURES

Eye Contact

In case of contact, flush eyes with plenty of lukewarm water. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Get medical attention if irritation develops.

Skin Contact

In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if irritation develops.

Ingestion

If ingested, do not induce vomiting unless directed to do so by medical personnel. Give two glasses of water for dilution. Call a physician immediately. Never give anything by mouth to an unconscious person.

SECTION 4 – FIRE FIGHTING MEASURES

Suitable Extinguishing Media: All extinguishing media are suitable.

Special Fire Fighting Procedures

Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.

Unusual Fire/Explosion Hazards

Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

SECTION 5 – ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedures

Cleanup personnel must use appropriate personal protective equipment. Cover spill with inert material (e. g., dry sand or earth) and collect for proper disposal. Prevent from entering open

drains and waterways. Notify local health and safety authorities and other appropriate agencies if necessary. Ventilate area to remove vapors or dust. Evacuate and keep unnecessary people out of spill area.

SECTION 6 – HANDLING AND STORAGE

Storage Temperature:

minimum: 0 °C (32 °F)
maximum: 40 °C (104 °F)

Storage Period

6 Months: after receipt of material by customer

Handling/Storage Precautions

Avoid contact with skin or clothing. Avoid contact with eyes. Use only with adequate ventilation/personal protection. Wash thoroughly after handling. Keep container closed when not in use. Do not breathe vapours or spray mist. Store in a dry place away from excessive heat. Material is hygroscopic and may absorb small amounts of atmospheric moisture.

Further Info on Storage Conditions

Store in a cool dry place. Store in original or similar containers.

SECTION 7 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Country specific exposure limits have not been established or are not applicable

Industrial Hygiene/Ventilation Measures

General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines. Curing ovens must be ventilated to prevent the build up of explosive atmospheres and to prevent off gases from entering the work place.

Respiratory Protection

The use of a positive pressure supplied air respirator is recommended if the airborne concentration is unknown or if spraying is performed in a confined space or area with limited ventilation., In spray applications, an organic vapor/particulate respirator or air supplied unit is necessary.

Hand Protection

Permeation resistant gloves, 4H laminate gloves, Butyl rubber gloves, Nitrile rubber gloves.

Eye Protection

Chemical safety goggles or safety glasses with side-shields., Chemical safety goggles in combination with a full face shield if a splash hazard exists.

Skin and body protection

Permeation resistant clothing, Wear cloth work clothing including long pants and long-sleeved shirts.

Additional Protective Measures

Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

SECTION 8 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Appearance:	Viscous
Color:	White
Odor:	Mild, Aldehyde
pH:	Approximately 10 - 10.5
Freezing Point:	Not Established
Boiling Point/Range:	Not Established
Flash Point:	> 93.33 °C (> 200 °F) based on similar material
Lower Explosion Limit:	Not Established
Upper Explosion Limit:	Not Established

Vapor Pressure:	Not Established
Specific Gravity:	Approximately 1.06 - 1.08 Estimated based on component(s)
Solubility in Water:	Insoluble
Autoignition Temperature:	Not Established
Bulk Density:	Approximately 8.80 - 9.013 lb/gal Estimated based on component(s)

SECTION 9 – STABILITY AND REACTIVITY

Hazardous Reactions

Hazardous polymerization does not occur.

Stability

Stable

Materials to avoid

Oxidizing agents, Acids, Isocyanates

Conditions to avoid

Avoid extreme heat.

Hazardous decomposition products

By Fire and Thermal Decomposition: Carbon oxides, nitrogen oxides (NOx), Amines, other aliphatic fragments which have not been determined, Ammonia gas may be liberated at high temperatures.

SECTION 10 – TOXICOLOGICAL INFORMATION

Toxicity Data for Aspartic Ester Acute Oral Toxicity

LD50: > 2,000 mg/kg (Rat)

Acute Inhalation Toxicity

LC50: 4224 mg/m³, aerosol, 4 h (Rat)

Acute dermal toxicity

LD50: > 2,000 mg/kg (Rat)

Skin Irritation

rabbit, Moderately irritating

Eye Irritation

rabbit, Non-irritating

Sensitization

dermal: sensitizer (Guinea pig, Magnusson/Kligmann (Maximization Test))

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

SECTION 11 – DISPOSAL CONSIDERATIONS

Waste Disposal Method

Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Empty Container Precautions

Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Empty containers retain product residue (dust, liquid, vapor and/or gases) and can be dangerous. Do not heat or cut container with electric or gas torch.

SECTION 12 – TRANSPORTATION INFORMATION

Land transport (DOT) Non-Regulated

Sea transport (IMDG) Non-Regulated

Air transport (ICAO/IATA) Non-Regulated

SECTION 13 – REGULATORY INFORMATION

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous
US. Toxic Substances Control Act: Listed on the TSCA Inventory.
US. EPA CERCLA Hazardous Substances (40 CFR 302):
Components: None

SARA Section 311/312 Hazard Categories: Acute Health Hazard
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):
Components: None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:
Components: None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):
If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Weight %	Components	CAS-No.
60 - 80%	Aspartic Ester	CAS# is a trade secret
5 - 15%	Monoaspartate	
7 - 13%	Aldimine	54914-37-3
<=5%	Aliphatic Carboxylic Ester	623-91-6

California Prop. 65:

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

SECTION 14 – OTHER INFORMATION

NFPA 704M Rating

Health	2
Flammability	1
Reactivity	0
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

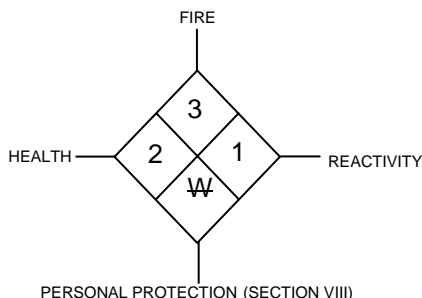
Health	2
Flammability	1
Physical Hazard	0

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe * = Chronic Health Hazard

This information is furnished without warranty, express or implied. This information is believed to be accurate to the best knowledge. The information in this MSDS relates only to the specific material designated herein. No legal responsibility for use of or reliance upon the information in this MSDS is taken.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Instant Floor: Top Coat - Iso (A)



HMIS HAZARD RATING	
LEAST---0	SLIGHT---- 1
MODERATE --- 2	HIGH ----- 3
EXTREME ---- 4	

SECTION 1 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Residual diisocyanate monomer content: <0.30%

Weight %	Components	CAS No.
50 - 70%	Homopolymer of Hexamethylene Diisocyanate	28182-81-2
5 - 10%	t-Butyl Acetate	540-88-5
5 - 10%	Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)	Trade secret
10 - 20%	Benzene, 1-chloro-4-(trifluoromethyl)-	98-56-6
<=0.3%	Hexamethylene-1,6-Diisocyanate	822-06-0

SECTION 2 – HAZARDS IDENTIFICATION

Emergency Overview WARNING! Color: Colorless, Yellow Form: liquid Odor: Solvent, Fruity. Flammable. Toxic gases/fumes may be given off during burning or thermal decomposition. Closed container may forcibly rupture under extreme heat or when contents have been contaminated with water. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Vapors may spread long distances and ignite. Vapors or mist may be a fire and explosion hazard when exposed to high temperature or ignition. Causes respiratory tract irritation. May cause allergic respiratory reaction. Harmful if inhaled. Respiratory sensitizer. Lung damage and respiratory sensitization may be permanent. Causes skin irritation. May cause allergic skin reaction. Skin sensitizer. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction. Causes eye irritation. May cause lung damage.

Potential Health Effects

Primary Routes of Entry: Skin Contact, Inhalation, Eye Contact

Medical Conditions Aggravated by Exposure: Skin Allergies, Eczema, Asthma, Respiratory disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE Inhalation

Acute Inhalation

Diisocyanate or polyisocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Chronic Inhalation

As a result of previous repeated overexposures or a single large dose, certain individuals may develop

sensitization to diisocyanates or polyisocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to diisocyanates or polyisocyanates at levels well below the exposure limits or guidelines. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be delayed up to several hours after exposure. Sensitization can be permanent. Chronic overexposure to diisocyanates has also been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.

Skin

Acute Skin

Causes irritation with symptoms of reddening, itching, and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

Chronic Skin

Prolonged contact can cause reddening, swelling, rash, and, in some cases, skin sensitization. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Eye

Acute Eye

Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor may cause irritation with symptoms of burning and tearing.

Chronic Eye

Prolonged vapor contact may cause conjunctivitis.

Ingestion

Acute Ingestion

Ingestion and/or vomiting may cause aspiration into the lungs resulting in chemical pneumonitis (inflammation of the lungs).

Carcinogenicity:

No Carcinogenic substances as defined by IARC, NTP and/or OSHA

SECTION 3 – FIRST AID MEASURES

Eye Contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Then remove contact lenses, if easily removable, and continue eye irrigation for not less than 15 minutes. Get medical attention if irritation develops.

Skin Contact

Immediately remove contaminated clothing and shoes. In case of skin contact, wash affected areas with soap and water. Use lukewarm water if possible. Wash contaminated clothing before reuse. For severe exposures, immediately get under safety shower and begin rinsing. Get medical attention if irritation develops and persists.

Inhalation

Move to an area free from further exposure. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening.

Ingestion

Do not induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention.

Notes to physician

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision. Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound. Inhalation: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

SECTION 4 – FIRE FIGHTING MEASURES

Suitable Extinguishing Media: dry chemical, carbon dioxide (CO₂), foam, water spray for large fires.

Special Fire Fighting Procedures

Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion.

Unusual Fire/Explosion Hazards

Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO₂ formed). Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous. Flammable Liquid. Vapors may spread long distances and ignite. Vapors or mist may be a fire and explosion hazard when exposed to high temperature or ignition. Vapors are heavier than air and may travel a considerable distance to a source of ignition and flashback.

SECTION 5 – ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedures

Evacuate non-emergency personnel. Isolate the area and prevent access. Remove ignition sources. Notify management. Put on protective equipment. Control source of the leak. Ventilate. Contain the spill to prevent spread into drains, sewers, water supplies, or soil. Call Linings at 412-923-1800 for assistance and advice. Major Spill or Leak (Standing liquid): To minimize vapor, cover the spillage with fire fighting foam (AFFF). Released material may be pumped into closed, but not sealed, metal container for disposal. Process can generate heat. Minor Spill or Leak (Wet surface): Cover spill area with suitable absorbent material (Kitty Litter, Oil-Dri®, etc). Saturate absorbent material with neutralization solution and mix. Wait 15 minutes. Collect material in open-head metal containers. Repeat applications of decontamination solution, with scrubbing, followed by absorbent until the surface is decontaminated. Check for residual surface contamination. Swype® test kits have been used for this purpose. Apply lid loosely and allow containers to vent for 72 hours to let carbon dioxide (CO₂) escape.

Additional Spill Procedures/Neutralization

Neutralization solutions:

- (1) Colorimetric Laboratories Inc. (CLI) decontamination solution.
- (2) A mixture of 75% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10) and 5% n-propanol.
- (3) A mixture of 80% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10).
- (4) A mixture of 90% water, 3-8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.

Linings requires that CHEMTREC be immediately notified (800-424-9300) when this product is unintentionally released from its container during its course of distribution, regardless of the amount released. Distribution includes transportation, storage incidental to transportation, loading and unloading. Such notification must be immediate and made by the person having knowledge of the release.

SECTION 6 – HANDLING AND STORAGE

Storage Temperature:

minimum: 4 °C (39.2 °F)

maximum: 30 °C (86 °F)

Storage Period

12 Months: after receipt of material by customer

Handling/Storage Precautions

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Ground and bond containers and equipment before transferring to avoid static sparks.

Further Info on Storage Conditions

Store separate from food products. Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard 29 CFR 1910.1200.

SECTION 7 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Homopolymer of Hexamethylene Diisocyanate (28182-81-2)

Time Weighted Average (TWA): 0.5 mg/m³ Exposure Limit

Short Term Exposure Limit (STEL): 1.00 mg/m³ (15-min)

t-Butyl Acetate (540-88-5)

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 200 ppm US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL: 200 ppm, 950 mg/m³

Polyisocyanate Based on Hexamethylene Diisocyanate (HDI) (CAS# is a trade secret)

Time Weighted Average (TWA): 0.50 mg/m³ Exposure Limit

Short Term Exposure Limit (STEL): 1.00 mg/m³

Hexamethylene-1,6-Diisocyanate (822-06-0)

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 0.005 ppm Exposure Limit

Ceiling Limit Value: 0.02 ppm

Industrial Hygiene/Ventilation Measures

Good industrial hygiene practice dictates that worker protection should be achieved through engineering controls, such as ventilation, whenever feasible. When such controls are not feasible to achieve full protection, the use of respirators and other personal protective equipment is mandated. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination. Curing ovens must be ventilated to prevent emissions into the workplace. If oven off-gases are not vented properly (i.e. they are released into the work area), it is possible to be exposed to airborne monomeric HDI.

Respiratory Protection

A respirator that is recommended or approved for use in isocyanate-containing environments (air-purifying or fresh air-supplied) may be necessary for spray applications or other situations such as high temperature use which may produce inhalation exposures. A supplied-air respirator (either positive pressure or continuous flow-type) is highly recommended when spraying this material. Observe OSHA regulations for respirator use (29 CFR 1910.134). **SPRAY APPLICATION:** A. Good industrial hygiene practice dictates that when isocyanate-based coatings are spray applied, some form of respiratory protection should be worn. During the spray application of coatings containing this product the use of a supplied-air (either positive pressure or continuous flow-type) respirator is mandatory when **ONE OR MORE** of the following conditions exists: -the airborne isocyanate concentrations are not known; or -the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times

the 8 hour TWA exposure limit); or -the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m³ averaged over 8 hours or 10 mg/m³ averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits); or -operations are performed in a confined space (See OSHA Confined Space Standard, 29 CFR 1910.146).

NON-SPRAY OPERATIONS: A. During non-spray operations such as mixing, batch-making, brush or roller application, etc., at elevated temperatures (for example, heating of material or application to a hot substrate), it is possible to be exposed to airborne isocyanate vapors. Therefore, when the coatings system will be applied in a non-spray manner, a supplied-air (either positive pressure or continuous flow-type) respirator is highly recommended.

Hand Protection

Gloves should be worn, Nitrile rubber gloves, Butyl rubber gloves, Neoprene gloves.

Eye Protection

When handling liquid product, chemical goggles should be worn., Chemical safety goggles in combination with a full face shield if a splash hazard exists.

Skin and body protection

Avoid all skin contact. Depending on the conditions of use, cover as much of the exposed skin area as possible with appropriate clothing to prevent skin contact., Gloves, long sleeved shirts and pants.

Medical Surveillance

All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evaluation. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Applicants who have a history of adult asthma should be restricted from work with isocyanates. Applicants with a history of prior isocyanate sensitization should be excluded from further work with isocyanates. A comprehensive annual medical surveillance program should be instituted for all employees who are potentially exposed to diisocyanates. Once a worker has been diagnosed as sensitized to any isocyanate, no further exposure can be permitted.

Additional Protective Measures

Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product. Follow all label instructions.

SECTION 8 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Color:	Colorless, Yellow
Odor:	Solvent, Fruity
pH:	Not Applicable
Freezing Point:	No Data Available
Boiling Point/Range:	Approximately 97 °C (206.6 °F) Estimated based on component(s)
Flash Point:	72 °F (22 °C) – Penske Martin
Lower Explosion Limit:	Approximately 0.90 %(V) for the solvent
Upper Explosion Limit:	Approximately 10.5 %(V) for the solvent
Vapor Pressure:	HDI Polyisocyanate: 5.2 X 10 ⁻⁹ @ 68 F (20 C) mmHg 10 mmHg @ 20 °C (68 °F) Estimated based on component(s)
Specific Gravity:	Approximately 1.16 @ 20 °C (68 °F) Estimated
Solubility in Water:	Insoluble - Reacts slowly with water to liberate CO ₂ gas
Autoignition Temperature:	445 °C (833 °F)
Bulk Density:	Approximately 9.64 lb/gal Estimated based on component(s)

SECTION 9 – STABILITY AND REACTIVITY

Hazardous Reactions

Contact with moisture, other materials that react with isocyanates, or temperatures above 350 F (177 C), may cause polymerization.

Stability

Stable under normal conditions of use and storage.

Materials to avoid

Water, Amines, Strong bases, Alcohols, copper alloys

Conditions to avoid

Heat, flames and sparks.

Hazardous decomposition products

By Fire and High Heat: Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke, Hydrogen cyanide, Isocyanate, Isocyanic Acid, Other undetermined compounds

SECTION 10 – TOXICOLOGICAL INFORMATION

Toxicity Data for Homopolymer of Hexamethylene Diisocyanate Acute Oral Toxicity

LD50: > 5,000 mg/kg (Rat) Estimated Value

Acute Inhalation Toxicity

LC50: 390-453 mg/m³, aerosol, 4 hrs (Rat, Male/Female) RD50: 20.8 mg/m³, 3 hrs

Acute dermal toxicity

LD50: > 5,000 mg/kg (rabbit)

Skin Irritation

rabbit, Draize, Slightly irritating

Eye Irritation

rabbit, Draize, Slightly irritating

Sensitization

dermal: sensitizer (guinea pig, Maximisation Test (GPMT)) dermal: non-sensitizer (Guinea pig, Buehler)

inhalation: non-sensitizer (guinea pig)

Repeated Dose Toxicity

3 wks, inhalation: NOAEL: 3.7 - 4.3 mg/m³, (Rat) 90 ds, inhalation: NOAEL: 3.3 - 3.4 mg/m³, (Rat)

Irritation to lungs and nasal cavity.

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Toxicity Data for t-Butyl Acetate Acute Oral Toxicity

LD50: 4,500 mg/kg (Rat)

Acute Inhalation Toxicity

LC50: > 4000 ppm, (rat)

Acute dermal toxicity

LD50: > 2,000 mg/kg (rabbit)

Skin Irritation

Skin Irritation

Eye Irritation

Eye Irritation

Repeated Dose Toxicity

inhalation: NOAEL: Not Established (<120 ppm), (rat,)

Toxicity Data for Benzene, 1-chloro-4-(trifluoromethyl)-Acute Oral Toxicity

LD50: > 10,000 mg/kg (rat)

Acute Inhalation Toxicity

LC50: > 10,000 mg/l, (rat)

Acute dermal toxicity

LD50: > 2,700 mg/kg (rabbit)

Skin Irritation

rabbit, Non-irritating

Eye Irritation

rabbit, Non-irritating

Repeated Dose Toxicity

28 d, inhalation: NOAEL: Not Established (<100 ppm), (rat, Male/Female)

SECTION 11 – ECOLOGICAL INFORMATION

Ecological Data for Homopolymer of Hexamethylene Diisocyanate Biodegradation

0 %, Exposure time: 28 Days, Not readily biodegradable.

Acute and Prolonged Toxicity to Fish

LC0: > 100 mg/l (Zebra fish (Brachydanio rerio), 96 hrs)

Acute Toxicity to Aquatic Invertebrates

EC0: > 100 mg/l (Water flea (Daphnia magna), 48 hrs)

Toxicity to Aquatic Plants

EC50: > 1,000 mg/l, (Green algae (Scenedesmus subspicatus), 72 hrs)

Toxicity to Microorganisms

EC50: > 1,000 mg/l, (Activated sludge microorganisms, 3 hrs)

Ecological Data for t-Butyl Acetate Biodegradation

Readily biodegradable.

Bioaccumulation

approximately 10 BCF

Acute and Prolonged Toxicity to Fish

LC50: 327 mg/l (Fathead minnow (Pimephales promelas), 96 h)

Acute Toxicity to Aquatic Invertebrates

EC50: 3,968 mg/l (Water flea (Daphnia magna))

Toxicity to Aquatic Plants

420 mg/l, EC5, (other: algae)

Ecological Data for Benzene, 1-chloro-4-(trifluoromethyl)-Biodegradation

Not readily biodegradable.

Acute and Prolonged Toxicity to Fish

LC50: 13.5 mg/l (Bluegill (Lepomis macrochirus), 96 h)

Acute Toxicity to Aquatic Invertebrates

12.4 mg/l LC50 (Water flea (Daphnia magna), 48 h)

Toxicity to Aquatic Plants

500 mg/l, IC50, (Blue-green algae (Anabaena flosaquae), 72 h)

SECTION 12 - DISPOSAL CONSIDERATIONS

Waste Disposal Method

Waste disposal should be in accordance with existing federal, state and local environmental control laws. Incineration is the preferred method.

Empty Container Precautions

Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning.

SECTION 13 – TRANSPORTATION INFORMATION

Land transport (DOT) Proper Shipping Name: Resin Solution

Hazard Class or Division: 3

UN/NA Number: UN1866

Packaging Group: II

Hazard Label(s): Flammable Liquid

RSPA/DOT Regulated Components:

t-Butyl Acetate

Hexamethylene-1,6-Diisocyanate

Reportable Quantity: 25,000 lbs

Sea transport (IMDG) Proper Shipping Name: Resin Solution

Hazard Class or Division: 3

UN-No: UN1866

Packaging Group: II

Hazard Label(s): Flammable Liquids

Air transport (ICAO/IATA) Proper Shipping Name: Resin Solution

Hazard Class or Division: 3

UN-No: UN 1866
 Packaging Group: II
 Hazard Label(s): Flammable Liquids

SECTION 14 – REGULATORY INFORMATION

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302): Components

t-Butyl Acetate Reportable quantity: 5,000 lbs

SARA Section 311/312 Hazard Categories:

Acute Health Hazard, Chronic Health Hazard, Fire Hazard

Resin solution (contains tert-Butyl acetate, Benzene, 1-chloro-4-(trifluoromethyl)-) 3

UN1866 II Flammable Liquid

25,000 lb

RESIN SOLUTION (contains tert-Butyl acetate, Benzene, 1-chloro-4-(trifluoromethyl)-) 3

UN1866 II Flammable liquids

Resin solution (contains tert-Butyl acetate, Benzene, 1-chloro-4-(trifluoromethyl)-) 3

UN1866 II Flammable liquids

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):

Components

None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III

Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required: Components

None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):

When discarded in its purchased form, this product meets the criteria of ignitability, and should be managed as a hazardous waste (EPA Hazardous Waste Number D001). (40 CFR 261.20-24)

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Weight %	Components	CAS-No.
60 - 100%	Homopolymer of Hexamethylene Diisocyanate	28182-81-2
10 - 20%	t-Butyl Acetate	540-88-5
10 - 20%	Polyisocyanate Based on Hexamethylene Diisocyanate (HDI)	CAS# is a trade secret
3 - 7%	Benzene, 1-chloro-4-(trifluoromethyl)-	98-56-6

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous

Substances Lists:

Weight %	Components	CAS-No.
10 - 20%	t-Butyl Acetate	540-88-5
<=0.3%	Hexamethylene-1,6-Diisocyanate	822-06-0

California Prop. 65:

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

SECTION 15 – OTHER INFORMATION

NFPA 704M Rating

Health	2
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Flammability	3
Reactivity	1
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

Health	2*
Flammability	3
Physical Hazard	1

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe * = Chronic Health Hazard

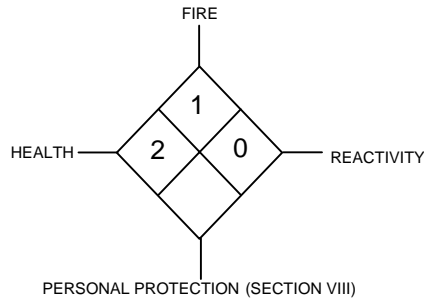
The method of hazard communication comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided a customer service.

The handling of products containing reactive HDI polyisocyanate/prepolymer and/or monomeric HDI requires appropriate protective measures referred to in this MSDS. These products are therefore recommended only for use in industrial or trade (commercial) applications.

This information is furnished without warranty, express or implied. This information is believed to be accurate to the best knowledge. The information in this MSDS relates only to the specific material designated herein. No legal responsibility for use of or reliance upon the information in this MSDS is taken.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Instant Floor: Top Coat - Resin (B)



HMIS HAZARD RATING
LEAST---0 SLIGHT---- 1
MODERATE --- 2 HIGH ----- 3
EXTREME ---- 4

SECTION 1 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
60 - 80%	Aspartic Ester	CAS# is a trade secret
5 - 15%	Monoaspartate	
7 - 13%	Aldimine	54914-37-3
<=5%	Aliphatic Carboxylic Ester	623-91-6

OTHER INGREDIENTS

The following potentially hazardous ingredient(s) are contained at levels below disclosure requirements and are provided for informational purposes only.

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
<=0.4%	Alicyclic Amine	6864-37-5

SECTION 2 – HAZARDS IDENTIFICATION

Emergency Overview

WARNING! **Color:** Clear **Form:** viscous liquid **Odor:** Mild, Aldehyde. Toxic gases/fumes may be given off during burning or thermal decomposition. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Product, based on components, may be toxic by inhalation, ingestion and skin absorption. Causes respiratory tract irritation. Harmful if inhaled. May cause allergic skin reaction. Causes skin irritation. Causes eye irritation. Harmful if swallowed.

Primary Routes of Entry:

Medical Conditions Aggravated by Exposure:

Skin Contact, Eye Contact, Ingestion, Inhalation, Skin disorders, Respiratory disorders, Eye disorders, Skin Allergies

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation

Acute Inhalation

Expected to be toxic by inhalation. May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

Skin

Acute Skin

May cause sensitization of susceptible persons. Slightly toxic by skin absorption. May cause irritation with symptoms of reddening, itching, swelling and rash.

Eye

Acute Eye

Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage. Vapor may cause irritation with symptoms of burning and tearing.

Chronic Eye

Prolonged vapor contact may cause conjunctivitis.

Ingestion

Acute Ingestion

May be harmful if swallowed. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. Aldimine component can be corrosive to the digestive tract with symptoms of burning and ulceration. Ingestion and/or vomiting may cause aspiration into the lungs resulting in chemical pneumonitis (inflammation of the lungs).

Carcinogenicity:

No Carcinogenic substances as defined by IARC, NTP and/or OSHA

SECTION 3 – FIRST AID MEASURES

Eye Contact

In case of contact, flush eyes with plenty of lukewarm water. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Get medical attention if irritation develops.

Skin Contact

In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if irritation develops.

Ingestion

If ingested, do not induce vomiting unless directed to do so by medical personnel. Give two glasses of water for dilution. Call a physician immediately. Never give anything by mouth to an unconscious person.

SECTION 4 – FIRE FIGHTING MEASURES

Suitable Extinguishing Media: All extinguishing media are suitable.

Special Fire Fighting Procedures

Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.

Unusual Fire/Explosion Hazards

Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

SECTION 5 – ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedures

Cleanup personnel must use appropriate personal protective equipment. Cover spill with inert material (e. g., dry sand or earth) and collect for proper disposal. Prevent from entering open

drains and waterways. Notify local health and safety authorities and other appropriate agencies if necessary. Ventilate area to remove vapors or dust. Evacuate and keep unnecessary people out of spill area.

SECTION 6 – HANDLING AND STORAGE

Storage Temperature:

minimum: 0 °C (32 °F)
maximum: 40 °C (104 °F)

Storage Period

6 Months: after receipt of material by customer

Handling/Storage Precautions

Avoid contact with skin or clothing. Avoid contact with eyes. Use only with adequate ventilation/personal protection. Wash thoroughly after handling. Keep container closed when not in use. Do not breathe vapours or spray mist. Store in a dry place away from excessive heat. Material is hygroscopic and may absorb small amounts of atmospheric moisture.

Further Info on Storage Conditions

Store in a cool dry place. Store in original or similar containers.

SECTION 7 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Country specific exposure limits have not been established or are not applicable

Industrial Hygiene/Ventilation Measures

General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines. Curing ovens must be ventilated to prevent the build up of explosive atmospheres and to prevent off gases from entering the work place.

Respiratory Protection

The use of a positive pressure supplied air respirator is recommended if the airborne concentration is unknown or if spraying is performed in a confined space or area with limited ventilation., In spray applications, an organic vapor/particulate respirator or air supplied unit is necessary.

Hand Protection

Permeation resistant gloves, 4H laminate gloves, Butyl rubber gloves, Nitrile rubber gloves.

Eye Protection

Chemical safety goggles or safety glasses with side-shields., Chemical safety goggles in combination with a full face shield if a splash hazard exists.

Skin and body protection

Permeation resistant clothing, Wear cloth work clothing including long pants and long-sleeved shirts.

Additional Protective Measures

Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

SECTION 8 – PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Appearance:	Viscous
Color:	White
Odor:	Mild, Aldehyde
pH:	Approximately 10 - 10.5
Freezing Point:	Not Established
Boiling Point/Range:	Not Established
Flash Point:	> 93.33 °C (> 200 °F) based on similar material
Lower Explosion Limit:	Not Established
Upper Explosion Limit:	Not Established

Vapor Pressure: Not Established
Specific Gravity: Approximately 1.06 - 1.08 Estimated based on component(s)
Solubility in Water: Insoluble
Autoignition Temperature: Not Established
Bulk Density: Approximately 8.80 - 9.013 lb/gal Estimated based on component(s)

SECTION 9 – STABILITY AND REACTIVITY

Hazardous Reactions

Hazardous polymerization does not occur.

Stability

Stable

Materials to avoid

Oxidizing agents, Acids, Isocyanates

Conditions to avoid

Avoid extreme heat.

Hazardous decomposition products

By Fire and Thermal Decomposition: Carbon oxides, nitrogen oxides (NOx), Amines, other aliphatic fragments which have not been determined, Ammonia gas may be liberated at high temperatures.

SECTION 10 – TOXICOLOGICAL INFORMATION

Toxicity Data for Aspartic Ester Acute Oral Toxicity

LD50: > 2,000 mg/kg (Rat)

Acute Inhalation Toxicity

LC50: 4224 mg/m³, aerosol, 4 h (Rat)

Acute dermal toxicity

LD50: > 2,000 mg/kg (Rat)

Skin Irritation

rabbit, Moderately irritating

Eye Irritation

rabbit, Non-irritating

Sensitization

dermal: sensitizer (Guinea pig, Magnusson/Kligmann (Maximization Test))

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

SECTION 11– DISPOSAL CONSIDERATIONS

Waste Disposal Method

Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Empty Container Precautions

Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Empty containers retain product residue (dust, liquid, vapor and/or gases) and can be dangerous. Do not heat or cut container with electric or gas torch.

SECTION 12 – TRANSPORTATION INFORMATION

Land transport (DOT) Non-Regulated

Sea transport (IMDG) Non-Regulated

Air transport (ICAO/IATA) Non-Regulated

SECTION 13 – REGULATORY INFORMATION

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous
US. Toxic Substances Control Act: Listed on the TSCA Inventory.
US. EPA CERCLA Hazardous Substances (40 CFR 302):
Components: None

SARA Section 311/312 Hazard Categories: Acute Health Hazard
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):
Components: None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:
Components: None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):
If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Weight %	Components	CAS-No.
60 - 80%	Aspartic Ester	CAS# is a trade secret
5 - 15%	Monoaspartate	
7 - 13%	Aldimine	54914-37-3
<=5%	Aliphatic Carboxylic Ester	623-91-6

California Prop. 65:

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

SECTION 14 – OTHER INFORMATION

NFPA 704M Rating

Health	2
Flammability	1
Reactivity	0
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

Health	2
Flammability	1
Physical Hazard	0

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe * = Chronic Health Hazard

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