SAFETY DATA SHEET
HP-105 CLEAR COAT / CLEAR TINT BASE – PART A
H105C103

Section 1. Identification

Product Name: HP-105 Clear Coat / Clear Tint Base Part A

Product Code: HP105C103

Other Means of Identification: Not available

Product Type: Liquid

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against: Not applicable

Manufacturer:
JFB Hart Coatings
10200 S. Mandel Street – Unit C
Plainfield, Illinois 60585

Emergency Telephone Number of the Company: (630) 461-9528

Product Information Telephone Number: (331) 814-3136

Regulatory Information Telephone Number: (331) 814-3136

Transportation Emergency Telephone Number:
Infotrac (800) 535-5053
Outside USA (352) 323-3500

Section 2. Hazards Identification

OSHA/HCS Status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the Substance or Mixture:
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) – Category 3
SPECIFIC TARGET ORGAN TOXITY (REPEATED EXPOSURE) – Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 41%

GHS Label Elements

Hazard Pictograms:

Signal Word: Warning

Hazard Statements:
May cause respiratory irritation
May cause drowsiness and dizziness
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements

Prevention: Use only outdoors or in a well-ventilated area. Do not breathe vapor.

Response: Get medical attention if you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Storage: Store locked up

Section 2. Hazardous Ingredients

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental Label Elements: FOR INDUSTRIAL USE ONLY

Please refer to the SDS for additional information. Do not transfer contents to other containers for storage.

Hazards Not Otherwise Classified: None known

Section 3. Composition/Information on Ingredients

Substance/Mixture: Mixture

Other means of Identification: Not Available

CAS Number/Other Identifiers

Ingredient Name	% by Weight	CAS Number
Polyol	45.0	

There are no additional ingredients present which, within current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First Aid Measures

Description of Necessary First Aid Measures

Eye Contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin Contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most Important Symptoms/Effects, Acute and Delayed

Potential Acute Health Effects

Eye Contact: No known significant effects or critical hazards.

Inhalation: Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin Contact: No known significant effects or critical hazards.

Ingestion Can cause central nervous system (CNS) depression.

Section 4. First Aid Measures

Over-Exposure Signs/Symptoms

Eye Contact: No specific data.

Inhalation: Adverse symptoms may include the following:
Respiratory tract irritation
Coughing
Nausea or vomiting
Headache
Drowsiness/fatigue
Dizziness/vertigo
Unconsciousness

Skin Contact: No specific data

Ingestion: No specific data

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Notes to Physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific Treatments: No specific treatment.

Protection of First-Aiders: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See Toxicological Information (Section 11)

Section 5. Fire-Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable Extinguishing Media: None known.

Specific Hazards Arising From the Chemical: In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous Thermal Decomposition Products: No specific data.

Special Protective Actions for Fire-Fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special Protective Equipment for Fire-Fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-Emergency Personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For Emergency Responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental Release Measures

Methods and Materials for Containment and Cleaning Up

Small Spills: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large Spills: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions for Safe Handling

Protective Measures: Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on General Occupational Hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for Safe Storage, Including Any Incompatibilities: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits: None.

Appropriate Engineering Controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental Exposure Controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual Protection Measures

Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/Face Protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.

Skin Protection

Hand Protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure Controls/Personal Protection

Other Skin Protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory Protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and Chemical Properties

Appearance

Physical State: Liquid.

Color: Clear.

Odor: Not available.

Odor Threshold: Not available.

pH: Not available.

Melting Point: Not available.

Boiling Point: 100°C (212°F).

Flash Point: Closed cup: >93.3°C (>199.9°F).

Evaporation Rate: 0.09 (butyl acetate = 1).

Flammability (Solid, Gas) Not available.

Lower and Upper Explosive (Flammable) Limits: Not available.

Vapor Pressure: 0.31 kPa (2.333 mm Hg) [at 20° C].

Vapor Density: 1 [Air = 1].

Relative Density: 1.06.

Solubility: Not available.

Partition Co-Efficient: N-Octanol/Water Not available.

Auto-Ignition Temperature: Not available.

Decomposition Temperature: Not available.

Viscosity: Kinematic (room temperature): >0.07 cm^2/s (>7 cSt)
Kinemaatic (40° C (104° F)): >0.07 cm^2/s (>7 cSt)

Section 10. Stability and Reactivity

Reactivity: No specific test data related to reactivity available for this product or ingredients.

Chemical Stability: The product is stable.

Possibility of Hazardous Reactions: Under normal conditions of storage and use, hazardous, reactions will not occur.

Conditions to Avoid: No specific data.

Incompatible Materials: No specific data.

Hazardous Decomposition Products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Information on Toxicological Effects

Acute Toxicity: Not available.

Irritation/Corrosion: Not available.

Sensitization: Not available.

Mutagenicity: Not available.

Carcinogenicity: Not available.

Reproductive Toxicity: Not available.

Section 11. Toxicological Information

Teratogenicity: Not available.

Specific Target Organ Toxicity (Single Exposure)

Name	Category	Route of Exposure	Target Organs
Polyol	Category 3.	Not applicable.	Respiratory tract irritation and narcotic effects.

Specific Target Organ Toxicity (Repeated Exposure)

Name	Category	Route of Exposure	Target Organs
Polyol	Category 2.	Not determined.	Not determined.

Aspiration Hazard: Not available.

Information on the Likely Routes of Exposure: Not available.

Potential Acute Health Effects

Eye Contacts: No known significant effects or critical hazards.

Inhalation: Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin Contact: No known significant effects or critical hazards.

Ingestion: Can cause central nervous system (CNS) depression.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics

Eye Contact: No specific data.

Inhalation: Adverse symptoms may include the following:
Respiratory tract irritation
Coughing
Nausea or vomiting
Headache
Drowsiness/fatigue
Dizziness/vertigo
Unconsciousness

Skin Contact: No specific data.

Ingestion: No specific data.

Delayed and Immediate Effects and Also Chronic Effects from Short and Long Term Exposure

Short Term Exposure

Potential Immediate Effects: Not available.

Potential Delayed Effects: Not available.

Long Term Exposure: Not available.

Potential Immediate Effects: Not available.

Potential Delayed Effects: Not available.

Potential Chronic Health Effects

General: May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental Effects: No known significant effects or critical hazards.

Fertility Effects: No known significant effects or critical hazards.

Section 11. Toxicological Information

Numerical Measures of Toxicity:

Acute Toxicity Estimates: Not available.

Section 12. Ecological Information

Toxicity: Not available.

Persistence and Degradability: Not available.

Bioaccumulative Potential: Not available.

Mobility in Soil

Soil/Water Partition Co-Efficient (Koc) Not available.

Other Adverse Effects: No known significant effects or critical hazards.

Section 13. Disposal Considerations

Disposal Methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN Number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN Proper Shipping Name	-	-	-	-	-
Transport Hazard Class(es)	-	-	-	-	-
Packing Group	-	-	-	-	-
Environmental Hazards	No.	No.	No.	No.	No.
Additional Information	**Special provisions** Not applicable.	**Special provisions** Not applicable.	**Special provisions** Not applicable.	**Special provisions** Not applicable.	**Emergency schedules (EmS)** Not applicable

Special Precautions for User: Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code Not available.

Section 15. Regulatory Information

U.S. Federal Regulations:

State Regulations

Section 16. Other Information

Hazardous Material Information System (U.S.A.)

Health	1
Flammability	0
Physical Hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Notice to Reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SAFETY DATA SHEET
HP-105 – PART B
H105V2

Section 1. Identification

Product Name: HP-105 Part B

Product Code: HP105V2

Other Means of Identification: Not available

Product Type: Liquid

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against: Not applicable

Manufacturer:
JFB Hart Coatings
10200 S. Mandel Street – Unit C
Plainfield, Illinois 60585

Emergency Telephone Number of the Company: (630) 461-9528

Product Information Telephone Number: (331) 814-3136

Regulatory Information Telephone Number: (331) 814-3136

Transportation Emergency Telephone Number:
Infotrac (800) 535-5053
Outside USA (352) 323-3500

Section 2. Hazards Identification

OSHA/HCS Status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the Substance or Mixture:
ACUTE TOXICITY (Inhalation) – Category 3
SKIN CORROSION/IRRITATION – Category 2
SERIOUS EYE DAMAGE/EYE IRRITATION – Category 2A
RESPIRATORY SENSITIZATION – Category 1
SKIN SENSITIZATION – Category 1

GHS Label Elements

Hazard Pictograms:

Signal Word: Danger

Hazard Statements:
Toxic if inhaled.
Causes serious eye irritation.
Causes skin irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

Precautionary Statements

Prevention: Wear protective gloves. Wear eye or face protection. In case of inadequate ventilation wear respiratory protection. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. If experiencing respiratory symptoms: call a POISON CENTER or physician. IF ON SKIN: wash with plenty of soap and water. Take off contaminated clothing.

Section 2. Hazardous Ingredients

Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage: Store locked up

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental Label Elements: VAPOR AND SPRAY MIST HARMFUL. Gives off harmful vapor of solvents and isocyanates. DO NOT USE IF YOU HAVE CHRONIC (LONG-TERM) LUNG OR BREATHING PROBLEMS, OR IF YOU HAVE EVER HAD A REACTION TO ISOCYANATES. USE ONLY WITH ADEQUATE VENTILATION. WHERE OVERSPRAY IS PRESENT, A POSITIVE PRESSURE AIR SUPPLIED RESPIRATOR (NIOSH approved) SHOULD BE WORN TO PREVENT EXPOSURE. IF UNAVAILABLE, AN APPROPRIATE PROPERLY FITTED APPROVED NIOSH VAPOR/PARTICULATE RESPIRATOR MAY BE EFFECTIVE. Follow directions for respirator use. Wear the respirator for the whole time of spraying and until all vapors and mists are gone. If you have any breathing problems during use, LEAVE THE AREA and get fresh air. If problems remain or happen later, IMMEDIATELY call a doctor - If not available get emergency medical treatment. Have this label with you. FOR INDUSTRIAL USE ONLY.

Please refer to the SDS for additional information. Do not transfer contents to other containers for storage.

Hazards Not Otherwise Classified: None known

Section 3. Composition/Information on Ingredients

Substance/Mixture: Mixture

Other means of Identification: Not Available

CAS Number/Other Identifiers

Ingredient Name	% by Weight	CAS Number
Hexamethylene Diisocyanate Polymer	99.9	28182-81-2
Hexamethylene Diisocyanate (max.)	0.1	822-06-0

There are no additional ingredients present which, within current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First Aid Measures

Description of Necessary First Aid Measures

Eye Contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.

Skin Contact: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10

Section 4. First Aid Measures

minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most Important Symptoms/Effects, Acute and Delayed

Potential Acute Health Effects

Eye Contact: Causes serious eye irritation.

Inhalation: Toxic if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin Contact: Causes skin irritation. May cause an allergic skin reaction.

Ingestion Irritating to mouth, throat and stomach.

Over-Exposure Signs/Symptoms

Eye Contact: Adverse symptoms may include the following:
Pain or irritation
Watering
Redness

Inhalation: Adverse symptoms may include the following:
Wheezing and breathing difficulties
Asthma

Skin Contact: Adverse symptoms may include the following:
Irritation
Redness

Ingestion: No specific data

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Notes to Physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific Treatments: No specific treatment.

Protection of First-Aiders: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See Toxicological Information (Section 11)

Section 5. Fire-Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable Extinguishing Media: None known.

Specific Hazards Arising From the Chemical: In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous Thermal Decomposition Products: Decomposition products may include the following materials:
Carbon Dioxide
Carbon Monoxide
Nitrogen Oxides

Section 5. Fire-Fighting Measures

Special Protective Actions for Fire-Fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special Protective Equipment for Fire-Fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-Emergency Personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For Emergency Responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and Materials for Containment and Cleaning Up

Small Spills: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large Spills: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions for Safe Handling

Protective Measures: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on General Occupational Hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for Safe Storage, Including Any Incompatibilities: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits:

Ingredient Name	Exposure Limits
Hexamethylene Diisocyanate (max.)	**ACGIH TLV (United States, 4/2014).** TWA: 0.005 ppm 8 hours. TWA: 0.03 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 0.005 ppm 10 hours. TWA: 0.035 mg/m³ 10 hours. CEIL: 0.02 ppm 10 minutes. CEIL: 0.14 mg/m³ 10 minutes. **OSHA PEL (United States, 2/2013).** **Absorbed through skin.** TWA: 5 mg/m³, (as CN) 8 hours.

Appropriate Engineering Controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental Exposure Controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual Protection Measures

Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/Face Protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin Protection

Hand Protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 9. Physical and Chemical Properties

Appearance

Physical State: Liquid.

Color: Not available.

Odor: Not available.

Odor Threshold: Not available.

pH: Not available.

Melting Point: Not available.

Boiling Point: Not available.

Flash Point: Closed cup: 166.3°C (330.8°F) [Pensky-Martens Closed Cup]

Evaporation Rate: Not available.

Flammability (Solid, Gas) Not available.

Lower and Upper Explosive (Flammable) Limits: Not available.

Vapor Pressure: Not available.

Section 9. Physical and Chemical Properties

Vapor Density: Not available.

Relative Density: 1.16.

Solubility: Not available.

Partition Co-Efficient: N-Octanol/Water Not available.

Auto-Ignition Temperature: Not available.

Decomposition Temperature: Not available.

Viscosity: Kinematic (room temperature): >0.07 cm^2/s (>7 cSt)
Kinemaatic (40° C (104° F)): >0.07 cm^2/s (>7 cSt)

Section 10. Stability and Reactivity

Reactivity: No specific test data related to reactivity available for this product or ingredients.

Chemical Stability: The product is stable.

Possibility of Hazardous Reactions: Under normal conditions of storage and use, hazardous, reactions will not occur.

Conditions to Avoid: No specific data.

Incompatible Materials: No specific data.

Hazardous Decomposition Products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Information on Toxicological Effects

Acute Toxicity:

Product/Ingredient Name	Result	Species	Dose	Exposure
Hexamethylene Diisocyanate Polymer	LC50 Inhalation Vapor	Rat	18500 mg/m^3	1 hour
Hexamethylene Diisocyanate (max.)	LC50 Inhalation Dusts and Mists	Rat	124 mg/m^3	4 hours

Irritation/Corrosion:

Product/Ingredient Name	Result	Species	Score	Exposure	Observation
Hexamethylene Diisocyanate Polymer	Eyes – Moderate Irritant	Rabbit	-	100 milligrams	-
	Skin – Moderate Irritant	Rabbit	-	500 milligrams	-

Sensitization: Not available.

Mutagenicity: Not available.

Carcinogenicity: Not available.

Reproductive Toxicity: Not available.

Teratogenicity: Not available.

Specific Target Organ Toxicity (Single Exposure)

Name	Category	Route of Exposure	Target Organs
Hexamethylene Diisocyanate (max.)	Category 3.	Not applicable.	Respiratory tract irritation

Specific Target Organ Toxicity (Repeated Exposure):
Not available.

Aspiration Hazard: Not available.

Information on the Likely Routes of Exposure: Not available.

Potential Acute Health Effects

Eye Contacts: Causes serious eye irritation.

Section 11. Toxicological Information

Inhalation: Toxic if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin Contact: Causes skin irritation. May cause allergic skin reaction.

Ingestion: Irritating to mouth, throat and stomach.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics

Eye Contact: Adverse symptoms may include the following:
Pain or irritation
Watering
Redness

Inhalation: Adverse symptoms may include the following:
Wheezing and breathing difficulties
Asthma

Skin Contact: Adverse symptoms may include the following:
Irritation
Redness

Ingestion: No specific data.

Delayed and Immediate Effects and Also Chronic Effects from Short and Long Term Exposure

Short Term Exposure

Potential Immediate Effects: Not available.

Potential Delayed Effects: Not available.

Long Term Exposure:

Potential Immediate Effects: Not available.

Potential Delayed Effects: Not available.

Potential Chronic Health Effects

General: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental Effects: No known significant effects or critical hazards.

Fertility Effects: No known significant effects or critical hazards.

Numerical Measures of Toxicity:

Acute Toxicity Estimates:

Route	ATE Value
Inhalation (vapors)	9.263 mg/l

Section 12. Ecological Information

Toxicity: Not available.

Persistence and Degradability: Not available.

Bioaccumulative Potential: Not available.

Product/Ingredient Name	$LogP_{ow}$	BCF	Potential
Hexamethylene Diisocyanate (max.)	-	57.63	Low

Mobility in Soil

Soil/Water Partition Co-Efficient (Koc) Not available.

Other Adverse Effects: No known significant effects or critical hazards.

Section 13. Disposal Considerations

Disposal Methods:

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN Number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN Proper Shipping Name	-	-	-	-	-
Transport Hazard Class(es)	-	-	-	-	-
Packing Group	-	-	-	-	-
Environmental Hazards	No.	No.	No.	No.	No.
Additional Information	**Special provisions** Not applicable.	**Special provisions** Not applicable.	**Special provisions** Not applicable.	**Special provisions** Not applicable.	**Emergency schedules (EmS)** Not applicable

Special Precautions for User:

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not available.

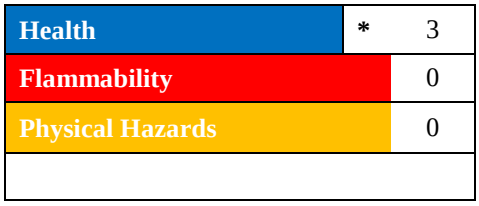
Section 15. Regulatory Information

U.S. Federal Regulations:

State Regulations

Section 16. Other Information

Hazardous Material Information System (U.S.A.)



Section 16. Other Information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Notice to Reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.