SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: ISO 7600A

Product Code: ISO 7600A

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Architectural Coating and Waterproofing

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Forsch Polymer Corp.
3025 S. Wyandot St.
Englewood, Co. 80110
USA

Telephone Number: **303-322-9611**

Email: Bill@forschpolymer.com

Website: James@forschpolymer.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Incident
303-548-7716

SECTION 2: HAZARD(S) IDENTIFICATION

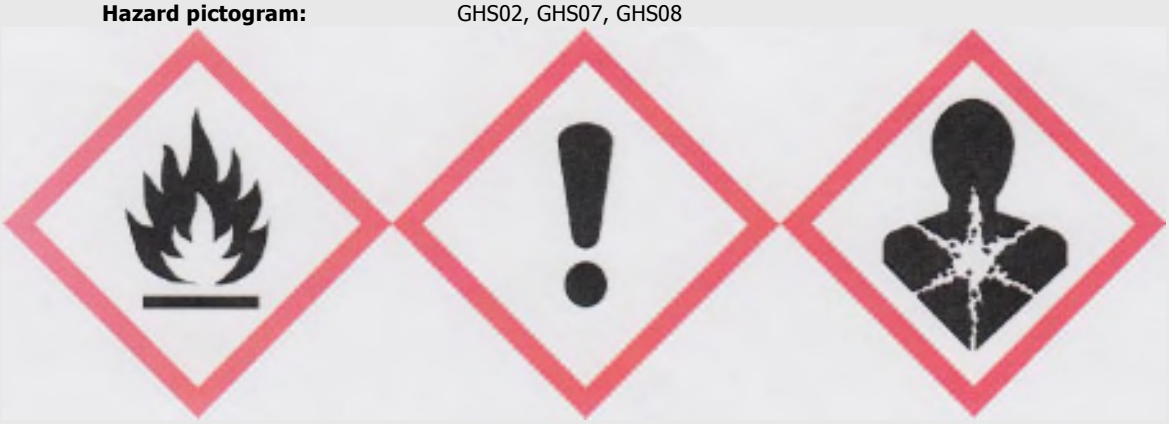
2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	
Flammable Liquids	2
Acute Toxicity — Inhalation	4
Skin Corrosion/Irritation	2
Eye Damage/Irritation	2A
Sensitization — Skin	1
Sensitization — Respiratory	1
Carcinogenicity	2
Toxic to Reproduction (unborn child)	2
STOT SE — Specific Target Organ Toxicity (Single Exposure)	3
STOT RE — Specific Target Organ Toxicity (Repeated Exposure)	2

2.2 LABEL ELEMENTS

Hazard pictogram: GHS02, GHS07, GHS08



Signal word: Danger

Hazard statement:
Highly flammable liquid and vapor
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation
Harmful if inhaled
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause respiratory irritation
Suspected of causing cancer
Suspected of damaging the unborn child
May cause damage to organs (lungs) through prolonged or repeated (inhalation) exposure

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, hot surfaces/sparks/open flames/hot surfaces. -No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
In case of inadequate ventilation, wear respiratory protection.

Response:
In case of fire: Use water fog, foam, dry chemical powder, carbon dioxide (CO2) to extinguish.
Specific treatment (see Section 8 on this label).
If exposed or concerned: Get medical advice/attention.
If on skin: Wash with plenty of water.
If skin irritation or a rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a poison/doctor.
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 advice/attention.

Storage: Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

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

2.3 ADDITIONAL INFORMATION

Main symptoms: Skin irritation. May cause redness and pain. May cause allergic skin reaction. Dermatitis. Rash. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Difficulty breathing. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Animal tests and other research indicate that skin contact with isocyanates can play a role in causing isocyanate sensitization and respiratory reaction. Lung damage and respiratory sensitization may be permanent.

Hazards not otherwise specified: Harmful to aquatic life with long lasting effects.

49.7% of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
Isocyanate Prepolymer	n/a	30-60%
Xylene (mixed isomers)	1330-20-7	10-30%
Methyl isobutyl ketone	108-10-1	10-30%
Ethylbenzene	100-41-4	1-5%
2,2,4-Trimethy1-1,3-pentanediol	144-19-4	1-5%
Isophorone di-isocyanate	4098-71-9	0.5-1.5%
Hexamethylene diisocyanate, oligomers	28182-81-2	0.1-1.0%
Toluene	108-88-3	0.1-1.0%

*The exact percentage (concentration)of composition has been hheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General information: If you feel unwell, seek medical advice (show the label where possible). Take off all contaminated clothing immediately. Wash contaminated clothing before reuse. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison center immediately.

Skin contact: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. In case of eczema or other skin disorders: Seek medical attention and bring along these instructions. Take off contaminated clothing and wash before reuse.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Prolonged exposure may cause chronic effects.

Skin irritation. May cause redness and pain. May cause allergic skin reaction. Dermatitis. Rash.
Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Difficulty breathing. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin contact with isocyanates can cause discoloration. Animal tests and other research indicate that skin contact with isocyanates can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Isocyanate vapors or mist at concentrations above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath, and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g. fever, chills) has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to physicians: Treat symptomatically. Symptoms may be delayed. Thermal burns: Flush with water immediately. While flushing, remove clothes that do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

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.

Specific treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General hazards: No unusual fire or explosion hazard.

Suitable extinguishing media: Foam, CO2 or dry powder. Water spray may be used if no other available and then in copious quantities. Reaction between water and hot isocyanate may be vigorous. Prevent washings from entering water courses, keep fire exposed containers cool by spraying with water.

Unsuitable extinguishing media: Do not use water jet as an extinguisher as this will spread the fire. **5.2**

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

Products of combustion: May include, and are not limited to: carbon oxides (CO, CO2) nitrogen oxides (NO, NO2 etc.) hydrocarbons, isocyanate vapors, and hydrogen cyanide.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters:

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk. In case of fire and/or explosion, do not breathe fumes. Move containers from fire area if you can do it without risk.

During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated isocyanates can be extremely dangerous.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Immediately contact emergency personnel. Evacuate the area. Keep upwind to avoid inhalation of vapors. Clean-up should only be performed by trained personnel. People dealing with major spillages should wear full protective clothing including respiratory protection. Use suitable protective equipment (section 8). Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for containment: Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Use appropriate Personal Protective Equipment (PPE). Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning-up: Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. For waste disposal, see Section 13 of the SDS. Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.

If the product is in its solid form: Spilled isocyanate flakes should be picked up carefully. The area should be vacuum cleaned to remove

remaining dust particles completely.
If the product is in its liquid form: Absorb spillages onto sand, earth or any suitable adsorbent material. Leave to react for at least 30 minutes. Do NOT absorb onto sawdust or other combustible materials. Shovel into open-top drums for further decontamination. Wash the spillage area with water. Test atmosphere for isocyanate vapour. Neutralise small spillages with decontaminant. Remove and dispose of residues.
The compositions of liquid decontaminants are: (percentages by weight or volume):
Decontaminant 1 : *- sodium carbonate : 5 - 10 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 %
Decontaminant 2 : *- concentrated ammonia solution : 3 - 8 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 %
Decontaminant 1 reacts slower with isocyanates but is more environmentally friendly than decontaminant 2.
Decontaminant 2 contains ammonia. Ammonia presents health hazards. (See supplier safety information.)

Large spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Safe handling advice: Vapors may form explosive mixtures with air. Do not handle or store near an open flame, heat or other sources of ignition. Do not smoke. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

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 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. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must be exposed to vapor or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do NOT breathe smoke and gases created by over heating 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.

General hygiene advice: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage: Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Keep container tightly closed. Store in a cool and well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).
Minimum: 50˚F (10˚C)
Maximum: 86˚F (30˚C)

Specific use: Architectural Coating and Waterproofing

Technical measures: Vapors may form explosive mixtures with air. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment.

Incompatible materials: Copper, copper alloy, galvanized surfaces, water, amines, strong bases, alcohols. Moisture sensitive.

Safe storage: Keep away from heat, sparks and open flame. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials. Store in tightly closed containers to prevent moisture contamination. Do NOT reseal if contamination is suspected.

Safe packaging material: Keep in original container.

Precautions: Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Take precautionary measures against static discharges.

Safe handling advice: Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Take precautionary measures against static discharges. Use personal protection recommended in Section 8 of the SDS. Keep away from heat, sparks and open flame. Keep container tightly closed.

Suitable storage conditions: Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials. Store in tightly closed containers to prevent moisture contamination. Do NOT reseal if contamination is suspected.

Handling-technical measures: Use non-sparking tools and explosion-proof equipment. All equipment used when handling this product must be grounded.

Local and general ventilation: Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

Toluene

NIOSH REL:
TWA 100 ppm (375 mg/m3) ST 150 ppm (560 mg/m3)
OSHA PELt:

TWA 200 ppm C 300 ppm 500 ppm (10-minute maximum peak)
TLV: 50ppm as TWA; (skin); A4 (not classifiable as a human carcinogen); BEI issued; (ACGIH 2004).
MAK: 50 ppm, 190 mg/m3; Peak limitation category: 11(4); Pregnancy risk group: C; Skin absorption (H); (DFG 2004).

Xylene (mixed isomers)

OSHA:
PEL-TWA ppm: 100
PEL-TWA mg/m3: 435
NIOSH:
REL-TWA ppm: 100
REL-TWA mg/m3: 435
REL-STEL ppm: 150
REL-STEL mg/m3: 655
IDLH ppm: 900

Methyl isobutyl ketone

OSHA:
PEL-TWA ppm: 100
PEL-TWA mg/m3: 410
NIOSH:
REL-TWA ppm: 50
REL-TWA mg/m3: 205
REL-STEL ppm: 75
REL-STEL mg/m3: 300
IDLH ppm: 500
ACGIH TWA 20
ACGIH STEL 75

Ethylbenzene

NIOSH REL:
TWA 100 ppm (435 mg/m3)
ST 125 ppm (545 mg/m3)
OSHA PEL t:
TWA 100 ppm (435 mg/m3)

8.2 EXPOSURE CONTROLS

Engineering measures to reduce exposure:

Explosion-proof general and local exhaust ventilation.

Provide sufficient air exchange and/or exhaust in work rooms. In all workplaces or parts of the plant where high concentrations of isocyanate aerosols and/or vapors may be generated (e.g. during pressure release, mold venting or when cleaning mixing heads with an air blast), appropriately located exhaust ventilation must be provided in order to prevent occupational exposure limits from being exceeded. The air should be drawn away from the personnel handling the product. The efficiency of the ventilation system must be monitored regularly because of the possibility of blockage. Atmospheric concentrations should be minimized and kept as low as reasonably practicable below the occupational exposure limit.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General: Eye wash fountain and emergency showers are recommended. Use

personal protective equipment as required.

Animal tests and other research indicate that skin contact with isocyanates can play a role in causing isocyanate sensitization and respiratory reaction. Lung damage and respiratory sensitization may be permanent.

All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evaluation. A history or 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. 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.

Eye protection: Wear safety glasses with side shields (or goggles).

Hand protection: Wear appropriate chemical resistant gloves. Nitrile rubber showed excellent resistance. Butyl rubber, neoprene and PVC are also effective.

Respiratory protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Airborne isocyanate concentrations greater than the ACGIH TLV-TWA (TLV) or OSHA PEL-C- (PEL) can occur in inadequately ventilated environments when TDI is sprayed, aerosolized, or heated. In such cases, respiratory protection must be worn. The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134). The type of respiratory protection available includes (1) an atmosphere-supplying respiratory such as a self-contained breathing apparatus (SCBA) or a supplied air respirator (SAR) in the positive pressure or continuous flow mode, or (2) an air purifying respirator (APR). If an APR is selected then (a) the cartridge must be equipped with an end-of-service life indicator (ESLI) certified by NIOSH, or (b) a change out schedule, based on objective information or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented. The basis for the change out schedule must be described in the written respirator program. Further, if an APR is selected, the airborne isocyanate concentration must be no greater than 10 times the TLV or **PEL.** The recommended APR cartridge is an organic vapor/particulate filter combination cartridge (0V/P100).

Skin and body protection: Wear suitable protective clothing. Animal tests and other research indicate that skin contact with isocyanates can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Hygiene measures: When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Control parameters: Follow standard monitoring procedures.
Local exhaust should be used to maintain levels below the TLV whenever isocyanates are heated, sprayed, or aerosolized. Standard reference sources regarding industrial ventilation (e.g. ACGIH Industrial Ventilation Manual) should be consulted for guidance about adequate ventilation. To ensure that published exposure limits have not been

exceeded, monitoring for airborne isocyanates should become part of the overall employee exposure characterization program. NIOSH, OSHA, and others have developed sampling and analytical methods. These are available through various suppliers. Forsch Polymer does not supply these sampling methods directly.

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Environmental manager must be informed of all major releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid
Color:	Clear
Form:	**Liquid**
Odor:	Strong solvent
Odor Threshold:	Not available
Physical State:	Liquid
pH (at 20°C):	Not applicable
Melting Point/Freezing Point:	Not available
Initial Boiling Point and Boiling Range:	Not available
Flash Point:	60°F (15.6°C)
Evaporation Rate:	Not available
Flammability (solid, gaseous):	Flammable
Lower Flammability/Explosive Limit:	Not available
Upper Flammability/Explosive Limit:	Not available
Evaporation rate:	Not available
Vapor Pressure (mm Hg @25°C):	Not available
Vapor Density:	Not available
Density (lb/gal):	7.848
Relative Density/Specific Gravity:	0.942
Solubility in water/miscibility:	Insoluble - reacts slowly with water to liberate CO_2 gas
Partition coefficient: n-octanol/water:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Viscosity (at 25°C) g/L:	89 ku
Oxidizing Properties:	Not available
Explosive Properties:	Not available
VOC:	<500 g/L
Solvent content - Organic:	0%
Solvent content - Water:	0%
Solvent content - Solids:	52.19%
Other information:	Not available
Incompatibilities:	Copper, copper alloy, galvanized surfaces, water, amines, strong bases, alcohols.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY

Chemical stability: Material is stable under normal conditions.

Materials to avoid: Copper, copper alloy, galvanized surfaces, water, amines, strong bases, alcohols. Moisture sensitive.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous reactions: Moisture sensitive. Contact with moisture, other materials that react with isocyanates, or temperatures above 350°F (177°C), may cause polymerizations.

10.4 CONDITIONS TO AVOID Avoid heat, sparks, open flames and other ignition sources. Contact with incompatible materials. Temperatures above 350°F (177°C).

10.5 INCOMPATIBLE MATERIALS Copper, copper alloy, galvanized surfaces, water, amines, strong bases, alcohols.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous decomposition products: By fire and high heat: Carbon dioxide (CO2), Carbon monoxide (CO), oxides of nitrogen (N0x), dense black smoke, isocyanate, isocyanic acid, other undetermined compounds.

Hazardous polymerization: Moisture sensitive. Contact with moisture, other materials that react with isocyanates, or temperatures above 350°F (177°C), may cause polymerizations.

Other information: Not available.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity: Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Likely routes of exposure: Skin contact. Eye contact. Inhalation.

Eye: Causes serious eye irritation.

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

Contact with isocyanates can cause discoloration. Animal tests and other research indicate that skin contact with isocyanates can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Ingestion: Not an expected route of exposure. Expected to be a low ingestion hazard.

Inhalation: Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Isocyanate vapors or mist at concentrations above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath, and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV or PEL with similar symptoms as well

as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

LD50/LC50 values relevant to this classification:

Isocyanate Prepolymer (expected to be similar to Toluene-diisocyanate, data listed)

Oral rat LD50 5460 mg/kg bw/day
Inhal mouse LC50 6.2 mg/L air

Xylene (mixed isomers)

Oral rat LD50 5251-5627 mg/kg bw
Oral rat LD50 4300 mg/kg bw
Oral rat LD50 8400 mg/kg
Derm rabbit LD50 >5000 ml/kg bw (4200 mg/kg)
Inhal rat LC50 6700 ppm (29000 mg/m3)
Inhal rat LC50 6247 ppm (27124 mg/m3)

Methyl isobutyl ketone

Oral rat LD50 2080 mg/kg bw
Inhal rat LC50 8.2 - 16.4 mg/L air 4hr
Derm rat LD50 > 2,000 mg/kg bw

Ethylbenzene

Oral mouse LD50 >2000 mg/kg bw
Oral rat LD50 >2000 mg/kg bw (2 tests)
Oral rat LD50 5840 mg/kg bw
Inhal rat LC50 Combined = 66 ppm (95 % CL: 31 -141 ppm)
Inhal rat LC50 350-360 mg/m3 air 4hr
Inhal rat LC50 14.1-19 ppm air 6hr
Derm rabbit LD50 > 9400 mg/kg bw no deaths

2,2,4-Trimethyl-1,3-pentanediol

Oral LD50: (Rat): 3,200 mg/kg
Dermal LD50: (Guinea Pig): > 20 ml/kg
Inhalation LC50 (Rat, 6 h): > 3.3 mg/I

Isophorone di-isocyanate

Oral rat LD50 4814 mg/kg bw
Oral mouse LD50 >2645 mg/kg bw
Oral rat LD50 2645 mg/kg bw
Oral rat LD50 5490 mg/kg bw
Inhal rat LC50 31 mg/m3 air 4hr
Inhal rat LC50 50 mg/m3 air 4hr
Inhal rat RD50 4.7 mg/m3 air 3hr
Inhal mouse LC50 3 mg/m3 air 30min
Derm rat LD50 >7000 mg/kg bw

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
1..5 mg/L (dust and mist)	>2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin corrosion/irritation: Causes skin irritation. May cause an allergic skin reaction.

Serious eye damage/irritation: Causes serious eye irritation.

Respiratory sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitization: May cause an allergic skin reaction.

Symptoms and target organs: Skin irritation. May cause redness and pain. May cause allergic skin reaction. Dermatitis. Rash. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Difficulty breathing. May cause damage to organs (lungs) through prolonged or repeated (inhalation) exposure. Suspected of causing cancer. May cause damage to organs (lungs) through prolonged or repeated (inhalation) exposure. Suspected of damaging the unborn child.

Chronic health effects:

Carcinogenicity: Suspected of causing cancer.

Material	OSHA(0)	ACGIH(G)	NTP(N)	IARC(I)
Isocyanate Prepolymer (based on Toluene-diisocyanate, mixture of toluene-2,4-di-isocyanate and toluene-2,6-di-isocyanate)	Ca	A4	R	2B (as a gas only)
Methyl isobutyl ketone	Not listed	A2	Not listed	2B
Ethylbenzene	Not listed	A3	Not listed	2B

SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

OSHA (01=Occupational Safety and Health Administration
Ca/Yes = Expected to be carcinogenic
not listed = Not expected to be carcinogenic

ACGIH (GI =American Conference of Governmental Industrial Hygienists
Al =Confirmed human carcinogen
A2 =Suspected human carcinogen
A3 =Animal carcinogen
A4 =Not classifiable as a human carcinogen
A5 =Not suspected as a human carcinogen
not listed = Not expected to be carcinogenic

NTP (NI =National Toxicology Program
K =Known to be a carcinogen
R = Reasonably anticipated to be a carcinogen
not listed = Not expected to be carcinogenic

IARC Ill =international Agency for Research on Cancer
1 =Carcinogenic to humans
2A =Probably carcinogenic to humans
2B =Possibly carcinogenic to humans
3 =Not classifiable as to its carcinogenicity to humans
4 =Probably not carcinogenic to humans
not listed = Not expected to be carcinogenic

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: Suspected of damaging the unborn child.

Specific Target Organ Toxicity (STOT):

Single Exposure: May cause respiratory irritation.

Repeated Exposure: May cause damage to organs (lungs) through prolonged or repeated (inhalation) exposure.

Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.

Other Information: Not available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Acute/Chronic toxicity: Harmful to aquatic life with long lasting effects.

Aquatic toxicity: Harmful to aquatic life with long lasting effects.

Environmental effects: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: Does not bioaccumulate

12.4 MOBILITY

Mobility: No data available.
Mobility in soil: No data available.
Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of contents and container in accordance with all local, regional, national and international regulations.

EU codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Residual waste: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Waste codes: D001: Waste Flammable material with a flash point <140°F (<60˚C) The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Other disposal recommendations: None

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

UN: UN1263
Proper shipping name: Paint
Hazard class: 3 **Packing group:** PG II
Environmental hazards: No

DOT Bulk

UN: UN1263
Proper shipping name: Paint
Hazard class: 3 **Packing group:** PG II
Environmental hazards: No

IMDG

UN: UN1263
Proper shipping name: Paint
Hazard class: 3 **Packing group:** PG II
Environmental hazards: No

ICAO/IATA

UN: UN1263

Proper shipping name: Paint
Hazard class: 3 **Packing group:** PG II
Environmental hazards: No

Reportable quantity: Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE

CHEMICAL US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

The following components of this product are found at concentrations greater than or equal to 0.1% and are subject to SARA/CERCLA reporting requirements.

Material	SARA 302 (EHSs) TPQ	SARA 304 EHSs RQ	CERCLA RQ	SARA 313 listed	RCRA CODE	CAA 112(r) TQ
Xylene (mixed isomers)	Not listed	Not listed	100	313	U239	Not listed
Methyl isobutyl ketone	Not listed	Not listed	5,000	313	0161	Not listed
Ethylbenzene	Not listed	Not listed	1,000	313	Not listed	Not listed
Isophorone di-isocyanate	500	500	Not listed	313	Not listed	Not listed
Toluene	Not listed	Not listed	1,000	313	U220	Not listed

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know
Xylene (mixed isomers)	Not listed	Listed	Listed	Not listed	Listed	Listed	Listed
Methyl isobutyl ketone	Listed	Listed	Listed	Not listed	Listed	Listed	Listed
Ethylbenzene	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Isophorone di-isocyanate	Not listed	Listed	Listed	Not listed	Listed	Listed	Not listed
Toluene	Listed	Listed	Listed	Listed	Listed	Listed	Listed

Global Inventories:

Notification status:	
US - TSCA	Not all substance listed
Canada -DSL	All substances listed or exempt

Canada - NDSL	No substances listed
EU - EINECS	Not all substance listed
EU - ELINCS	No substances listed
EU - NLP	No substances listed
Australia - AICS	All substances listed or exempt
China - EICSC	All substances listed or exempt
Japan - ENCS	All substances listed or exempt
Korea - KECI	All substances listed or exempt
Taiwan - NECI	All substances listed or exempt
New Zealand - NZIoC	All substances listed or exempt
Philippine - PICCS	All substances listed or exempt

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are exempted from registration, the annual tonnage does not require a registration or the registration is envisioned for a later registration deadline.

CANADA — WHMIS (Workplace Hazardous Materials Information System) Classification: B2, D1A, D2A, D2B

MEXICO:

Hazard Classification: 2-3-1

Carcinogen Status: Carcinogen

SECTION 16: OTHER INFORMATION

HMIS (Hazardous Materials Identification System) rating:

Health:	**2***
Flammability:	**3**
Physical:	**1**

NFPA 704 (National Fire Protection Association) rating:

Health	**2**
Fire	**3**
Reactivity	**1**

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PPE	Personal Protective Equipment

RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory- IECSC
ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NEC!	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

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Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Prepared by: Forsch Polymer Corp.

End of Safety Data Sheet